



Figure RA30.

Average Mechanical Description and Attributes

Cage material, and mesh size: 12 gauge galvanized steel wire mesh, 1 x 2 inches
 Cage size (length x width x height): 32 x 10 x 12 inches
 Door size (width x height): 10 x 12
 Door material: Wire mesh— easy release door
 Weight: 13 pounds
 Collapsed size (if applicable): Non-collapsing (rigid)

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see “Criteria for Evaluation of Trapping Devices”: Introduction pages 4-6) needs to be considered as well. The trap tested was the Tomahawk™ Cage Trap, No 608 (Figure RA30).

Additional Information

- Selectivity features: Limited opening size and length restricts large animals; Can be set in shallow water to improve selectivity.
- Special considerations for practicality: Versatile set options (baited sets; blind sets only with double doors); can be used for multiple furbearer species in same sets; large and easily seen (difficult to conceal completely); bulky—requires space for transport and storage (though folding models are available); easy to operate—requires little training; can be used to transport captured animals; captured animals are easily released; continues to operate in freezing weather conditions.



Figure RA31.

Average Mechanical Description and Attributes

Cage material, and mesh size: 12 gauge galvanized steel wire mesh, 1 x 2 inches
 Cage size (length x width x height): 42 x 12 x 12 inches
 Door size (width x height): 12 x 12
 Door material: Wire mesh—easy release door
 Weight: 15 pounds
 Collapsed size (if applicable): Non-collapsing (rigid)

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see “Criteria for Evaluation of Trapping Devices”: Introduction pages 4-6) needs to be considered as well. The trap tested was the Tomahawk™ Cage Trap, No 608.5 (Figure RA31).

Additional Information

- Selectivity features: Limited opening size and length restricts large animals; Can be set in shallow water to improve selectivity.
- Special considerations for practicality: Versatile set options (baited sets; blind sets only with double doors); can be used for multiple furbearer species in same sets; large and easily seen (difficult to conceal completely); bulky—requires space for transport and storage (though folding models are available); easy to operate—requires little training; can be used to transport captured animals; captured animals are easily released; continues to operate in freezing weather conditions.



Average Mechanical Description and Attributes

Cage material: Solid plastic

Cage size (length x width x height): 32 x 12 x 12 inches

Door size (width x height): 12 x 12

Door material: Solid metal

Weight: 6 pounds

Collapsed size (if applicable): Non-collapsing (rigid)

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Ramconct™ Dura-Poly Box Trap 1232 (Figure RA32).

Additional Information

- Selectivity features: Limited opening size and length restricts large animals; Can be set in shallow water to improve selectivity.
- Special considerations for practicality: Versatile set options (baited sets; blind sets only with double doors); can be used for multiple furbearer species in same sets; large and easily seen (difficult to conceal completely); bulky—requires space for transport and storage (though folding models are available); easy to operate—requires little training; can be used to transport captured animals; captured animals are easily released; continues to operate in freezing weather conditions.



Figure RA32.

Best Management Practices

Trapping Red Foxes in the United States

Updated 2016



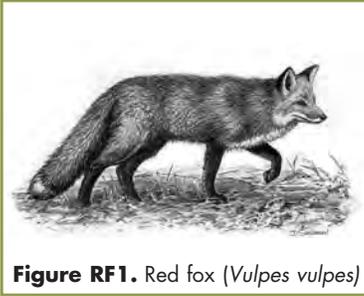


Figure RF1. Red fox (*Vulpes vulpes*)

Best Management Practices (BMPs) are carefully researched recommendations designed to address animal welfare and increase trappers' efficiency and selectivity. The extensive research and field-testing used to develop BMPs are described in the introduction of this manual. The evaluation methods used to develop BMPs have been standardized, enabling BMPs to be easily updated and revised as new traps and techniques become available. All traps listed in the BMP have been tested and meet performance standards for animal welfare, efficiency, selectivity, practicality, and safety.

Trapping BMPs provide options, allowing for discretion and decision making in the field. It does not present a single choice that can or must be applied in all cases. They are meant to be implemented in a voluntary and educational approach. BMPs are the product of on-going work that may be updated as additional traps are identified through future scientific testing.

The Red Fox at a Glance

Characteristics

The red fox is a member of the canine family and is similar in form to a small dog (Figure RF1). Adult red fox are typically 39 to 43 inches in length and weigh from 7 to 15 pounds. They have a long bushy tail equal to about 70% of their body length. Red fox display three color phases. The red phase is the most common in North America. Silver phase red fox are much less common and are primarily black, except for a white tip on the tail and silver frostings on the guard hair tips. Cross phase red fox are dark in coloration with light patches near the legs, shoulders, and hips, giving them a distinct cross pattern of dark fur across the shoulders and back. Red foxes can be distinguished from gray foxes by their white-tipped tail. Silver and cross phases rarely occur south of Canada. Multiple color phases can occur in the same litter. The scientific name is *Vulpes vulpes*.

Range

Red fox range across most of North America from Alaska and northern Canada south to central Texas. They occur from the east coast westward through the Rocky Mountains, and throughout the Cascade Range in the Pacific Northwest and northern California. They are absent from the southern coastal plain from North Carolina through Florida.

Habitat

Red fox occupy habitats within barren arctic regions, boreal forests, mountainous forest regions as far north as Alaska, agricultural and woodland habitats throughout their range, as well as suburban and urban areas. Habitat quality, particularly prey availability, is a limiting factor for red fox density, but has not limited the distribution of this species.

Food Habits

Red foxes are omnivores, consuming animals ranging from insects to small mammals, rabbits and sometimes pets. They commonly take ground-nesting birds and bird eggs, and turtles, frogs, and snakes. Berries and fruits are eaten when available.



Reproduction

Mating occurs from January through March, and generally occurs later in the northern parts of the range. Three to seven pups are born during March through May, about 51 to 53 days after breeding. Males and females may remain as breeding pairs for several years and work cooperatively to rear offspring. Females may breed prior to one year of age. Pups are weaned at eight weeks of age and typically disperse from their family range during fall. Males typically disperse greater distances than females.

Populations

Red fox usually occupy exclusive areas with little overlap of home range boundaries. Population densities range from one fox per three square miles of habitat to almost eight foxes per square mile in the best habitat. Home ranges in North America range from two to eight square miles, however ranges in excess of 13 square miles have been observed in arctic regions.

Comments

The red fox is the most widely distributed carnivore in the world, occurring throughout North America, Europe, Asia, Africa, and Australia. The wide distribution serves as testament to the adaptability of the species, but was also facilitated by introductions in many areas. Red fox distribution in North America is the combined result of introductions of fox from Europe, which occurred in the late 1700s, and natural expansion of native fox populations from the northern latitudes.

General Overview of Traps Meeting BMP Criteria for Red Foxes in the United States

Two basic types of traps were tested for red foxes: foothold restraining traps and cable restraints (Table RF2). Examples, brief descriptions, and mechanical details of the various makes and models that meet BMP criteria are given in the next section.

Table RF2. Overview of traps meeting BMP criteria for red foxes in the United States.

Trap Category	Jaw/Frame Characteristics	Inside Jaw/Frame Spread at Dog*	Inside Width at Jaw/Frame Hinge Posts*
Coil-spring	Padded	4 ⁵ / ₁₆ - 5 ³ / ₁₆	4 ⁷ / ₁₆ - 6 ⁷ / ₁₆
	Unmodified	4 ¹ / ₂ - 5 ¹ / ₄	4 ⁵ / ₈ - 5
	Offset, laminated and/or wide	4 ⁷ / ₁₆ - 5 ¹ / ₂	4 ⁹ / ₁₆ - 5 ⁹ / ₁₆
Powered Cable Device	Smooth, round rod, ¹ / ₈ inch cable	6 ³ / ₈	6
	Cable Characteristics	Loop Diameter	Locks
Non-powered Cable Device	48 - 72 inches ³ / ₃₂ or ¹ / ₈ inch diameter stranded cable	6-8 inches	Relaxing locks

* Inches



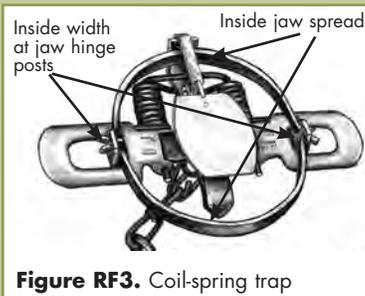


Figure RF3. Coil-spring trap

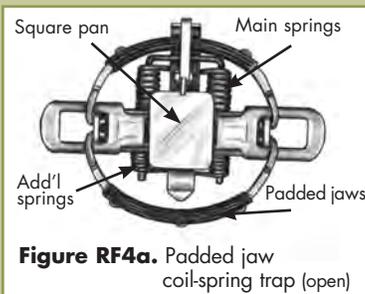


Figure RF4a. Padded jaw coil-spring trap (open)

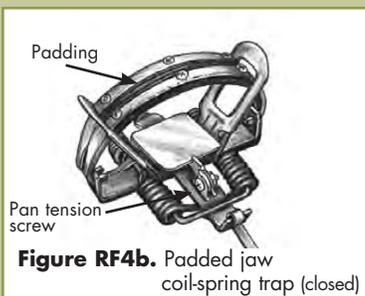


Figure RF4b. Padded jaw coil-spring trap (closed)

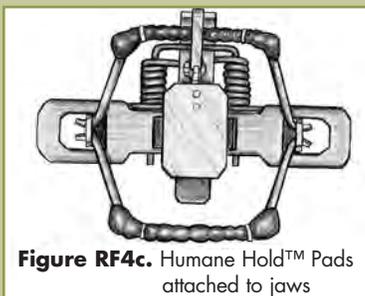


Figure RF4c. Humane Hold™ Pads attached to jaws

General Considerations When Trapping Red Foxes

Jaw-type Traps

- Many currently used trap models meet specifications
- Pan tension set to two pounds improves selectivity and foot placement in the trap
- Captures and holds animals alive, allowing for release

Powered Cable Devices (foot capture)

- Pan-tension set to four pounds improves selectivity
- Large cable-loop diameter minimizes capture of smaller species
- Cables require frequent replacement
- Captures and holds animals alive, allowing for release

Non-Powered Cable Devices

- The use of loop stops and breakaway devices can improve selectivity
- Cables require frequent replacement
- Captures and holds animals alive, allowing for release

Specifications of Traps Meeting BMP Criteria for Red Foxes in the United States

As more capture devices are tested and new information becomes available, they will be added to an updated list. Mechanical descriptions of tested traps are given as an aid to trappers or manufacturers who may wish to measure, build, or modify traps to meet these specifications (Figure RF3). Also, other commercially available traps, modified traps, or other capture devices not yet tested may perform as well as, or better than the listed BMP traps. References to trap names are provided to identify the specific traps tested. This list is provided for information purposes only, and does not imply an endorsement of any manufacturer.

These are average mechanical measurements which are rounded to the nearest $\frac{1}{16}$ inch. There may be up to $\frac{1}{8}$ inch variation in specifications on the part of the manufacturer. Manufacturers use recognizable names, such as "No. 2" coil-spring, to identify certain traps. However, there is no standardized system linking mechanical design features with trap names. The mechanical features of these traps are listed so that similar traps may be identified. The performance of anchoring systems was not specifically evaluated. However, methods of attachment are described for informational purposes.

Padded Jaws (Figures RF4a, RF4b and RF4c)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): $4 \frac{1}{2}$ inches

Inner width: $4 \frac{7}{8}$ inches

Inside width at jaw hinge posts: $4 \frac{7}{16}$ inches

Jaw width: $\frac{9}{16}$ inch padded jaw

Jaw thickness: $\frac{3}{8}$ inch

Main trap springs: Two 0.130 inch wire-diameter coil springs

Base plate: Not reinforced

Padding: Manufacturer supplied rubber pads

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see “Criteria for Evaluation of Trapping Devices”: Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 1/2 Softcatch coil spring.

Additional information

- Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 1/2 inches

Inner width: 4 7/8 inches

Inside width at jaw hinge posts: 4 9/16 inches

Jaw width: 9/16 inch padded jaw

Jaw thickness: 3/8 inch

Padding: Manufacturer supplied rubber pads

Main trap springs: Two 0.131 inch wire-diameter coil springs

Additional springs: Two 0.100 inch wire-diameter coil springs

Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see “Criteria for Evaluation of Trapping Devices”: Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 1/2 Softcatch modified coil-spring, four-coiled.

Additional information

- Chain attachment used in trap testing: 7 1/2 inch, center mounted with two swivels, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads. This device also meets BMP criteria for Eastern coyotes.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 ⁵/₁₆ inches

Inner width: 4 ¹/₄ inches

Inside width at jaw hinge posts: 4 ⁹/₁₆ inches

Jaw width: ¹/₂ inch smooth round jaw

Jaw thickness: ¹/₄ inch

Main trap springs: Two 0.122 inch wire-diameter springs

Base plate: Not reinforced

Padding: Commercially available, post-production rubber pads

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 ¹/₂ coil-spring trap with Humane Hold™ pads.

Additional information

- Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 ¹/₂ inches

Inner width: 4 ⁵/₈ inches

Inside width at jaw hinge posts: 5 inches

Jaw width: ⁵/₈ inch padded jaw

Jaw thickness: ³/₈ inch

Main trap springs: Two 0.137 inch wire-diameter coil springs

Base plate: Not reinforced

Padding: Manufacturer supplied rubber pads

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the BMI™ No. 2 padded coil-spring.

Additional Information

- Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ³/₁₆ inches
Inner width: 6 ¹/₁₆ inches
Inside width at jaw hinge posts: 6 ⁷/₁₆ inches
Jaw width: ⁹/₁₆ inch padded jaw
Jaw thickness: ³/₈ inch
Padding: Manufacturer supplied rubber pads
Main trap springs: Two 0.145 inch wire-diameter coil springs
Additional springs: Two 0.115 inch wire-diameter coil springs
Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 3 Softcatch modified coil-spring, four coiled.

Additional information

- Chain attachment used in trap testing: 18 inch center mounted with three swivels, two shock springs and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads. This device also meets BMP criteria for Eastern and Western coyotes.



Unmodified Jaws (Figures RF5a and 5b)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 ¹/₂ inches
Inner width: 4 ¹/₄ inches
Inside width at jaw hinge posts: 4 ⁵/₈ inches
Jaw width: ⁷/₁₆ inch smooth round jaw
Jaw thickness: ¹/₈ inch
Main trap springs: Two 0.130 inch wire-diameter springs
Base plate: Not reinforced

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 ¹/₂ coil-spring.

Additional Information

- Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.

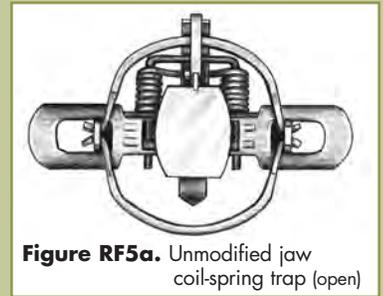
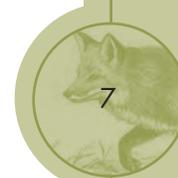
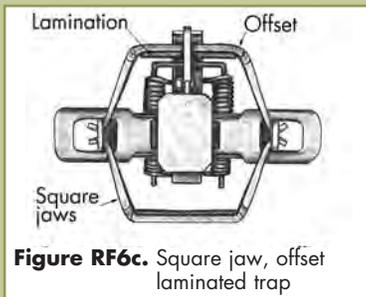
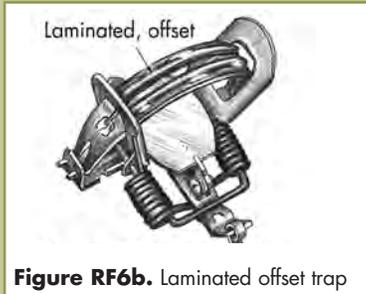
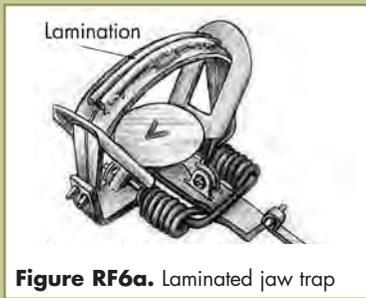


Figure RF5a. Unmodified jaw coil-spring trap (open)



Figure RF5b. Unmodified jaw coil-spring trap (closed)





Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/4 inches
 Inner width: 4 9/16 inches
 Inside width at jaw hinge posts: 5 inches
 Jaw width: 1/2 inch smooth round jaw
 Jaw thickness: 1/8 inch
 Main trap springs: Two 0.145 inch diameter wire coil springs
 Base plate: Not reinforced

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1.75 coil-spring.

Additional Information

- Chain attachment used in trap testing: 9 1/2 inch center mounted with two swivels, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This trap also meets BMP criteria for Eastern and Western coyotes.



Offset, Laminated and/or Wide Jaws (Figures RF6a, RF6b and RF6c.)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 7/16 inches
 Inner width: 4 1/4 inches
 Inside width at jaw hinge posts: 4 9/16 inches
 Jaw width: 7/16 inch
 Jaw thickness: 1/8 inch
 Jaw thickness with lamination: 5/16 inch
 Lamination: 3/16, above jaw lamination
 Main trap springs: Two 0.130 inch wire-diameter springs
 Base plate: Not reinforced

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 1/2 modified coil-spring trap, laminated (lamination on top of jaws).

Additional Information

- Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ¹/₁₆ inches
Inner width: 4 ⁹/₁₆ inches
Width at jaw hinge posts: 5 ¹/₁₆ inches
Jaw width: ⁷/₁₆ inch smooth round jaw
Jaw thickness: ⁵/₁₆ inch
Jaw thickness with lamination: ¹/₂ inch
Jaw offset: ³/₁₆ inch
Lamination: ³/₁₆, above jaw lamination
Main trap springs: Two 0.135 inch wire-diameter coil springs
Base plate: Not reinforced

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see “Criteria for Evaluation of Trapping Devices”: Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1.75 coil-spring, modified with offset jaws, laminated (lamination on top of jaws).

Additional Information

- Chain attachment used in trap testing: 9 ¹/₂ inch center mounted with two swivels, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern and Western coyotes.



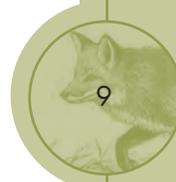
Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ¹/₁₆ inches
Inner width: 4 ⁵/₁₆ inches
Inside width at jaw hinge posts: 4 ³/₄ inches
Jaw width: ³/₈ inch smooth, oval jaw
Jaw thickness: ¹/₄ inch
Jaw offset: ³/₁₆ inch
Main trap springs: Two 0.145 inch wire-diameter coil springs
Base plate: Not reinforced

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see “Criteria for Evaluation of Trapping Devices”: Introduction pages 4-6) needs to be considered as well. The trap tested was the Sleepy Creek™ No. 1 ³/₄ coil-spring, wide jaw, offset.

Additional Information

- Chain attachment on traps tested: 9 ¹/₂ inch center mounted with two swivels, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyotes.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/2 inches

Inside jaw spread between below jaw lamination: 5 inches

Inner width: 5 1/16 inches

Inside width at jaw hinge posts: 5 9/16 inches

Jaw width: 7/16 inch hexagonal jaw

Jaw thickness: 3/16 inch

Jaw thickness with lamination: 7/16 inch

Lamination: 1/4 inch below jaw lamination

Jaw offset: 3/16 inch

Main trap springs: Two 0.145 inch wire-diameter springs

Additional springs: Two 0.110 inch wire-diameter springs

Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Bridger™ No. 2 coil-spring modified with square jaw, offset laminated, four-coiled (lamination on bottom of jaw).

Additional Information

- Chain attachment used in trap testing: 18 inch center mounted with three swivels, two shock springs and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern and Western coyotes.



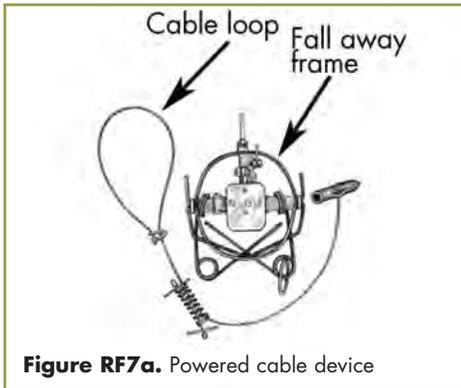


Figure RF7a. Powered cable device

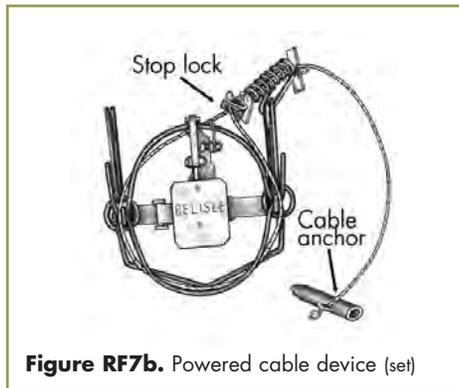


Figure RF7b. Powered cable device (set)

Powered Cable Devices (foot capture) (Figures RF7a and RF7b)

Average Mechanical Description and Attributes

Inside cable retention frame spread (at dog): 6 ³/₈ inches

Inner width: 5 ³/₄ inches

Width at jaw hinge posts: 6 inches

Cable retention frame width: ¹/₈ inch, smooth round rod

Cable retention frame thickness: ¹/₈ inch rod

Main trap springs: Two 0.188 inch diameter rod quick-release springs

Cable diameter: ¹/₈ inch cable

Base plate: Not reinforced

Snare loop stop size: 2 inch

Any cable device that has similar specifications may be considered a BMP device regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Belisle™ Foot Snare.

Additional Information

- Cable attachment on device tested: Swivel and shock spring with a cable anchor.
- Selectivity features: Pan tension machine screw; large diameter cable and available plastic sleeve often prevents the cable from closing to a small diameter, thus allowing small animals such as squirrels, skunks and some raccoons to escape.
- Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of trap maintenance and upkeep. This device also meets BMP criteria for Eastern and Western coyotes.



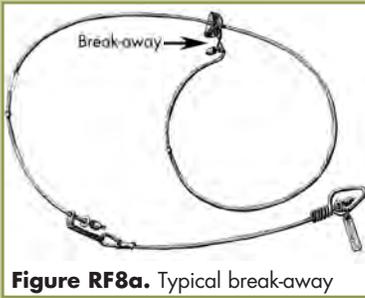


Figure RF8a. Typical break-away

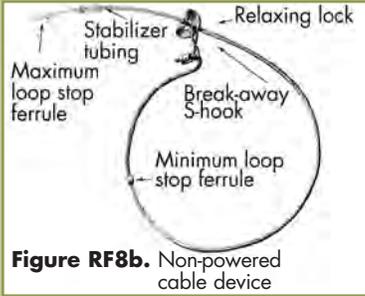


Figure RF8b. Non-powered cable device

Non-Powered Cable Devices (Figures RF8a and RF8b)

Average Mechanical Description and Attributes

Cable diameter: $\frac{3}{32}$ inch, 7 x 7 or 7 x 19 stranded cable
 Cable length: 48 and 60 inches
 Cable loop stop size: 2 $\frac{1}{2}$ inches
 Cable lock: Relaxing locks
 Catch loop size: 6 - 8 inches
 Stop button: $\frac{3}{32}$ inch ferrule

Any cable device that has similar specifications may be considered a BMP device regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. Relaxing locks used were the Reichart™ washer lock, #4 Gregerson™ lock, and the BMI™ Slide Free lock.

Additional Information

- $\frac{3}{32}$ inch diameter cable extensions made of 7 x 7 stranded cable of 12, 14, 16, or 24 inches in length were used for anchoring cable restraint devices, connected by a #9 swivel.
- The bottom of the cable restraint catch loop should be ≥ 6 inches to ≤ 8 inches from the surface directly below the set.
- Special considerations for selectivity: Break-away devices allow escape with sufficient force; the use of a maximum loop stop prevents larger animals from entering the restraint while the minimum loop prevents the restraint from closing around an animal's foot. Break away amounts may vary based on regional needs where the potential capture of protected mammals and/or livestock exists.*
- Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of maintenance and upkeep. This device also meets BMP criteria for Eastern coyotes.



Average Mechanical Description and Attributes

Cable diameter: $\frac{1}{8}$ inch, 7 x 7 or 7 x 19 stranded cable
 Cable length: 48 and 60 inches
 Cable loop stop size: 2 $\frac{1}{2}$ inches
 Cable lock: Relaxing locks
 Catch loop size: 6 - 8 inches
 Stop button: $\frac{1}{8}$ inch ferrule

Any cable device that has similar specifications may be considered a BMP device regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. Relaxing locks used were the Reichart™ washer lock, #4 Gregerson™ lock, and the BMI™ Slide Free lock.

Additional Information

- $\frac{1}{8}$ inch diameter cable extensions made of 7 x 7 stranded cable of 12, 14, 16, or 24 inches in length were used for anchoring cable restraint devices, connected by a #9 swivel.
- The bottom of the cable restraint catch loop should be ≥ 6 inches to ≤ 8 inches from the surface directly below the set.
- Special considerations for selectivity: Break-away devices allow escape with sufficient force; the use of a maximum loop stop prevents larger animals from entering the restraint while the minimum loop prevents the restraint from closing around an animal's foot. Break away amounts may vary based on regional needs where the potential capture of protected mammals and/or livestock exists*.
- Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of maintenance and upkeep. This device also meets BMP criteria for Eastern coyotes.

* Break-aways ("S" hooks, "J" hooks and ferrules) used with manufacturer ratings of 185 lbs. and 285 lbs.



Average Mechanical Description and Attributes

Cable diameter: $\frac{3}{32}$ inch, 7 x 7 stranded cable

Cable length: 72 inches

Cable loop stop size: 2 $\frac{1}{2}$ inches

Cable lock: Relaxing locks

Catch loop size: 6-8 inches

Stop button: $\frac{1}{8}$ inch ferrule

Any cable device that has similar specifications may be considered a BMP device regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. Relaxing locks used were the Micro Lock™, and a standard 1" diameter 90 degree bend washer lock.

Additional Information

- Devices were a total of 6 feet in length composed of two parts: a 38" catch loop cable and a 34" extension cable. A No. 8 barrel swivel was used to connect the loop and extension cables, 38" from the cable loop end (to create a maximum catch loop diameter of 12"). A ferrule stop was placed 8" from the cable loop end to create a 2 $\frac{1}{2}$ " diameter loop stop (deer stop), where required by regulations. A No. 9 wire end swivel was attached for staking. Vinyl tubing was used as the snare support collar.
- The bottom of the cable restraint catch loop should be > 6 inches to < 8 inches from the surface directly below the set.
- Special considerations for selectivity: Break-away devices allow escape with sufficient force; the use of a maximum loop stop prevents larger animals from entering the restraint while the minimum loop prevents the restraint from closing around an animal's foot. Break away amounts may vary based on regional needs where the potential capture of protected mammals and/or livestock exists.
- Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of maintenance and upkeep. These devices also meet BMP criteria for Eastern coyotes.





Average Mechanical Description and Attributes

Cable diameter: 3/32 inch, 1 x 19 stranded cable

Cable length: 60 inches

Cable loop stop size: 2 1/2 inches

Cable lock: Relaxing locks

Catch loop size: 6-8 inches

Stop button: 1/8 inch ferrule

Any cable device that has similar specifications may be considered a BMP device regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp.4-6) needs to be considered as well. The relaxing lock used was the Slim Lock®.

Additional Information

- *Devices were a total of 5 feet in length composed of two parts: a 38" catch loop cable and a 22" extension cable. A No. 8 barrel swivel was used to connect the loop and extension cables, 38" from the cable loop end (to create a maximum catch loop diameter of 12"). A ferrule stop was placed 8" from the cable loop end to create a 2 1/2" diameter loop stop (deer stop). A No. 9 wire end swivel was attached for staking. Vinyl tubing was used as the snare support collar.*
- *The bottom of the cable restraint catch loop should be > 6 inches to < 8 inches from the surface directly below the set.*
- *Special considerations for selectivity: Break-away devices allow escape with sufficient force; the use of a maximum loop stop prevents larger animals from entering the restraint while the minimum loop prevents the restraint from closing around an animal's foot. Break away amounts may vary based on regional needs where the potential capture of protected mammals and/or livestock exists.*
- *Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of maintenance and upkeep. This device also meets BMP criteria for Eastern coyotes.*



Best Management Practices

for Trapping Ringtail in the United States



Best Management Practices (BMPs) are carefully researched educational guides designed to address animal welfare and increase trappers' efficiency and selectivity. The extensive research and field-testing used to develop BMPs are described in the Introduction of this manual. The evaluation methods used to develop BMPs have been standardized, enabling BMPs to be easily updated and revised as new traps and techniques become available. All traps listed in the BMPs have been tested and meet performance standards for animal welfare, efficiency, selectivity, practicality, and safety.

Trapping BMPs provide options that allow for discretion and decision-making in the field. Best Management Practices are meant to be implemented in a voluntary and educational approach, and do not present a single choice that can or must be applied in all cases. BMPs are the product of on-going work that may be updated as additional traps are identified through future scientific testing.

The Ringtail at a Glance

Characteristics

Ringtails (*Bassariscus astutus*) (Figure 1), along with raccoons and coatis, are the only members of the Procyonidae family found in North America. Ringtails are much smaller and more slender than raccoons. The overall length, from tip of nose to tip of tail, is 24-32 inches, with a weight of 1.7 to 2.4 pounds. The ears and eyes are relatively large, and the face is pointed. Males are slightly larger than females but coloration is similar. The ringtail's padded feet have hairy soles and semi-retractile claws. The long fluffy tail is generally equal in length to the body. The pelage is a tan or light buff color with black-tipped guard hairs along the back. The feet and underparts/belly are buffy white. White rings border the eyes and white spots are found below the ears. The tail is white with seven to eight black bands incompletely encircling it and terminating in a black tip. Ringtails are exceptional climbers and agile runners and are at home in trees and cliffs as well as on the ground. Ringtails are active year-round. They are primarily nocturnal and rarely move about during the day. When agitated or alarmed ringtails may release a strong smelling anal musk.

Range

Ringtails range throughout the southwestern United States and Mexico. Within the U.S., ringtails are found as far north as southwestern Oregon and throughout most portions of California, New Mexico, Arizona, Texas, Nevada, Utah, Colorado and Oklahoma. Scattered populations have also been reported in extreme southwestern Wyoming, and in portions of Arkansas and Louisiana on the margins of the ringtail range.

Habitat

Ringtails occupy a variety of habitats from sea level to approximately 9,200 feet of elevation. They are found in dense woodlands, riparian forests, chaparral and rocky desert areas, but they are generally most abundant in riparian forests. Surface water sources are not a limiting factor as the ringtail is able to meet its requirement for water through ingesting succulent vegetation. They den in brushpiles, hollows in trees, burrows, rocky crevices and caves.

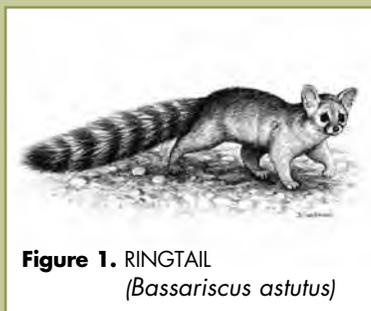


Figure 1. RINGTAIL
(*Bassariscus astutus*)

Food Habits

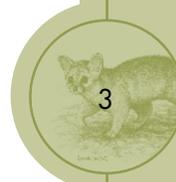
Ringtails are omnivores and consume a variety of plant material and animals. Small mammals (rodents, ground squirrels, tree squirrels, cottontail rabbits, bats, pocket gophers), fruits (persimmons, juniper berries, hackberry, prickly pear, mistletoe), and arthropods make up the majority of the ringtail diet, but birds and reptiles are also consumed. While ringtails normally hunt and kill their prey, they will eat carrion opportunistically and have been known to feed on the carcasses of cattle, sheep and deer.

Reproduction

Ringtails begin breeding in February, but the breeding season may continue through early June with females being receptive for only 1-2 days during this time. Young are born between April and July after a gestation of eight weeks. Ringtails breed in their first year of life (sexually mature at 10 months) and females generally produce only one litter per year, but have been known to produce two. Young are born almost hairless with eyes and ear canals closed. There are normally 3-4 young per litter. Young are able to walk at six weeks and climb at eight weeks of age. The young are weaned by three months. The male ringtail remains with his mate and her young, after birth, and may help bring food to them for the first few months of life, until they are able to begin foraging. The young are independent after about six months. Whether ringtails mate for life is not known.

Populations

Ringtail populations appear to be stable in most states where they occur; however, ringtails may be protected in some states; check your state's current trapping regulations. According to the International Union for Conservation of Nature (IUCN) Red List, the ringtail has a status of "least concern". Ringtails have few predators and they do not pose a threat to the populations of any other species.



RINGTAIL

General Overview of Traps Meeting BMP Criteria for Ringtail in the United States

Cage and bodygrip traps were tested for Ringtail (Table 1). Examples, brief descriptions, and the mechanical details of the devices are given in the next section.

Table 1. Overview of traps meeting BMP criteria for Ringtail in the United States.

Trap Category	Total Dimensions* Length x Width x Height	Door Size* Width x Height	Mesh Size* / Gauge	
Cage	32 x 10 x 12.75	10 x 12	1 x 2 / 12 Gauge Galvanized	
	Height of Trap Window*	Width of Trap Window*	Frame Wire*	Spring Wire*
Bodygrip	5 1/8	4 3/4	1/4	1/4

*measurements are in inches unless otherwise noted

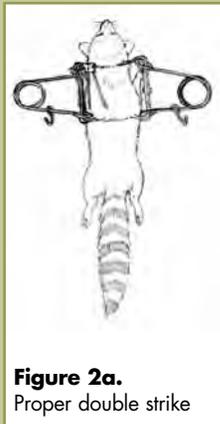


Figure 2a.
Proper double strike



Figure 3a.
Setting Tool

General Considerations When Trapping Ringtail

Cage Traps

- Are bulky;
- Require bait (single door traps);
- Can be used to capture several furbearer species;
- Capture and hold animals alive, allowing for release.

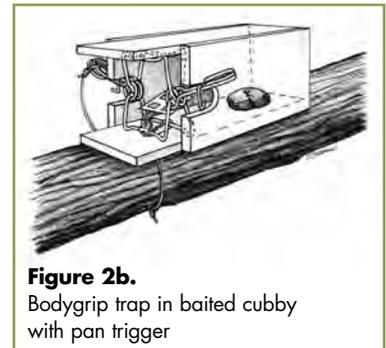


Figure 2b.
Bodygrip trap in baited cubby with pan trigger

Bodygrip

- Should be placed to achieve a double strike. Rotating trap jaws should close on the top and bottom of the captured animal's neck and thorax (Figure 2a);
- Should be deployed in a baited cubby with a pan trigger (Figure 2b);
- May be used in locations and in weather conditions where other traps are less effective;
- May not be appropriate in some areas because captured animals are killed by the trap.

Safe Use of Bodygrip Traps

By design, bodygrip traps must close with considerable force to humanely dispatch and efficiently capture wild furbearers. This is particularly true of larger sized and "magnum" type bodygrip traps. As a result, users should take special precautions to avoid potential injury when using these devices. Trappers should be familiar with the safe and efficient use of bodygrip traps and these are best learned in trapper education programs. A setting tool (Figure 3a) should be used to compress trap springs when setting large and magnum bodygrip traps.

Use of a setting tool will not only make setting traps easier, it will make setting traps safer by allowing the trapper to keep hands and fingers away from the jaws (Figure 3b). Most bodygrip traps are equipped with spring latches that hold each spring compressed, and the trapper should use these latches on both trap springs. A safety gripper (Figure 4a) should also be attached to the jaws when the jaws are moved to the set position (Figure 4b). This will prevent the trap from accidentally closing. The above safety devices protect the trapper and make it easier to set, position and anchor the trap safely. Safety devices should be disengaged only after the set is completed.

If you are accidentally caught in a bodygrip trap you need to know how to free yourself. A setting tool is the most effective means to freeing yourself and should be used to compress the springs or jaws. You should always have a setting tool in reach when setting and placing bodygrip traps. In the event you are not able to reach this tool or use it with one arm, you should always carry a four-foot piece of rope with a loop tied on one end in a pocket that can be easily accessed by either hand (a belt or boot lace could be used instead of a rope). You can use the rope to free yourself as follows:

- 1) Thread the rope through the eyes of one of the springs (Figure 5a).
- 2) Bring the rope around and thread it back through the eyes a second time (Figure 5b).
- 3) Place your foot in the looped end of the rope and pull the other end with your free hand or teeth until you can set the safety latch for that spring. (Figure 5c). You may need to do this to both springs to completely free yourself.

Specifications of Traps Meeting BMP Criteria for Ringtail in the United States

As more capture devices are tested and new information becomes available, they will be added to an updated list. Mechanical descriptions of tested traps are given as an aid to trappers or manufacturers who may wish to measure, build or modify traps to meet these specifications. Also, other commercially available traps, modified traps, or other capture devices not yet tested may perform similar to or better than the listed BMP traps. References to trap names are provided to identify the specific traps tested. The following list is provided for information purposes only, and does not imply an endorsement of any manufacturer.

Average mechanical measurements are rounded to the nearest 1/16 inch. There may be up to 1/8-inch variation in specifications among manufacturers. Manufacturers use recognizable names, such as "No. 2" coil-spring, to identify certain traps. However, there is no standardized system linking mechanical design features with trap size designations. The mechanical features of these traps are listed so that similar traps may be identified. The performance of anchoring systems was not specifically evaluated.

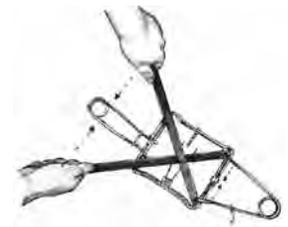


Figure 3b.
Use of setting tool



Figure 4a.
Safety gripper



Figure 4b.
Use of safety gripper



Figure 5a.
Step 1



Figure 5b.
Step 2



Figure 5c.
Step 3



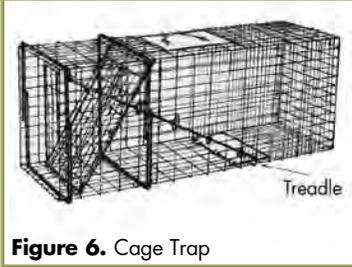


Figure 6. Cage Trap

Cage Traps (Figure 6)

Average Mechanical Description and Attributes

Cage material, and mesh size: 12 gauge galvanized steel wire mesh, 1 x 2 inches

Cage size (length x width x height): 32 x 10 x 12.75 inches

Door size; single door (width x height): 10 x 12 inches

Weight: 14 pounds

Door closure: Spring operated

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Tomahawk™ Cage Trap, No. 108.

Additional Information

- Selectivity features: Limited opening size and length restricts large animals.
- Special considerations for practicality: Multiple set options (baited sets; blind sets only with double doors); can be used for multiple furbearer species in same sets; large and easily seen (difficult to conceal completely); bulky – requires space for transport and storage; easy to operate – requires little training; can be used to transport captured animals; captured animals are easily released; continues to operate in freezing weather conditions. This device also meets BMP criteria for fisher, opossum, raccoon, striped skunk, kit/swift fox and gray fox.



Figure 7. Bodygrip Trap

Bodygrip traps (Figure 7)

Average Mechanical Description and Attributes

Height of trap window: 5 1/8 inches

Width of trap window: 4 3/4 inches

Diameter of frame wire: 1/4 inch

Diameter of spring wire: 1/4 inch

Additional clamping bar: None

Safety features: Safety latches on springs

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Oneida Victor Northwoods™ 155 bodygrip trap.

Additional Information

- Selectivity features: Baited cubbies and pan triggers may improve trap performance for capturing ringtail. Small trap jaw spread and use of a cubby limits access by most dog breeds. Proper setting techniques are best learned from trapper education materials or from experienced trappers.
- Safety considerations: Use of setting tongs, safety latches, and a safety gripper is recommended.



Best Management Practices

for Trapping Swift and Kit Foxes in the United States



Best Management Practices (BMPs) are carefully researched educational guides designed to address animal welfare and increase trappers' efficiency and selectivity. The extensive research and field-testing used to develop BMPs are described in the Introduction of this manual. The methods used to develop BMPs have been standardized, enabling BMPs to be easily updated and revised as new traps and techniques become available. All traps listed in the BMPs have been tested and meet performance standards for animal welfare, efficiency, selectivity, practicality, and safety.

Trapping BMPs provide options that allow for discretion and decision-making in the field. Best Management Practices are meant to be implemented in a voluntary and educational approach, and do not present a single choice that must be applied in all cases. BMPs are the product of on-going research and may be updated as additional traps are evaluated through future scientific testing.

Swift and Kit Foxes at a Glance

Characteristics

The swift fox (*Vulpes velox*) (Figure SKF1) and kit fox (*Vulpes macrotis*) are the smallest members of the Canidae (Dog) family in North America. Though the two species are distinct, individuals interbreed and produce hybrids in zones where their ranges contact. The two species can be distinguished visually as the swift fox has shorter, more widely spaced ears, a shorter tail and a more rounded head than the kit fox. While both species have a black tipped tail, the swift fox also has a black spot on either side of the muzzle. The pelage of the two species is similar with the back being grayish, and the sides, legs and tail appearing buffy tan. The posterior region of the back appears grizzled due to the presence of white and black guard hairs. The ventral fur of the throat, chest and belly is pale yellow to white. Adult males are typically larger than females. Kit foxes weigh from 3.0 to 6.6 pounds, while swift foxes weigh from 4.0 to 6.5 pounds. Both species stand approximately 12 inches at the shoulder. Body length ranges from 15 to 20 inches and tail length ranges from 9 to 13 inches for both species.



Figure SKF1. Swift fox (*Vulpes velox*)

Range

The Rocky Mountains represent a geographical demarcation between the ranges of swift and kit foxes with distinct assemblages of populations of swift foxes occurring to the east and kit foxes to the west. In the U.S., swift foxes range from Montana down through South Dakota, Wyoming, Colorado, Nebraska, Kansas, Oklahoma, eastern New Mexico and into the Texas panhandle. Kit foxes range from south western Idaho and southern Oregon into Nevada and western Utah, southern California, Arizona, New Mexico and into southwestern Texas.

Habitat

Swift foxes inhabit prairies of short-, mid- or mixed grasses where the topography is flat or gently rolling. Kit foxes are found in semiarid or arid desert and shrub-steppe areas. Den sites are generally located in areas of loose soil where underground dens can be easily dug. Both species use underground dens throughout the year.

Food Habits

Like most other canid species, swift and kit foxes are primarily carnivorous. They are opportunistic predators and feed on small mammals, reptiles, birds and insects. They also consume small amounts of vegetation and will feed on carrion.



Reproduction

Both species typically breed in late December to early January, however, in the northern parts of their respective ranges, they may breed as late as early February. Young are typically born in late February to early March after a gestation period of ~50 days. Females produce one litter per year and may give birth to their first litter at one year of age. Litter size averages 3 to 5 pups but may range from 1 to 8. Young remain in the underground den until about one month of age. Both parents provide food and care for the pups during the first 4-6 months following birth, but after this time pups begin to forage for themselves and disperse.

Populations

Both swift and kit fox populations are protected from harvest in some parts of their ranges. Converting habitat to agricultural uses and the use of poison in damage control programs negatively impacted fox populations in the past. With poison baits no longer in use and more habitat conscious land use practices, populations are recovering in some parts of their historical range. In other areas, populations are still viable and harvest by trapping and hunting is allowed.

General Overview of Traps Meeting BMP Criteria for Swift and Kit Foxes in the United States

Cage and bodygrip traps were tested for swift and kit foxes (Table SKF1). Examples, brief descriptions, and the mechanical details of the devices are given in the next section.

Table SKF1. Overview of traps meeting BMP criteria for swift and kit foxes in the United States.

Trap Category	Total Dimensions Length x Width x Height (in)	Door Size Width x Height (in)	Mesh Size (in)/ Gauge	
Cage	32 x 10 x 12.75	10 x 12	1 x 2 12 gauge galvanized	
	Height of Trap Window (in)	Width of Trap Window (in)	Frame Wire (in)	Spring Wire (in)
Bodygrip	6 ¹⁵ / ₁₆	7	1/4	1/4



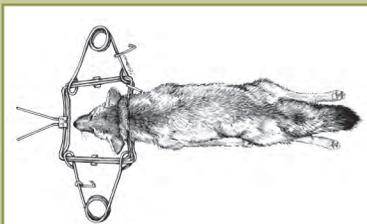


Figure SKF2. Proper strike location



Figure SKF3. Setting tool



Figure SKF3a. Using setting tool



Figure SKF3b. Spring latches



Figure SKF4. Safety gripper



Figure SKF4a. Using safety gripper

General Considerations When Trapping Swift and Kit Foxes

Cage Traps

- Are bulky
- Require bait (single door traps)
- Can be used to capture several furbearer species
- Capture and hold animals alive, allowing for release

Bodygrip Traps

- Should be placed so that the rotating jaws close on the top and bottom of the captured animals neck (Figure SKF2)
- Allows for use in locations and in weather conditions where other traps are less effective
- May not be appropriate in some areas because captured animals are killed by the trap

Safe Use of Bodygrip Traps

By design, bodygrip traps must close with considerable force to humanely dispatch and efficiently capture wild furbearers. This is particularly true of larger sized and “magnum” type bodygrip traps. As a result, users should take special precautions to avoid potential injury when using these devices. Trappers should be familiar with the safe and efficient use of bodygrip traps, which is best learned in trapper education.

A setting tool (Figure SKF3) should be used to compress trap springs when setting large and magnum bodygrip traps. Use of a setting tool will not only make setting traps easier, it will make setting traps safer by allowing the trapper to keep hands and fingers away from the jaws (Figure SKF3a). Most bodygrip traps are equipped with spring latches (Figure SKF3b) that hold each spring compressed, and the trapper should use these latches on both trap springs. A safety gripper (Figure SKF4) should also be attached to the jaws when the jaws are moved to the set position (Figure SKF4a). This will prevent the trap from accidentally closing. The safety devices protect the trapper and make it easier to set, position and anchor the trap safely. Safety devices should be disengaged only after the set is completed.



If you are accidentally caught in a bodygrip trap, you need to know how to free yourself.

A setting tool is the most effective means to freeing yourself and should be used to compress the springs or jaws. You should always have a setting tool in reach when setting and placing bodygrip traps. In the event you are not able to reach this tool or use it with one arm, you should always carry a four-foot piece of rope with a loop tied on one end (a belt or boot lace could be used instead of a rope) in a pocket that can be easily accessed by either hand. You can use the rope to free yourself as follows:

- 1) Thread the rope through the eyes of one of the springs (Figure SKF5a).
- 2) Bring the rope around and thread it back through the eyes a second time (Figure SKF5b).
- 3) Place your foot in the looped end of the rope and pull the other end with your free hand or teeth until you can set the safety latch for that spring. (Figure SKF5c). You may need to do this to both springs to completely free yourself.



Figure SKF5a. Step 1



Figure SKF5b. Step 2



Figure SKF5c. Step 3

Specifications of Traps Meeting BMP Criteria for Swift and Kit Foxes in the United States

As more capture devices are tested and new information becomes available, they will be added to an updated list. Mechanical descriptions of tested traps are given as an aid to trappers or manufacturers who may wish to measure, build or modify traps to meet these specifications. Also, other commercially available traps, modified traps, or other capture devices not yet tested may perform similar to or better than the listed BMP traps. References to trap names are provided to identify the specific traps tested. The following list is provided for information purposes only, and does not imply an endorsement of any manufacturer.

Average mechanical measurements are rounded to the nearest 1/16 inch. There may be up to 1/8-inch variation in specifications among manufacturers. Manufacturers use recognizable names, such as “No. 2” coil-spring, to identify certain traps. However, there is no standardized system linking mechanical design features with trap size designations. The mechanical features of these traps are listed so that similar traps may be identified. The performance of anchoring systems was not specifically evaluated.



Figure SKF6. Cage trap

Cage Trap (Figure SKF6)

Average Mechanical Description and Attributes

Cage material, and mesh size: 12 gauge galvanized steel wire mesh, 1 x 2 inches

Cage size (length x width x height): 32 x 10 x 12.75 inches

Door size; single door (width x height): 10 x 12 inches

Weight: 14 pounds

Door closure: Spring operated

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Tomahawk™ Cage Trap, No.108.

Additional Information

- Selectivity features: Limited opening size and length restricts large animals.
- Special considerations for practicality: Multiple set options (baited sets; blind sets only with double doors); can be used for multiple furbearer species in same sets; large and easily seen (difficult to conceal completely); bulky – requires space for transport and storage; easy to operate – requires little training; can be used to transport captured animals; captured animals are easily released; continues to operate in freezing weather conditions. This device also meets BMP criteria for fisher, opossum, striped skunk, raccoon and gray fox.

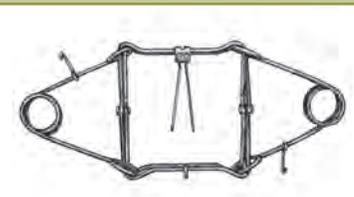


Figure SKF7. Conibear™ bodygrip trap

Bodygrip Trap (Figure SKF7)

Average Mechanical Description and Attributes

Height of trap window: 6 15/16 inches

Width of trap window: 7 inches

Diameter of frame wire: 1/4 inch

Diameter of spring wire: 1/4 inch

Additional clamping bar: None

Safety features: Safety latches on springs

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Woodstream Oneida Victor 220 Conibear™ bodygrip trap.

Additional Information

- Selectivity features: Can be recessed in a cubby to increase selectivity. Proper setting techniques are best learned from trapper education materials or from experienced trappers.
- Safety considerations: Use of setting tongs, safety latches, and safety gripper is recommended.
- Special Considerations for Practicality: This trap also meets BMP criteria for fisher, raccoon, nutria, striped skunk, muskrat (submersion), mink (submersion) and river otter (submersion).

Best Management Practices for Trapping Weasels in the United States



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AGENCIES



Figure WS1. Weasel (*Mustela frenata*)

Best Management Practices (BMPs) are carefully researched educational guides designed to address animal welfare and increase trappers' efficiency and selectivity. The extensive research and field-testing used to develop BMPs are described in the Introduction section of this manual. The evaluation methods used to develop BMPs have been standardized, enabling them to be easily updated and revised as new traps and techniques become available. All traps listed in the BMPs have been tested and meet performance standards for animal welfare, efficiency, selectivity, practicality and safety.

Trapping BMPs provide options, allowing for discretion and decision making in the field. BMPs are meant to be implemented in a voluntary and educational approach and do not present a single choice that can or must be applied in all cases. BMPs are the product of ongoing work that may be updated as additional traps are identified through future scientific testing.

The Weasel at a Glance

Characteristics

Weasels are members of the Mustelidae family. There are three species of weasels indigenous to North America; the long-tailed weasel (*Mustela frenata*) (Figure WS1), the short-tailed weasel (*Mustela erminea*) and the least weasel (*Mustela nivalis*). Within species, adult males are generally larger than adult females. The three species can be differentiated by their size and range. Adult long-tailed weasels weigh from 3 to 16 ounces and range from 11 to 16.5 inches in length, including a 4-to-6 inch tail. The short-tailed weasel is 7.5 to 13 inches long, with its tail making up a third of its body length. The least weasel rarely exceeds 9.8 inches, with a quarter of its length being the tail (shortest relative tail length of the weasels). Also distinctive, long-tailed and short-tailed weasels have black-tipped tails in all seasons, but least weasels never have black-tipped tails. In colder climates, the pelage of all three species turns white in winter. In the fur trade, the short-tailed weasel is commonly referred to as an "ermine" when in winter pelage. Least weasels are so small as not to be valuable in the trade of raw furs and are generally not sought by trappers.

Range

Long-tailed weasels are found from southern Canada to Peru; however, they are not common in extensive desert habitats. The short-tailed weasel ranges from above the Arctic Circle to the northern United States. The least weasel is also found above the Arctic Circle, but the range extends further south into the central United States.

Habitat

Weasels are found in a wide variety of habitats, but prefer woodlands, brushy areas, and thickets near watercourses. They inhabit shallow burrows, often those previously occupied by moles, ground squirrels or mice. Rock piles, cavities under roots of trees, and dense vegetation may also be used for dens, resting and hunting. Depending on their habitat, weasels may use one or many dens.

Food Habits

Small mammals are the preferred food of weasels. When this prey source is available, it makes up the majority of the diet. Mice, rats, squirrels, chipmunks, shrews, moles and rabbits are all likely food sources. Occasionally, birds, reptiles, amphibians, eggs, and insects are also consumed. Weasels may store their food for future use, but fresh kills seem to be preferred.



Reproduction

Mating in short-tailed and long-tailed weasels occurs in mid-to-late summer, but due to delayed implantation, embryo development does not take place immediately; young are born the following April or May. For both species, litters range from four to eight young. This delay in embryo development does not occur in least weasels, and they are capable of producing young in any month. Generally, least weasels produce only two litters per year, typically in spring and mid to late summer, with four to five young per litter.

Populations

Weasel populations rise and fall in accordance with their prey abundance, and are also impacted by predation. Foxes, coyotes, domestic cats, hawks, owls and snakes have all been documented as predators of weasels.

General Overview of Traps Meeting BMP Criteria for Weasels in the United States

A longspring trap, used in the body-grip mode, and “rat type” snap trap were tested for weasel as killing devices (Table WS1). Examples, brief descriptions and mechanical details of the various makes and models are given in the next section.

Table WS1. Overview of traps meeting BMP criteria for weasels in the United States.

Trap Category	Jaw/Frame Characteristics	Inside Jaw/Frame Spread at Dog*	Inside Width at Jaw/Frame Hinge Posts*
Longspring Trap	Unmodified	4 1/2	4 5/16
Snap Trap	Unmodified	3 3/16	2 1/2

* Inches

General Considerations When Trapping Weasels

Longspring Trap

- Reducing pan-tension may be necessary to achieve desired capture rate and proper strike location
- Can be used to capture several furbearer species
- Traps can be set in baited cubbies (Figure WS2) to help ensure proper strike location (Figure WS3), and to improve selectivity

Snap Trap

- Traps can be set in baited cubbies (Figure WS4) to help ensure proper strike location (Figure WS5a), and to improve selectivity
- Little or no trap modification is necessary



Figure WS2. Longspring trap in baited cubby



Figure WS3. Longspring trap, proper strike location



Figure WS4. Snap trap in baited cubby



Figure WS5a. Snap trap, proper strike location

Specifications of Traps Meeting BMP Criteria for Weasels in the United States

As more capture devices are tested and new information becomes available, they will be added to an updated list. Mechanical descriptions of tested traps are given as an aid to trappers or manufacturers who may wish to measure, build or modify traps to meet these specifications. Also, other commercially available traps, modified traps or other capture devices not yet tested may perform as well as, or better than, the listed BMP traps. References to trap names are provided to identify the specific traps tested. This list is provided for information purposes only, and does not imply an endorsement of any manufacturer.

These are average mechanical measurements which are rounded to the nearest $\frac{1}{16}$ inch. There may be up to $\frac{1}{8}$ -inch variation in specifications on the part of the manufacturer. Manufacturers use recognizable names, such as "No. 2" coil-spring, to identify certain traps. However, there is no standardized system linking mechanical design features with trap names. The mechanical features of these traps are listed so that similar traps may be identified.

The performance of anchoring systems was not specifically evaluated. However, methods of attachment are described for informational purposes.

Traps with the following specifications meet or exceed the selection criteria previously described.

Longspring Traps

Unmodified jaws (Figures WS5b and WS5c)

Average Mechanical Description and Attributes

Inside jaw spread at dog: 4 $\frac{1}{2}$ inches

Inner width: 3 $\frac{15}{16}$ inches

Width at jaw hinge posts: 4 $\frac{5}{16}$ inches

Jaw width: $\frac{1}{2}$ inch

Jaw thickness: $\frac{1}{8}$ inch

Length of main trap springs: 5 $\frac{1}{8}$ inches

Thickness of main trap springs: $\frac{1}{8}$ inch

Width of main trap springs: 1 inch narrowing to $\frac{5}{8}$ inch

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see Introduction: "Criteria for Evaluation of Trapping Devices" pages 4-6) needs to be considered as well. The trap tested was the Sleepy Creek™ No. 1 $\frac{1}{2}$ longspring.



Figure WS5b. Longspring trap (open)



Figure WS5c. Longspring trap (closed)

Additional Information

- Chain attachment used in trap testing: 16-inch chain attached to longspring of trap with one swivel, and anchored securely.
- Selectivity features: Brass pan tension machine screw; pan tension was set to “free fall” for testing, and checked and readjusted as needed after every capture. Traps were placed in cubbies and were baited with bait placed to the rear center of the cubby (Figure WS2). Traps should be positioned in the cubby so that the animal will step between the jaws and onto the pan of the set trap. Trap dogs were bent slightly downward to increase sensitivity.
- Practicality considerations: Traps can be set in baited cubbies (Figure WS2) to help ensure proper strike location and improve selectivity. Cubbies can be constructed as noted (Figure WS6).



Snap Traps: Unmodified jaw (Figures WS7a and WS7b)

Average Mechanical Description and Attributes

Inside jaw spread at dog: 3 ³/₁₆ inches

Inner width: 2 ⁵/₈ inches

Inside width at jaw hinge posts: 2 ¹/₂ inches

Bar width: ¹/₈ inch round bar

Bar thickness: ¹/₈ inch round bar

Trap base: 6 ¹⁵/₁₆ inches (length) x 3 ⁵/₁₆ inches (width); wooden

Pan dimensions: 1 ¹⁵/₁₆ inches (length) x 2 inches (width); plastic

Main trap spring: Two 0.07 inch diameter wire coil-springs

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see Introduction: “Criteria for Evaluation of Trapping Devices” pages 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor Rat Trap (with large plastic treadle).

Additional information

- Anchoring used in trap testing: A length of wire was securely anchored and attached to the trap (via a hole drilled in the wooden base).
- Selectivity features: Two sensitivity settings for adjusting pan tension are located on the plastic treadle (trap pan); “sensitive” setting was used. Large plastic treadle “creates” multiple options for bait placement to improve selectivity. Traps were placed in cubbies (Figure WS4) and were baited with bait placed to the rear center of the cubby.
- Practicality considerations: Traps can be set in baited cubbies (figure WS4) to help ensure proper strike location and improve selectivity. Cubbies can be constructed as noted (Figure WS6).

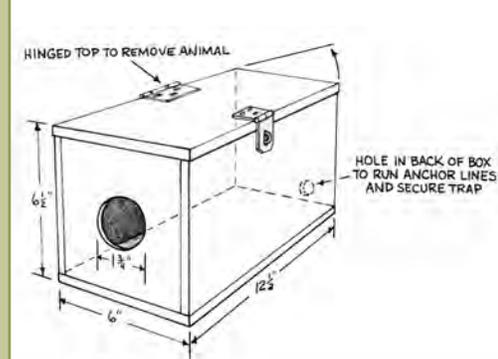


Figure WS6. Wooden weasel cubby (note dimensions)



Figure WS7a. Snap trap (unset)



Figure WS7b. Snap trap (set)



Best Management Practices

Trapping Coyotes in the Western United States

UPDATED 2018





Figure WC1. Western coyote
(*Canis latrans*)

Best Management Practices (BMPs) are carefully researched recommendations designed to address animal welfare and increase trappers' efficiency and selectivity. The extensive research and field-testing used to develop BMPs are described in the introduction of this manual. The evaluation methods used to develop BMPs have been standardized, enabling BMPs to be easily updated and revised as new traps and techniques become available. All traps listed in the BMP have been tested and meet performance standards for animal welfare, efficiency, selectivity, practicality, and safety.

Trapping BMPs provide options, allowing for discretion and decision making in the field. It does not present a single choice that can or must be applied in all cases. They are meant to be implemented in a voluntary and educational approach. BMPs are the product of on-going work that may be updated as additional traps are identified through future scientific testing.

The Western Coyote at a Glance

Characteristics

The Western coyote is a medium to large member of the canid family (Figure WC1). Adults average 20 to 35 pounds, and males are larger than females. Primarily nocturnal, but may be active during the day. The scientific name is *Canis latrans*.

Range

Coyotes occur throughout North America from the edge of the northern tundra south to Central America. In the United States, all 48 contiguous states and Alaska have populations, though densities vary with habitat quality. Densities are highest in the plains region and in the south-central states.

Habitat

Originally an inhabitant of the open grasslands and prairies of the western United States and southern Canada, the coyote has adapted to a wide range of habitat conditions from southern swamps to northern spruce-fir forests. They also occur in urban and suburban environments, including some of the largest cities in the United States.

Food Habits

Coyotes are opportunistic predators. They commonly prey upon small animals (mice, rabbits, reptiles, and insects), sometimes including pets, and often consume scavenged food items and carrion, as well as fruits, seeds, and other plant material. Coyotes also kill mammals such as deer, antelope, and livestock.

Reproduction

Breeding occurs in late winter, and three to six pups are born about 60 days after breeding. Females normally do not breed until their second winter. Pairs may remain together for several years; both parents care for pups. Young usually disperse from their birth range in the fall when they are about six months old.



Populations

Population trends vary across the Western United States, but coyotes are generally abundant, and becoming less wary of people. Coyote densities are highly variable depending on habitat quality and range from one animal for every five square miles to an average of six animals per square mile. Adult coyotes may range over an area of 2-20 square miles, depending on the time of year. Family groups defend well-defined territories; pairs and solitary individuals do not.

Comments

Coyote range has expanded dramatically since the mid-1800s. Coyote populations spread from western grasslands north to Alaska, west across the Rocky Mountains to the Pacific Ocean, and east to the Atlantic coast. This increase in population and range occurred during a time of extensive habitat change and despite concerted efforts to control and eradicate them. Few other mammals have shown such adaptability. As coyotes have occupied suburban areas they have become less wary of people, and in recent years attacks on people have been documented.

Coyotes cause considerable damage to livestock and natural resources in the western regions of the United States. Even with coyote damage management programs in place, livestock producers lose in excess of \$12 million in direct predation by coyotes annually. Additionally, coyote management is necessary to help recover some threatened and endangered species.

General Overview of Traps Meeting BMP Criteria for Coyotes in the Western United States

Two basic types of traps were tested for coyotes: foothold restraining traps and cable devices (Table WC2). Examples, brief descriptions, and mechanical details of the various makes and models that meet BMP criteria are given in the next section.

Table WC2. Overview of traps meeting BMP criteria for coyotes in the Western United States.

Trap Category	Jaw/Frame Characteristics	Inside Jaw/ Frame Spread at Dog*	Inside Width at Jaw/ Frame Hinge Posts*
Coil-spring	Padded	4 ⁵ / ₈ - 5 ¹ / ₂) - 6 ¹ / ₂
	Unmodified	4 ¹¹ / ₁₆ - 6 ¹ / ₈	5 - 6 ³ / ₈
	Offset, laminated and/or wide	4 ¹ / ₂ - 5 ¹³ / ₁₆	5 - 6 ³ / ₈
Powered Cable Device	Smooth, round rod, ¹ / ₈ inch cable	6 ³ / ₈	6

* Inches



General Considerations When Trapping Western Coyotes

Jaw-type Traps

- Many currently-used trap models meet specifications
- Pan-tension set at 2 pounds improves selectivity and foot placement in the trap
- Captures and holds animals alive, allowing for release

Powered Cable Devices (foot capture)

- Pan-tension set at 2 pounds improves selectivity
- Large cable-loop diameter minimizes capture of smaller species
- Cables require frequent replacement
- Captures and holds animals alive, allowing for release

Specifications of Traps Meeting BMP Criteria for Coyotes in the Western United States

As more capture devices are tested and new information becomes available, they will be added to an updated list. Mechanical descriptions of tested traps are given as an aid to trappers or manufacturers who may wish to measure, build, or modify traps to meet these specifications. Also, other commercially available traps, modified traps, or other capture devices not yet tested may perform as well as, or better than the listed BMP traps. References to trap names are provided to identify the specific traps tested. This list is provided for information purposes only, and does not imply an endorsement of any manufacturer.

These are average mechanical measurements which are rounded to the nearest $\frac{1}{16}$ inch. There may be up to $\frac{1}{8}$ inch variation in specifications on the part of the manufacturer. Manufacturers use recognizable names, such as "No. 2" coil-spring, to identify certain traps. However, there is no standardized system linking mechanical design features with trap names. The mechanical features of these traps are listed so that similar traps may be identified. The performance of anchoring systems was not specifically evaluated. However, methods of attachment are described for informational purposes.



Padded Jaws (Figures WC3-WC8)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 5/8 inches
Inner width: 4 3/4
Inside width at jaw hinge posts: 5 inches
Jaw width: 3/8 inch round padded jaw
Jaw thickness: 1/2 inch
Padding: Manufacturer-supplied rubber pads
Main Trap Springs: Two 0.150 inch wire-diameter springs
Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see Introduction: "Criteria for Evaluation of Trapping Devices" pages 4-6) needs to be considered as well. The trap tested was the Oneida Victor® No. 1 3/4 Soft Catch™ coil-spring trap (Figure WC3).

Additional Information

- Chain attachment used in the trap testing: 12 inches center-mounted with four swivels, one shock spring, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so four pounds of pressure triggered the trap and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads. This device also for Eastern coyotes.



Figure WC3. Padded jaw coil-spring trap



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/2 inches
Inner width: 6 3/8
Inside width at jaw hinge posts: 6 1/8 inches
Jaw width: 5/8 inch square padded jaw
Jaw thickness: 5/8 inch
Padding: Manufacturer-supplied rubber pads
Coilsprings: Two 0.160 inch wire-diameter springs
Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see Introduction: "Criteria for Evaluation of Trapping Devices" pages 4-6) needs to be considered as well. The trap tested was the Bridger® No. 3 rubber jaw coilspring trap (Figure WC4).

Additional Information

- Chain attachment used in the trap testing: 9 inch center-mounted with two swivels, one shock spring, and anchored with a stake.
- Selectivity features: Pan tension machine screw; pan tension set so four pounds of pressure triggered the trap and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads. This device also meets BMP criteria for Eastern coyotes.



Figure WC4. Padded jaw coil-spring trap





Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ¼ inches
Inner width: 6 7/16 inches
Inside width at jaw hinge posts: 6 inches
Jaw width: ½ inch round padded jaw
Jaw thickness: 5/8 inch
Padding: Manufacturer-supplied rubber pads
Main trap springs: Two 0.160 inch wire-diameter springs
Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see Introduction: “Criteria for Evaluation of Trapping Devices” pages 4-6) needs to be considered as well. The trap tested was the Duke™ No. 3 rubber jaw coil-spring trap (Figure WC5).

Additional Information

- Chain attachment used in the trap testing: 9 inch center-mounted with two swivels, one shock spring, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so four pounds of pressure triggered the trap and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads. This device also BMP criteria for Eastern coyotes.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 3/16 inches
Inner width: 6 1/16 inches
Inside width at jaw hinge posts: 6 7/16 inches
Jaw width: 9/16 inch round padded jaw
Jaw thickness: 3/8 inch
Padding: Manufacturer supplied rubber pads
Main trap springs: Two 0.145 inch wire-diameter springs
Additional springs: Two 0.115 inch wire-diameter springs
Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see “Criteria for Evaluation of Trapping Devices”: Introduction pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 3 Softcatch coil-spring, modified with four-coils (Figures WC6A -6B).

Additional Information

- Chain attachment used in trap testing: 18 inch center-mounted with three swivels, two shock springs, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two pounds of pressure triggered the trap, and checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads. This device also meets BMP criteria for Eastern coyotes.



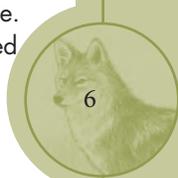
Figure WC5 Padded jaw coil-spring trap



Figure WC6A. Padded jaw coil-spring trap (open)



Figure WC6B. Padded jaw coil-spring trap (closed)





Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/2 inches
 Inner width: 6 inches
 Inside width at jaw hinge posts: 6 1/2 inches
 Jaw width: 3/4 inch
 Jaw thickness: 9/16 inch
 Main trap springs: Four 0.150 inch diameter wire coil-spring
 Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Jake™ Trap coil-spring trap (Figures WC7a-WC7b).

Additional Information

- Chain attachment used in trap testing; 18 inch chain center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so approximately four pounds of pressure triggered the trap, and was checked and readjusted as needed after capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads. This device meets BMP criteria for Eastern coyotes.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 5/8 inches
 Inner width: 5 7/8 inches
 Inside width at jaw hinge posts: 6 1/4 inches
 Jaw width: 9/16 inch padded jaw
 Jaw thickness: 9/16 inch
 Padding: Manufacturer supplied rubber pads
 Main trap springs: Two 0.148 inch wire-diameter springs
 Additional springs: Two 0.118 inch wire-diameter springs
 Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Minnesota Brand™ MB 550-RC-RJ-4 coiled rubber jaw coil-spring trap (Figures WC8).

Additional Information

- Chain attachment used in the trap testing: 9 inch center-mounted with two swivels, one shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so ~3.2 pounds of pressure triggered the trap. Tension was checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads. This device also BMP criteria for Eastern coyotes.



Figure WC7a. Jake Padded jaw coil-spring trap (open)



Figure WC7b. Jake padded jaw coil-spring trap (closed)



Figure WC8 MB 555-RC-RJ-4-coiled padded jaw coil-spring trap (open)



WESTERN COYOTE

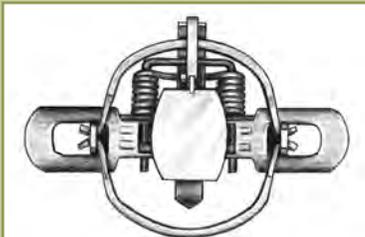


Figure WC9a. Unmodified jaw coil-spring trap (open)



Figure WC9b. Unmodified jaw coil-spring trap (closed)

Unmodified Jaws (Figures WC9a - 9b)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/4 inches

Inner width: 4 9/16 inches

Inside width at jaw hinge posts: 5 inches

Jaw width: 1/2 inch smooth round jaw

Jaw thickness: 1/8 inch

Main trap springs: Two 0.145 inch wire-diameter springs

Base plate: Not reinforced

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1.75 coil-spring (Figures WC9a–WC9b).

Additional Information

- Chain attachment used in trap testing: 9 1/2 inch center-mounted with two swivels, one shock spring, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two pounds of pressure triggered the trap, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for red foxes and Eastern coyotes.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 6 1/8 inches

Inner width: 5 7/8 inches

Width at jaw hinge posts: 6 3/8 inches

Jaw width: 5/8 inches smooth round jaw

Jaw thickness: 3/16 inches

Main trap springs: Two 0.160 inch wire-diameter springs

Base plate: Not reinforced

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Bridger™ No. 3 coil-spring (Figure WC10).

Additional Information

- Chain attachment used in the trap testing: 9 1/2 inch center-mounted with two swivels, one shock spring, and anchored with a stake.
- Selectivity features: Pan tension machine screw; pan tension was set so two-four pounds of pressure triggered the trap and was checked and readjusted as needed after every capture.



Figure WC10. Unmodified jaw coil-spring trap

Offset and/or Laminated Jaws (Figures WC11 - WC22)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 ¹¹/₁₆ inches

Inner width: 4 ⁷/₈ inches

Width at jaw hinge posts: 5 ³/₈ inches

Jaw width: ⁷/₁₆ inches

Jaw thickness: ⁷/₁₆ inches

Jaw offset: 5/16 inches

Main trap springs: Two 0.150 inch wire-diameter springs

Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Coyote Cuff™ No. 22 coil-spring (Figure WC11).

Additional Information

- Chain attachment used in trap testing: 9 ¹/₂ inch center-mounted with two swivels, one shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so two pounds of pressure triggered the trap, and checked and readjusted as needed after every capture.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ¹/₈ inches

Inner width: 5 ¹/₄ inches

Inside width at jaw hinge posts: 5 ³/₈ inches

Jaw width: ¹/₂ inch

Jaw thickness: ³/₁₆ inch

Jaw thickness with laminations: ³/₈ inch

Lamination: ³/₁₆ inch above jaw

Jaw offset: ³/₁₆ inch

Main trap springs: 0.135 inch diameter wire coil-springs

Additional springs: 0.115 inch diameter wire coil springs

Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Bridger™ 165 Offset Modified (with ³/₁₆-inch offset, ³/₁₆-inch above jaw lamination and with 4 coil-springs). (Figures WC12a and WC12b)

Additional Information

- Chain attachment used in trap testing; 9 inch chain center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so approximately two-four pounds of pressure triggered the trap, and was checked and readjusted as needed after capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyote.



Figure WC11. Offset, wide jaw coil-spring trap (open)



Figure WC12a. Offset, laminated jaw coil-spring trap (open)



Figure WC12b. Offset, laminated jaw coil-spring trap (closed)

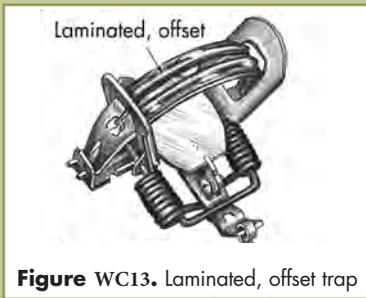


Figure WC13. Laminated, offset trap

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ¹/₁₆ inches
 Inner width: 4 ⁹/₁₆ inches
 Inside width at jaw hinge posts: 5 ¹/₁₆ inches
 Jaw width: ⁷/₁₆ inch wide, smooth round jaw
 Jaw thickness: ⁵/₁₆ inch
 Jaw thickness with lamination: ¹/₂ inch
 Lamination: ³/₁₆ inch above-jaw lamination
 Jaw offset: ³/₁₆ inch
 Main trap springs: Two 0.135 inch wire-diameter springs
 Base plate: Not reinforced

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1.75 coil-spring trap modified with offset, laminated jaws (lamination on top). (Figure WC13)

Additional Information

- Chain attachment used in trap testing: 9 ¹/₂ inch center-mounted with two swivels, one shock spring, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two pounds of pressure triggered the trap, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for red foxes and Eastern coyotes.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ¹/₂ inches
 Inside jaw spread (between below-jaw lamination): 5 inches
 Inner width: 5 ¹/₁₆ inches
 Inside width at jaw hinge posts: 5 ⁹/₁₆ inches
 Jaw width: ⁷/₁₆ inch hexagonal jaw
 Jaw thickness: ³/₁₆ inch
 Jaw thickness with lamination: ⁷/₁₆ inches
 Lamination: ³/₁₆ inch below-jaw lamination
 Jaw offset: ³/₁₆ inch
 Main trap springs: Two 0.145 inch wire-diameter springs
 Additional springs: Two 0.11 inch wire-diameter springs
 Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Bridger™ No. 2 square jaw modified with , offset laminated coil-spring, four-coiled (lamination on bottom of jaw).

Additional Information

- Chain attachment used in trap testing: 18 inch center-mounted with three swivels, two shock springs, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two pounds of pressure triggered the trap, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for red foxes and Eastern coyotes.

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 1/2 inches
Inner width: 4 5/8 inches
Inside width at jaw hinge posts: 5 inches
Jaw width: 1/2 inch
Jaw thickness: 1/8 inch
Jaw thickness with lamination: 9/16 inch
Lamination: 3/16 inch above jaw and 1/4 inch below jaw
Jaw offset: 3/16 inch
Main trap springs: Four 0.145 inch diameter wire coil-springs
Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Oneida Victor™ #1.75 equipped with 3/16-inch offset, double rounded steel jaw laminations (3/16-inch on topside of jaw and 1/4-inch on underside of jaws) and with 4 coil springs (Figure WC14).

Additional Information

- Chain attachment used in trap testing; 9 inch chain center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so approximately two to four pounds of pressure triggered the trap, and was checked and readjusted as needed after capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyote.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/2 inches
Inside jaw spread (between below-jaw lamination): 5 inches
Inner width: 6 inches
Inside width at jaw hinge posts: 6 3/8 inches
Jaw width: 1/2 inch hexagonal jaw
Jaw thickness: 3/16 inch
Jaw thickness with lamination: 5/8 inch
Lamination: 3/16 inch above-jaw, 3/16 below-jaw
Jaw offset: 1/4 inch
Main trap springs: Two 0.160 inch wire-diameter springs
Additional springs: Two 0.115 inch wire-diameter springs
Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Bridger™ No. 3 coil-spring, modified, offset (by manufacturer), double laminated, four-coiled (Figure WC15).

Additional Information

- Chain attachment used in trap testing: 18 inch center-mounted with three swivels, two shock springs, and attached to a metal grapple.
- Selectivity features: Brass pan tension machine screw; pan tension set so two pounds of pressure triggered the trap, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyotes.

Best Management Practices for Trapping in the United States



Figure WC14. Offset and double laminated jaw coil-spring trap (open)



Figure WC15. Offset and double laminated jaw coil-spring trap (open)



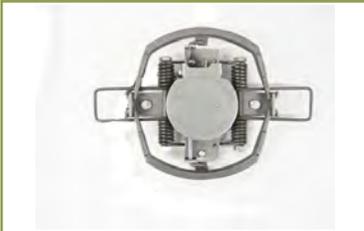


Figure WC16. Offset and wide jaw coil-spring trap (open)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ³/₄ inches
 Inner width: 5 ⁵/₁₆ inches
 Inner width at jaw hinge posts: 5 ¹³/₁₆ inches
 Jaw width: ¹/₂ inch
 Jaw thickness: ³/₈ inch
 Jaw offset: ¹/₄ inch
 Main trap springs: Four 0.148 inch wire-diameter springs
 Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Minnesota Brand MB650™ offset coil-spring, four-coiled (Figure WC16).

Additional Information

- Chain attachment used in trap testing: 18 inch center-mounted with three swivels, two shock springs, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two pounds of pressure triggered the trap, and checked and readjusted as needed after every capture.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ¹³/₁₆ inches
 Inner width: 5 ⁷/₁₆ inches
 Inner width at jaw hinge posts: 5 ⁷/₈ inches
 Jaw width: ¹/₂ inches smooth round jaw
 Jaw thickness: ³/₈ inches
 Jaw offset: ¹³/₁₆ inches
 Main trap springs: Four 0.146 inch wire-diameter springs
 Base plate: Reinforced with D-ring

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp. 4-6) needs to be considered as well. The trap tested was the Sterling™ MJ600 offset coil-spring trap, four-coiled (Figure WC17).

Additional Information

- Chain attachment used in trap testing: 18 inch center-mounted with three swivels, two shock springs, and anchored with a stake.



Figure WC17. Offset and wide jaw coil-spring trap (open)



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ³/₈ inches

Inner width: 5 ¹/₄ inches

Inside width at jaw hinge posts: 5 ⁵/₁₆ inches

Jaw width: ⁹/₁₆ inch

Jaw thickness: ³/₁₆ inch

Jaw thickness with lamination: ³/₈ inch

Lamination: ³/₁₆ inch above-jaw, round rod lamination

Jaw offset: ¹/₄ inch

Main trap springs: Four 0.125 inch diameter wire coil-springs

Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the KB Compound 5.5™ coil-spring trap modified with offset, laminated jaws (lamination on top of jaws (Figures WC18a and WC18b).

Additional Information

- Chain attachment used in trap testing; 11 inch chain mounted at either end of compound levers on trap base, two swivels, and anchored with a stake.
- Unique features: Compound levers attached to the underside of trap base act as a shock spring. When extended (due to captured animal lunging or pulling), the compound levers also increase tension on trap jaws (Figure WC18c).
- Selectivity features: Pan tension set so two to four pounds of pressure triggered the trap, and was checked and readjusted as needed after capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyote and badger.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 ³/₄ inches

Inner width: 5 ⁷/₈ inches

Inside width at jaw hinge posts: 6 ¹/₄ inches

Jaw width: ¹/₂ inch wide, smooth jaw

Jaw thickness: ³/₈ inch

Jaw offset: ³/₁₆ inch

Main trap springs: Two 0.145 inch diameter wire coil-springs

Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the MB 550-RC™ coil-spring trap with offset jaws (Figures WC19a and WC19b).

Additional Information

- Chain attachment used in trap testing; 18 inch chain center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so ~3.2 pounds of pressure triggered the trap.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyote and badger.



Figure WC18a. Offset, laminated jaw coil-spring trap (open)



Figure WC18b. Offset, laminated jaw coil-spring trap (closed)



Figure WC18c. Compound levers



Figure WC19a. Offset, wide jaw coil-spring trap (open)



Figure WC19b. Offset, wide jaw coil-spring trap (closed)



Figure WC20a. Offset, double laminated jaw coil-spring trap (closed)



Figure WC20b. Offset, double laminated jaw coil-spring trap



Figure WC21a. Offset, double laminated jaw coil-spring trap



Figure WC21b. Offset, double laminated jaw coil-spring trap

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 ³/₄ inches

Inner width: 6 inches

Inside width at jaw hinge posts: 6 ¹/₈ inches

Jaw width: ¹/₂ inch

Jaw thickness: ³/₁₆ inch

Jaw thickness with lamination: ⁵/₈ inch

Lamination: ³/₁₆ inch above jaw and ¹/₄ inch below jaw

Jaw offset: ³/₁₆ inch

Main trap springs: 0.145 diameter wire coil-springs

Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Oneida Victor™ #3 equipped with ³/₁₆-inch offset, double rounded steel jaw laminations (³/₁₆-inch on top side of jaw and ¹/₄-inch on underside of jaws) and with 2 coil springs (Figures WC20a and WC20b).

Additional Information

- Chain attachment used in trap testing; 9 inch chain center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so approximately two to four pounds of pressure triggered the trap, and was checked and readjusted as needed after capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyote.



Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 ³/₄ inches

Inner width: 6 inches

Inside width at jaw hinge posts: 6 ¹/₈ inches

Jaw width: ¹/₂ inch

Jaw thickness: ³/₁₆ inch

Jaw thickness with lamination: ⁵/₈ inch

Lamination: ³/₁₆ inch above jaw and ¹/₄ inch below jaw

Jaw offset: ³/₁₆ inch

Main trap springs: 0.145 diameter wire coil-springs

Additional springs: 0.115 inch diameter wire coil-springs

Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Oneida Victor™ #3 equipped with ³/₁₆-inch offset, double rounded steel jaw laminations (³/₁₆-inch on topside of jaw and ¹/₄-inch on underside of jaws) and with 4 coil springs (Figures WC21a and WC21b).

Additional Information

- Chain attachment used in trap testing; 9 inch chain center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so approximately two to four pounds of pressure triggered the trap, and was checked and readjusted as needed after capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyote.

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 ³/₄ inches

Inner width: 5 ⁵/₁₆ inches

Inside width at jaw hinge posts: 5 ¹³/₁₆ inches

Jaw width: ¹/₂ inch

Jaw thickness: ³/₈ inch

Jaw thickness with laminations: ⁹/₁₆ inch

Lamination: ³/₁₆ inch above jaw and ³/₁₆ inch below jaw

Jaw offset: ³/₄ inch

Main trap springs: Four 0.148 inch diameter wire coil-springs

Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Minnesota Brand™ MB650 OLIL (with 1/4-inch offset, double lamination (3/16-inch on topside of jaw and 3/16-inch on underside of jaws) and with 4 coil springs (Figures WC22a and WC22b).

Additional Information

- Chain attachment used in trap testing; 9 inch chain center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Pan tension set so approximately two to four pounds of pressure triggered the trap, and was checked and readjusted as needed after capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyote.



Figure WC22a. Offset, double laminated jaw coil-spring trap (open)



Figure WC22b. Offset, double laminated jaw coil-spring trap (closed)

Powered Cable Devices (foot capture) (Figures WC23a-23b)

Average Mechanical Description and Attributes

Inside cable retention frame spread (at dog): 6 ³/₈ inches

Inner width: 5 ³/₄ inches

Inside width at frame hinge posts: 6 inches

Cable retention frame width: ¹/₈ inch, smooth round rod

Cable retention frame thickness: ¹/₈ inch rod

Main trap springs: Two 0.188 inch wire-diameter rod quick-release springs

Cable diameter: ¹/₈ inch cable

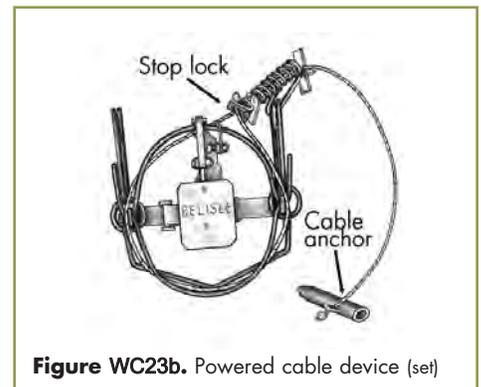
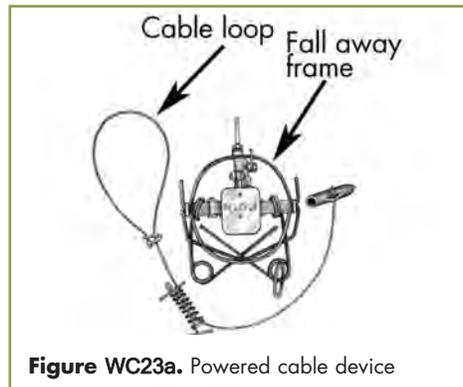
Cable loop stop size: 2 inches

Base plate: Not reinforced

Any cable device that has similar specifications may be considered a BMP device regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pp.4-6) needs to be considered as well. The trap tested was the Belisle™ Foot Snare.

Additional Information

- Cable attachment on device tested: Swivel and shock spring with a cable anchor.
- Selectivity features: Pan tension machine screw; large cable diameter and available plastic sleeve work to prevent the cable from closing to a small diameter, thus allowing small animals such as squirrels, skunks, and some raccoons to escape.
- Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of trap maintenance and upkeep.



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Animal (mammal) traps —

**Part 5:
Methods for testing restraining traps**

Pièges pour animaux (mammifères) —

Partie 5: Méthodes d'essai pour pièges de capture



Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10990-5 was prepared by Technical Committee ISO/TC 191, *Animal (mammal) traps*.

ISO 10990 consists of the following parts, under the general title *Animal (mammal) traps*:

- *Part 1: Mechanically powered, trigger activated killing traps*
- *Part 2: Restraining traps*
- *Part 3: Submersion killing traps*
- *Part 4: Methods for testing killing-trap systems used on land or underwater*
- *Part 5: Methods for testing restraining traps*

Annex B forms a normative part of this part of ISO 10990. Annexes A and C are for information only.

Introduction

The purpose of this part of ISO 10990 is to provide test methods for performance evaluation of traps in the areas of animal welfare, capture efficiency, selectivity and user safety. Jurisdictional regulations and guidelines related to conducting tests with animals should be followed.

Animal (mammal) traps —

Part 5: Methods for testing restraining traps

1 Scope

1.1 This part of ISO 10990 specifies methods for use in performance testing of traps used on land to restrain mammals. The performance testing includes methods for evaluation of trauma, selectivity, capture efficiency and user safety.

1.2 It is recognized that injury is only one component of animal welfare. However, there are insufficient data collected in a scientific manner on the additional components to allow for the complete assessment of animal welfare. Several areas of investigation are presented for evaluation in annex A. Selection of the data collection methodology is left to the investigator. However, it is assumed that such collection methods will follow accepted practices.

It should also be understood that data collected in any, or all, of the suggested areas will probably not provide an absolute measure of welfare. Rather, the compilation of such data over time should provide a mechanism for comparing the relative animal welfare impacts of different restraint methods.

2 Terms and definitions

For the purposes of this part of ISO 10990, the following terms and definitions apply:

2.1

capture efficiency

capability of the trap, as part of a trapping system, to capture target animals within a specified time period

NOTE This is expressed as a percentage of the total number of traps set.

2.2

capture rate of target animals

capability of a trap, as part of a trapping system, to capture target animals

NOTE This is expressed as a percentage of the total number of potential captures of target animals.

2.3

capture rate of non-target animals

capability of a trap, as part of a killing-trap system, to capture non-target animals

NOTE This is expressed as a percentage of the total number of potential captures of non-target animals.

2.4**control trap**

most commonly used restraining trap for the target animal which is used in accordance with the restraining trap system established through most commonly used practice

NOTE This will be determined by the authority using this part of ISO 10990, such as a nationally recognized certification body.

2.5**instructions**

instructions available to the user at the point of sale of the trap(s)

2.6**restraining trap**

device used to capture and restrain a mammal

2.7**restraining-trap performance**

capability of a restraining trap, as part of the restraining-trap system, to meet the requirements related to trauma, selectivity, capture efficiency and user safety as specified by the authority implementing the standard

2.8**restraining-trap system**

system set with the intent to capture and restrain a mammal comprising a combination of

- equipment (the trap and the trigger configuration);
- set (including site modifications, lures, baits, location and other relevant requirements specified in the instructions)

2.9**manufacturer**

producer including inventor or a national distributor

2.10**non-target animal**

animal of any species other than the one for which the trap is set

2.11**potential captures**

number of animals caught plus the number of animals having identifiably escaped

2.12**selectivity**

number of captured target animals divided by the total number of captured animals

2.13**target animal**

an individual of the species for which the restraining trap system has been set with the intent to capture

2.14**trap layout**

pattern in which the test traps and control traps are positioned for field testing

3 Sampling

3.1 Sampling of traps

Select the number of traps specified in each test procedure, from the total number of traps submitted, using random sampling procedures.

3.2 Number of replicates in tests

The number of replicates in the tests shall be sufficient to determine if the differences are statistically significant at the level to be determined by the authority implementing this part of ISO 10990. However, in deciding on the number of replicates required, it should be noted that the greater the sample size, the more reliable are the test results. This decision needs to be considered against welfare aspects related to reducing the number of animals used in the testing.

4 Field testing for effects of restraint on animals

4.1 Principle

The effects of the restraint on the animals by the trap is evaluated in the field. Pathological evaluation of captured animals is part of the test. This test is also used to collect data on capture efficiency, selectivity and user safety (see 1.2, clauses 5, 6 and 7 as well as annex B).

4.2 Test personnel

The test personnel shall be experienced and capable of trapping the target animals. They shall also be familiar with the equipment and the testing procedures.

The pathological evaluation of animals trapped during testing shall be determined by a veterinary pathologist (preferably experienced in the examination of wildlife species).

4.3 Apparatus

4.3.1 Camera, to take photographs of the sets and entrapped animals.

4.4 Traps

The experimental restraining traps shall be assigned with identification numbers. The number of test traps shall be sufficient to determine if the differences are statistically significant at the level to be determined by the authority implementing this part of ISO 10990 (see 3.2). Prior to testing, the restraining traps shall be prepared in a manner recommended by the manufacturer. The preparation may include boiling, waxing, dyeing or painting. An equal number of control traps shall be used, if comparison of the trap performance is desired (see clauses 5 and 6).

4.5 Test procedure in the field

Establish the trap layout, record the longitude, latitude, total area of the site, type(s) of habitat and the animal species (target and non-target) known to be present. Set the traps within the trap layout in accordance with the manufacturer's instructions. Take pictures of each trap and its set and of the general environment. Make the trap identification number a part of the photographic record. (If control traps are used, place the experimental and control traps in the same substrate and/or vegetation type in pairs, with appropriate separation for the target animals, or alternatively within the trap layout using random assignment and the bait or lure recommended by the manufacturer.)

Check the traps daily (once within each 24 h period; at the same time of the day if at all possible) during the test period.

Euthanize all captured target animals immediately using a method of euthanasia that will not obscure any traumas caused by the trap (see note below). Take photographs of each entrapped animal with a label that shows the file number of the animal. Remove the animals from the traps.

Examine externally the captured non-target animals to evaluate whether they are likely to survive upon release without any treatment. Euthanize any captured non-target animals that are too severely injured for release, using a method of euthanasia that will not obscure any traumas caused by the trap (see annex C), and record the method of euthanasia. Provide adequate veterinary care for other injured non-target animals.

NOTE When necessary, for example for conservation reasons, remove the target animals alive from the trap and replace the pathological evaluation by clinical examination of live, captured target animals.

Record the following information regarding each visit to the traps:

- the date and time;
- the weather conditions;
- the ground conditions (e.g. frozen, snow-covered, etc.);
- the trap type;
- the site location of the trap;
- the trap-site substrate and/or vegetation type;
- the status of the trap (i.e. fired, not fired);
- the species captured (if any);
- the number of identifiable escapes;
- the file number for each animal;
- the location of the restraining trap on each animal (if applicable);
- the position of each animal in the trap;
- the condition of each animal (dead, alive, unconscious);
- the observations related to the operation and user safety of the restraining trap.

Make sure that the number of target animals captured by the test traps is sufficient for the differences to be statistically significant at the level to be determined by the authority implementing the standard and include all captured target animals in the test and the report. If necessary, extend the test over time until the required number of target animals have been captured.

Label all the carcasses of target and euthanized or dead non-target animals captured in the test traps (whole carcasses) with the following information:

- the date of capture;
- the file number of each animal;
- the method of killing/euthanasia.

Place the labelled carcasses in plastic bags and freeze them promptly. Make sure that the carcasses are not damaged during handling and transport. Keep the carcasses frozen until pathological and/or radiological examination is performed (see 4.6).

4.6 Pathological evaluation of trapped animals

4.6.1 Principle

The trap-related injuries on a sufficient number of animals trapped during testing (see 3.2) are determined by a veterinary pathologist using accepted post-mortem veterinary examination practices.

4.6.2 Procedure

Subject a sufficient number of the carcasses of trapped animals (see 3.2) to pathological, radiological and, when necessary, histological examination by a qualified veterinary pathologist using accepted post-mortem veterinary examination practices as specified below. The pathologist shall determine and record the trap-related injuries (see 4.6.2.4).

4.6.2.1 Post-mortem examination

Perform the post-mortem examination as specified below and complete the pathology protocol (annex B) for each animal either by reporting the observations made or by NK (not known), NA (not applicable), NI (not inspected) or NS (not submitted).

When performing a post-mortem examination, describe the nature and extent of all tissue damage related to the area of the body examined. Start at the head and proceed anterior-posterior describing all lesions. For the internal examination, dissect all organs noting haemorrhage and damage to soft tissue, bone, organs, etc.

Record the following information regarding each animal:

- the scientific name;
- the sex as M (male) or F (female);
- the age as young/yearling, sub-adult or adult (or more precisely, if known);
- the mass in kilograms;
- the state of nutrition as emaciated, poor, normal or fat;
- a description of lesions/injuries.

4.6.2.2 Radiological examination

Perform the radiological examination when traps based on striking/clamping forces are used. (For other types of traps this is optional.) X-ray the target area of the striking/clamping force and all other organs where fractures/lesions might occur.

4.6.2.3 Histological examination

When necessary, collect specimens for histological examination from the following organs: heart, lung, liver, kidney, brain, adrenal, muscle (preferably longissimus dorsi) and from the area where the trap strikes/restrains. Fix the specimens in 10 % neutral buffered formalin. Collect and examine other organs, if histology is relevant to the evaluation of the type, severity and age of the lesions/injuries.

4.6.2.4 Trap-related injuries

Complete the last part of the pathology protocol (annex B) and describe all the injuries that can be related to the trap/trapping system. For comparison of the performance of restraining traps the injury scales specified in annex C may be used.

4.7 Test report

Report the following information for both test and control traps (see also clause 8):

- a) the date and time;
- b) the longitude and latitude of the site;
- c) the total area of the trap layout;
- d) the type(s) of habitat;
- e) the weather conditions;
- f) the ground conditions;
- g) the species (target and non-target) known to be present;
- h) the number of traps tested;
- i) the total number of trap-nights (number of traps × number of nights set);
- j) the number of traps fired and not fired;
- k) the species captured (if any, common and scientific name);
- l) the total number of identifiable escapes;
- m) the total number of captured target animals;
- n) the total number of captured non-target animals;
- o) the capture rates of target and non-target animals;
- p) the file number for each animal;
- q) the location of the restraining trap on the animal (if applicable);
- r) the position of each animal in the trap;
- s) the condition of each animal (dead, alive, unconscious, injured);
- t) any observations related to the operation and user safety of the restraining trap;
- u) (if control traps are used, record the above information related to them);
- v) the pathology protocol prepared by the veterinary pathologist for each evaluated animal (i.e. the information detailed in annex B).

5 Selectivity test

5.1 Principle

The capability of the restraining trap system to capture target animals rather than non-target animals is evaluated in the field by recording the number of the target and non-target animals captured by the trap and by a control trap.

5.2 Procedure

Perform the test at the same time as the field test for the effects of restraint (clause 4). Use control traps and set them as specified in 4.5.

5.3 Test report

Report the following information for test and control traps (see also clause 8):

- a) the number of captured target animals;
- b) the number of captured non-target animals;
- c) the selectivity (see 2.12).

6 Capture efficiency test

6.1 Principle

The capability of the restraining trap system to capture target animals is evaluated in the field by recording the number of target animals caught by the trap and by a control trap.

6.2 Procedure

Perform the test at the same time as the field test for the effects of restraint (clause 4). Use control traps and set them as specified in 4.5.

6.3 Test report

Report the following information for test and control traps (see also clause 8):

- a) the number of captured target animals;
- b) the number of traps set;
- c) the capture efficiency (see 2.1).

7 Inspection and testing for user safety of traps

7.1 Principle

The ability of the trap design, and/or recommended safety devices, to provide safety to the users while handling and setting the trap is inspected and tested. Further information on user safety is recorded during the field tests (clause 4).

7.2 Test personnel

The test personnel shall be experienced in setting the traps for the target animals under normal trapping conditions and shall use reasonable precautions to ensure safety.

7.3 Inspection and testing procedure (when relevant)

Inspect five traps of the same design to:

- a) assess whether the user could reasonably extricate him/herself from the trap unaided;
- b) assess whether, with safety devices in place, a human limb is restricted from access to striking and clamping components of the trap;

- c) inspect whether the striking and clamping forces are set before or after the trap is in the final set position;
- d) apply any integral or accessory safety devices provided with the trap or specified by the manufacturer and fire the trap;
- e) note whether the safety devices can be easily set and unset with one hand;
- f) note also whether the striking components remain in cocked position regardless of the trap position; alternatively, if the striking components move out of the cocked position, note whether they exert any clamping force;
- g) assess the potential for and likely extent of human injury resulting from accidental discharge of the trap.

7.4 Test report

Report the following information (see also clause 8):

- a) whether the user could reasonably extricate him/herself from the trap unaided;
- b) whether, with safety devices in place, the trap restricts a human limb from access to striking and clamping components;
- c) whether the striking and clamping forces are set before or after the trap is in the final set position;
- d) whether the safety devices (if any) can be easily set and unset with one hand;
- e) whether the striking components remained in the cocked position regardless of the trap position; alternatively, if the striking components moved out of the cocked position, note whether they exerted any clamping force;
- f) whether there is the potential for and the likely extent of a human injury resulting from accidental discharge of the trap;
- g) any additional information on safety noted during the field tests (clause 4) (when performed).

8 Reporting

All test reports in accordance with this part of ISO 10990 shall include the information given under each test method. In addition the report shall be accompanied by the information requested in Table 1 regarding the tests performed and, if applicable, reasons why some tests were not performed.

Table 1 — Declaration of performed tests

No.	Test method	Performed	Not performed	Reasons/ comments
4	Field testing for effects of restraint on animals			
5	Selectivity test			
6	Capture efficiency test			
7	User safety			

Annex A (informative)

Suggested areas of research for evaluating welfare of animals held in restraining traps

The suggested areas of research include, but are not limited to, the following examples:

EXAMPLE 1 Behaviour:

- Aversion testing, capture-recapture models.
- Observations (direct & remote).
- Vocalization (audible or inaudible).

EXAMPLE 2 Physiology:

Serum chemistries, urine analysis, faecal analysis, endocrinology, acute phase reactants, haematology, cardiac function (rate, arrhythmia), cerebral function, respiratory function, muscle pH, pheromones.

EXAMPLE 3 Immunology:

Lymphocyte stimulation.

EXAMPLE 4 Molecular biology

Recommendations:

ISO/TC 191 recommends that interested member countries develop a coordinated approach to the above suggested areas of research and to development of test protocols. Sharing of relevant data and information and commitment to periodic review of progress is also recommended by the committee.

Annex B (normative)

Pathology protocol

(A separate report form must be completed for each animal examined.)

Name of examining veterinarian: _____
Institution: _____
Address: _____
_____ Country: _____

ID of animal:

ID-number in lab:

Animal species:

Scientific name:

Sex:

Age:

Mass (kg):

State of nutrition:

Material submitted: whole body / part of body
(specify)

Type of trap:
(specify)

Manufacturer:

Description of trap enclosed Y / N

Trap enclosed with animal Y / N

Date of catch:

Date of examination:

Restraining trap/ killing trap

Animal dead / euthanized

Animal from: experimental test / field test

Method of euthanasia:

Radiographic examination Y / N

Carcass frozen / not frozen:

Other information:

.....

.....

.....

.....

.....

Examination of head	Macroscopic	Histological
Skin		
Subcutaneous tissues		
Muscle		
Nose		
Lips		
Teeth		
Gingiva		
Tongue		
Jaw		
Eyes		
Ears		
Cranium		
Brain		
Other parts of head		

Examination of body (including neck)	Macroscopic	Histological
Skin		
Subcutaneous tissues		
Mammary glands		
Muscles		
Ligaments		
Ribs-sternum		
Vertebral column		
Tail		
Thoracic cavity		
Heart		
Trachea		
Lungs		
Oesophagus		
Abdominal cavity		
Liver		
Spleen		
Stomach		
Intestines		
Kidneys		
Adrenals		
Bladder, uterus, external genitalia		
Vessels		
Other organs		

Examination of limbs	Macroscopic	Histological
Skin		
Subcutaneous tissues		
Tendons		
Ligaments		
Muscles		
Long bones		
Hip joint		
Scapular / humeral joint		
Elbow / knee joint		
Carpal / tarsal joint		
Metacarpal / metatarsal joint		
Feet		
Foot pads		
Toes		
Claws		
Other		
Other observations		

Trap-related Injuries: Based on the post-mortem examination it is my opinion that the following lesions/injuries can be related directly to the trap/trapping method:

.....

.....

.....

.....

.....

.....

Signature _____ Date _____

Instructions

This pathology protocol shall be completed by a qualified veterinary pathologist and shall be enclosed with the trapping test report.

Post-mortem examination

Perform the post-mortem examination as specified below and complete the aforementioned pathology protocol for each animal either by reporting the observations made or by NK (not known), NA (not applicable), NI (not inspected) or NS (not submitted).

When performing a post-mortem examination, describe the nature and extent of all tissue damage related to the area of the body examined. Start at the head and proceed anterior-posterior describing all lesions. For the internal examination, dissect all organs noting haemorrhage and damage to soft tissue, bone, organs, etc.

Record the following information regarding each animal:

- the scientific name;
- the sex as M (male) or F (female);
- the age as young/yearling, sub-adult or adult (or more precisely, if known);
- the mass in kilograms;
- the state of nutrition as emaciated, poor, normal or fat;
- a description of lesions/injuries.

Radiological examination

Perform the radiological examination when traps based on striking/clamping forces are used. (For other types of traps this is optional.) X-ray the target area of the striking/clamping force and all other organs where fractures/lesions might occur.

Histological examination

When necessary, collect specimens for histological examination from the following organs: heart, lung, liver, kidney, brain, adrenal, muscle (preferably longissimus dorsi) and from the area where the trap strikes/restrains. Fix the specimens in 10% neutral buffered formalin. Collect and examine other organs, if histology is relevant to the evaluation of the type, severity and age of the lesions/injuries.

Trap-related Injuries

Complete the last part of the pathology protocol and describe all the injuries that, in your opinion, can be related to the trap/trapping system (for comparison of the performance of restraining traps the injury scales specified in annex C may be used).

Annex C (informative)

Trauma

C.1 Trauma scale — Example 1

Pathological observations	Score (points)
✓1) Claw loss	2 points
✓2) Oedematous swelling or haemorrhage	5 points (max. 15)
✓3) Minor cutaneous laceration	5 points
✓4) Minor subcutaneous soft tissue maceration or erosion (contusion)	10 points
✓5) Major cutaneous laceration, except on foot pads or tongue	10 points
✓6) Minor periosteal abrasion	10 points
✓7) Severance of minor tendon or ligament (each)	25 points
✓8) Amputation of one digit	25 points
✓9) Permanent tooth fracture exposing pulp cavity	30 points
✓10) Major subcutaneous soft-tissue maceration or erosion	30 points
✓11) Major laceration on foot pads or tongue	30 points
✓12) Severe joint haemorrhage	30 points
✓13) Joint luxation at or below the carpus or tarsus	30 points
✓14) Major periosteal abrasion	30 points
✓15) Simple rib fracture	30 points
✓16) Eye lacerations	30 points
✓17) Minor skeletal muscle degeneration	30 points
✓18) Simple fracture at or below the carpus or tarsus	50 points
✓19) Compression fracture	50 points
✓20) Comminuted rib fracture	50 points
✓21) Amputation of two digits	50 points
✓22) Major skeletal muscle degeneration	55 points
✓23) Limb ischemia	55 points
✓24) Amputation of three or more digits	100 points
✓25) Any fracture or joint luxation on limb above the carpus or tarsus	100 points
✓26) Any amputation above the digits	100 points
✓27) Spinal cord	100 points
✓28) Severe internal organ damage (internal bleeding)	100 points
✓29) Compound or comminuted fracture at or below the carpus or tarsus	100 points
✓30) Severance of major tendon or ligament	100 points
✓31) Compound rib fractures	100 points
✓32) Ocular injury resulting in blindness of an eye	100 points
✓33) Myocardial degeneration	100 points
✓34) Death	100 points

NOTE This point system does not represent a statement by ISO/TC 191 related to welfare aspects of individual traumas. Such judgements are left to the parties using this part of ISO 10990.

C.2 Trauma scale — Example 2

Mild trauma

- 1) Claw loss
- 2) Oedematous swelling or haemorrhage
- 3) Minor cutaneous laceration
- 4) Minor subcutaneous soft tissue maceration or erosion (contusion)
- 5) Major cutaneous laceration, except on foot pads or tongue
- 6) Minor periosteal abrasion

Moderate trauma

- 7) Severance of minor tendon or ligament (each)
- 8) Amputation of one digit
- 9) Permanent tooth fracture exposing pulp cavity
- 10) Major subcutaneous soft tissue maceration or erosion
- 11) Major laceration on foot pads or tongue
- 12) Severe joint haemorrhage
- 13) Joint luxation at or below the carpus or tarsus
- 14) Major periosteal abrasion
- 15) Simple rib fracture
- 16) Eye lacerations
- 17) Minor skeletal muscle degeneration

Moderately severe trauma

- 18) Simple fracture at or below the carpus or tarsus
- 19) Compression fracture
- 20) Comminuted rib fracture
- 21) Amputation of two digits
- 22) Major skeletal muscle degeneration
- 23) Limb ischemia

Severe trauma

- 24) Amputation of three or more digits
- 25) Any fracture or joint luxation on limb above the carpus or tarsus
- 26) Any amputation above the digits
- 27) Spinal cord injury
- 28) Severe internal organ damage (internal bleeding)
- 29) Compound or comminuted fracture at or below the carpus or tarsus
- 30) Severance of major tendon or ligament
- 31) Compound rib fractures
- 32) Ocular injury resulting in blindness of an eye
- 33) Myocardial degeneration
- 34) Death

NOTE This system does not represent a statement by ISO/TC 191 related to welfare aspects of individual traumas. Such judgements are left to the parties using this part of ISO 10990.

C.3 Determination of trauma classes when an animal receives more than one trauma

Trauma class

- Mild:** = 1 mild trauma
- Moderate:** = 1 moderate trauma
or 3 mild traumas
- Moderately severe:** = 1 moderately severe trauma
or 2 moderate traumas
or 1 moderate + 2 mild traumas
or 5 mild traumas
- Severe:** = 1 severe trauma
or 2 moderately severe traumas
or 1 moderately severe + 1 moderate + 2 mild traumas
or 1 moderately severe + 2 moderate traumas
or 1 moderately severe + 5 mild traumas
or 3 moderate traumas
or 2 moderate + 4 mild traumas
or 1 moderate + 7 mild traumas
or 10 mild traumas

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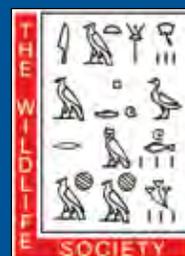
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The North American Model of Wildlife Conservation



Technical Review 12-04
December 2012



The North American Model of Wildlife Conservation

The Wildlife Society and The Boone and Crockett Club

Technical Review 12-04 - December 2012

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Copy Edit and Design

Terra Rentz (AWB®), Managing Editor, The Wildlife Society

Lisa Moore, Associate Editor, The Wildlife Society

Maja Smith, Graphic Designer, MajaDesign, Inc.

Cover Images

Front cover, clockwise from upper left: 1) Canada lynx (*Lynx canadensis*) kittens removed from den for marking and data collection as part of a long-term research study. Credit: John F. Organ; 2) A mixed flock of ducks and geese fly from a wetland area. Credit: Steve Hillebrand/USFWS; 3) A researcher attaches a radio transmitter to a short-horned lizard (*Phrynosoma hernandesi*) in Colorado's Pawnee National Grassland. Credit: Laura Martin; 4) Rifle hunter Ron Jolly admires a mature white-tailed buck harvested by his wife on the family's farm in Alabama. Credit: Tes Randle Jolly; 5) Caribou running along a northern peninsula of Newfoundland are part of a herd compositional survey. Credit: John F. Organ; 6) Wildlife veterinarian Lisa Wolfe assesses a captive mule deer during studies of density dependence in Colorado. Credit: Ken Logan/Colorado Division of Wildlife.

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Technical Review Committee on The North American Model of Wildlife Conservation

John F. Organ (Chair, CWB®)*, **

U.S. Fish and Wildlife Service
300 Westgate Center Drive
Hadley, MA 01035 USA

Valerius Geist*

Faculty of Environmental
Design (Emeritus)
2500 University Dr. NW
University of Calgary
Calgary, Alberta, T2N 1N4 CA

Shane P. Mahoney*

Sustainable Development and
Strategic Science Branch
Department of Environment
and Conservation
P.O. Box 8700
St. John's, NL A1B 4J6 CA

Steven Williams*

Wildlife Management Institute
1440 Upper Bermudian Road
Gardners, PA 17324 USA

Paul R. Krausman (CWB®)*

Boone and Crockett Professor of
Wildlife Conservation
Wildlife Biology Program
College of Forestry and Conservation
32 Campus Drive
University of Montana
Missoula, Montana 59812 USA

Gordon R. Batcheller (CWB®)

New York State Div. of Fish, Wildlife &
Marine Resources
625 Broadway
Albany, NY 12233 USA

Thomas A. Decker (CWB®)

Vermont Fish and Wildlife Department
103 South Main Street
Waterbury, VT 05671 USA

Robert Carmichael

Delta Waterfowl Foundation
Site 1, Box 87
Keewatin, Ontario POX 1C0 CA

Priya Nanjappa

Association of Fish and
Wildlife Agencies
444 North Capitol Street, NW,
Suite 725
Washington, DC 20001 USA

Ronald Regan (CWB®)*

Association of Fish and
Wildlife Agencies
444 North Capitol Street, NW, Suite 725
Washington, DC 20001 USA

Rodrigo A. Medellín

Instituto de Ecología, UNAM
Ap. Postal 70-275
04510 Ciudad Universitaria, D. F.
MEXICO

Ruben Cantu (CWB®)

Texas Parks and Wildlife Department
151 Las Lomas Ct.
San Angelo, TX 76901 USA

Richard E. McCabe*

Wildlife Management Institute
1424 NW Carlson Road
Topeka, Kansas 66615 USA

Scott Craven

Department of Wildlife Ecology
Room 226 Russell Laboratories
University of Wisconsin
1630 Linden Drive
Madison WI 53706 USA

Gary M. Vecellio

Idaho Fish and Game
4279 Commerce Circle
Idaho Falls, ID 83401 USA

Daniel J. Decker (CWB®)

Human Dimensions Research Unit
206 Bruckner Hall
Department of Natural Resources
Cornell University
Ithaca, NY 14853 USA

****Professional members of the Boone and Crockett Club***

***** The findings and conclusions in this article are those of the author and do not necessarily represent the views of the U.S. Fish and Wildlife Service.***

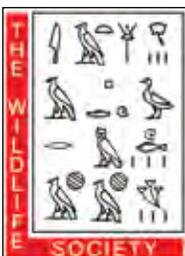


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Foreword



*Weighing a fawn during studies of density dependence in Colorado.
Courtesy of the Colorado Division of Wildlife.*

Presidents of The Wildlife Society (TWS) occasionally appoint ad hoc committees to study and report on selected conservation issues. The reports ordinarily appear as technical reviews or position statements. Technical reviews present technical information and the views of the appointed committee members, but not necessarily the views of their employers.

This technical review focuses on the set of principles known as the North American Model of Wildlife Conservation and was developed in partnership with the Boone and Crockett Club. The review is copyrighted by TWS, but individuals are granted permission to make single copies for non-commercial purposes. All technical reviews and position statements are available in digital format at www.wildlife.org/. Hard copies may be requested or purchased from:

The Wildlife Society
5410 Grosvenor Lane, Suite 200
Bethesda, MD 20814
Phone: (301) 897-9770
Fax: (301) 530-2471
TWS@wildlife.org
www.wildlife.org

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Commissioners representing Canada, Mexico, and the United States at the 1909 North American Conservation Congress. President Theodore Roosevelt sits at center. Credit: Forest History Society.

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Executive Summary



Bison (Bison bison) in Yellowstone National Park. Credit: Jim Peaco, NPS.

The North American Model of Wildlife Conservation is a set of principles that, collectively applied, has led to the form, function, and successes of wildlife conservation and management in the United States and Canada. This technical review documents the history and development of these principles, and evaluates current and potential future challenges to their application. Describing the Model as North American is done in a conceptual, not a geographical, context. Wildlife conservation and management in Mexico developed at a different time and under different circumstances than in the U.S. and Canada. The latter two were hand in hand. The history, development, and status of wildlife conservation and management in Mexico are outlined separately as part of this review.

It is not the intent or purpose of this review to revise, modify, or otherwise alter what has heretofore been put forward as the Model. Indeed, the Model itself is not a monolith carved in stone; it is a means for us to understand, evaluate, and celebrate how conservation has been achieved in the U.S. and Canada, and to assess

whether we are prepared to address challenges that lay ahead. Simply adding to, deleting, or modifying the existing principles will not in itself advance conservation. Understanding the evidentiary basis for the principles is essential to preventing their erosion, and necessary for the conceptual thinking required to anticipate future challenges. A brief summary of some of the challenges and concerns follows:

- 1. Wildlife resources are a public trust.** Challenges include (1) inappropriate claims of ownership of wildlife; (2) unregulated commercial sale of live wildlife; (3) prohibitions or unreasonable restrictions on access to and use of wildlife; and (4) a value system endorsing an animal-rights doctrine and consequently antithetical to the premise of public ownership of wildlife.
- 2. Markets for game are eliminated.** Commercial trade exists for reptiles, amphibians, and fish. In addition, some game species are actively traded. A robust market for access to wildlife occurring across the country exists in the form of leases, reserved permits, and shooting preserves.

3. Allocation of wildlife is by law. Application and enforcement of laws to all taxa are inconsistent. Although state authority over the allocation of the take of resident game species is well defined, county, local, or housing-development ordinances may effectively supersede state authority. Decisions on land use, even on public lands, indirectly impact allocation of wildlife due to land use changes associated with land development.

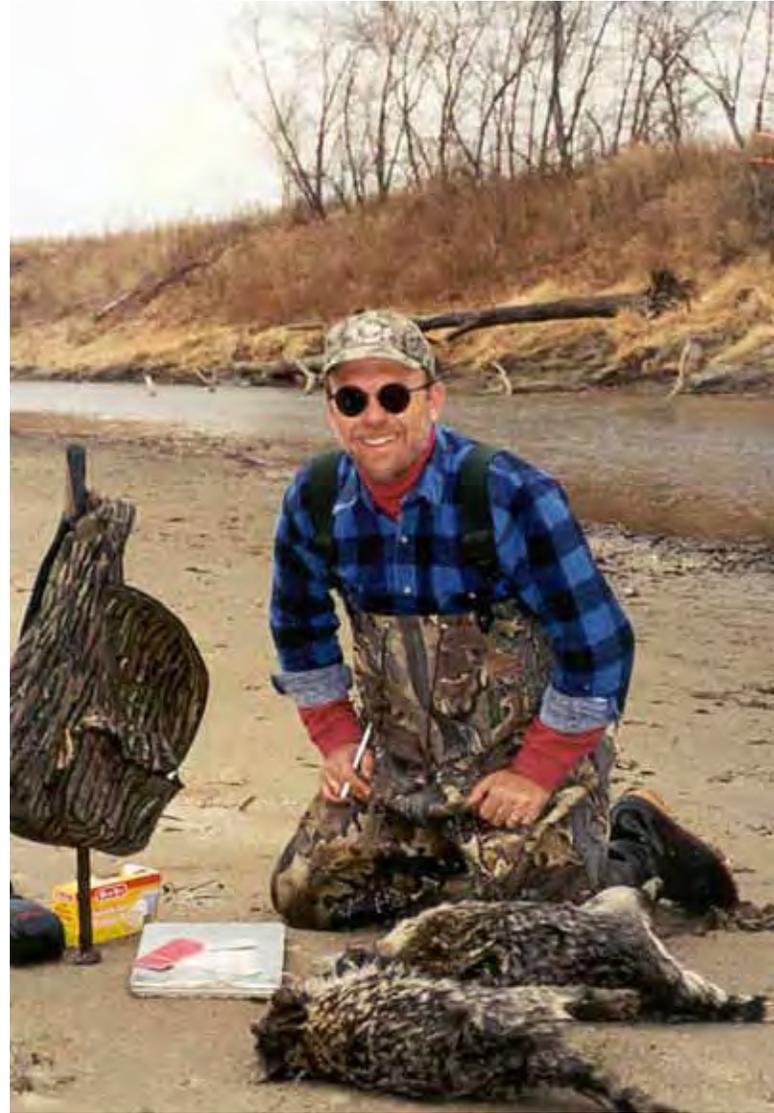
4. Wildlife can be killed only for a legitimate purpose. Take of certain species of mammals, birds, reptiles, and amphibians does not correspond to traditionally accepted notions of legitimate use.

5. Wildlife is considered an international resource. Many positive agreements and cooperative efforts have been established among the U.S., Canada, Mexico, and other nations for conserving wildlife. Many more species need consideration. Restrictive permitting procedures, although designed to protect wildlife resources, inhibit trans-border collaborations. Construction of a wall to prevent illegal immigration from Mexico to the U.S. will have negative effects on trans-border wildlife movements and interactions.

6. Science is the proper tool to discharge wildlife policy. Wildlife management appears to be increasingly politicized. The rapid turnover rate of state agency directors, the makeup of boards and commissions, the organizational structure of some agencies, and examples of politics meddling in science have challenged the science foundation.

7. Democracy of hunting is standard. Reduction in, and access to, huntable lands compromise the principle of egalitarianism in hunting opportunity. Restrictive firearms legislation can act as a barrier hindering participation.

To help address these challenges, this review presents several recommendations. These are offered as actions deemed necessary to ensure relevancy of the Model in the future.



*Trapping raccoons (*Procyon lotor*) in Missouri, biologist Dave Hamilton (now deceased) helped assess traps for the BMP program. Courtesy of Thomas Decker.*

Introduction



International trade in wildlife products came under greater scrutiny with the ratification of CITES by the U.S. in 1975. Credit: John and Karen Hollingsworth, USFWS.

Wildlife conservation varies worldwide in its form, function, and underlying principles. In recent years, efforts have been directed to describe the key attributes that collectively make wildlife conservation in North America unique. Although efforts to articulate wildlife conservation in North America have come of late, awareness among practitioners in the U.S and Canada that their wildlife conservation programs differed from others around the world has existed for decades. Describing these attributes or principles can serve many purposes: foster celebration of the profession's maturation

and accomplishments; serve as an educational tool; and identify gaps, shortcomings, or areas in need of expansion to address contemporary or future challenges. The intent of this technical review is to contribute to all of these purposes.

A model is a description of a system that accounts for its key properties (Soukhanov 1988). The concept that wildlife conservation in North America could be described as a model was first articulated by Geist (Geist 1995, Geist et al. 2001), who coined the term "North American Model of Wildlife Conservation"

(Model). Geist's direct knowledge of and familiarity with wildlife conservation programs of other nations provided a perspective on Canada and the U.S. The concept was further developed by Mahoney (2004). Today, the Model has become the basis for policies developed by the Association of Fish and Wildlife Agencies (Prukop and Regan 2005) and The Wildlife Society (The Wildlife Society 2007). It was the key underpinning for U.S. Executive Order 13443 that led to the White House Conference on North American Wildlife Policy (Mahoney et al. 2008, Sporting Conservation Council 2008a) and fostered the Recreational Hunting and Wildlife Conservation Plan (Sporting Conservation Council 2008b).

Seven components or principles describe the key properties of the Model (Geist et al. 2001, Organ et al. 2010):

1. Wildlife resources are a public trust.
2. Markets for game are eliminated.
3. Allocation of wildlife is by law.
4. Wildlife can be killed only for a legitimate purpose.
5. Wildlife is considered an international resource.
6. Science is the proper tool to discharge wildlife policy.
7. Democracy of hunting is standard.

These seven components formed the foundation for wildlife conservation in Canada and the U.S., but questions have arisen as to the validity of certain components in contemporary times and whether scrutiny of conservation programs would deem many of these operationally intact. Additionally, the question as to whether the Model is inclusive of all wildlife conservation interests or exclusively narrow in its application has been posed (Beuchler and Servheen 2008). To address these questions we describe and analyze each component in terms of its

development, current status, threats and challenges, and differences and commonalities in application within Canada and the U.S. This information is then used to further define the Model.

Wildlife conservation in Canada and the U.S. developed under unique temporal and social circumstances, and the resulting Model reflects that. Had it formed in another time and under other circumstances it would likely be different. Use of the term "North American" to describe the Model is conceptual rather than geographic. Mexico's wildlife conservation movement began its development and evolution at a different time and under different circumstances. It is unrealistic to expect that movement to mirror those of the U.S. and Canada. A description of the evolution and current status of wildlife conservation in Mexico is provided in Appendix I. Further work is warranted to compare how different temporal and social circumstances have led to different conservation approaches, identify what can be learned from those comparisons, and what is needed to advance wildlife conservation within Canada, Mexico, and the U.S.



Peregrine falcons were protected in the United States under the 1973 Endangered Species Act. Recovery efforts succeeded in their restoration and removal from the federal Endangered Species List. Credit: Craig Koppie, USFWS.

Historical Overview

The exploration of North America by the French and English was fundamentally motivated by the wealth of the continent's renewable natural resources and an unfettered opportunity by individuals to exploit them (Cowan 1995). Today, wildlife conservation in Canada and the U.S. reflects this historic citizen access to the land and its natural resources. Indeed, the sense that these resources *belong* to the citizenry drives the democratic engagement in the conservation process and is the *raison d'être* of North America's unique approach (Krausman, P., Gold, silver, and souls, unpublished presentation at The Wildlife Society Annual Conference, 22 September 2009, Monterey, CA, USA).

Resource exploitation fueled the expansion of people across the continent and led to eventual disappearance of the frontier (Turner 1935). As elsewhere, the Industrial Revolution brought changes to North American society that altered the land and its wildlife. In 1820, 5 percent of Americans lived in cities; by 1860 20 percent were urban dwellers, a 4-fold increase that marks the greatest demographic shift ever to have occurred in America (Riess 1995). Markets for wildlife arose to feed these urban masses and festoon a new class of wealthy elites. Market hunters plied their trade first along coastal waters and interior forests. Then, with the advent of railways and refrigeration, they exploited bison (*Bison bison*), elk (*Cervus elaphus*), and other big game of western North America for transport back to cities in eastern North America. The market hunter left many once-abundant species teetering on the brink of extinction. Ironically, the sheer scale of this unmitigated exploitation was to have some influence on engendering a remarkable new phenomenon: protectionism and conservation (Mahoney 2007).

The increasing urban population, meanwhile, found themselves with something their countrymen on the farms did not have: leisure time. Hunting for the rigors and challenges of the chase under conditions of fair play became a favored pastime of many, particularly among those of means. This developed *in situ*, but there can be no doubt that European aristocratic perspectives toward hunting exerted some influence on these emerging trends (Herbert 1849). Threlfall (1995) noted that European commoners never ceased desiring to participate in the hunt, despite the best and brutal efforts of nobility to discourage them. In the U.S., conflicts soon arose between market hunters who profited on dead wildlife and this new breed of hunters who placed value on live wildlife and their sporting pursuit of it. These sport hunters organized and developed the first refuges for wildlife (Carroll's Island Club 1832, Gunpowder River in Maryland; Trefethen 1975) and laws to protect game (e.g., New York Sportsmen's Club 1844; Trefethen 1975).

Representative of these sport hunters was the highly influential George Bird Grinnell, a Yale-educated naturalist who accompanied George Armstrong Custer on his Black Hills expedition and who acquired the sporting journal *Forest and Stream* in 1879. Over the next 3 decades, Grinnell would turn *Forest and Stream* into a call for wildlife conservation (Reiger 1975). In 1885, he reviewed a book written by a fellow New Yorker about his hunting exploits in the Dakotas (Grinnell 1885). Grinnell's review was laudatory, but he criticized the author for some inaccuracies. The author, Theodore Roosevelt, went to meet Grinnell and the two realized that much had changed during the 10 years that divided their respective times in the West, and that big game animals had declined drastically. Their discussion inspired them to form the Boone and Crockett Club

in 1887, an organization whose purpose would include to “take charge of all matters pertaining to the enactment and carrying out of game and fish laws” (Reiger 1975:234).

Roosevelt and Grinnell were also nation builders who felt America was a strong nation because, like Canada, its people had carved the country out of a wilderness frontier with self-reliance and pioneer skills. This harkened back to ideals regarding the impact of the frontier on shaping what it is to be an American; ideals articulated in the late 19th century by Turner (1935). Turner described the romantic notion of primitivism, for which the best antidote to the ills of an overly refined and civilized modern world was a return to a simpler, more primitive life (Cronon 1995). With no frontier and a growing urban populace, Roosevelt and Grinnell feared America would lose this edge. They believed Americans could cultivate pioneer skills and a sense of fair play through sport hunting, and thereby maintain the character of the nation (Cutright 1985, Miller 1992, Brands 1997). The Boone and Crockett Club had many influential members, and this was used to great effect in support of these ideals. Two of North America’s most important and

enduring conservation legacies were written by club members: the Lacey Act (Congressman John Lacey from Iowa, 1900) and the Migratory Bird Treaty Convention (Canadian Charles Gordon Hewitt, 1916). And, of course, President Theodore Roosevelt did more to conserve wildlife than any single individual in U.S. history through the institutionalization and popularization of conservation and by greatly expanding federal protected lands (Brinkley 2009).

Canada did not embrace the policies and practices of wildlife ownership and management as accepted in Great Britain, foremost among these being the tie of wildlife and hunting to landownership, and the sale of wildlife as a commodity in the marketplace. Even more remarkable is the fact that some of Canada’s negotiators and movers who were instrumental in creating this new system of wildlife conservation were Englishmen, immigrants to Canada.

It appears that at the turn of the century, when both nations had become cognizant of wildlife’s plight and grappled for solutions, like-minded elites arose on both sides of the border who knew and befriended each other, learned from each other’s successes and



Early settlers killed wolves and other predators with abandon, blaming them for declines in game populations. Courtesy of Thomas J. Ryder.



Some 40,000 bison pelts in Dodge City, Kansas await shipment to the East Coast in 1878—evidence of the rampant exploitation of the species. The end of market hunting and continuing conservation efforts have given bison a new foothold across parts of their historic range, including Yellowstone National Park. Courtesy of National Archives.

failures, and acted on them with insight and resolve. The Canadian effort revolved around the Commission on Conservation, which was constituted under The Conservation Act of 1909. The Commission was chaired until 1918 by Sir Clifford Sifton and consisted of 18 members and 12 ex-officio members (Geist 2000).

By the early 20th century, considerable wildlife conservation infrastructure was in place, but by the 1920s it was clear that the system's emphasis on restrictive game laws was insufficient in itself to stem wildlife's decline. Aldo Leopold, A. Willis Robertson, and other conservationists published an American Game Policy in 1930 (Leopold 1930) that proposed a program of restoration to augment conservation's legal framework. They called for a wildlife management profession with trained biologists, stable, equitable funding to enable their work and university programs to train them. Within

10 years much of what the policy called for had been realized, with the first game management curricula established at the University of Michigan and the University of Wisconsin and the creation of Cooperative Wildlife Research Units, the formation of The Wildlife Society, and the passage of the Pittman-Robertson Wildlife Restoration and Duck Stamp Acts. These accomplishments were all initially founded in the U.S. but many were endorsed and mirrored by various Canadian policies and programs.

Subsequent decades brought expanded legislation (e.g., U.S. Endangered Species Act, Canadian Species at Risk Act) and programs (e.g., Migratory Bird Joint Ventures, Teaming With Wildlife), but their principles had been set firmly in place. These principles arose amidst social and environmental circumstances that were unique to the world in their temporal juxtaposition.

Implementation in Canada and the United States

Canada

Governance.— Responsibility for wildlife conservation is assigned by the Canadian Constitution and is shared between the provinces or territories and the federal government. Variations on almost all of the following occur in many parts of Canada, but the general situation is described below.

Provincial and territorial authority is detailed in the sub-federal jurisdictions' acts and laws respecting wildlife. Any authority not specified is considered "residual" and falls to the federal government, which is also responsible for wildlife on designated federal lands (i.e., national parks), all migratory wildlife that crosses international boundaries, marine mammals, and, in some instances, where the range or migration of a species occurs in 2 or more provinces or territories. The federal Species at Risk Act (2002) may have application where provincial or territorial measures to protect endangered and threatened wildlife are considered insufficient. The Act authorizes designation of threatened species and identification of measures to recover them. Exceptions and variations to the foregoing exist across Canada – specially in Quebec (civil code derived from French law) and the territories of Nunavut, Northwest Territories, and Yukon (territorial jurisdiction is more limited than is provincial in some matters) – but the basic model is that migratory, marine, and other federal trust species fall to the federal government, and everything else is within the purview of the provinces and territories. Federal, provincial, and territorial governments have established public wildlife agencies (e.g., the federal Canadian Wildlife Service)

to devise and implement conservation programs. Tacitly or explicitly, the fundamental tenets of the Model are accepted and practiced in Canada.

Treaty Indians have jurisdiction over all animals on their Indian Reserves, except where endangered species legislation may be applied, and many aboriginal communities do not accept the legitimacy of any outside authority. In regards to aboriginal communities, courts in Canada are still defining matters of governance. Rights of access to wildlife by aboriginal people (i.e., they are allowed to take wildlife at any time on land to which they have right of access) was confirmed in the Constitution Act of 1982. These rights may be abrogated by government only after extensive consultation, and only for purposes of sustaining wildlife populations. A restriction on access to wildlife on aboriginal lands applies automatically to all Canadians.

Systematic consultation among federal, provincial, territorial, and, more recently, aboriginal authorities is extensive. Complexities of Canadian law and tradition have made apparent to wildlife managers that effective conservation programming requires close consultation among all jurisdictions. For decades, the annual Federal-Provincial Wildlife Conference was a fixture in Canada; it now has evolved into a structured contact among the jurisdictions through regular meetings of provincial, territorial, and federal wildlife-resource directors employed by public wildlife agencies. Other groups such as the Committee On the Status of Endangered Wildlife In Canada (COSEWIC) also operate on a foundation of inter-jurisdictional consultation and cooperation. In general, the goal of such groups is to agree on basic policy and program initiatives,

but leave implementation to the legal authority, where it can be done in keeping with widely varying circumstances across Canada.

Canada is signatory to several international treaties and conventions, including the Migratory Bird Treaty with the U.S. and Mexico, its derivative North American Waterfowl Management Plan, the Convention on International Trade in Endangered Species of Fauna and Flora (CITES), and the Ramsar Convention on Wetlands (RAMSAR) – the international treaty for maintaining wetlands of international importance.

Management authority over wildlife is public. Although laws differ widely among jurisdictions with respect to captive animals, the basic principle is that wildlife is a public trust, and no private ownership is allowed. Landowners may be given special access privileges in recognition of their role in sustaining populations of certain species, but only in accordance with public law. Private conservation organizations have a vital role in conservation and work closely with public agencies. There are advisory boards in some provinces and territories, but public stewardship prevails. The governance model for wildlife conservation decision making is typically at the (elected) ministerial level. Boards and commissions do not have the significant role in Canada that they do in the U.S. Canada's political structure is based on the British parliamentary system, which affords less direct participation in public affairs than does the American congressional system.

Funding.— As mentioned above, Canada is governed under (its derivative of) the British parliamentary system, of which a fundamental aspect is the general revenue system of public finance, meaning no dedicated funds. All tax revenues, regardless of source, go into a central account and are then allocated by government according to its priorities. Canadian political tradition is that representatives are not elected to carry out the will of the people, but to exercise their good judgment on behalf of the

people as to how tax money should be allocated. The peoples' will is expressed at election time. The rule of thumb is, for example, a gasoline tax or any portion thereof does not go to highway infrastructure. Instead, the government will decide how much goes to highways and what goes elsewhere, according to its priorities.

With regard to wildlife, the general revenue system explains why wildlife agencies in the U.S. are, overall, far better staffed and funded than are their Canadian counterparts. Canadian public agencies depend on general revenue tax dollars for their basic operations. Canada has no equivalent to the Pittman-Robertson Wildlife Restoration Program, and no dedicated sales tax. The Canadian funding mechanism also explains why research has all but disappeared from provincial and territorial agencies. Compounding this systemic reality is competition for public funds in Canada at all levels of government. Wildlife therefore must compete directly with health, education, and social services for funds on an annual basis. The result is that wildlife does not, in almost all circumstances, receive what its proponents and managers believe is its due. Usually, there is no provision for carrying over unspent funds from one fiscal year to the next, which tightens finances even further.

Recently, provincial governments are beginning to understand that many wildlife programs (i.e., hunting) generate significant dollars for the public purse. However, those dollars cannot be sustained with wildlife management funded under general revenue financing. Fortunately, certain old rules are gradually being relaxed, and dedicated funds are appearing in some provinces. The future for wildlife management will very much depend on how quickly and effectively the need for a new funding basis is communicated to governments.

At present, investment by non-governmental organizations, federal, provincial, and territorial cost-sharing agreements, and leveraged funds from outside Canada are critical to conservation

programming in nearly all parts of the country. For example, revenues from the U.S. play a large role in Canadian waterfowl management. Provincial and territorial hunting programs usually depend on general revenues to a much higher degree than do endangered wildlife or habitat programs.

Scope.— What wildlife is and who manages it depends on which part of Canada is considered. Wildlife managed by a Wildlife Branch in one province or territory may not be considered wildlife in another, similar to different classifications of wildlife in different states in the U.S. There is general accord, however, on some major groups of species: ungulates, waterfowl, most furbearers, and birds are wildlife and the responsibility of professional wildlife managers everywhere. Wildlife legislation has, overall, become much more inclusive of late, and now commonly includes amphibians, reptiles, plants, and, in some instances, invertebrates. The structure, purview, and emphasis of provincial and territorial agencies vary significantly.

Defining which taxa constitute wildlife is essentially up to each province or territory. There is no overarching federal legislation in this regard, although the federal government does make specific reference to species under its jurisdiction. Species defined as wildlife in the provinces and territories are accorded protection under legislation that differs in scope and type of application.

Wildlife agencies are the sole managers of problem wildlife in some provinces, while sharing or not having this responsibility in others. Always prefaced with the qualifier “generally,” ungulates or waterfowl cannot be killed in defense of property; furbearers such as beaver (*Castor canadensis*) or predatory species that take livestock, including gray wolves (*Canis lupus*), can be. Species such as ground squirrels (*Spermophilus sp.*), pigeons (*Columba livia*), and English sparrows (*Passer domesticus*) are normally not given any protection under provincial or territorial legislation.

Some provinces and territories have outright prohibitions on holding species defined as wildlife in captivity, whereas others allow it for specific purposes, such as elk ranching or roadside zoos. In some provinces, a species is considered wildlife if not confined, and not wildlife if it is legally held. Responsibility for captive wildlife may be vested within a wildlife agency or other division of government such as agriculture.

United States

Governance.— Governance over wildlife management in the U.S. is divided between the federal government and individual states. The Public Trust Doctrine established the states as trustees of wildlife (Batcheller et al. 2010) except where the Constitution provided for federal oversight (Bean 1983). Three clauses of the Constitution provide for federal oversight: the Commerce Clause, Property Clause, and Supremacy Clause (federal treaty-making power). At the federal level, responsibilities for wildlife are assigned to agencies within the Departments of the Interior (Fish and Wildlife Service, Bureau of Land Management, National Park Service, Bureau of Reclamation, Bureau of Indian Affairs, Geological Survey), Agriculture (Forest Service, Animal and Plant Health Inspection Service, Natural Resource Conservation Service), Commerce (National Marine Fisheries Service for certain marine mammals), Environmental Protection Agency, and Department of Defense.

Within states, 2 governance models predominate: boards or commissions that make policy decisions and oversee an agency, and political appointees that make policy decisions and oversee an agency. Both models are products of representative democracy (Jacobson and Decker 2008). Representative democracy is the appointment or election of individuals responsible for making decisions that ostensibly fulfill public trust mandates.



Dead bison. Credit: Wisconsin Historical Society.

Funding.— Fish and wildlife conservation funding in the U.S., at least at the state level, typically is characterized as a user-pay, user-benefit model. From the earliest days of active management and enforcement by nascent state fish and wildlife agencies, hunters, anglers, and trappers have funded restoration and conservation initiatives. License and permit fees, a motor boat fuels tax, and excise taxes on hunting, shooting sports, and angling products provide dedicated funding for habitat conservation, harvest management, research, restoration, and monitoring initiatives by state agencies. The excise tax programs have permanent, indefinite appropriation status, which means that the revenues are automatically distributed to the states each year and not subject to congressional whim.

To this day, the combination of sportsmen-derived funds described above comprise between 60 and 90 percent of the typical state fish and wildlife agency budget (U.S. Fish and Wildlife Service, unpublished data). In addition, sportsmen and women also donate volunteer time and dollars to national, regional, and local conservation organizations (e.g., Ducks Unlimited, National Wildlife Turkey Federation, Pheasants Forever, Rocky Mountain Elk Foundation, Quail Unlimited, Ruffed Grouse Society, The Nature Conservancy), in effect multiplying the conservation power of the agencies. Clearly the success of the Model is in no small measure indebted to hunter- and angler-conservationists and visionary industry leaders.

For more than 2 decades, state fish and wildlife agencies have recognized the need for broader programs in light of new mandates, new threats, enhanced management attention to non-harvested species, and new constituent demands (e.g., bird watchers). Indeed, with the strong support of state fish and wildlife directors, the Association of Fish and Wildlife Agencies initiated the Teaming With Wildlife Program to focus action on securing new funding for wildlife diversity. At the national level, concerted attention has been given to developing a new excise tax on birding, hiking, camping, and other recreational equipment, one that would build off the success of the same tax for hunting, shooting sports, and angling equipment. This has yet to bear fruit, however, given the strong political opposition to new taxes, and potentially because the broader public may lack the vested interest that sportsmen and women have demonstrated in supporting user fees.

More recently, dedicated funding efforts have focused on royalties from energy development and carbon credits from climate change legislation as ways to fund wildlife adaptation programs. Even though dedicated funding has proved elusive, since 2000 the U.S. Fish and Wildlife Service – with congressional authorization – has implemented the State Wildlife Grants program, which has provided more than \$600 million to state fish and wildlife agencies for species of greatest conservation need. At the state level, direct appropriations from the general fund, sales tax and lottery allocations, voluntary contributions via income-tax check-offs, and special license plates have been used to fund new programs by state fish and wildlife agencies.

Funding at the federal level is determined annually through the appropriations process and embedded in legislation such as the Farm Bill and the Interior Appropriations Act. The Land and Water Conservation Fund is an important source of revenue for federal national wildlife refuge land acquisition. Dedicated funding from the sale of federal Migratory Bird Hunting and Conservation Stamps also supports national wildlife refuge acquisitions.

As noted elsewhere, all wildlife species are public trust resources. The Model has thrived in large part because of the support of the hunting, angling, shooting sports, and boating communities, and industries for habitat and species management and conservation. Long-term declines in both hunter and angler participation place into question the sustainability of such a funding approach and beg the need for new funding to address new challenges. A few state fish and wildlife agencies, most notably Missouri and Arkansas, have successfully secured alternate funding to augment traditional sources (Jacobson et al. 2010a). Jacobson et al. (2010b) reflect on the difficult and all-too-real challenges facing fish and wildlife agencies in the midst of stable-to-declining traditional revenues such as hunter and angler license dollars.

Scope.— Wildlife conservation in the U.S. is broad, encompassing most terrestrial, aquatic, and marine vertebrates and invertebrates, and plants. The degree to which a given taxa receives conservation attention depends upon its legal status (e.g., furbearer, game, special concern, nongame, threatened, or endangered), whose jurisdiction it is under (i.e., federal trust species or state), the availability of funding, and its relative priority (e.g., species of greatest conservation need identified in a State Wildlife Action Plan).



Wood turtles and other reptile species are receiving increased management and protection in the U.S. with funding from the federal State Wildlife Grant Program, but international trade in turtles remains a threat to sustainability of their populations. Credit: John F. Organ.

Review of Model Components

1. Wildlife Resources Are a Public Trust

The keystone component of the Model is the concept that wildlife is owned by no one and is held in trust for the benefit of present and future generations by government (Geist and Organ 2004). This is the legal foundation for federal, provincial, and state wildlife agencies. The common law basis in the U.S. is the Public Trust Doctrine, a Supreme Court decision in 1842 that declared certain resources could not be taken into private ownership (Martin v. Waddell; Batcheller et al. 2010).

Historical Development.— The U.S. Supreme Court ruling in 1842 denied a landowner’s claim to exclude all others from taking oysters from certain mudflats in New Jersey (Martin v. Waddell; Bean 1983, Organ and Batcheller 2009). Chief Justice Roger Taney, in determining that the lands under navigable waters were held as a public trust, based the decision on his interpretation of the Magna Carta. The Magna Carta, in turn, had drawn upon Roman law that was first written as the Institutes of Justinian (A.D. 529; Adams 1993). The written codes of Justinian were based upon the 2nd century Institutes and Journal of Gaius, who codified the natural law of Greek philosophers (Slade et al. 1977). The application of this fundamental concept of the public trust to natural resources, first written for posterity by the Romans, is as old as civilization itself. What the Romans recorded was, in part:

“By the law of nature these things are common to all mankind - the air, running water, the sea, and consequently the shore of the sea. No one, therefore, is forbidden to approach the seashore, provided that he

respects habitations, monuments, and the buildings, which are not, like the sea, subject only to the law of nations.” (Roman Law)

The roots of the Public Trust Doctrine in Roman law are complex. Joseph Sax, the pre-eminent scholar of the Public Trust Doctrine, traced these roots so that we may better understand the modern context (Sax 1970, 1999). The Romans had an elaborate property system that recognized different kinds of property serving different functions. Certain property belonged to the gods, certain property belonged to the state, and certain property belonged to individuals. Each of these kinds of property had a special status and had to be treated in a certain way. For example, the property might not be capable of being bought and sold. Other kinds of property included common property (*res communis*). Common property (1) could not be privately owned, and (2) was for common use by everyone. Roman law included wildlife (*ferae naturae*) within the law of things owned by no one (*res nullius*). These categories were probably for what the Romans perceived to be the nature of things that were abundant and not appropriate for private possession and sale (Horner 2000). Ownership of a wild animal occurred only when it was physically possessed, most typically when killed for food.

Roman civil law was adopted in substance by the English after the Magna Carta (A.D. 1215; Slade et al. 1977). English common law also recognized special kinds of property, but provided its own context. English common law disliked ownerless things, so the ownership of public resources was placed in the king (Horner 2000). These properties were owned by the king, but not for his private use. The king was a trustee, owning certain properties for someone else, which became a special responsibility (Sax 1999).

English law applied in the American colonies, yet after independence and the formation of the U.S., there was no king to be the trustee. It was not until 1842 and the Supreme Court decision in *Martin v. Waddell* that trustee status was ascribed to the states. To understand how the ancient concept of public trust and the modern Public Trust Doctrine – neither one specific to wildlife – have both become a pillar of wildlife conservation, we must look at their legal essence.

Public Trust as Law.— Sax (1999) identified 4 fundamental concepts of public trust:

1. Public trust is common law. There is no legal code specific to the Public Trust Doctrine because it has never been officially enacted. It is “judge-made law” that is interpreted and evolves through court decisions. For the last century or so, most of our laws have been statutory coded laws, but for most of the development of the Anglo-American legal system, common law prevailed.

2. Public trust is state law. As such, there is no single law but many. Yet each embodies a unifying principle of the fundamental rights of all citizens.

3. Public trust is property law. One of the great strengths of the Public Trust Doctrine is that in asserting it, the state is asserting its own property rights – property rights that belong to the public – so the issue of “taking” becomes moot as one cannot be taking a property right from another while asserting such right.

4. Public trust is a public right. Trust property is owned by the public and held in trust for the benefit of the public. One does not have to have special status to make a claim but only must be a member of the public.

Because the Public Trust Doctrine is common law, and judge-made, it can never be repealed by a legislature. The traditional applications of public rights under the Public Trust Doctrine were for navigation, fishing, and commerce. The New England

states of Massachusetts, Maine, and New Hampshire added fowling as a right. It was not until 1896 that wildlife became firmly established in law as a public trust resource of the states. *Geer v. Connecticut* became judge-made law that is the “heart and soul of the modern day public trust in wildlife” (Horner 2000:21). While transforming this principle into modern American law, and making the concept of wildlife as public trust resources distinctly American, the court stated:

“Whilst the fundamental principles upon which the common property in game rests have undergone no change, the development of free institutions has lead [sic] to the recognition of the fact that the power or control lodged in the State, resulting from the common ownership, is to be exercised, like all other powers of government, as a trust for the benefit of all people, and not as a prerogative for the advantage of the government, as distinct from the people, or for the benefit of private individuals as distinguished from the public” (161 U.S. 519, 1896).

The trustee status of states in regard to wildlife is transferred to the federal government in the U.S. when wildlife falls within parameters of the U.S. Constitution’s Supremacy Clause (federal treaty-making power), Commerce Clause, and Property Clause. Chief Justice Taney, in articulating the Public Trust Doctrine in *Martin v. Waddell* in 1842 acknowledged this when he wrote that the powers assumed by the states were “subject only to the rights since surrendered by the Constitution to the general government” (41 U.S. 367 1842).

Current Status, Threats, and Challenges.— A review of the Public Trust Doctrine was completed recently, including an evaluation of current and anticipated threats that may weaken this pivotal doctrine (Batcheller et al. 2010). Several threats have been identified that directly or indirectly undermine existing state, provincial, and federal laws (Geist and

Organ 2004). These threats include (1) inappropriate claims of ownership of wildlife; (2) unregulated commercial sale of live wildlife; (3) prohibitions or unreasonable restrictions on access to and use of wildlife; (4) and a value system endorsing an animal-rights doctrine and consequently antithetical to the premise of public ownership of wildlife (Organ and Mahoney 2007, Organ and Batcheller 2009).

In many jurisdictions, domesticated native or exotic animals with recently descended from wild stock may be owned. Typical uses of these animals include game farms and more traditional farms to produce meat from “wild” animals. Some game farms practice genetic husbandry to produce trophy class antlers or horns; others provide shooting opportunities in enclosed and fenced natural or semi-natural settings. The legal status of animals held in captivity under these conditions is equivocal. At its core, the key question is: do wild animals held in captivity, including fenced enclosures, remain as trust resources or are they private property? Is there a distinction between the status of a wild animal held within a fence (e.g., a wild ungulate jumping into an enclosure and then held in pseudo-captivity), and an animal deliberately housed within an enclosure and husbanded via traditional livestock practices? Although these are central issues germane to the Public Trust Doctrine, they have not been widely addressed in case law, thereby raising great uncertainty about its application to these situations. Moreover, commercialization places a monetary value on wildlife or wildlife parts and a concomitant incentive for their use, which threatens the premise of public ownership of wildlife.

From our history, we know that some forms of commercial use of wildlife are unsustainable, especially in the absence of strong legal and regulatory controls on harvest and marketing. However, in most jurisdictions some commercialization of wildlife is permissible under highly regulated legal regimes. For example, trapping is an important wildlife conservation tool and a legitimate use of renewable wildlife resources, but only under a system of strict controls

to limit harvest and to provide for legal commerce. The regulation of commercial furbearer harvest is generally mature, but other forms of wildlife commercialization are poorly regulated, and some evidence suggests that the commercialization of taxa such as amphibians and reptiles may be harmful to native, wild populations. If the Public Trust Doctrine is to be fully applied to all wild fauna, these loopholes in the control of commercial use of reptiles and other taxa would need to be closed. An all-taxa approach to wildlife management would help ensure that all species receive benefits associated with public valuation and public ownership.

A central premise of the Public Trust Doctrine is access to wildlife, yet there is growing evidence that the public has a more difficult time finding places to hunt or trap on private land, and even in gaining easy access to public lands (Responsive Management/ National Shooting Sports Foundation 2008). In some instances, high fees are charged to gain access to private lands, or to use convenient private points of access to public lands. Many public wildlife agencies charge high fees for limited permits to hunt certain big game species. However, a large number of people cannot afford to pay high user fees (Duda et al. 1998). They may stop hunting if they are unable to find a place to hunt, cannot afford the fees, or are discouraged by crowding on public lands (Responsive Management and National Shooting Sports Foundation 2008). Worse, in some states, certain guides use baiting as a means of attracting game from public lands to private lands, where they are shot under an exclusive (and expensive) arrangement with the client. In a manner similar to fencing, these practices jeopardize another tenet, the “democracy of hunting,” and significantly weaken the social benefits associated with the Public Trust Doctrine (Dunkley and Cattet 2003, Ermer et al. 2005).

The foundational notion of public ownership implies that society values wildlife and, by implication, understands the premise of wildness. The growth of certain wildlife populations and

the associated human conflicts stemming from interactions between people and animals may lead to a devaluation of wildlife and wild places. For example, when coyotes (*Canis latrans*) attacked 2 small children in a suburban New York community, tolerance of coyotes diminished among community residents, with 9 out of 10 residents expressing concern about coyotes in their community (Siemer and Decker 2011). If those citizens learn that open and green spaces attracted coyotes in the first place, will they retain their value of wild places and creatures, or will they gravitate toward a devaluation of green spaces altogether? Similarly, the widely discussed notion of nature deficit disorder (Louv 2008) suggests that citizens may be growing increasingly ambivalent toward nature. If that is true, why should they care about maintaining wildlife in perpetual public trust? Finally, persons who accept an animal-rights world view categorically reject the concept of ownership of animals, rendering the central legal principles of the Public Trust Doctrine irrelevant. Strong leadership and concerted efforts on the part of wildlife professionals will be required to make the case that wild places are important, and that wildlife needs to be protected for one and all, as posited by the Public Trust Doctrine.

Batcheller et al. (2010) evaluated the status of the Public Trust Doctrine in the U.S. and Canada. In the U.S., the Public Trust Doctrine in its traditional form is strongly based in statutory and case law, especially as applied to navigable waterways. Recently, the Public Trust Doctrine has been applied to broader applications in case and statutory law, and specifically to other natural resources including wildlife. However, relatively few states have specific case law that clearly recognizes wildlife as a public trust resource. Many states, on the other hand, use either explicit or implicit statutory language to confer public trust status to wildlife resources. Batcheller et al. (2010:22) concluded that “bringing wildlife into the Public Trust Doctrine through statutory measures appears to be the best way to accomplish the goal of extending the Public Trust Doctrine in this area.” To this end, statutory language that clearly puts wildlife in public

ownership is necessary. In Canada, about one-half of the provinces and territories have language on the public ownership of wildlife in their statutes, but Canada’s wildlife conservation institutions also would benefit from a comprehensive strengthening of the Public Trust Doctrine.

Canada, although following Great Britain in modeling much of its legal system, opted for the same basic policies governing wildlife as did the U.S. In Great Britain, wildlife became *de facto* private property of landowners (Threlfall 1995). An account of this effort to protect Canada’s wildlife in cooperation with the U.S. was discussed by Hewitt (1921), including the establishment of wildlife treaties between the 2 countries. Historically, wildlife became a public resource in part by default because the Crown was the ward of huge tracts of land not claimed for settlement and was thus the *de facto* owner of the wildlife it contained. Moreover, as wildlife fed native populations, Canada’s government had little choice but to safeguard that food supply.

Batcheller et al. (2010) provided model statutory language that would give an unequivocal legal underpinning to sustain the Public Trust Doctrine vis-à-vis wildlife conservation indefinitely.

2. Markets for Game Are Eliminated

The unregulated trafficking in meat, hides, and other parts of game animals and nongame birds in the 19th century led to drastic and, in some instances, catastrophic declines in populations. Elimination of markets for game animals and nongame birds was an essential step in halting declines of these particular species. It has since been held in principle that markets for game and nongame wildlife are unacceptable because they privatize a common resource and lead to declines. Exceptions have been made for furbearers because there is an active market in Canada and the U.S. for furbearer pelts and in some instances meat

(e.g., muskrat [*Ondatra zibethicus*] and raccoon [*Procyon lotor*]). The underlying premise for fur markets is that they are highly regulated and serve a conservation purpose because harvests are within normal population fluctuation levels consistent with sustainable-use principles, help manage conflicts between furbearers and humans, and foster support for habitat conservation (Boggess et al. 1990, Geist et al. 2001, Prescott-Allen and Prescott-Allen 1996). Markets for taxa other than game, nongame birds, and furbearers exist in North America, but regulations and enforcement vary, and impacts on populations are not well understood.

Historical Development.— The first concerted efforts to eliminate markets for game animals were those of the New York Sportsmen’s Club, formed in 1844 (Trefethen 1975) with objectives confined to protection and preservation of game, and funds appropriated solely for those purposes. The club’s membership included many influential lawyers, judges, and politicians, who often acted in their official positions on behalf of the club. At a time when there was limited or no government oversight on wildlife, they drafted, led efforts to enact, and enforced the first game laws directed against market hunting. These laws were local to New York City, but because of the market that locale provided, the impact was notable.

The Boone and Crockett Club was responsible for important legislation at the state and federal levels. Co-founder George Bird Grinnell used his weekly journal *Forest and Stream* to communicate the need for elimination of game markets (e.g., Grinnell 1894). Club member Congressman John Lacey of Iowa sponsored the Yellowstone Park Protection Act which passed in 1894, becoming the first federal law to protect game from market hunting (Trefethen 1975). The Lacey Act of 1900 effectively made market hunting illegal nationwide and remains the most powerful legal tool to combat this activity. The Migratory Bird Treaty of 1916 between the U.S. and Canada, and subsequently many other nations including Mexico and Japan, provided the

constitutional grounding for the Migratory Bird Treaty Act of 1918 and extended international protection for bird species from the market. The U.S. Endangered Species Act of 1973 and the Canadian Species at Risk Act of 2002 extended protection from the market to a multitude of other species.

Current Status, Threats, and Challenges.— Commercial trade for reptiles, amphibians, and fish is thriving (Nanjappa and Conrad 2011). In addition, some game species that we would expect to fall under the principles of the Model are actively traded. Deer (*Odocoileus* spp.), elk, ring-necked pheasants (*Phasianus colchicus*), quail, chukar (*Alectoris chukar*), and more exotic wildlife species are commonly bought and sold (Freese and Trauger 2000). Related to wildlife markets are contests and tournaments common in rural areas of the country. Big buck contests, coyote hunts, crow (*Corvus* spp.) hunts, and numerous other commercial contests imply a market-based hunting situation. The sale of furbearers, seal (Phocidae) fur, antlers, reproduced antlers, and a variety of other wildlife parts needs to be considered in light of the principle that markets for wildlife are eliminated. A robust market for access to wildlife occurring across the U.S. and Canada exists in the form of leases, reserved permits, and shooting preserves.

In contrast to hunting contests and tournaments, where a hunting (or fishing) license is required, markets for trade in amphibians, turtles, and reptiles are not consistently regulated (Nanjappa and Conrad 2011). Markets for pets, both native to North America and from international sources, are relatively open (Niraj et al. 2012). In addition, amphibians and turtles, in particular, are traded for meat. Freshwater turtles are declining sharply (Turtle Conservation Foundation 2010, International Union for Conservation of Nature 2009), primarily because of demands from Asian food markets. However, turtle harvests have been difficult to track because regulations are not widespread, and reporting requirements vary across states.

3. Allocation of Wildlife Is by Law

Access to wildlife has been an inherent part of the North American experience, unlike many other nations where access is reserved for those with special privilege (e.g., aristocracy; Manning 1993). Wildlife is allocated to the public by law, as opposed to market principles, land ownership, or other status. Democratic processes and public input into law-making help ensure access is equitable.

Historical Development.— The seemingly unlimited resources of the New World were used to attract colonists from the Old World with prospects of pelts, hides, and feathers for trade and food for survival. These images mitigated the harsh reality of eking out an existence in the unforgiving wilds of North America. It was not long before the colonies began to enact regulations specific to wildlife. The first regulations on record focused on protection of livestock, essential to the survival and livelihood of settlers. In 1630 the General Court of the Massachusetts Bay Colony passed an act offering a reward to anyone who killed a wolf. In 1632 Virginia established a bounty on wolves (Trefethen 1975).

In a relatively short time game animals started to become scarce and protective regulations were warranted. In 1646, Portsmouth, Rhode Island, closed the white-tailed deer (*Odocoileus virginianus*) season from May 1 to November 1 and established a penalty of 5 pounds for hunting out-of-season. Connecticut adopted a law that stated that the killing of deer at unseasonable times of the year would be against the interests of the colony because it would result in decreased production (Trefethen 1975). In 1705, the General Assembly at Newport, Rhode Island, noted that large numbers of deer had been killed out of season, and deemed this detrimental to the future of the colony, and indeed the whole country if not prevented.

Alarming decreases in numbers of deer prompted the General Court of Massachusetts in 1739 to step up enforcement of the deer-season law it enacted in 1698. Each town was instructed to appoint 2 “deer reeves” to enforce the closed season. The fine for a conviction was 10 pounds, probably \$1,000 today, with one-half the fine going to the deer reeve as his fee. Azariah Seldon of Hadley, Massachusetts, was convicted in 1763 of killing a deer out of season and assessed the full fine of 10 pounds. Another individual, unable to raise the fine, was put on the auction block and sold to the highest bidder for 2 months of forced labor. These laws and their enforcement probably served as a deterrent, but the continued habitat destruction and long open season with no bag limit took their toll. By the time of the American Revolution, many towns in the colonies abandoned the deer reeve office because there were so few deer to protect. Nevertheless, these laws and regulations reflected the thinking of the time, highlighted the need to preserve a food supply, and established a mechanism for protecting wildlife.

The efforts of the New York Sportsmen’s Club and Boone and Crockett Club in development of game laws in the 19th century to address market hunting have been noted earlier. In 1897, the New York State Assembly passed the Adirondack Deer Law (sponsored by assemblymen who were Boone and Crockett Club members) that outlawed jacklighting deer at night and shooting deer after using hounds to drive them into deep water. Most notable about this law was that shooting deer in water was outlawed because of potential deleterious effects on the deer population, and jacklighting (e.g., spotlighting) was banned because it was unsportsmanlike (these laws remain intact today). The underlying principle was that a population or species, entirely independent of whether it was increasing or decreasing, should be protected from cruel or unsportsmanlike methods of killing (Sanger 1897). Audubon societies (the first ones were formed by Grinnell) and other nature groups allied with

sportsmen and began to lobby for legislation to curtail the feather trade that was decimating many nongame bird species (Dunlap 1988).

Game laws, game agencies, and game commissions established by states in the late-19th and early-20th centuries focused primarily on eliminating commercial uses of wildlife (e.g., birds and the millinery trade) and on regulating numbers of game legally killed by sportsmen. Hunting methods were regulated to conform to accepted standards of fair chase as outlined by the Boone and Crockett Club, which would ideally minimize opportunities for hunters to exceed bag limits. Federal conservation programs were developed for protection of migratory birds through regulation, law enforcement, and refuge establishment. Federal conservation efforts also focused on predator control in an effort to benefit game populations and livestock ranchers (Meine 1988). At the beginning of the 20th century, game and songbird populations were in decline, and in some instances disastrously so, and both sportsmen and bird lovers felt that control of predators, including raptors, was necessary (Dunlap 1988, Mighetto 1991). As furbearer species such as beaver were restored, states established regulated fur trapping seasons so they could manage furbearers as valued resources while effectively minimizing human property and safety concerns (Shaw 1948).

Passage of the Pittman-Robertson Wildlife Restoration Act in 1937 ushered in an era of restoration, and the increase in scientific management led to fine-tuning the system of seasons and bag limits. Prior to restoration programs, population monitoring was limited. Seasons and bag limits were either by too conservative or too liberal. As more jurisdictions began to monitor harvests, they began to see population trends and responded with regulations designed to increase or sustain populations. Many states that had allowed either-sex deer seasons, for example, initiated male-only (buck) laws. In Massachusetts, where hunters could take 1 deer

of any sex, the reported deer harvest declined until 1967 when a buck law was imposed. Gradually, female (doe) permits were re-issued on a county basis in those areas that could sustain a reduction in growth or had agricultural conflicts. Eventually, during the 1980s, deer management zones were established independent of political boundaries, but representative of deer range differences. This allowed greater control of the deer population through adjusting the doe kill differentially based on habitat and human influences. These examples typify the focus of game regulations in the post-World War II period.

Laws regulating access to species other than game, migratory birds, and furbearers were uncommon until the mid- to late-20th century. Passage of the Bald Eagle Protection Act in 1940 was followed by the Endangered Species Preservation Act of 1966, the Fur Seal Act of 1966, the Endangered Species Conservation Act of 1969, the Marine Mammal Protection Act of 1972, and the 1973 Endangered Species Act. These laws focus on the take of animals, and represent an expansion of the approach taken to stem market hunting toward a broad array of other uses of wildlife. Several state and federal laws protect wetlands, but few laws focus specifically on protection of wildlife habitat. A notable exception is Vermont Act 250, known as the Land Use and Development Act of 1970, which regulates impacts to certain wildlife habitats.

American alligators (*Alligator mississippiensis*) provide a good example of how strictly regulated markets can benefit populations. Because of overharvest of alligators for meat and hides, and resulting population declines, in 1967 (before enactment of the Endangered Species Act) alligators were classified by the U.S. Fish and Wildlife Service as endangered. However, regulations did not accompany this classification and overharvest continued. In 1969, the Lacey Act, which prohibits interstate transport or export of illegally harvested species, was amended to include reptiles, and subsequent enforcement of high profile cases

helped to curtail the illegal trade. Populations quickly showed signs of recovery. In 1973, when the Endangered Species Act was enacted, alligators were listed as endangered. Between 1970 and 1979, certain states implemented controlled or experimental commercial harvests, and in 1979 the federal government began allowing trade in alligator meat while also downgrading alligators on CITES to allow export of their skins. Controlled harvest, including adults or eggs to supplement captive-rearing facilities, continues by permit or tag in the southern U.S. for the use of alligator meat and hides. As a result of this regulated market, American alligator populations have rebounded, the species has since been delisted, and numerous states now allow harvest.

Current Status, Threats, and Challenges.— Clearly defined laws exist regarding seasons, bag limits, methods of take, and areas in which seasons apply. What is not as clearly defined is the applied enforcement of these laws. Enforcement priorities often depend on available resources and societal desires. Does the out-of-season take of a striped skunk (*Mephitis mephitis*) merit the same level of enforcement as a trophy elk? Although state authority over the take of resident game species is well defined, county, local, or housing development ordinances may effectively supersede state authority. *De facto* decisions regarding hunting opportunity and access are routinely made at a level below that of state government. Further, decisions on land use, even on public lands, indirectly impact allocation of wildlife because of land use changes associated with land development. Competing land uses which effectively destroy or degrade wildlife habitat supersede the notion of allocation of wildlife by law. Examples abound where public lands have been dominated by one or more uses, thereby reducing their wildlife value and allocation to the public.

Amphibians and reptiles, especially turtles, may suffer as taxa whose uses are not broadly considered as utilitarian (e.g., those traded or used commercially as pets). In addition, these

species are secretive, often misunderstood, or feared. Perhaps for these reasons, establishment of regulations or enforcement thereof tend to be lower priorities. Lack of specific permits or harvest monitoring have caused some of the members of the user community of these taxa to claim that limits imposed, where they exist, are artificial or not based in science. Further, lack of law-enforcement capacity is another challenge. Herpetofauna are relatively easy to conceal, and several species look similar, thus routine enforcement checks or a lack of identification skills may cause illegally harvested individuals or species to be missed.

Among some members of the commercial pet industry, hobbyist breeders, and photographers of herpetofauna, the current perception is that government is the enemy, harming small businesses or reducing income through regulatory measures. However, just as with game and fur markets, careful and strategic engagement with these stakeholders regarding allocation can provide mutual benefit, particularly when regulated take is based in sound science. Many states use fishing or hunting licenses and permits for the collection or possession of herpetofauna, and specific methods to track herpetofauna, such as a specific license or stamp, combined with reporting requirements, may allow improved monitoring of numbers of animals removed from the wild. Similarly, many states permit or otherwise regulate wildlife rehabilitators. Many species are removed from the wild when perceived to be injured, ill, or orphaned. Some are returned to the wild and some are not. Monitoring or tracking can provide reasonable allocation limits that can be agreeable to stakeholders and can benefit populations.

4. Wildlife Can Be Killed Only for a Legitimate Purpose

Historical Development.— George Hallock, original owner and editor of *Forest and Stream*, wrote that those who killed merely for the fun of killing,

along with “pot hunters” (those who hunted solely for food), debased sport hunting (Reiger 1975). According to Grinnell, true sportsmen were those who hunted for pleasure (never for profit), who in the field allowed game a sporting chance, and who possessed an aesthetic appreciation of the whole context of sport that included a commitment to its perpetuation (Cutright 1985). Grinnell, in a series of powerful editorials, was to articulate what Reiger (1975) referred to as the code of the sportsman. The single most important element in the code was the requirement of non-commercial use, without waste, of all game killed. When this element was combined with dissatisfaction over dwindling game and habitat, an important catalyst in the conservation movement was born.

The concept of a sportsman can be summarized as one who, when hunting game:

- does so primarily for the pursuit or chase;
- affords game a “sporting” chance (fair chase);
- seeks knowledge of nature and the habits of animals;
- derives no financial profit from game killed;
- will inflict no unnecessary pain or suffering on game; and
- will not waste any game that is killed.

Current Status, Threats, and Challenges.— The current examples of broad-scale prairie dog (*Cynomys* spp.) shooting and crow hunting raise the question of legitimate purpose. Reconciling this practice within the principle of legitimate use does not seem possible, given that no food or protective benefits are derived. Pheasant stocking programs that, in effect, create artificial populations may qualify for evaluation in the context of the Model. The culling of overabundant species (e.g., deer and Canada geese [*Branta canadensis*] in urban settings) is an accepted management practice, but how does it

align with the Model? How do longstanding predator removal or control programs fit within this context? How precisely evaluated are the concerns over property protection, and how well justified should such interventions be? Are hunters who secure only the cape, antlers, or horns and discard the meat consistent with our understanding of the Model’s history and intent?

Further, do events such as turtle or frog races or rattlesnake roundups have an impact on populations? In some instances, animals are gathered from various parts of a given state, if not adjacent states, and brought to a race or roundup location where they are either translocated (by release, sometimes illegally) to an area nearby, or killed (either intentionally or accidentally) (Adams et al. 1994, Fitzgerald and Painter 2000, Speake and Mount 1973). Particularly in the case of snakes, directed persecution occurs along with many in the public sharing the perception that “the only good snake is a dead snake,” thus hampering conservation efforts. A lack of monitoring prevents our ability to determine definitive impact on populations.

5. Wildlife Is Considered an International Resource

One of the greatest milestones in the history of wildlife conservation was the signing of the Migratory Bird Treaty Convention in 1916. This was the first significant treaty that provided for international management of wildlife resources. The impetus was recognition that some wildlife migrate across borders, and one nation’s management, or lack thereof, has consequences to its neighbors. Subsequently, international commerce can have significant effects on the status of a species.

Historical Development.— The recognition that conserving waterfowl populations would require coordinated and centralized regulations dates back to the 19th century. Legislation giving the federal

government regulatory control over waterfowl hunting in the U.S. was introduced initially in 1904, but was not passed until 1914 (Presidential Proclamation: Regulations for the Protection of Migratory Birds). The constitutionality of this law was challenged and a district court ruling in Arkansas (U.S. v. Harvey C. Shauver) deemed the law unconstitutional. Supreme Court Justice Elihu Root suggested the constitutional issue could be addressed with a treaty between the U.S. and Great Britain on behalf of Canada. Such a treaty would invoke the Supremacy Clause of the Constitution, which gives federal treaties supremacy over any law of the land. A small group of U.S. and Canadian conservationists drafted the Migratory Bird Treaty and worked both sides of the border to get it ratified in 1916 (Hawkins et al. 1984).

Expansion of international wildlife conservation efforts beyond migratory birds occurred after WWII with passage of endangered species legislation in the 1960s and 1970s. Today, collaboration on a broad suite of wildlife conservation issues among the North American nations is common. For example, the Northeast Association of Fish and Wildlife Agencies is comprised of 13 northeastern states and 6 eastern Canadian provinces, and technical committees under its jurisdiction share management information and collaborate on policy development for most resident non-migratory species.

Current Status, Threats, and Challenges.— Several international treaties exist that prescribe cooperative relationships and management programs between the U.S. and other countries. However, other opportunities exist for international treaties to address species that cross borders into Canada or Mexico. Exporting components of the Model to other countries or continents, in particular to Africa, has been successful in some instances, yet very difficult and time-consuming to implement. Complex permitting processes, traditional economies and cultures, and travel and firearm restrictions stand as barriers to sharing the successful Model and American system of conservation funding with other nations.

Many collaborative actions are occurring for management and conservation of wildlife bilaterally or trilaterally in North America. The overall results are clearly positive, with plenty of examples with migratory birds, waterfowl, and more specific management efforts for the benefit of bighorn sheep (*Ovis canadensis*), pronghorn (*Antilocapra americana*), and more recently the translocation of bison into Coahuila from South Dakota. One important challenge is the construction of the wall between the U.S. and Mexico, which is likely to have severe negative implications for wildlife (Flesch et al. 2010, List 2007, López-Hoffman et al. 2009).

6. Science Is the Proper Tool to Discharge Wildlife Policy

In his classic work titled *Game Management*, Leopold (1933:17-18) stated the following:

“The Roosevelt Doctrine of conservation determined the subsequent history of American game management in 3 basic respects.

- 1. It recognized all these ‘outdoor’ resources as one integral whole.*
- 2. It recognized their ‘conservation through wise use’ as a public responsibility, and their private ownership as a public trust.*
- 3. It recognized science as a tool for discharging that responsibility.”*

Science as a base for informed decision making in wildlife management has become standard in Canada and the U.S. Nevertheless, funding has been largely inadequate to meet the research needs of management agencies, and a trend toward greater political influence in decision making threatens this principle (Wildlife Management Institute 1987, 1997). As Leopold wrote (Meine 1988:359-360):

“One of the anomalies of modern ecology is the creation of two groups, each of which seems barely aware of the existence of the other. The one studies the human community, almost as if it were a separate entity, and calls its findings sociology, economics and history. The other studies the plant and animal community and comfortably relegates the hodge-podge of politics to the liberal arts. The inevitable fusion of these two lines of thought will, perhaps, constitute the outstanding advance of this century.”

The development of human dimensions of wildlife as a discipline has moved us closer to realizing Leopold’s ideal. The integration of biological and social sciences is necessary to meet the conservation challenges of the 21st century.

Historical Development.— The history of scientific management of wildlife began when there was little concern for any form of wildlife conservation until fauna (especially large mammals) were on the brink of extinction. The story is known by most wildlife professionals but not as well by the layman. By the late 1800s, North Americans were seeing wildlife disappear before their eyes, much like we see wildlife habitat disappear today. Thus began the wildlife management experiment in North America. At this point in history, market hunting (i.e., unregulated hunting) was rampant and there was little incentive for management of what was perceived as an unlimited resource. Without a drastic change in attitudes and recognition that wildlife was not unlimited, the great American experiment likely would have been over before it began. Conservation grew from this point, and leaders – such as Theodore Roosevelt, Gifford Pinchot, and William T. Hornaday in the U.S. and Sir Wilfrid Laurier, Clifford Sifton, and C. Gordon Hewitt in Canada – worked together to ensure that their nations had similar policies to protect wildlife in those early days of conservation (Geist 1993).

Their efforts were instrumental in allowing others to begin to take a conservation approach where wildlife was concerned, and when Theodore Roosevelt was president he demanded that science be part of the conservation process (Lewis 1919).

Before 1900, wildlife interests centered on hunting, control of wildlife problems (e.g., predators), stocking, and some conservation of game with very little interest in science or research. Wildlife was considered a source of subsistence and profit only, so action was needed for the proper conservation and management of wildlife species and the habitats they depended on. In the 1930 American Game Policy, Leopold called for restoration of wildlife and a corps of trained wildlife biologists that made decisions based on facts, professional experience, and an underlying set of principles for the emerging profession. This was the true beginning of science being actively used in management of North America’s wildlife resources. Development of wildlife management and all related policies must be based on knowledge, and knowledge is advanced by experience and fact finding (i.e., research and science). Science based on research was required to convert the profession’s newly minted “principles” into policies. Today, limitations on use of wildlife are based on science including surveys, population dynamics, behavior and habitat studies, statistics, and contemporary adaptive management and structured decision making.

The scientific mandate has been followed since, reinforced by the writings of Aldo Leopold and embedded within The Wildlife Society’s code of ethics in that TWS members “recognize research and scientific management of wildlife and its environments as primary goals ...”

When Leopold emphasized the importance of maintaining habitat for wildlife, the idea was relatively new. In pursuing this notion, the new wildlife management discipline applied the scientific method that is the backbone of the acquisition of knowledge. However, it became evident that

simply using the scientific method was not going to be enough. Wildlife belonged to the public, and unless the public understood how wildlife was being managed they would be reluctant to support such management. Simply understanding life history characteristics of wildlife and wildlife habitat was inadequate; people influence the system, and human dimensions had to be an integral part of wildlife management within the profession. Brown and Decker (2001) summarized the evolution of human dimensions into the science of wildlife management through 12 steps:

1. State agencies have been collecting information on wildlife from hunters at check stations since the 1930s, a practice called “surrogate biology” as it used people to obtain information about harvests and traits of harvested animals.
2. Most of the earlier human-dimensions studies concentrated on conflicts between farmers and hunters.
3. In 1955, the U.S. Fish and Wildlife Service began the national survey of hunting and fishing, which is conducted every 5 years. The survey provides data on hunting and fishing trends and has been expanded to provide estimates on non-consumptive activities. Since 1980, the survey has provided state-level estimates and national estimates of wildlife recreation.
4. Although Leopold emphasized the importance of human dimensions in wildlife in the 1930s, it was not until 4 to 5 decades later that the social and economic aspects of wildlife were beginning to be seriously addressed.
5. This interest expanded into wildlife management agencies and university research programs. The Missouri Department of Conservation employed human-dimensions specialists, which stimulated other state agencies to follow.
6. The movement expanded, and the Human Dimensions in Wildlife Study Group was formed in

the 1980s. Additional activity continued to occur in agencies and universities.

7. In the 1990s, as public pressure increased for more public involvement in wildlife management decisions, agencies increased their incorporation of human dimensions into wildlife management, and universities included classes in the arena for wildlife students.
8. Communication related to human dimensions was greatly enhanced in the 1990s and the journal *Human Dimensions in Wildlife* was created.
9. Interest in this new field blossomed in the 1990s: state and federal agency and university partnerships for human-dimensions research were established and universities hired human-dimensions specialists.
10. Since the 1970s the field of human dimensions has increased the understanding of human perception of wildlife and human interactions with wildlife. Specialists in the field have developed conceptual approaches that assist managers in understanding attitudes and behavior of different stakeholders toward wildlife management issues.
11. The entire field of human dimensions continues to grow and gain involvement in restoration projects, human-wildlife interactions, communication between stakeholders and agencies, and in policy and decision making.
12. Wildlife management agencies rely heavily on human-dimensions experts, and the field plays an important role in success of agency policies and practices.

Human dimensions has truly taken its spot as the third leg of the wildlife management triad: wildlife, habitat, and people (Giles 1978). As society struggles with increasing human population and diminishing wildlife habitat, new and different challenges have arisen and will continue to arise, and science

(biological, ecological, and social) will continue to contribute to the basis of effective management so informed solutions can be obtained. Those decisions will be much easier when science and human dimensions are included in the mix.

Current Status, Threats, and Challenges.— Although the U.S. and Canada have led the way in advancing the wildlife profession, wildlife management itself appears to be increasingly politicized. A rapid turnover rate of state agency directors, the makeup of boards and commissions, the organizational structure of some agencies, and examples of politics meddling in science have challenged the science foundation. Examples of the lack of rigor in surveys and analyses, advocacy, and misuse of science have prompted The Wildlife Society to publish a position statement of the use of science in wildlife management (2010). The multitude of environmental and conservation organizations include some organizations that appear to be more focused on developing membership than on proper use of science to advance wildlife policy.

7. Democracy of Hunting Is Standard

Theodore Roosevelt believed that access for all to have the opportunity to hunt would result in many societal benefits (Roosevelt et al. 1902:18-20). Leopold termed this “democracy of sport” (Meine 1988:169), and it sets Canada and the U.S. apart from many other nations where the opportunity to hunt is restricted to those who have special status, such as land ownership, wealth, or other privileges. The greatest historical standing of the public trust is that certain interests are so intrinsically important to people that their free availability marks the society as one of citizens rather than serfs (Sax 1970). The opportunity for citizens in good standing to hunt in Canada and the U.S. is a hallmark of our democracy.

Current Status, Threats, and Challenges.— Roosevelt and Leopold envisioned a nation where all citizens

had an opportunity to engage in conservation and hunting (Roosevelt et al. 1902, Meine 1988). Animal-rights organizations work tirelessly to shift the political debate to exclude hunters and hunting at national, state, and local levels (Francione 1996). Without the political, social, and financial support of hunters and anglers, agencies will be severely challenged to be able to deliver effective conservation programs for all wildlife into the future. Ballot initiatives that often do not include adequate opportunities for public information and debate are offered each election cycle. Our profession has taken a dim view of this form of policy development (Williamson 1998). Are these ballot initiatives undemocratic (Sabato et al. 2001) or do they lack the deliberative process necessary for sound, long-term conservation policy?

Finally, access to firearms and gun control restrictions directly impact the public’s ability to hunt. This was recognized in the early 1900s, when new immigrants in eastern industrial states heavily hunted songbirds. Some states, including Massachusetts and Pennsylvania, passed laws forbidding immigrants from owning firearms or hunting (Trefethen 1975). If such laws were commonplace across the U.S., development of the Model and the funding mechanism for conservation itself might have been altered. These laws were later repealed, but their direct purpose was related to availability of firearms for inhabitants of a state. More recently, federal gun control regulations in Canada have posed challenges for hunters there and led to widely expressed concerns, coming at a time where other impediments to hunting are increasing in that country.

Clearly most North Americans do not hunt in the traditional sense of the word. We believe that our current pluralistic democracy is necessary for the Model’s survival. Without secure gun rights, the average person’s ability to hunt would likely be compromised, along with indispensable sources of funding for implementation of the Model.

Sustaining and Building upon the Model

Our profession embarked into the 21st century using a conservation model that matured during the 19th and 20th centuries. The Model faces challenges described above and perhaps many more. We believe that a robust discussion must take place among wildlife management policy makers and practitioners.

As these discussions continue, we offer a few recommendations. First, wildlife professionals must engage in a campaign to inform and educate leading academic and political entities in Canada, the U.S., and Mexico about a history that has enabled abundant and diverse wildlife on this continent. Aspiring wildlife professionals at universities across the continent must be made to understand and appreciate the ramifications associated with the Model's principles and how these principles currently drive the policy and practice of wildlife management. The Conservation Leaders for Tomorrow program (McCabe 2010) is one such mechanism for informing students and professionals alike about the Model's origins and applications. The public needs to be made aware that fish and wildlife conservation is not an accidental process, but the exercising of a method with established protocols and proven results.

Second, application of the Model must include all fish and wildlife species and their habitats. Conservation has been approached largely by separating wildlife into sport fish, wildlife that is hunted or trapped, and nongame species. The Model should be examined in a comprehensive context of all taxa being part of fish and wildlife management. Greater dialogue is needed among all stakeholders.

Third, as scientists, resource managers, and agents of the trustees of wildlife, wildlife professionals rarely engage in advocacy, and are not particularly adept when doing so. A few key issues warrant advocacy. Legislation should be developed, where necessary, to improve definitions of public trust responsibilities, authorities, and jurisdictions over free-ranging and captive wildlife and their habitats, clarifying any confusion, strategic or otherwise, between such animals and domestic livestock. Similar legislation should be developed to articulate state and provincial authority to set seasons, bag limits, and locales in coordination with local authorities. Firearms and ammunition should not be regulated in a manner that discourages individuals from hunting or diminishes the financial support that commerce in sporting firearms and ammunition provides to conservation programs. The financial support and use of science in policy decision making should be advocated. Insistence from wildlife professionals that policies emerge from scientific investigation and debate – not from a need or desire to enhance membership and dollars – is warranted.

Finally, a mechanism must be found to encourage the non-hunting public to contribute financially to conserve the fish and wildlife resources they enjoy and have an equal responsibility to protect. Adequate permanent funding to conserve all fish and wildlife species must be attained, recognizing the responsibility our profession has for biodiversity in the most inclusive sense. Because hunters and anglers remain the primary source of conservation funding at the state level, recruitment and retention programs have been implemented by many agencies and organizations. These efforts should have clearly

defined objectives and be monitored and evaluated to assess whether these objectives are being met and are contributing to broader conservation outcomes. Other types of wildlife uses and users should be engaged and cultivated.

Funding

Application of the Model to all wildlife for the benefit of all people will require broad-based, substantial funding. Primary funding from hunters, anglers, and trappers at the state level is inadequate to meet current and anticipated wildlife conservation challenges. Jacobson et al. (2010) outlined a vision for broad societal funding in the U.S. independent of special interests or user groups. User-based funding would still be applied to those programs generating the revenues, while broader-based funds would be used to ensure application of conservation equitably. Canada should consider dedicated user-based funding to enhance its conservation programs at the provincial level, while maintaining and increasing general revenue funding.

Wildlife Markets

Elimination of legal markets for game was unquestionably a turning point in North American conservation. Leopold (1919) and Geist (1988, 1993) made compelling arguments against opening markets for wildlife. Many exceptions do exist, and when a conservation purpose underlies the exception (e.g., harvest and marketing of furbearer pelts), it is consistent with the Model. Organ et al. (2010) raised the notion that under limited exceptional circumstances, a highly regulated market for meat and potentially other products from overabundant wildlife could yield conservation benefits. Conceptually, where overabundant game species such as white-tailed deer and Canada geese result in human-wildlife conflicts, and where the opportunities afforded sport hunters have proven inadequate to meet population goals, a cadre of specially certified licensed sport hunters would

be provided access as a means of implementing population control and mitigating conflicts. In return, they could take the meat to a regulated processing facility and get paid. The meat would enter the local market. Benefits of this approach beyond mitigation of conflicts could be a fostering of appreciation of the food value of a species or populations of wildlife perceived as liabilities. Risks in such an approach include the potential for illegally harvested game to enter legal markets. Vercauteren et al. (2011) have taken a different approach and proposed establishment of a commercial deer harvester's license to provide incentive to control overabundant deer.

Any consideration of establishing regulated markets for game must include the strengthening of legal institutions to ensure that the unlawful taking of wildlife is strongly enforced through law enforcement and judicial systems. For example, fines associated with the unlawful taking of wildlife should be commensurate with the seriousness of the offense. In many cases, fines are not adequate to deter violations of law.

The principle that markets for wildlife are eliminated should remain intact, but exceptions do and will occur. These should remain exceptions, and be warranted only where there is a conservation benefit that cannot otherwise be achieved.

Consideration also needs to be given to restricting or eliminating markets for certain taxa, such as reptiles. As unregulated markets for North American game species led to imperilment, other taxa face the same vulnerabilities.

Firearms Rights and Privileges

The ability of private citizens in the U.S. and Canada to own firearms has in no small way shaped the course of conservation and application of the Model. In the United States, the 2nd Amendment

of the U.S. Constitution clearly establishes the lawful basis for firearms ownership and use, including hunting. Suppression of firearms ownership would functionally eliminate hunting as a management concern and as a management tool, and hunters as the primary advocates and funding source for conservation. Reiger (1975) outlined the preeminent role hunters had in shaping the conservation movement. Restrictive firearms laws at the federal level in Canada and in some states (e.g., Massachusetts) may inhibit recruitment and retention of hunters. Legal access to sporting firearms for all citizens in good standing is essential to maintaining a core base of wildlife conservation advocates and a critical funding source.

Habitat Considerations

The U.S. and Canada have an impressive network of public lands, including a significant component managed primarily for wildlife (e.g., national wildlife refuges, state wildlife management areas). Private lands with permanent protection from development also contribute significantly to supporting wildlife populations. The American Game Policy of 1930 (Leopold 1930) and the Pittman-Robertson Wildlife Restoration Act of 1937 both emphasized the need for habitat restoration. This network of protected habitats was critical to restoration of game and conservation of other species.

In articulating the 7 principles of the Model, Geist et al. (2001) did not provide explicit treatment of the importance of habitat conservation to wildlife management in North America nor its foundational influence in conservation history. Organ and Mahoney (2007) reflected on the legal standing of habitat values in terms of the Public Trust Doctrine, and Regan and Prukop (2008) offered examples of the stateside application of the Public Trust Doctrine to contemporary habitat conservation issues. Habitat conservation (i.e., protection, restoration, and management) is a necessary pillar of any successful management paradigm and merits consideration as a precept in future treatments of the Model.

Consensus is lacking within the wildlife conservation and management profession as to whether the concept of habitat conservation and the role of the private landowner rise to the level of a principle, or are considered purely means to achieve the Model's principles. Indeed, consensus is lacking on how to define habitat in other than the most general of terms. Habitat is a relative concept and varies among species. Most programs of habitat conservation are in fact land protection efforts that provide habitat by default. Simple land protection does not equal habitat conservation in a strict sense, but that recognition in no way devalues or demeans those programs and the lands they protect.

Historical Development.— It is self-evident that, for sustainability, wildlife populations require adequate habitat (i.e., food, water, shelter, and security). In *Man and Nature*, Marsh (1864) recounted the impacts to natural landscapes and waterways from the advance of civilization. Subsequently, 19th-century conservationists were eager to reserve large landscapes for wildlife (e.g., Adirondack Park, Yellowstone National Park). President Theodore Roosevelt, with the support of Grinnell, Pinchot, and others, made bison, migratory bird, and big game habitat protection hallmarks of his conservation advocacy (Brinkley 2009). The Boone and Crockett Club (Roosevelt and Grinnell 1893) advocated for a network of public protected game reserves. In other words, habitat protection became synonymous with wildlife stewardship for future generations.

Aldo Leopold (1933) squarely placed the conservation of habitat into an applied management framework – similar to that used for forestry and agriculture. He offered prescriptions or guidance for making parcels of land more productive for wildlife through active manipulation of vegetation structure. The Dust Bowl, extensive loss of prairies and wetlands, and overharvest of northeastern and Great Lakes forests would validate the need for active management of habitat. The American Game Policy (Leopold 1930) advocated for subsidizing private landowners for conservation initiated on their lands for the benefit

of wildlife and hunters. Habitat conservation became a mainstream concept in America, following on the heels of Leopold, when, in 1933, President Franklin Roosevelt initiated the Civilian Conservation Corps, whose outputs all supported improvement and perpetuation of our land and water resources.

With advent of science-based habitat metrics and funding from excise taxes and license fees, government agencies were poised to explore wildlife-habitat relationships, to develop population-habitat models, to pioneer best habitat management practices, and to transfer such information to landowners and land managers. Over time, more attention would focus on human disturbance, fragmentation, development, and other influences on habitat quality and use.

Although the initial focus may have been on independent-parcel management planning, wildlife science embraced emerging ecological principles concerning habitat connectivity, gene flow, and regional or ecoregional planning constructs to meet wildlife needs. The North American Waterfowl Management Plan, signed by the U.S. and Canada in 1986 and by Mexico in 1994, provided a continental-scale approach to habitat conservation and regional delivery of conservation projects via joint ventures. Fisheries managers have embraced a similar approach for aquatic systems.

Current Status, Trends and Challenges.—Habitat is key to wildlife population viability, genetic integrity of species, and a sustainable abundance of animals for hunting, trapping, and wildlife-dependent recreation. The future holds manifold challenges on the habitat front, including fragmentation, suburban sprawl, energy development, transportation infrastructure, and climate change. State Wildlife Action Plans are replete with strategies to address habitat threats, and the Northeast Association of Fish and Wildlife Agencies has pooled resources to examine habitat conditions on a regional scale based on State Wildlife Action Plan information.

Ownership of the landscape (forests in particular) and, by extension, ownership of wildlife habitat, varies across the continent. In the U.S., fully two-thirds of westernmost forests and three-quarters of those in the Rocky Mountain states are owned publicly, primarily by the U.S. Forest Service and the Bureau of Land Management (Law 2007). Both agencies have conservation and perpetuation of lands for wildlife habitat as central tenets in their enabling legislation (USFS; P.L. 86-517, BLM; P.L. 94-579 ss103(c)). Private forest lands, however, have no such direction or guarantee. It is of little surprise then that landscape-level planning to protect renewable resources and wildlife habitat, particularly throughout the western U.S., are underway by both the U.S. Fish and Wildlife Service (through its Landscape Conservation Cooperatives) and the Bureau of Land Management (via Rapid Ecosystem Assessments). Thus the primary governmental land management agencies in the U.S. have recognized and acted upon the value of habitat conservation as a primary function of their public trust responsibilities.

Approximately 60 percent of U.S. land area is privately owned, compared to 11 percent of Canada's land area. Successful stewardship of public wildlife resources is fostered via private and public partnerships. State fish and wildlife agencies often provide management assistance to forest and farm landowners, especially for critical habitat designations. Conservation titles of the Farm Bill (P.L. 110-246, Food, Conservation, and Energy Act of 2008) provide due financial and technical assistance to both landowner communities. Non-governmental organizations, governmental and private landowner partnerships have successfully conserved habitats and provided public access through easements.

As noted above, Organ and Mahoney (2007) have raised concerns about the ability of habitat features to withstand legal challenges to the Public Trust Doctrine, suggesting that government agencies need to advance protection through case law, legislation, and practice.



Instructor Bob Byrne, left, gives an enthusiastic thumbs up for two CLFT participants who each bagged a pheasant during a mentored hunt at the Max McGraw Wildlife Foundation in Illinois. Held in January 2010, this was the first CLFT workshop offered exclusively to non-hunters from state and federal natural resource management agencies. Courtesy of CLFT.

Taxa Inclusivity

The Model is intended to apply to all wildlife taxa, except for those principles specific to game species. Yet application of the Model historically has been much narrower due primarily to restricted funding sources and the primary stakeholder and advocacy base.

Application of the Model in recent decades has broadened as management agencies have expanded programs and new funding sources have emerged. Broader-based funding will ensure greater and more equitable application of the Model to all taxa.

Governance

The Model is implemented continentally by a multitude of federal, state, and provincial agencies that have some common governance attributes, but also vary considerably. Jacobson and Decker (2008) articulated how many current governance models do

not reflect contemporary societal needs. Jacobson et al. (2010) offered a vision for a unifying theme of governance, whereby trustees representing broad societal interests would comprise the decision-making body. Agencies at the federal, state, and provincial level function as agents of the trustees providing the best available biological and social science to the decision makers. Broad, stable, and equitable funding would enable greater focus on biodiversity conservation and landscape approaches. Traditional uses and users would remain an important funding source.

Governance models that are not in concert with contemporary societal needs or address only limited special interests risk having the wildlife management enterprise lose relevance to society. Too much is at stake in terms of biodiversity and human health to warrant this risk. The institution of wildlife management needs to take bold steps to ensure that governance fosters relevance.

The Future of the Model



Application of the Model's principles to landscape conservation will enhance its future relevance. Credit: John F. Organ.

The Model's future rests to a high degree on the adaptability and application of its principles to contemporary wildlife conservation needs. To remain viable in the future, it must remain relevant. To that extent, the Model must be viewed as a dynamic set of principles that can grow and evolve. The underlying principles – established to address particular concerns, some no longer an issue – can serve as bedrock and be applied more broadly, or modified to facilitate expansion to emerging societal needs. Dialogue and collaboration among administrators and key stakeholders within the North American wildlife management institution should be encouraged and be constructive. In particular, the Association of Fish and Wildlife Agencies, The Wildlife Society, and the Wildlife Management Institute, among others, should collectively foster discussions about contemporary issues potentially affecting interpretation or application of the Model.

Key to ensuring relevancy of the Model will be its application to conservation of landscapes. The Model's principles were developed in large part

during an era when the direct taking of wildlife was the preeminent concern in conservation. Increasingly, the maintenance and fostering of landscapes that can sustain viable populations of all wildlife to ensure conservation of biodiversity and human use and enjoyment are of paramount concern. The Model's context must be viewed in the broad sense of its application to this and other emerging needs, rather than in a historic context. This may require evolution and expansion of principles while ensuring that the original principles are not abandoned.

Additionally, the wildlife management institution must not rest purely on successes of the past. DeStefano et al. (2005) discussed demographic shifts in U.S. society, where increasing proportions of the public live in urban vs. rural areas. This shift towards urban demography can have significant wildlife policy implications, as can shifts from traditional based values towards wildlife to broader multi-cultural ones. Ballot initiatives within the last 30 years that have successfully restricted or eliminated traditional wildlife uses have been in states where greater than 70 percent of the public live in urban areas (S. DeStefano and J. Organ, unpublished data, presented at the 2010 Annual Conference of The Wildlife Society). Decker et al. (1996, 2000) outlined the implications of shifts in human dimensions to the wildlife management enterprise and offered approaches for governing effectively in a changing social dynamic. This was addressed further by Jacobson et al. (2010). In short, the Model was formed during a time when wildlife management was implemented under an expert authority approach (Gill 1996). The Model's future will rest on its effectiveness within an institution fostering greater participatory decision making. Riley et al. (2002) offered a vision for how this may be facilitated.

Summary and Recommendations

1. Manage all wildlife under the principles of the Model. The Model is not exclusive to game species. Game species have received greater management attention because of public interest and desires, funding mechanisms, and the management intensity necessary for species that are harvested. Status of game species in North America is generally quite robust. Biodiversity conservation in North America will be enhanced if the Model's principles are applied to all wildlife. Transformative processes will be necessary to enable the wildlife management institution to implement application of the Model to all species as needed (Jacobson et al. 2010).

2. Initiate and expand efforts to inform North Americans about the Model and the importance of citizen engagement in sustaining the future of biodiversity. Current efforts, such as those initiated by Arizona Game and Fish Department (www.azgfd.gov/h_f/documents/NAM%20Brochure.pdf, accessed on 4 May 2011), need to be broadened and expanded continentally. Significant misconceptions exist regarding the Model. It is often considered synonymous with the user-pay, user-benefit funding model, which is purely a mechanism for funding the implementation of the Model's principles. Such misconceptions lead to the notion that the Model is narrow in scope and exclusive of all but game species.

3. Convene key administrators and stakeholders in wildlife conservation and management in the U.S., Canada, and Mexico every 10 years to revisit the key challenges facing wildlife conservation in North America, assess the Model's principles and their application and adequacy, and develop joint

strategies for consistent continental conservation delivery. As part of this process, discussion should address the following:

a. Should limited markets for meat harvested by licensed sport hunters be established to address management of overabundant wildlife? Would this increase public appreciation for wildlife values and foster the image of hunting as a management tool with a civic purpose?

b. Will our programs of private and public habitat conservation meet the needs of the future and lead to conservation outcomes consistent with those achieved historically through application of the Model? With expanding human populations and increased demand for resources, habitat protection and landscape-level conservation will increase as factors limiting biodiversity conservation.

4. Governance models that are not in concert with contemporary societal needs or address only limited special interests risk having the wildlife management lose relevance to society. The Model's future will rest on its effectiveness within an institutional framework fostering greater participatory decision making. The wildlife management institution needs to take bold steps to ensure that governance fosters relevance.

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Appendix: Status of Wildlife Management in Mexico

Mexico contains approximately 10 percent of the world's plant and animal species, making it the third most important country in relation to biodiversity (Toledo and Ordonez 1993). Wildlife management and conservation practices in Mexico are currently dynamic and evolving; managers are engaged in maintaining viable populations and habitat for an array of wildlife. These actions are critical for management of megadiversity and the important habitats that Mexico has for migrating North American wildlife. In addition, the number of wildlife professionals, professors of wildlife, university programs in wildlife, and graduate students studying wildlife are increasing in Mexico. Just as valuable, other professionals are recognizing the importance of these additions to the academic and practical scene. These advances are relatively recent and are found primarily in northern Mexico. Wildlife has been largely ignored in southern Mexico and only recently is wildlife management being incorporated into agriculture, rangeland, and forestry programs throughout Mexico (Valdez and Ortega-S *in press*). Why has there been such a lag in active management between Mexico and the rest of North America? It is important to understand these differences so wildlife conservation in Mexico can be placed in proper context relative to the U.S. and Canada.

There are numerous differences between Mexico and the rest of North America that influence management and conservation of wildlife and began centuries prior to any active forms of management. Even before the Spanish conquest in 1521, Mexico's wildlife had been influenced by land use, socio-economic factors, and politics (Valdez et al. 2006). Europeans arrived in the U.S. and Canada

to escape suppression in their homelands, but they arrived in Mexico much earlier as the suppressors. Land ownership in Mexico (e.g., federal, private, Indian communal landholdings, and ejidos [land distributed to peasants but ownership resides with the community and not the individual]) is dominated by communal land holdings. Because of minimal ownership and a lack of incentives for conservation practices, wildlife was not considered an economically viable resource. Thus, no efforts were made toward management (Guzman-Aranda 1995).

Subsequently, wildlife in Mexico was of little interest. The first comprehensive book on wildlife in Mexico was published in 1959 (Leopold 1959), whereas numerous texts had been written about wildlife in the rest of North America years before that time. In addition, while there were many reports in the popular press about declining wildlife populations in the U.S. and Canada, authors were silent about a similar plight in Mexico. Although the scientific backbone of wildlife management was developing in the U.S. and Canada with universities, societies, state agencies, and non-governmental organizations, the social, economic, and political support necessary for a robust wildlife program in Mexico did not develop because of socio-economic factors and governmental natural resource policies (Valdez and Ortega-S *in press*). Natural history was not incorporated into the educational system, and the government did not recognize the value of wildlife in its policies or planning. In addition, there were restrictions on gun ownership, no public hunting areas, and no wildlife law enforcement to address the unmanaged and depleted wildlife populations, all

resulting in a middle class that was not involved in sport hunting. This hindered development of pro-hunting advocacy groups in Mexico, and the political support for widespread conservation programs lagged behind efforts in the U.S. and Canada (Valdez and Ortega-S *in press*). Without widespread citizen appeal, government support, and recognition of the economic importance of wildlife, large-scale conservation programs in Mexico did not emerge until recently.

Although management of wildlife in Mexico is still in a pioneering stage, the profession is rapidly advancing on all fronts. The number of Mexican wildlife ecologists and managers dedicated to enhancing natural resource conservation is growing, as is the job market in all segments of society. In addition, Mexican universities are teaching wildlife classes to prepare biologists for the job market (Valdez and Ortega-S *in press*). Mexico has now passed through the crossroad and is actively involved in the conservation of North American wildlife. It is meeting the challenge of developing sustainable and economically viable wildlife enterprises in the rural sector to alleviate poverty and curtail the further degradation and loss of habitats in Mexico (Valdez and Ortega-S. *in press*).

The initial steps towards wildlife conservation were not taken until the first quarter of the 20th century. Miguel Angel de Quevedo, a forestry engineer widely credited with establishing many protected areas, the Mexican forest service, and other conservation initiatives, promoted creation of the Bureau of Forestry, Game and Fisheries. The 1917 Mexican constitution already contained elements to protect wildlife and secure its benefits to the nation. But implementation of this law was imperfect and enforcement rare. In the process, species such as pronghorn, jaguar (*Panthera onca*), and bighorn sheep were declining. At the same time the federal government established the Program for Predator Control, which led to the extirpation of Mexican wolf (*Canis lupus baileyi*) and the grizzly bear (*Ursus arctos horribilis*) later in the century.

The first hunting law was not created until 1940, and a modified, improved version was promulgated in 1952. This law remained in effect for nearly half a century. Those 50 years were the most crucial for Mexico's wildlife, because much deforestation and population extirpation occurred in the second half of the 20th century. It was not until 2000 that the Zedillo administration came up with a replacement law, updating and integrating 50 years of improvements into the General Law of Wildlife. This new law is a significant improvement, but it still requires modifications and, importantly, improvement in its application across the country. The document in itself is inclusive and combines many types of wildlife harvesting, from orchid (Orchidaceae) collecting and parrot (Psittacinae) nestling extraction (banned in 2008) to hunting bighorn sheep. But its implementation is still far from adequate.

In 1996, a new program based on the landowners' commitment to conservation through habitat and wildlife management on their lands went into effect under auspices of Units for Conservation, Management, and Sustainable Harvest of Wildlife (UMAs). The UMA program opened innovative alternatives for wildlife conservation and promoted productive diversification and poverty alleviation. The UMA is still in effect and covers more than 15 percent of Mexico's territory, although it does continue to require important improvements to ensure its proper application.

The modern age of wildlife management in Mexico can be considered to have started in 1995 with the creation of the Ministry of the Environment and 1996 with the creation of the Dirección General de Vida Silvestre, which increased its stature to an executive level in the Mexican federal government. A new wildlife program was created to promote landowner interest and direct participation through benefit sharing. This meant that a greater budget and a larger number of human resources were allocated. The obsolete 1952 federal law on hunting was superseded by the General Law of Wildlife in 2000. This new law makes significant improvements

and enhances conservation through sustainable use. But the old problems remain: the budget increase is not enough; the level of training of wildlife managers, biologists, government officials is still not sufficient; and the old, ubiquitous debate between preservation and sustainable use is strongly polarized and radicalized in Mexico to such an extent that it is paralyzing many conservation efforts. For example, the UMA system, conceived to benefit local landowners through sustainable use of their wildlife (SEMARNAP 1997), had enticed the interest of landowners to conserve parrots and their nesting and feeding areas. The landowners had prepared management plans with the aid of scientists and non-governmental organizations, and were ready to begin a legal, sustainable extraction of parrot chicks, when a sudden movement in 2005 froze all efforts by pressing the Senate to change the General Law of Wildlife and ban all parrot harvest and trade soon thereafter. Today many of those former parrot conservation areas have been deforested and are now producing meager corn crops or sustaining low-productivity, erosion-prone cattle ranches.

An important threat that is affecting the future of all wildlife management and conservation efforts in Mexico is that, although in principle the UMA system is clearly opening new hope for this task, it is not yet properly applied, administered, supervised, evaluated, or improved. Additional registration of UMAs should probably cease and a careful program of UMA evaluation, management plan verification, and certification should be initiated to ensure appropriate practices and guarantee benefits to wildlife and landowners. In Mexico – which has the 13th largest economy in the world – making biological diversity a source of sustainable development should be paramount. However, over 47 percent of the population is below poverty line. So people will only see the benefits of wildlife conservation if it has a positive impact on the economy of the nation.

Governance

The structure of the Wildlife Department in Mexico, under the current name of Dirección General de Vida Silvestre (DGVS, or the Federal Wildlife Bureau), has changed continuously since the middle of the last century. It has been variously part of the ministries of Urban Development, Agriculture, and more recently, Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales, or SEMARNAT). In the Mexican federal government, the lowest executive decision-making position is that of a director general, usually 2 levels below the minister or secretario. Historically, the Wildlife Department never had been at an executive decision level until 1995 when the DGVS was created. Previously, it had been named Dirección de Fauna Silvestre, Dirección de Aprovechamiento de los Recursos Naturales, and Dirección de Caza. The current structure is as follows:

- Secretaría de Medio Ambiente y Recursos Naturales (Ministry of Environment and Natural Resources)
- Subsecretaría de Gestión para la Protección Ambiental (Management Undersecretary for Environmental Protection)
- Dirección General de Vida Silvestre (General Manager of Wildlife)

The DGVS has 3 main direcciones or bureaus under it. Dirección de Conservación de la Vida Silvestre (Bureau of Wildlife Conservation), Dirección de Aprovechamiento de la Vida Silvestre (Bureau of Wildlife Harvesting), and Dirección de Manejo Integral de la Vida Silvestre (Bureau of Integrated Wildlife Management). Although responsibility for wildlife rests with the federal government, some authority has been decentralized to specific states. The first steps for decentralization were taken in 2006 to the states of Baja California, Sonora, Chihuahua, Coahuila, Nuevo León, and Tamaulipas, representing the northern states bordering the

U.S. The main responsibility of DGVS is to allocate, assign, organize, and systematize information and wildlife management practices across the country.

Since 1995, any wildlife harvest in Mexico – from pet birds, reptiles, or invertebrates to ornamental plants, deer, or any other hunting or taking – can be conducted only under the auspices of a UMA. A few similar concepts exist in other countries, such as the CAMPFIRE program in Zimbabwe implemented in the 1990s (Kock 1996). Compared with the protected-areas system, which today encompasses about 11 percent of Mexico after 33 years of history, the UMA system is a significant addition to biodiversity conservation through wildlife management. Unfortunately, its implementation has severe limitations, such as the scarcity of properly trained wildlife managers who could prepare management plans for the UMAs. The harvest rate protocols determined by DGVS are still in need of improvement, verification, evaluation, and follow-up. Also, certification of how these management plans are being implemented is deficient primarily because of a lack of inspection personnel. As a result, some wildlife populations continue to decline in several regions, notably in the south (Weber et al. 2006), although the program clearly is providing important incentives for conservation, and habitat is improving in many areas. In addition, many UMAs are now subjected to additional incentives, such as payments for ecosystem services by the National Forestry Commission (CONAFOR). Overall, the program has had positive impacts for conservation and also for poverty alleviation in certain areas. It is one of many areas where a well-designed, conceived, and implemented collaborative international program would make a major difference.

The DGVS has regulatory responsibilities but not law-enforcement attributes. The latter fall under the sphere of Procuraduría Federal de Protección al Ambiente, or PROFEPA for its Spanish acronym (Federal Attorney General for the Protection of the Environment, similar to the U.S. Environmental Protection Agency). Currently, its responsibilities include determining harvest rates for species

subjected to management of any kind – from cacti to orchids to pet birds and reptiles to hunted species – and granting research permits and, more recently, determining critical habitat for endangered species. It also has responsibility to compile the list of species threatened and endangered in Mexico (NOM-059).

Funding

The DGVS is part of SEMARNAT. This Ministry is weak within the Mexican federal government, and DGVS itself has suffered downsizing in recent years. Most funds are federal and allocated by Congress through each year's budgetary exercise. However, additional resources can be brought in through agreements with the Mexican Commission on Biodiversity (CONABIO), CONAFOR, or other sections of the federal government. Clearly, funding is one of the most severe limitations that prevent full and adequate implementation of a policy that seems promising for the future of Mexican wildlife.

Recognition of wildlife as a source of wealth and an instrument for poverty mitigation is a concept still extraneous in Mexico. The notion has been permeating steadily but slowly, and the Ministry of the Environment is still not robust enough to advocate for it. Funding is growing, but insufficient. More institutions, notably CONACYT (the Mexican equivalent of the National Science Foundation) CONABIO (the National Commission for the Knowledge and Use of Biodiversity), the Forestry Department, and others are investing more and more in the UMA system to promote conservation on private lands. However, funding for related matters such as law enforcement and technical development and training is even more meager and inadequate.

Scope

Wildlife management in Mexico is focused on the UMA system, regardless of whether it is for pet animals (e.g., amphibians, reptiles, birds,

mammals, and even butterflies), ornamental plants, hunting, bird watching, or ecotourism. Most management is for sustainable use, such as hunting or pet markets, but some is also for ecotourism. Management is conducted through UMA management plans prepared by wildlife technicians for the specific purpose established in the UMA registration document. Because of this UMA focus, the management focus is not on the population, but on the individuals living in a particular UMA, most often a subsection of a population. Efforts have been initiated to promote population-focused management by working in cooperation with neighboring UMAs (a few UMAs harbor strong viable populations, but this is far from the norm). In all instances, wildlife management for purposes of issues related to terrestrial wildlife and those species protected under Mexico's Federal List of Endangered Species or NOM-059-2001 (a new list is forthcoming) are handled by DGVS. It is the agency responsible for granting hunting and scientific collecting permits, determining harvest quotas, and organizing and administering the UMA system entirely. Exceptions to these responsibilities are those under the decentralization program to the northern border states. The protocols to determine take quotas are revised every few years, but the UMA unit assigned by landowners rarely incorporates a regional scope or wildlife populations, but rather population sections contained in the individual UMA to be assigned a quota. Fishing permits and other biological diversity-related responsibilities are managed by other agencies. The Program of Priority Species was removed from DGVS and transferred to the National Commission of Protected Areas (CONANP) in 2005. The Priority Species program includes 25 species and is in the process of revision, but some representative species include sea turtle (*Chelonioides*), black bear (*Ursus americanus*), jaguar, Mexican wolf, pronghorn, red macaw (*Ara macao*), tapir (*Tapirus bairdii*), blue whale (*Balaenoptera musculus*), and golden eagle (*Aquila chrysaetos*). Other endangered or threatened species included in the federal list NOM-059 are also the responsibility of DGVS, although no specific actions

are conducted on particular species unless they are initiated by an academic institution, non-governmental organization, or individuals. The General Law of Wildlife simply defines what an endangered species is as part of the species and populations at risk of extinction ("Those defined by the Secretary as probably extinct in the wild, endangered, threatened, or subject to special protection;" General Law of Wildlife, Article 3, Section XIX). Thereafter, the only reference to endangered species is the indication of whether harvesting, collecting, damaging, or otherwise affecting an endangered species without a permit is a felony.

Wildlife as Public Trust Resources in Mexico

The concern for wildlife and other natural resources in Mexico can be traced back to 2 origins. Native Mexican cultures had a concern for biological diversity, although primarily from a feudal point of view, where protection of biodiversity was justified simply to ensure Emperor Montezuma's enjoyment, and not as a public resource. Many pre-Hispanic Mexican peoples used to benefit from wildlife as a source of food, ornaments, and dress, or for the pleasure of listening to songbirds or simple contemplation, and were quite enthralled with wildlife that surrounded them (Hernandez 1959). One of the strongest hypotheses to explain the collapse of the great Maya empire in the 10th century is the depletion of their natural resources, including forests and wildlife (Deevey et al. 1979), in combination with other factors such as drought (Hodell et al. 1995).

Wildlife remains a public resource in Mexico, but public trust status is complicated by lack of clear designation of user rights and a land-tenure system affording particular rights to landowners (Valdez et al. 2006).

In Mexico (and much of the U.S. that once was Spanish territory), lands were ceded through Spanish and Mexican land grants. There were various types of Spanish and Mexican land grants; 3 of these types are particularly relevant herein (Torrez 1997, Ebright 1997).

1. Community Grants. These were grants of large tracts of land to a substantial number of people. Each individual in the group was given a parcel of land on which to build a home. The remainder of the grant was not allocated to individuals, but reserved for the common use and benefit of all settlers. Each person in the grant had access to lands; hunting was specifically provided for.

2. Private Grants. Private grants were made to individuals for their personal use. The lands became private property. Apparently wildlife was not considered part of the property, although access to wildlife was controlled by the landowner.

3. Quasi-Community Grants. These were large tracts of land granted to one or a few individuals with the requirement that the land be settled. After settlement, the land would be operated like a community grant.

The fundamental principles that date back to Roman law regarding things that could be owned by no one appear to have applied to wildlife under Spanish land grants. Further research is warranted to confirm this. Whereas the English explicitly gave the king trustee status, and the Romans were mute on this issue, in the Spanish territories the Governor appears to have been the trustee.

Markets for Wildlife

The markets of ancient Mexico were abundantly stocked with fresh meat from a variety of animals, from axolotl (*Ambystoma mexicanum*) and iguanas (Iguanidae) to curassows (Cracidae), turkey (*Meleagris gallopavo*), deer, and collared peccary (*Tayassu tajacu*), and many edible invertebrates

from snails (Gastropoda) and spiders (Arachnida) to grubs (Scarabaeidae, grasshoppers (Caelifera), and ants (Formicidae). These prodigious markets also offered hides and feathers of valued animals such as jaguars, ocelots (*Leopardus pardalis*), otters (*Lontra* spp.), quetzals (*Pharomachrus* spp.), macaws (*Ara* spp.), and more (Díaz del Castillo 1943). Obviously, with no cattle previous to the Spanish conquest, native Mexicans would have to use local animal species for protein ingestion, so hunting vertebrates and gathering invertebrates was an important economic activity (Díaz del Castillo 1943). Currently, native cultures in Mexico use wildlife extensively (Valdez et al. 2006), and markets for some products exist.

The Spanish conquistadors, by contrast, had witnessed mass destruction of natural resources in their homeland, where forests were subjected to a very heavy exploitation for 3 main reasons: to continue building numerous huge ships as part of the Spanish empire expansion policy under Fernando and Isabella, to expand the agricultural and cattle frontier, and to drive the Moors out of the Iberian peninsula. Huge tracts of forest were burned and cleared then and in subsequent centuries, many of which remain deforested today (Fernandez 1990).

Allocation of Wildlife by Law

During the colonial period, wildlife was used by many under no specific organizational plan, but often the government placed restrictions for the wildlife to be used only by rulers. In 1540, a great hunt was organized to honor the first viceroy of the New Spain, Antonio de Mendoza (Leopold 1959). The hunt for pronghorn and deer was organized just northeast of Mexico City. To find the pronghorn nearest to this area now, one would have to travel north about 1,000 km. Hunting remained an activity exclusive to the upper classes in Mexico for centuries. The first law protecting Mexican wildlife and establishing the first attempts to regulate hunting was promulgated in 1894, although little was done to enforce and apply this law (Leopold 1959).

Not until the early 20th century did a major legal instrument contemplate conservation of natural resources in Mexico. Article 17 of the Mexican Constitution (promulgated in 1917) defines wildlife as “all natural elements,” including water, land, forest, and other natural resources, and determines that these natural resources are owned by the nation for the benefit of all Mexican citizens. By 1922, the decline of several species was so severe and evident that President Alvaro Obregon decreed a total ban on hunting bighorn sheep for 10 years and a permanent ban on pronghorn hunts. In 1933, President Emilio Portes Gil extended the bighorn ban for 10 more years, and in 1944 President Manuel Avila Camacho made it permanent, given that the species continued to decline. Unfortunately, virtually the only effort to protect the species was the ban itself; no enforcement of any kind, nor any increase in budget or enforcement personnel was granted. Bighorn sheep continued to decline, together with other species, including pronghorn.

Some progress was made, however, in the Mexican conservation movement in the first half of the 20th century. One individual, Miguel Angel de Quevedo, nicknamed “the tree apostle,” carried out extraordinary efforts to promote conservation and environmental sustainability. He created the first forestry schools in Mexico and the Mexican Forestry Society, increased the green surface in many Mexican cities, and directed the Mexican Committee for the Protection of Wild Birds. Under the auspices of President Lázaro Cárdenas (1934-1940; recognized for the nationalization of oil), de Quevedo also created the Mexican National Park System, having declared “green belt” parks surrounding every major city reaching up to more than 20 percent of the Mexican territory as protected areas, compared to about 11 percent today. Unfortunately, many of his parks were not protected after Cardenas left office and were later urbanized (Simonian 1995).

Hunting of big game and birds is allocated through a licensing and permit system. Protective laws for vulnerable species exist, but resources for

enforcement are greatly lacking, and illicit trade is problematic (Valdez et al. 2006).

The Mexican agency for environmental law enforcement, PROFEPA, is grossly surpassed by the needs of the country, not only in the context of wildlife issues such as poaching, management plan implementation, and protected area invasions, but also in environmental impact assessment violations, implementation of mitigation measures, and many more. A crucial step to secure the future of wildlife in Mexico would be to substantially strengthen PROFEPA in all lines within its responsibilities.

Wildlife Can be Killed Only for a Legitimate Purpose

At the beginning of the 20th century, predator control in Mexico became an important activity within the wildlife sector of the government as a result of the concern of cattle ranchers primarily in the north and likely as a reaction to the U.S.’s predator control program itself. At that time many wolves, mountain lions (*Puma concolor*), and grizzlies were killed in the context of the predator control program. Not until the 1960s, after the grizzly had become extirpated and the Mexican wolf virtually so, did the government ban predator control and consider these species at risk of extinction.

Other wildlife, particularly game species such as deer, pronghorn, bighorn sheep, waterfowl, and doves, had been taken for many centuries by the common Mexican (back to the pre-conquest times) primarily for food but also for other purposes. Some organization was necessary, and that led to the creation of 3 versions of wildlife laws. The legitimate purpose for killing wildlife then became the benefit of the nation. Article 5 of the General Law of Wildlife states: “The objective of the national policy in matters related to wildlife and its habitat is its conservation through the protection and the optimal sustainable harvest so that its diversity and integrity are maintained and promoted, simultaneously with

promoting the well-being of all Mexican citizens.” There are still, of course, conflicts with this statement. For example, recently, scientists and non-governmental organizations have been pointing at the unsustainable, illegal killing of jaguars across Latin America as the single most important factor in continued declines and extirpation of this species (Manzanos 2009, Alatorre 2009). The reasons to kill jaguars are diverse – from revenge of the cattle rancher who has had losses, to simply a desire for a jaguar pelt or its canines, or to kill the largest cat of the Americas – despite the fact that killing a jaguar, at least in Mexico, is a federal offense punishable with jail time (Manzanos 2009, Cárdenas 2009).

Wildlife Is Considered an International Resource

Mexico’s international wildlife policy dates back to about the middle of the 20th century, although some specific agreements had occurred before. The oldest international agreement for wildlife between Mexico and the U.S. was signed in 1936. The Convention for the Protection of Migratory Birds and Game Mammals was a first attempt to join forces on behalf of wildlife conservation. In 1971, another international treaty was signed between Mexico and the U.S., related to protecting wetlands as habitat of migratory waterfowl. Several other treaties came into effect in the second half of the 20th century. The primary objective of these treaties was to cooperate for the conservation of shared and migratory populations of wildlife moving between Mexico and the U.S. Besides bilateral or trilateral agreements in North America, probably the most relevant international treaty was CITES. Mexico did not become a signatory of this treaty until 1991. It restricts international trade of species considered threatened by trade itself (Appendix I) or those species that, although not threatened, may become threatened if the trade is not controlled. Clearly, populations shared between any 2 countries should be managed jointly between both countries for the benefit of both.

Science Is the Proper Tool to Discharge Wildlife Policy

Wildlife science as a discipline has a very short history in Mexico. Forestry began around the turn of the 20th century with Miguel Angel de Quevedo’s formidable influence (Simonian 1995). Biology began with Alfonso L. Herrera in the second half of the 19th century, and ecology with the triad of José Sarukhán, Arturo Gómez-Pompa, and Gonzalo Halffter. Wildlife ecology was not established as a discipline until late in the second half of the 20th century. Even now, few Mexican universities carry a conservation biology program or courses (Méndez et al. 2007), and much fewer carry any wildlife management related curricula. Use of science as a tool to determine wildlife management practices, primarily those related to harvest rates of game species, is still a very nascent discipline in Mexico. Endangered species determination and recovery programs, on the other hand, are widespread, diverse, and successful, and have placed Mexico at the leading edge in many ways. The Mexican protocol for determination of endangered species (MER) was a science-initiated, science-driven process that was later turned into federal law. The NOM-059 – the official list of endangered and threatened species – is based on the MER protocol (Sánchez et al. 2007). Furthermore, this protocol is currently being adapted and tested in other Latin American countries and beyond.

Wildlife harvest rates are established by the government, primarily by DGVS but also by the state governments to which this responsibility has been decentralized, (e.g., the northern border states). However, these protocols are still far from being fully science-based. Information on population trends, effects of management, habitat models, genetic viability, and more are still necessary to strengthen these harvest rate calculation protocols.

Currently, a severe shortage of wildlife professionals exists in Mexico in the government and academic sectors. Similarly, NGOs have a shortage of wildlife professionals. Ecology and evolutionary biology are the primary disciplines of most biologists in Mexico, and many people working on wildlife issues come from these disciplines and, therefore, must adapt their knowledge to be able to address Mexican wildlife management needs. Wildlife science is beginning to gain traction in Mexico. Historically, few publications or books on wildlife ecology were produced, but in the last 2 decades many books and papers, some of them with a high impact factor in Mexico and abroad, have been published. The Mexican community of wildlife biologists is still growing, and it needs much more attention, support, and collaboration within Mexico and outside to become truly established and to have a strong presence in the arena of wildlife management and conservation.

Democracy of Hunting Is Standard

In Mexico, all hunting is required to be conducted through a hunting outfitter, or *Organizador Cinegético*. This adds another step to the process and promotes monopolies for a few well-established, well-connected individuals. This greatly affects benefits coming from hunting, because outfitters act as middlemen, often renting UMAs for a fixed price and depleting game in those areas. The law has been clear about the need for outfitters, who are registered with the Secretary of Defense and Secretary of the Environment. Still, not enough outfitters are registered, so the process is dominated by a few.

Historically, wildlife in Mexico was a common resource, without any sort of governing authority, although some Aztec rulers issued regulations to protect certain species in certain areas for the benefit of the rulers themselves. But in 20th century Mexico, wildlife was acknowledged as a public good,

owned by the nation. The first hunting law, dating from 1940, defined it as such. The 1952 updated hunting law and the current General Law of Wildlife (2000) also contemplate wildlife as a public good owned by the nation. This definition of wildlife broadly includes “all organisms living subjected to the processes of natural evolution and existing freely in their habitat,” which obviously encompasses all animals and plants. All Mexicans are entitled by law to enjoy wildlife, but profiting from wildlife through hunting, wildlife watching, harvesting, or collecting for commercial purposes can be done only under the UMA.

Current law in Mexico defines wildlife as all plants and animals subjected to management by landowners through the UMA system. Once the landowner has proven that he or she has invested in habitat protection and improvement for the benefit of wildlife, the government (DGVS) assigns the landowner a harvest quota, in effect establishing a partnership with the nation. But if each of these steps is not carefully monitored, (e.g., if a landowner’s investment in habitat protection is not correctly conducted and actually supervised) and if the harvest quota is not accurately calculated on real data or appropriately administered, a risk of depleting wildlife develops. In many situations, however, simply declaring a piece of land as a UMA determines that the habitat is not likely to be converted to agriculture or cattle production, which, at the very least, buys time for wildlife protection. Much monitoring, evaluation, and certification of UMAs are necessary before the program can be deemed successful for wildlife management.

Gun ownership in Mexico is regulated through the Ministry of Defense, which has jurisdiction over guns and ammunition. Only a handful of shops, strictly regulated by the Defense Ministry, provide ammunition that can be purchased. Importing a gun into Mexico requires Defense Ministry permits, coupled with a hunting license obtained through an outfitter. Despite this apparent control (which is rather strict in many instances, especially for large-caliber guns), .22-caliber rifles, .410 shotguns,

handguns, revolvers, and automatic firearms of smaller calibers are common in rural areas of Mexico. Local people commonly carry their guns while working the fields, so much hunting happens on the fringes of regulation.

Mexican Habitat Considerations

As a megadiversity country, Mexico contains significant habitat diversity on a global scale. Some habitat models have been prepared for game species and many more for threatened and endangered species, but they have been prepared primarily for northern species. Although most habitat types have been severely depleted (notably the tropical dry and tropical rainforests and the cloud forest), some others (notably the Sonoran and Chihuahuan deserts) are less impacted. However, exotic invasive species are entering these deserts. Buffelgrass (*Pennisetum ciliare*) is pervasive in the Sonoran Desert with only limited pockets outside of it. The most severe threats to many species are habitat fragmentation and deforestation. With the advent of UMAs, the habitat in many regions is improving and remaining conserved, although wildlife has yet to recover fully. This effect, known as the “empty forest” (Redford 1992), threatens entire ecosystems if a solution is not implemented in the near future to secure habitat processes, such as forest regeneration, grazing, browsing, and seed dispersal.

Because of the definition of wildlife in the Mexican constitution, all taxa of plants and animals are included in all legislation and regulations pertaining to wildlife. In practice and in the context of the federal government, wildlife is generally referred to as vertebrates (primarily terrestrial), cacti, orchids, cycads, palms, and other similarly ecologically or economically important groups. Wildlife management of mammals per se is focused primarily on game species, although much research, management, recovery, and conservation actions are conducted on rodents, bats, primates, carnivores,

and other groups. Management models exist for many species in many groups.

Public education about wildlife is very active in Mexico for specific taxa and particular objectives. Primarily in terms of sustainable development and preservation of ecosystem services, public education is mostly in the hands of the government, the academic sector, and, notably, NGOs. A few years ago, reintroduction of the Mexican wolf was thwarted because many landowners had no desire or awareness of the importance to have the wolf back in their lands (Norandi 2008). Local campaigns raise awareness and participation on the conservation of black bears, pronghorn, jaguars, bats, birds of many species, reptiles, and plants. However, public awareness related to game species, notably deer and collared peccary, is not common or strong. Some basic information on large mammals and birds is included in the free textbooks distributed in all elementary schools in Mexico by the office of the Secretary of Public Education.

Recommendations

1. Enhance the profile, the vision, and the potential that wildlife represents as a source of wealth for all Mexicans, both for contemplative, non-consumptive uses, and for consumptive uses such as hunting.
2. Strengthen the academic programs related to wildlife management across Mexico as an educational priority. Given the vast proportion of Mexico under the concept of UMAs, and the needs of these UMAs to have adequately trained wildlife professionals in charge of the management plans, all academic institutions should be preparing cadres of wildlife professionals at all levels. Only with a strong critical contingent of well-trained wildlife professionals as well as the rest of the elements (political commitment, adequate law enforcement, strong public awareness, involvement and support, and substantial improvement in funding) will the UMA system finally succeed and show its full potential.

3. Continue to intensify and diversify the national, international, and inter-sectorial collaboration for wildlife. Some framework agreements already are in place, but more specific and practical implementation of these collaborative efforts and others can make the difference. International collaboration is a clear win-win situation if properly implemented, and it can open new opportunities to learn and improve conservation and management practices.

4. Increase collaboration, information sharing, and interjurisdictional agreements with Canada and the U.S.

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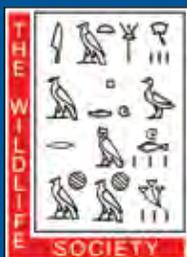
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The cartoons of avid hunter and conservationist Jay "Ding" Darling spoke powerfully of the need for active game management to ensure the health of species and habitats. A Pulitzer Prize-winning cartoonist, Darling designed the first Federal Duck Stamp in 1934. Courtesy of the J. N. "Ding" Darling Foundation.



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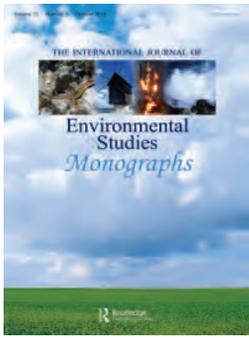
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Bethesda, MD 20814
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Trapping and furbearer management in North American wildlife conservation

H. BRYANT WHITE*[†], THOMAS DECKER[‡], MICHAEL J. O'BRIEN[§],
JOHN F. ORGAN[‡] AND NATHAN M. ROBERTS[¶]

[†]Association of Fish and Wildlife Agencies, 444 North Capitol Street NW/Suite 725, Washington, DC 20001, USA; [‡]U.S. Fish and Wildlife Service, 300 Westgate Center Drive, Hadley, MA 01035, USA; [§]Department of Natural Resources, 136 Exhibition St., Kentville, NS B4N 4E5, Canada; [¶]Department of Natural Resources, 107 Sutliff Avenue, Rhinelander, WI 54501, USA

Furbearer Management in North America maintains wild furbearer populations at sustainably harvestable, scientifically determined and socially acceptable levels. Furbearer management impacts numerous wildlife populations and habitats, and human health, safety and property. Achieving balance in the management of furbearers is not always an easy task partly because regulated trapping, a controversial management technique, plays a critical role in this balance. Steps have been taken by wildlife professionals to improve the humaneness of trapping through the development of international standards used to evaluate traps. These efforts will ideally preserve trapping and the many roles it plays in furbearer management and wildlife management in general.

Keywords: Trapping; Furbearer management; Humane trapping standards

Introduction

All mammals have hair, but the term 'furbearer' is generally used to refer to species of mammals of which the skins are commercially valuable in the North American fur trade [1]. Over 4200 species of mammals exist today, but only 27 species are used in the commercial fur trade in North America [2]. Furbearers are in the orders Carnivora, Rodentia and Marsupialia [3]. Because of the rich taxonomic diversity of furbearers, they are found in practically every ecosystem in North America from arid plains and wetlands to sweltering deserts and the frozen arctic. They comprise all types of consumers in the food chain: herbivores, carnivores and omnivores. Furbearers vary in abundance depending on their natural order in the food web of a particular ecosystem. Some occupy the highest trophic level in their ecosystem (e.g. top consumer/carnivore/grey wolf [*Canis lupus*]), which typically results in lower abundance, whereas others occupy lower levels (e.g. primary consumer/herbivore/muskrat [*Ondatra zibethicus*]) and may be extremely abundant in ideal habitats. Home ranges vary between furbearer species from a few hectares to thousands. Some furbearers are terrestrial while others are semi-aquatic. In fact, the only common feature amongst the many species of furbearers is that they produce fur that is valued by humans.

*Corresponding author. Email: bwhite@fishwildlife.org

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In North America, prehistoric peoples hunted furbearers for more than 11,000 years [4] and were dependent on these species for meat for food and fur for clothing, bedding and shelter. Before European colonization, Native Americans used primitive trapping techniques such as deadfalls and sinew snares to capture furbearers [5]. With the arrival of colonists, however, steel traps became the prevalent method for capturing furbearers [6] and although trapping was originally used by the colonists as a means of controlling depredations on livestock, gardens and food stores, harvesting of furbearers for their fur soon became an important enterprise [7].

Furbearer pelts were used in trade for other commodities (manufactured goods, foods, etc.) not readily available in North America. European colonization spawned the spread of agriculture, the development of towns, and eventually the densely populated metropolitan areas, sprawling suburbs, and well-populated rural landscapes that, with the exception of the Far North, now extend over a significant portion of North America today. Throughout this time, harvesting wildlife with traps for the fur trade and subsistence continued. As agriculture and human population expanded further, trapping once more became important as an animal damage control mechanism and trapping for this purpose has become a significant part of the animal damage management industry we see across North America today [8–10].

The harvest and trade of furbearers played a major role in colonial economies and in facilitating the initial colonization of North America and the subsequent westward expansion [6,7,11–13]. In the early days, the natural resources of North America were seen as inexhaustible, and unregulated harvest soon resulted in great reductions or extinction of many once common species such as the American beaver (*Castor canadensis*), sea mink (*Neovison macrodon*), great auk (*Pinguinus impennis*), passenger pigeon (*Ectopistes migratorius*) and plains buffalo (*Bison bison*). These excesses spurred the beginnings of conservation (as wise resource use) as early as the mid/late 1600s with regulations restricting the harvest of various wildlife species [14], but systematic conservation efforts took centuries more to develop.

Today, regulated trapping remains an important component of modern furbearer management and wildlife conservation. In this paper, we explore just how regulated trapping is used in the conservation and management of many wildlife species in North America and demonstrate its practical utility in a variety of wildlife applications.

Modern furbearer management goals and techniques

Today in North America, furbearer harvest and marketing of pelts and other products are regulated within scientifically based management programmes. Regulations within these programmes give wildlife managers the tools to balance the incentive of economic gain with the authority to ensure that profit motivations do not result in overharvest and the decline of highly valued species. At the same time, regulated harvest maintains the flexibility for wildlife managers to manage species at levels that are both ecologically sustainable and acceptable. The economic value of raw furs enables wildlife managers to raise quotas for specific species that are exceeding social tolerance with the expectation that licensed harvesters will actually respond by increasing the harvest to desired levels. For most other species of wildlife, such a regime is not possible.

Generally, furbearer management and conservation programmes are based on three principles of sustainable harvest: (1) the species are not endangered or threatened; (2) the

harvest methods are socially acceptable and humane; and (3) harvesting the species achieves a functional objective. Unlike predation management or local eradication programmes, furbearer management prescribes a proportional off-take of the population, during a specified period and with restrictive methods, to achieve a specific management goal that must ultimately protect the long-term continuance of the species [15].

North American furbearer management has been highly effective. Numerous species, such as beaver, river otter (*Lutra canadensis*), grey wolf, bobcat (*Lynx rufus*), fisher (*Martes pennanti*) and marten (*Martes americana*), experienced significant population declines following European settlement of North America. These population declines were the result of unregulated harvests, severe habitat loss and targeted extirpation programmes [16–28]. Despite these early crises, modern furbearer management has assisted in bringing these species back to abundance.

Both the ecological role and economic value of furbearers are primary motivations behind contemporary management programmes [17,20,29]. Modern furbearer management requires estimating population status and trends, controlling and regulating harvest directly through the adjustment and prescription of harvest opportunities, and monitoring the effects of management actions on populations. Hunters and trappers play an important logistical role in helping managers understand population dynamics and the effects of management actions by donating parts of harvested animals (teeth, reproductive tracts, various tissues, etc.) for scientific evaluation. Large sample sizes of donated parts are generally needed to quantify the health of populations, and hunters and trappers provide the only economically feasible method for managers to acquire such data.

Population status information may suggest opportunities for additional harvests or, conversely, needs to restrict harvest to ensure the long-term conservation of a population. Harvest can be influenced by adjusting harvest opportunities, such as the duration of a season, individual or cumulative bag limits, or influencing harvest potential through the regulation of harvest techniques and methods. Understanding population status information informs management actions and assures the public that well-regulated consumptive use activities are not detrimental to the long-term stability of the wildlife resource. For example, in the late 1990s, Missouri's river otter management programme was legally challenged three times by animal welfare organizations arguing that harvest was detrimental to the long-term stability of the population. Catch-per-unit effort data were used to demonstrate that river otter populations were stable during the period in question, despite legal harvests in excess of 1000 animals annually. Similarly, harvest age-structure data, determined from trapper-donated otter carcasses, were used in a population model to indicate a positive projected growth rate for this population. These data reassured the public that the otter trapping programme was sustainable and it further provided a successful legal defence in all three legal challenges [30]. This was a classic example of science-based wildlife management decision-making being rigorously tested by legal process and proven effective.

Furbearer management programme administration

The Public Trust Doctrine is the cornerstone of North American conservation. This principle guides wildlife management by enshrining wildlife as a public resource, held in trust by the government [31–35]. In North America, furbearers are professionally managed by state and provincial agencies. These agencies are responsible for ensuring that harvest of animals is conducted responsibly and ethically. Trapping is arguably the most regulated

outdoor activity in North America. Regulations cover equipment used, timing and duration of harvest seasons, limits on effort and number of participants, limits on individual and cumulative maximum harvests, standards for trapper education and training, licensing and reporting requirements, and a variety of other specific requirements depending on the jurisdiction and the management protocols in place. This wide variety of regulatory mechanisms gives agencies the ability to adapt and quickly respond to changes in furbearer abundance. Certain species are further regulated through rigorous fur trade and export policies and regulations, such as the Convention of the International Trade of Endangered Flora and Fauna (CITES) and the Agreement on International Humane Trapping Standards (AIHTS).

To enforce such an array of regulations, a corps of highly trained wildlife law enforcement officials exists in every jurisdiction where furbearers are harvested. Often called 'game wardens' or 'conservation officers', these individuals undergo extensive training on the laws and regulations related to furbearer management and the procedures for charging offending individuals through the courts. Enforcement occurs at multiple scales, ranging from local field-based personnel to extensive interstate and international cooperation involving numerous agencies. Numerous wildlife forensics laboratories help to support these law enforcement efforts.

Once convicted of an infraction, individuals can face severe criminal penalties, including fines and imprisonment. For most violations, individuals lose trapping privileges for periods that can range from a single season to a lifelong revocation of privileges. In the United States, the loss of trapping privileges often extends nationwide based on the Interstate Wildlife Violators Compact – a cooperative agreement among 42 states that ensures individuals whose trapping rights have been revoked in one state, also have those rights revoked in all remaining 41 jurisdictions [36].

In addition to strong wildlife enforcement, most of the states and provinces have robust trapper education programmes and require successful completion of a certified trapper education course before a trapping licence can be purchased. Trapper education programmes cover applicable laws and regulations, demonstrate recommended equipment and its proper use and provide a solid general view of species biology and harvest management programmes. These programmes also include a review of ethical practices and standards that trappers must apply in their harvest of furbearers.

Research and monitoring in furbearer management

It is notable that wildlife agencies in North America have since the mid-1990s, dedicated over \$40 million dollars to research programmes designed to evaluate the humanness of trap devices and for education of trappers in their use. The development of Best Management Practices (BMPs) for mammal trapping is a continual effort by cooperative state, federal and private institutions in the US [37]. In Canada, similar trap research and education has been conducted under the auspices of the Fur Institute of Canada in cooperation with provincial, federal and private partners [38]. BMPs in the US and approved traps in Canada are designed to improve the selectivity, efficiency and humaneness of trapping. Trapping devices and techniques recommended by BMPs and approved in Canada are implemented nationally in both countries through regulations, state and provincial trapper education programmes and other outreach methods. Furthermore, international standards were also developed to evaluate and implement more humane devices and techniques. It is

reasonable to say that no other method of wild animal harvest has developed or implemented testing programmes and international standards to evaluate the humaneness of the harvest or invested such substantial funding to research and develop improved tools and techniques to achieve this high ethical standard.

Furbearer biology has also been intensively studied, and well-published scientific investigations have examined the ecology, habitat requirements, diseases and parasites, and reproductive capacities of furbearers. These efforts have provided a wealth of information that is regularly applied to the conservation and management of these species in the United States and Canada. The literature is rich with management-focused research on furbearers in North America, including compilations such as Chapman and Pursley [39], Chapman and Feldhamer [40] and Novak et al. [41]. Research into the human dimensions of furbearer management represents one of the early applications of this discipline [42]. Understanding the motivations, values and attitudes of fur trappers is integral to implementing successful conservation programmes. Canada led the way in furbearer research during most of the twentieth century, as furbearers have had particular significance in that country's history, economy and culture [43]. For example, there is the pioneering research by Strickland and Douglas [44] on fisher harvest management in Ontario that influenced furbearer management for decades. Provincial and state furbearer biologists meet annually in regional associations to share research findings and management information resulting in an intense collaboration in furbearer management similar to the well-recognized continental efforts in North American waterfowl management.

Monitoring furbearer populations is particularly challenging because of their secretive nature, nocturnal habits, and particularly for carnivores, their relatively low population densities. Traditional monitoring methods included interpretation of harvest data, as they were often the only information available with sample sizes large enough for robust analyses [44]. Increasingly, non-harvest monitoring methods are being developed and employed to assess the status of furbearer populations. These methods include camera trap systems, snow-track surveys, hair snares, scent posts and scat collection using trained dogs [45]. Advances in conservation genetics are also enabling improved population monitoring using less invasive procedures.

Trapping is also a technique frequently employed by wildlife specialists as a means of acquiring specimens for research. Such methods may include the live-capture of animals as well as lethal harvest. In addition, trappers themselves provide resource managers with critical information by donating skinned whole carcasses or parts (teeth, reproductive tracts, etc.) of harvested animals which are then used to evaluate overall population health and numeric trends. This information allows for extremely robust statistical evaluations based on large sample sizes – a free data source that is virtually irreplaceable by other means. This is a primary example of how sustainable use of furbearers contributes directly to their conservation and management.

Funding for furbearer research and monitoring is provided largely through federal, state and provincial sources such as the Pittman–Robertson Wildlife Restoration Program in the United States, and hunting and trapping licence sales in states and provinces, as well as through private sources, including the fur industry [46]. Most state wildlife agencies are largely supported by harvest licence sales and user fees, and much furbearer research conducted both by agencies and universities is funded by grants and cooperative ventures supported by such funds. Indeed, a growing challenge for agencies is the movement of wildlife, including furbearers, to urban, suburban or open space areas where licensed harvest is impracticable or prohibited and where funds for research are severely limited.

Nonetheless, science, as evidenced by robust research and monitoring programmes and a wealth of published studies, is the very foundation of furbearer management in both Canada and the United States.

Benefits of trapping for wildlife conservation and society in North America

Regulated wildlife harvesting activities in North America provide a range of social and economic benefits to society. While the economic value of furbearers provides incentive to harvest overabundant populations, this also helps maintain, at reasonable levels, animal populations that conflict with human interests in various ways. Furbearers have significant negative economic and social impacts through their consumption of agricultural crops and through dam building and burrowing activities on transportation infrastructure. They also have potential to impact human health via the spread of zoonotic disease and via direct threats to human safety. Maintaining animal populations at socially acceptable levels helps build tolerance within the general public, while opportunities to harvest surplus animals helps ensure that trappers will continue to regard furbearers as valuable and continue to lobby for their conservation. Indeed conservation efforts around the world have shown that eliminating wildlife harvest and the potential to legal trade in wildlife parts, even where the harvest/trade can be shown to be sustainable, can lead to a de-valuing of the resource. It also leads to greater wildlife conflict for local people, often with negative impacts to the species involved, and greater challenges for biodiversity conservation [47].

Nutria are a highly prolific non-native aquatic species introduced to North America. At high populations' densities, they have caused significant coastal marsh damage along the Atlantic coast in Maryland, the Gulf Coast sections of Louisiana, and along the Pacific Coast in Washington State [48,49]. These coastal marshes are among the most productive habitats in North America and provide important functions to a diverse spectrum of fish and wildlife, including habitat to over 15 million water birds, 1 million alligators and more than 10 threatened or endangered species [50]. Nutria denude marsh habitat through excessive herbivory. Once stripped of vegetation, marsh habitats are susceptible to erosion that causes gradual marsh conversion to open water, a habitat no longer suitable to marsh dependent wildlife.

In Louisiana, nutria damage had been largely contained for many years by private fur harvest. When fur prices and private trapping declined in the 1980s, loss of wetlands became a growing concern. In 2002, wildlife officials in Louisiana initiated a trapping programme to reduce nutria populations, thus decreasing the level of herbivory and resulting marsh damage and erosion of critical habitat. Although bounty programmes had long been discredited as a useful wildlife management tactic, Louisiana officials devised a creative way to target specific marsh areas for nutria population reduction, supplementing fur values with incentive payments to registered trappers of \$4.00–\$5.00 per animal. In 2003–2004, 346 trappers recovered 332,596 nutria from target areas [51–53]. Similar targeted comprehensive trapping programmes have been initiated in the Chesapeake Bay region of Maryland, as well as on the West Coast in Washington State. These programmes have been remarkably successful and recovered and saved millions of acres of the fragile coastal marsh ecosystem [54–56].

Muskrats, a common native furbearer in North America, are a dominant herbivore in freshwater wetlands [57]. Their populations are cyclic, and at high population levels, they can cause 'eat outs' that reduce or eliminate wetland vegetation, including root systems

and soil-binding substrate, resulting in erosion and loss of marsh habitat. They also cause extensive damage burrowing into marshland dykes and banks [58]. Muskrats in marsh habitat conditions are among the most studied furbearers because of their wide distribution, economic importance and ability to alter habitat quality and quantity [59]. Their wide distribution and local abundance also makes the muskrat one of the most widely harvested furbearers in North America. Historically, and to the present time, the harvest and sale of muskrat pelts have been an important source of income while supporting the management of private wetlands and in many cases, providing public participation in wetland conservation on state and federal wildlife refuges [60]. The fur harvest of muskrats, along with the wetland area in the US, has declined substantially in the past century, but has remained stable in recent decades. In 1914, more than 10 million muskrat pelts were exported to London alone [61], while in 2013, 36 states reported a harvest of 1,622,041 [62].

Beavers, like muskrats, are a keystone species in North American wetlands. Prior to the settlement of North America by Europeans, the beaver population is estimated to have numbered 60 million. By 1900, the population had been reduced to less than 100,000 by unregulated trapping, hunting and habitat alterations. Conservation efforts were undertaken to restore beaver populations in the early 1900s. Beaver captured in live restraint type traps were trans-located from state to state. Creative efforts, such as parachuting beaver from aircraft were used to reintroduce beavers into remote regions. Restoration efforts were given a boost through the Federal Aid in Wildlife Restoration Act passed in 1937 and by the mid-1950s beaver populations had rebounded to the point where limited harvest seasons were allowed by some state conservation agencies [63–65]. Today, over 500,000 beaver are harvested annually across North America [62,66] and trapping plays a critical role in continued conservation and management.

In fact, beaver population management is carried out mostly by regulated trapping and these efforts benefit many wildlife species. Habitat alterations and the associated wetlands created by the dam building efforts of beavers are highly productive for numerous wildlife species (e.g. waterfowl, fish, amphibians). Uncontrolled flooding caused by the construction of beaver dams can, however, be detrimental to agricultural and timbered lands as well as affecting critical habitat for endangered plant species such as pink lady slipper (*Cypripedium acaule*) and sweet pitcher plant (*Sarracenia rubra*) [50]. Potential flooding from dam building by beavers also affects suitable locations for human development and placement of transportation infrastructure (e.g. roads and railroads). Controlling beaver populations and occupancy of wetland sites by beaver is therefore an important conservation objective for wildlife officials. In the absence of trapping, some \$16–\$32 million of taxpayers' money would be required to control beaver populations at acceptable levels [67].

The importance of managing wildlife damage has grown as human populations continue to increase, and landscapes are altered. Within the US alone, the economic loss caused by wildlife damage is estimated at \$22 billion annually [9]. Most furbearers are capable of causing nuisance problems or economic loss [1]. Terrestrial species such as the grey wolf, coyote, red fox, raccoon, skunk and badger create many man/wildlife conflicts. Livestock losses to the sheep and cattle industry in the US equal over \$50 million annually from coyotes alone [9]. Owing to control efforts on coyotes, US livestock producer and consumer benefits have been calculated to be \$116 million and \$251 million annually, respectively [68].

In addition, diseases may be carried by furbearers, some of which are transmissible to domestic pets and livestock as well as human populations. Costs associated with the control of rabies amongst furbearers are already estimated at \$450 million annually, but the

number of cases continues to increase [69]. Trapping is often the only way to manage some species (e.g. coyote, fox and raccoon) for disease control because they are generally wary and primarily nocturnal. It is estimated that costs for the control of these species would increase some 221 per cent in the absence of hunting and trapping [67]. Since diseases may be density dependent [70,71], controlling population density may reduce the incidence of disease presence and transmission and the associated economic costs [72–75].

But trapping and furbearer managements have other benefits for society and wildlife as well. Economic value of the trade in fur worldwide is easily estimated at over \$40 billion [76]. Fur harvesters profit through the sale of furs for market and the production of ancillary products such as meat that may be used for human and pet consumption [50]. Besides the harvesters, the fur trade also consists of those who manage the flow of furs from collection through the processes of dressing, manufacturing and retailing, activities which provide over 200,000 jobs in North America [77]. Rural communities especially are supported economically through the sale of wild fur and the goods and services sold to the public who participate in hunting/trapping. As a result, the fur trade is a multi-billion dollar industry and benefits society economically and materially [76]. Other benefits to society, provided by trapping within furbearer management programmes, include both recreation [1] and subsistence throughout much of North America. Subsistence trapping, in particular, is an important part of some northern cultures of indigenous aboriginal peoples [78,79].

Trapping has also been used to protect endangered species such as sea turtles and whooping cranes from predation [80–84]. In fact, over thirty endangered species have been protected by trapping and these species include both aquatic and terrestrial species of plants and animals [50,85–92]. Furbearer management has also contributed to some of the greatest success stories in modern wildlife management. Traps have been used to capture wildlife species for reintroduction. This has allowed species once extirpated from portions of their historical range to return, flourish and benefit native ecosystems. Examples of successful reintroductions facilitated by trapping include river otter, grey and red wolves, beaver, fisher, marten and Canada lynx.

Contemporary opportunities and challenges

There are many challenges to modern furbearer management in North America generally and to the use of trapping specifically. With increasing urbanization, increased suburban encroachment on rural land, and the disconnection of youth from the nature [93], there is concern that the inclination, time and skills to engage in trapping and wildlife harvesting and assist in furbearer management/human wildlife conflict mitigation will disappear. Even in Canada, where the human population is very sparse across the expanse of northern lands, the per cent of the population living in urban areas is greater than 80%, about the same as in the United States [94,95]. Similarly, with more and more of the human population concentrated in urban communities, larger proportions of the professionals dedicated to fish and wildlife, biodiversity and natural resource conservation are not coming from backgrounds where they were raised with close ties to the land. The understanding of sustainably managed, regulated harvesting is neither inherent nor a part of their understanding of the natural world. This need to understand the balance of the human use and need for goods and services from the natural world is critical for both our public consciousness and future practitioners and policy makers who will provide direction and sustainable management of wild furbearer populations and all other natural resources.

As people become removed from the understanding of where food and other products that support life are derived, it becomes easier to make simplistic, often ill-informed judgments of what is right and wrong in terms of how natural resources might or should be managed and used (or not used). It is always easier for a person not directly involved or impacted to support or at least not oppose a change in legislation or regulation that negatively impacts another person's or community's privilege to use a natural resource. It is sometimes difficult for the lay observer to sort out the facts from the lobbying rhetoric.

It is interesting to note that soon after a coyote fatally attacked a young woman in Nova Scotia [96], there was increased interest in the provincial government programmes to manage man/wildlife conflict, particularly where human safety was threatened. This was the first adult human fatality from a coyote attack, yet there was overwhelming clear public support for direct action in such situations and for science-based management to deal with local problems and manage potential problem wildlife within social carrying capacity [97].

Animal activism in North America and elsewhere, particularly in urban-dominated provinces and states, has resulted in the ability of well-funded animal rights groups to target legal, highly regulated and sustainably managed wildlife harvest and influence public opinion and sometimes convince government agencies to restrict or eliminate sustainable wildlife harvests. This has led to changes in trapping regulations in various jurisdictions. For example, Canada has a programme in place to test and certify traps permitted for furbearer capture, primarily based on pen tests and computer models [98] for body-grip traps. With few exceptions, the use of foothold traps is no longer permitted. Most US states allow the use of a wider range of animal capture devices, including various sizes of foothold traps. Eight states, however, have highly restrictive trapping laws or regulations, in some cases, banning the use of foothold traps altogether.

In 1996, US state wildlife agencies initiated a programme to develop BMPs for trapping in the US, subsequently funded mainly by the US Department of Agriculture, based on evaluation of animal traps according to accepted international humane standards as well as criteria for efficiency, selectivity, safety and practicality [99]. This extensive effort, by both state and federal government agencies, is one of the most ambitious, nationally coordinated projects in wildlife management undertaken in the US in recent years and has included routine information exchange with other wildlife researchers worldwide [100]. During this continuing programme over 150 commercial trap types (including cage traps and snares) have been tested for 22 species of furbearers in several US regions, via 41 state wildlife agencies, and with the cooperation of nearly 1000 trappers, wildlife technicians and state agency biologists. The programme is coordinated with the parties to the AIHTS (Canada, Russia and the European Union). Although the US is not a treaty participant, the testing standards used are similar, having developed over a long period of time, primarily through efforts organized by the International Organization for Standardization. Canada had first proposed the use of international standards for humane trapping in 1983 to the Conference of Parties of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) [101]. In 1991, the EU established a regulation requiring evaluation of traps by countries exporting wild furs to the EU, effectively tying North American trapping programmes directly to international trade [102].

Public support for modern regulated trapping and the benefits derived from furbearer management is critical for sustaining regulated trapping as a viable wildlife management technique that will continue to benefit both wildlife and the public [99,103]. For the general public, the use of traps to capture wildlife is controversial. Three fundamental issues underlie public attitudes towards trapping: 'the public cares deeply about

America's wildlife resources, the public does not take lightly the killing of animals, and the public is highly uninformed about trapping' [104]. Accordingly, public opinion varies dramatically based on the reasons for trapping and various demographics. It is critical for agencies that use trapping as a wildlife management tool to demonstrate to the public that they are not harming or endangering resources but rather improving valued natural resources in some way, killing animals only when required and using humane techniques.

Wildlife agencies together with trapper/wildlife harvesting interests need to be proactive in ensuring that appropriate laws and regulations and science-based management programmes are in place to answer anti-harvesting advocacy campaigns. Equally important is the need to communicate, inform and engage the full breadth of the public, including the overriding majority of our population that resides in our urban landscape, on the necessity of managing wildlife populations through trapping.

Conclusions

Trapping and furbearer managements play an important role in modern wildlife conservation and contribute not only to sustaining furbearer populations, but healthy populations of many other species as well. There are also significant contributions to the protection of human health, safety and property. In modern times, several key furbearer species have been recovered from the brink of extinction and now are sustainably harvested as a result of modern furbearer management and regulated trapping. Trappers are an important part of this management regime, which is critical to the sustainable use, management and conservation of furbearer species along with numerous other species that may be impacted by furbearers including endangered plants and animals, waterfowl and other species.

Furbearers are found in every ecosystem and impact farmlands, rangelands, wetlands and forests, as well as human settlements of all sizes and configurations. A highly variable, prolific and adaptable group of species, furbearers often come into conflict with human interests. At the same time, furbearers have an intangible aesthetic value and a critical ecological role appreciated by many. Ironically, furbearers' most ardent advocates are both those who harvest them and those who oppose the use of trapping. Yet, both sides see the inherent value of these species and seek to protect them because of it. Furthermore, studies have shown that trapping is usually supported by a majority of the public when the scientific information demonstrates that trapping is necessary, can be done humanely and benefits human beings and wildlife [104].

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Potential Costs of Losing Hunting and Trapping as Wildlife Management Methods

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**444 North Capitol Street, NW
Suite 725
Washington, DC 20001
(202) 624-7890
www.IAFWA.org**



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Background and Purpose

This document was prepared in response to the many inquiries regularly received by state and provincial wildlife agencies regarding hunting and trapping. Wildlife professionals with resource management agencies want the public to understand that, besides being a legitimate and closely regulated activity, hunting and trapping are also important wildlife management tools that help them maintain healthy ecosystems and wildlife populations. Professionally managed hunting and trapping are key tools helping them achieve an acceptable balance between wildlife populations and human tolerance for the problems sometimes caused by wildlife. As long as people value wildlife and accept existing levels of associated problems, wildlife will remain a true national treasure in Canada and the United States.

To help reporters and the public understand the need for regulated public hunting and trapping, this report presents trends on nuisance wildlife and associated damages with explanations on how hunting and trapping can help maintain healthy and acceptable wildlife populations. Examples are provided as estimates on the potential damages if public hunting and trapping were lost. The social and economic damages which might be incurred from the loss of hunting and trapping, by aboriginal peoples or other persons directly or indirectly involved in hunting, trapping or guiding for all or part of their livelihood, while potentially very significant, are not addressed in this report.

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The Importance of Public Hunting and Trapping as Wildlife Management Methods

Communities across North America are learning that wildlife management is a complex science. Even those who have questioned hunting and trapping in the past are now encouraging hunters and trappers to help control growing populations of certain wildlife species. They have found that by eliminating proven wildlife management practices through ballot boxes and “bumper sticker” management, unforeseen negative consequences can follow.

Unfortunately, many well-meaning people are still trying to pass laws limiting wildlife managers’ ability to use hunting and trapping as a means to manage wildlife. But who pays the price? Wildlife, native habitats, farmers, homeowners, families, communities, insurance companies/premiums are all affected when these management tools are lost.

Communities have learned hunters and trappers will come for free and even help pay for wildlife management. The local economy also receives a boost. According to U.S. Fish and Wildlife Service data, hunters and trappers contributed \$847 million in 2002 to state wildlife management agencies via hunting and trapping licenses and excise taxes¹. Hunters and trappers help local economies across the U.S. by spending an estimated \$5.2 billion in 2001 just for hotels, restaurants and other travel-related items.² If hunters and trappers don’t come, the cost to control populations via other avenues will come from local taxes, which for some communities has cost hundreds of thousands of dollars annually. If they don’t control populations at all, many communities face untold dollars in damages.

The following are just a few of the examples of wildlife/human conflicts (*All data presented are for the U.S. unless otherwise noted*):

- Deer-automobile accidents result in over \$1 billion in damage annually.³
- Wildlife damage to households amount to \$633 million (includes money spent by households to prevent wildlife damage).⁴
- Beavers, woodchucks and other species cause millions of dollars in damage each year to roads, bridges, dams, water drainage systems and electrical utilities in both the U.S. and Canada.⁵
- Crops and livestock losses from wildlife in the U.S. totaled \$944 million in 2001.⁶

¹ \$659 million in license revenues (U.S. Fish and Wildlife Service), plus \$188 million in excise taxes (U.S. Fish and Wildlife Service).

² International Association of Fish and Wildlife Agencies, Southwick Associates, Inc.

³ General Accounting Office. Information on Activities to Manage Wildlife Damage. 2001.

⁴ Resolving Human-Wildlife Conflicts: The Science of Wildlife Damage Management. Michael Conover, Ph.D, CRC Press, August 2001, 440pp

⁵ General Accounting Office. Information on Activities to Manage Wildlife Damage. 2001.

⁶ U.S. Department of Agriculture, National Agricultural Statistics Service. U.S. Wildlife Damage. 2002.

- Wildlife cause close to \$750 million in damage to the timber industry. However, the timber industry projected that with *no* animal damage management, the loss to the timber industry would be approximately \$8.3 billion.⁷

A goal of wildlife management professionals is to manage wildlife as a valuable natural resource. Wildlife provides immeasurable ecological, recreational and social benefits. However, when wildlife populations exceed human tolerance limits, people tend to label wildlife as pests. This is not good news for wildlife. Many wildlife species, such as deer, bear, beaver, wolf and cougar reached their lowest levels in history when they were viewed as pests and/or could be taken legally without regard to season or limit.

What has worked well to re-establish populations and keep wildlife populations at a healthy level is the North American conservation model. This model uses regulated hunting and trapping seasons and bag limits, which allows wildlife managers to adjust the days or bag limits according to wildlife needs, the health of the habitat and the conflict between wildlife and humans. Game-animal status protects wildlife from indiscriminate killing, which stabilizes the population. Public hunting provides food for the tables of thousands, not only the families and friends of hunters, but also those in need through programs like Hunters for the Hungry. Hunting and trapping are sustainable uses of wildlife resources and they do not in any way threaten the continued existence of any wildlife population.⁸

When wildlife populations reach their cultural and natural carrying capacity, hunting becomes even more important. However, wildlife managers don't see hunting and trapping as their only tools to reduce human/wildlife conflicts. There are other tools, too.

One of the first tools managers use is to help people learn about wildlife and how to live with wildlife in harmony. But harmony only goes so far. When the density of a particular species of wildlife such as deer, elk, moose, bear or beaver exceeds their carrying capacity—the environment's ability to sustain them or the public's tolerance to welcome them—trouble begins.

A survey of state fish and wildlife agencies in 2004 indicated that, over the last five years, nuisance wildlife complaints across the country have increased over 20 percent for deer, beaver and bear, yet populations of these same species have increased just over 11 percent. Similar results were found in Canada, with bear complaints estimated by provincial wildlife managers growing three times faster than the bear population.

Part of the reason is that wildlife habitat, such as natural areas, forest and farmlands, and riparian zones, is increasingly lost to development. Excess populations of wildlife have nowhere else to live but in our backyards, thus setting the stage for conflicts.

This emphasizes the point that wildlife populations need some control measures. Well-funded protest groups would have people believe that there are other methods to control

⁷ Dale L. Nolte and Mike Dykzeul. Wildlife Impacts on Forest Resources. National Wildlife Research Center. Fort Collins, CO. 2002.

⁸ International Association of Fish and Wildlife Agencies.

growing populations of wildlife besides hunting and trapping. These efforts confuse the public into thinking that hunting and trapping don't belong in the 21st century. However, numerous studies have shown that not only are other methods such as "birth control" and live trapping very costly, they are *not* effective in most situations. (See "Alternatives to hunting and trapping and their limitations.")

All wildlife management tools must be available to wildlife professionals for them to maintain a balance between wildlife, people, vegetation and people's different interests. All state, provincial and federal agencies across North America responsible for the well being of wildlife agree that, when you eliminate hunting and trapping as management tools, no amount of money can effectively make up the difference.

Hunters and trappers are true conservationists and have actively worked with wildlife managers to help restore several species that were almost extinct a century ago. In the U.S., for the past hundred years, hunters and trappers not only help to manage the resource, they pay approximately \$847 million annually for the privilege to do so. These revenues are used to fund wildlife management programs throughout the country.

Wildlife managers say that budgets could not be increased enough to make up for the loss of hunting and trapping as management tools. Local taxes would have to be raised significantly to pay for professionals to make up for the loss of millions of licensed hunters who currently pay a fee to provide the same service. Such tax and budget increases are not likely, and the cost of increased wildlife damage would likely fall to property owners and consumers.

This report helps to describe the importance of hunting and trapping to the public and to the current and future well-being of North America's wildlife. Within this report, deer, bear and beaver case studies are presented along with examples of various wildlife management issues at the state/provincial level. This report also provides a comparison of costs and effectiveness of alternative methods of population control, and speculates on the potential impacts to the public and wildlife if hunting and trapping were lost as wildlife management tools.

The Potential Costs If Hunting And Trapping Were Lost As Wildlife Management Tools

If hunting and trapping were lost, what would be the potential economic, human and property consequences? This question is impossible to accurately answer. No one knows for certain how large certain wildlife populations could grow if their largest natural predator—people—were removed from the equation. However, we do have information that helps provide insights into this difficult question.

Note that the damage projections provided in this section are only estimates. Without spending millions of dollars on scientific research, which is money vitally needed for more pressing conservation issues, exact answers regarding damage levels and health impacts resulting from a loss of hunting and trapping are not possible. Therefore, we have combined data from reliable sources and experts to help develop a picture of the damage that could occur if hunting and trapping were no longer allowed as legitimate public activities and used as wildlife management tools.

Several general sources provided data for this report. The first was a survey of state and provincial wildlife agencies undertaken in 2004 and 2005 by the International Association of Fish and Wildlife Agencies inquiring about current levels of nuisance wildlife problems and potential trends if hunting and trapping were lost. The second was the USDA Wildlife Services program, the U.S. federal agency charged with curbing damage by wildlife. Various data were provided, with the most coming from a 2001 GAO report to Congress regarding Wildlife Service's activities, programs and benefits. A third source was a compilation of academic reports and news articles gleaned from media across North America.

All dollar figures presented in this document are in U.S dollars unless stated otherwise.

Potential Damages Should Hunting and Trapping Be Lost as a Wildlife Management Tool

- * An additional 50,000 injuries per year from wildlife-auto collisions
- * \$3.8 billion in auto repair costs after such collisions
- * \$1.45 billion in health care and disease control costs just for rabies alone
- * \$128 million in additional aircraft damage, and potentially many more lives lost in airplane-wildlife collisions.
- * In 2003, insurance payouts in Manitoba for wildlife-auto collisions equaled \$20 for every provincial resident.

Vehicle collisions

In the U.S., 4 percent of the nation's 6.1 million auto accidents reported to the police—or 247,000 incidents—involved direct collisions with animals, as reported during a 12-month period in 2001 and 2002 by the Center for Disease Control and the National Highway Traffic Safety Administration. Of these accidents, 26,647 people required treatment for injuries in a hospital emergency room. Deer were involved in 86.9 percent of these injury cases. In addition, an estimated 200 lives were lost in accidents where the driver either collided with an animal or tried to avoid a collision.

The problem is just as significant in Canada. For example, in Manitoba, with a population of 1.1 million people, 10,475 wildlife collisions were reported to Manitoba Public Insurance in 2003. As a result, a record \$20.1 million in insurance claims was paid out in 2003, or \$20 for every Manitoba resident. 2003 marked the fourth consecutive year payouts for wildlife-auto collisions had risen.

If hunting were lost as a wildlife management tool, state wildlife agencies estimate that deer-related damages could increase 218 percent. Such an increase could result in an additional 50,000 injuries per year, and a proportional increase in highway fatalities.

Dr. Michael Conover of Utah State University estimated that each year in the U.S. there are approximately 729,000 deer-auto collisions, including those not reported to police, based on data provided by state authorities. He estimates only half of all collisions are recorded and that the average accident required a \$1,644 repair bill. Based on the estimated 729,000 deer-auto collisions annually, U.S. drivers are paying \$1.2 billion annually for repairs.⁹ This estimate is matched by similar estimates reported by the Government Accounting

⁹ Resolving Human-Wildlife Conflicts: The Science of Wildlife Damage Management. Michael Conover, Ph.D, CRC Press, August 2001, 440pp.

Office in their audit of the USDA Wildlife Services program by reporting each year there are more than one million deer-auto collisions resulting in over \$1 billion in damages.

Based on the IAFWA survey, if hunting were lost as a deer management tool, estimates of increases in deer damage levels average 218 percent. Therefore, costs associated with car accidents could increase to \$3.8 billion, an amount equal to \$13.32 for every person in the U.S.

According to the U.S. General Accounting Office, cases of rabies among fox, coyote and raccoon are increasing, with associated costs estimated over \$450 million annually for healthcare, education, vaccinations and animal control. Trapping is often the only way to manage populations of these wary, primarily nocturnal animals. State wildlife agencies estimate that in the absence of hunting and trapping, wildlife damages would increase 221 percent. This translates into a potential increase of \$995 million in health care and control costs—or \$1.445 billion annually. This amount, which is associated with just one of the many diseases affecting people, is more than the amount given by the U.S. Department of Health and Human Services to local communities in 2003 for terrorism preparedness.

The GAO also reports nearly \$400 million in aircraft damages are reported each year from collisions with wildlife. It was estimated that only about 20 percent of all collisions are reported. Many of these collisions are with geese and other species, when deer cross runways, and other similar events. Even if only a quarter of all species involved in such collisions are managed in part by hunting or trapping, if hunting or trapping were lost as management tools, total reported aircraft damages could increase by an additional \$128 million, or to \$528 million in total. It is impossible to speculate on the additional number of injuries and fatalities that could result.

Government Control of Wildlife Populations:

Potential Damages Should Hunting and Trapping Be Lost as a Wildlife Management Tool

- * \$934.2 million to \$9.3 billion of taxpayer's money annually to control whitetail deer
- * \$132 million to \$265 million of taxpayer's money annually to control furbearers, and
- * \$16 million to \$32 million of U.S. taxpayer's money annually to control just beaver (\$8 million (\$ CAN) to \$15 million (\$ CAN) in Canada).
- * \$17 million (CAN \$) to \$34 million (\$ CAN) in new private or public sector expenditures to remove problem furbearers in Canada.

Predators help keep a balance between wildlife and their habitat and food supply. In the absence of predators, overpopulated wildlife typically suffer from slowly debilitating diseases, starvation, and often move into human communities potentially causing myriad problems. Without hunting and trapping, the public would demand government step in and control problematic wildlife populations. This has already happened in places such as New Jersey (see the deer case study section). Even in much less densely populated jurisdictions like Nova Scotia, localized concentrations of residential development, in otherwise quite

rural areas, has resulted in reduction of opportunity/access for hunting and trapping and consequently local increases in wildlife populations and incidence of human /wildlife conflict and call for government action. In many cases, state and provincial wildlife agencies are not able to step in to help because their budgets are severely limited. People are left no choice but to hire private wildlife control companies to reduce the problem, or pay for the costs associated with repairing animal damage.

Deer

The species causing the most problems is the whitetail deer. Ideally suited to landscapes altered by people through agriculture, suburban landscapes that provide winter forage, and more, deer populations grow despite current levels of hunting activity. However, if not for hunting, deer populations would be much larger. In 2001, according to the U.S. Fish and Wildlife Service, deer were hunted by 10.3 million Americans, more people than the population of Michigan. Deer hunters spent over 133 million days in the field in 2001, taking 6.23 million deer out of a population of 34 million, according to the U.S.'s Quality Deer Management Association. An estimate of the number of deer harvested annually in Canada was not available. Hunters can be viewed as defacto deer control specialists, not only unpaid for their services, but who pay for the privilege of hunting. Hunters spend approximately \$453 million¹⁰ each year in the U.S. on licenses—money that becomes the primary source of revenue for state wildlife agencies and conservation efforts.

Deer populations are not increasing in all areas of the country. Many areas of the western U.S. have seen population decreases, though mule deer continue to move into many western urban and suburban neighborhoods. However, if hunters were not in the field, state wildlife agencies estimate damage related to increased deer herds would grow 218 percent. Canadian authorities project an average growth rate of 80 percent if hunting was lost. Recognizing deer complaints in the U.S. over the past five years have increased 50 percent faster than deer populations, a small change in local deer populations, if the population is already near or exceeds capacity, can translate into large increases in negative impacts.

To control deer populations in areas where hunting is not possible, the cost to government ranges from \$300 for each deer for lethal methods, such as shooting, and up to nearly \$3,000 to relocate a deer. In the 1980s, an overpopulation of deer led to a relocation effort from Angel Island in the San Francisco Bay area. Deer were captured and relocated at a cost of \$431 per deer. Most deer died due to stress of relocation, bringing the final cost to \$2,876 for each deer that survived one year.¹¹ Relocation methods are costly, result in high mortality, and can only be used in limited situations. There are few areas to release deer where survival rates will be adequate. Many relocated deer often endure a slow death due to the stress of being captured and moved to unfamiliar locations or areas already at maximum capacity.

¹⁰ U.S. Fish and Wildlife Service states received \$659 million in hunting license revenues in 2002 from 15 million hunters. The nation's 10.3 million deer hunters represent 68.7 percent of all hunters, which translates to \$453 million in license revenues.

¹¹ Heart and Blood, R. Nelson, 1997 - describes the multi-year efforts to control the population of deer on Angel Island, San Francisco Bay, CA.

No one knows how many deer currently taken by hunters would have to be removed by government if hunting was no longer permitted, but 50 percent of the current hunter harvest is regarded as a reasonable, conservative estimate by the IAFWA.¹² Therefore, U.S. wildlife agencies may be asked to handle 3,114,000 deer annually, at a cost of \$934.2 million to \$9.3 billion of taxpayer's money annually.¹³ This amount represents the typical annual federal taxes for 106,400 to 1.06 million U.S. households.¹⁴ Additional money will still be needed in both countries to control habitat damage from deer not moved or culled. In addition to the dollars needed to manage just deer, further funds would be needed to manage other similar species now managed largely by hunting, including moose and elk.

Furbearers

Most furbearer species are not pursued by hunters. Furbearers, including beaver, raccoon, skunk, and many other species, are typically nocturnal and do not lend themselves to traditional hunting techniques. Trapping is the only practical means to capture furbearer species.

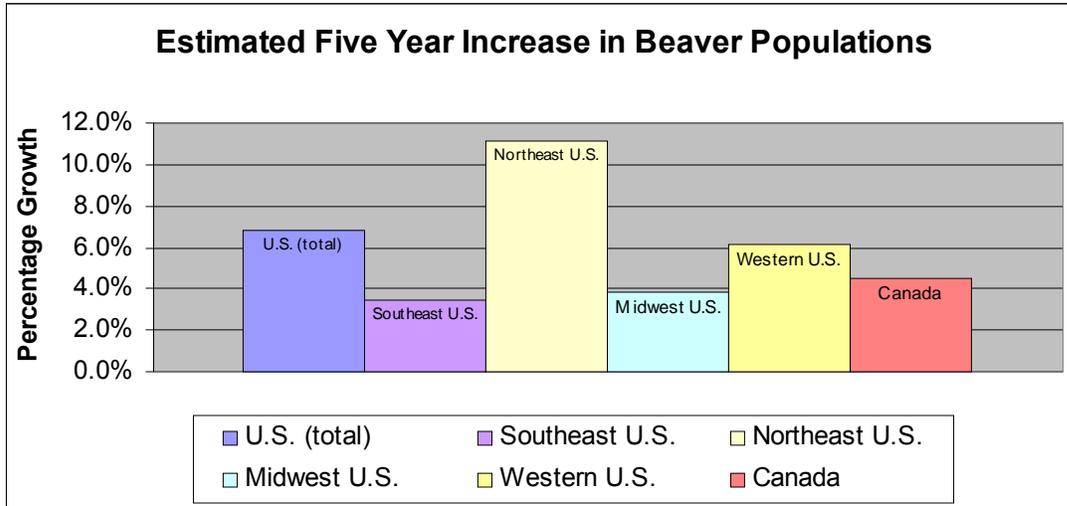
Beaver can be regarded as the most damaging of furbearers. The recent survey of state and provincial wildlife agencies estimates beaver populations have increased 6.8 percent over the past five years in the U.S. and 4.5 percent in Canada. In the table below, New England has experienced the fastest growth in beaver populations, most likely a result of lower fur prices in recent years, which has made trapping less profitable, and increased restrictions on trapping in some states.¹⁵ The West has experienced the second greatest growth rate, also likely due to similar reasons.

¹² The IAFWA's Animal Use Issues (AUI) Committee, when queried at their 2004 annual meeting, reported 75-80 percent to be an acceptable number. The rate would vary significantly from location to location. The overall range could be 20-150 percent. The AUI Committee recommended using 50 percent to help ensure any errors remain on the conservative side.

¹³ To remain conservative, this figure does not include the expected 145 percent increase in the deer herd expected if hunting was stopped, which would raise the estimated cost for government removal programs to \$2 billion to \$20 billion.

¹⁴ The average U.S. household had an income of \$42,228 in 2001. Federal tax rates for this income level was \$3,390 plus 27.5% of all taxable dollars over earned over \$22,600, standard deductions included. Therefore, the average tax paid per household was \$8,780.

¹⁵ Over the past five years, prices have declined, but with an increasing trend seen in the last two years. According to the Fur Information Council of America, these increases are in part attributed to an increase for fur and fur fashion plus recent colder than average winters.



** From the 2004/05 survey of state and provincial wildlife agencies*

The level of trapping activity is influenced by prices, weather and regulations. Fur prices, as with any traded commodity, fluctuate with world demand. When prices are high, more people are willing to take to the woods and trap. Cold winters and deep snow reduce trapping activity. Regulations can be liberalized to encourage additional trapping to reduce populations, or in some jurisdictions, has been restricted based on public perception of trapping.

Regardless of the reasons why people can and cannot trap, trappers provide a valuable public service by helping wildlife agencies maintain a balance between wildlife populations and public acceptance. All trapping is highly regulated by state and provincial wildlife agencies to ensure sustainable harvests and healthy wildlife populations. In 1998, the latest year in which data were collected, U.S. trappers culled 429,000 beaver from an ever-growing population. On average, U.S. trappers earned \$15.97 for each beaver pelt sold, which represents payments by the private sector to help manage wildlife for the common good. Just like the deer example provided previously, if trapping was lost as a wildlife management tool, states would face demands to remove problem animals and control beaver populations. As of 2004, the typical cost to remove a problem beaver was \$75 to \$150, based on estimates from Massachusetts (see the State Summaries). No one knows how many beaver will have to be annually removed by wildlife agencies if public trapping were no longer permitted, but 50 percent of current harvest levels is regarded as a reasonable, conservative estimate by the IAFWA.¹⁶ Therefore, state and local governments may be required to handle 214,500 beaver each year, at a cost of \$16.1 million to \$32.2 million in taxpayer dollars annually, to maintain beaver populations and damages at publicly-acceptable levels.¹⁷

¹⁶ The IAFWA's Animal Use Issues Committee, when queried at their 2004 annual meeting, reported the actual rate would vary significantly depending on location. The committee recommended using 50 percent to help ensure any error is on the conservative side.

¹⁷ To remain conservative, this figure does not include the expected increase in beaver populations should trapping cease. Beaver numbers easily could double, based on state estimates that beaver damages could increase over 100 percent in the absence of trapping. With a greater population of beaver, greater levels of government removal programs would be needed, potentially costing \$32 million to \$64 million annually.

In Canada, Statistics Canada reports at least 164,500 beaver were harvested during the 2002-2003 season at a total value of \$3,718,902 (\$ CAN), or \$22.61 (\$ CAN) per pelt.¹⁸ If trapping was lost, and 50 percent of these beaver needed removing as estimated by the IAFWA, and assuming the cost per beaver removed is \$75 to \$150 (\$ US) each, then private businesses, homeowners and other expected to suffer the damages from increased beaver populations would pay an additional \$7.68 million (\$ CAN) to \$15.47 million (\$ CAN) annually.¹⁹

Given the current condition of most government agency budgets, increases in funding to handle the extra costs and workload resulting from a loss of trapping are not possible. Government programs are not likely to fill the void left by a loss of trapping. Much of the additional work would fall to private-sector wildlife control companies. The bottom line would be the same—people will experience greater levels of wildlife damage and have to personally bear the burden of higher costs. The costs would be in the form of cash paid for services rendered by homeowners, businesses and farms to control or remove problem animals, and to repair greater levels of damage.

Beaver are just one of many furbearer species that can cause damages. The table below lists 1998 harvest figures for the top species harvested in the U.S. The total harvest and value figure includes all 24 species tracked by the IAFWA. The typical trapper earned \$8.50 per pelt in the late 1990s, and all trappers collectively received \$60 million annually for their services. In the recent survey of state wildlife agencies, states reported that in the absence of hunting or trapping, increased wildlife populations would result in 221 percent greater damage. If public trapping as it occurs today were no longer permitted, governments would be called upon to control or remove nuisance wildlife. This is already occurring in some areas (see the Beaver section of this report). Depending on the species, the IAFWA estimates 25-100 percent of current harvest levels for many trapped species may have to be taken by some form of government program if public trapping were lost, just to maintain current damage levels and prevent additional increases. To remain conservative, it is assumed that local, state and federal governments would be required to remove a number of furbearers equal to 25 percent of current harvest levels. Based on the 1998 harvest (the latest year in which data are available), this would equal 1.765 million animals per year.²⁰ Based on the Massachusetts estimate of \$75 to \$150 per beaver removed, government agencies may have to spend \$132 million to \$265 million in taxpayer funds annually to provide basically the same services currently provided by private sector trapping.

Top 10 U.S. Harvested Furbearers, 1998

	<u>Total Number Harvested</u>	<u>Value</u>	<u>Per Pelt</u>
Raccoon	2,896,089	\$31,040,197	\$10.72

¹⁸ Harvest data for Saskatchewan were unavailable and therefore not included in this estimate.

¹⁹ This estimate is based on May 2005 currency conversion rates (\$1 US = \$1.254 CAN).

²⁰ To remain conservative, this estimate does not include the expected increase in many furbearer populations that would result once trapping ceased. Government removal programs would be needed to minimize damages and to control the spread of diseases affecting both wildlife and human populations.

Muskrat	2,183,201	\$6,405,140	\$2.93
Beaver	429,249	\$6,856,354	\$15.97
Nutria	398,037	\$2,060,088	\$5.18
Opossum	321,651	\$391,897	\$1.22
Mink	190,221	\$2,131,668	\$11.21
Red Fox	164,487	\$2,118,307	\$12.88
Coyote	159,043	\$1,523,478	\$9.58
Skunk	101,911	\$241,468	\$2.37
Gray Fox	76,666	\$4,051,230	\$52.84
ALL SPECIES:	7,061,607	\$60,031,835	\$8.50

Source: International Association of Fish and Wildlife Agencies

Estimates are possible for Canada. From the survey of provincial wildlife agencies, it is estimated that damages from problem wildlife would increase 58.3 percent if trapping was no longer available.²¹ The IAFWA estimates 25-100 percent of current harvest levels for many trapped species may have to be taken by some form of government program if public trapping were lost, just to maintain current damage levels and prevent additional increases. Assuming the 25 percent estimate is correct for Canada, combined with fur harvest data reported by Statistics Canada, an additional 223,677 problem animals would need removal annually if trapping was lost.²² At \$75 to \$150 (\$ US) cost per animal, the cost to remove problem furbearers could increase from current levels by another \$16.76 million to \$33.55 million (CAN \$) annually.²³ Provincial wildlife managers reported that this additional cost would likely fall on private households and businesses as expansion of government budgets for such activities is very unlikely.

Canadian Wild Fur Production, All Species; 2002-2003 (Ranked by total \$ CAN value)

	<u>Total Number Harvested</u>	<u>Value (\$ CAN)</u>	<u>Per Pelt (\$ CAN)</u>
Ontario	243,246	\$5,829,596	\$23.97
Quebec	185,014	\$4,829,607	\$26.10
Manitoba	86,839	\$2,998,184	\$34.53
Alberta	106,872	\$2,522,176	\$23.60
Saskatchewan	85,530	\$1,907,720	\$22.30
British Columbia	39,589	\$1,278,067	\$32.28
Newfoundland/Lab.	20,599	\$963,716	\$46.78
New Brunswick	44,333	\$903,626	\$20.38
Northwest Terr.	31,848	\$751,349	\$23.59
(Continued)			
Nova Scotia	26,663	\$672,552	\$25.22
Nunavut	10,957	\$648,954	\$59.23
Yukon	8,263	\$208,582	\$25.24
Prince Edward Is.	4,953	\$96,856	\$19.56

²¹ Most areas of northern Canada are vast, sparsely populated wildernesses. Wildlife populations are expected to increase if trapping ceased. However, damages to human property would be lower than in the U.S. as much larger percentages of Canadian wildlife seldom comes into contact with humans.

²² Harvest data for Saskatchewan were unavailable and therefore not included in this estimate.

²³ This estimate is based on May 2005 currency conversion rates (\$1 US = \$1.254 CAN).

ALL SPECIES: 894,706 \$23,610,985 \$26.39

Data source: Statistics Canada, Fur Statistics 2004, Vol 2, no.1

Ironically, any government-operated furbearer control program will most likely require the use of traps, but only under direct government supervision and permits. In addition, government trapping often results in the waste of the pelt due to its inability to prepare and sell pelts to offset the cost of removal. Government substitutes are much more costly than the regulated market-based approach now used. In some cases, government trapping programs are necessary and required to provide assistance in areas where traditional trapping activity is not enough. The USDA Wildlife Services program is a good example of government needing to step in to help prevent a publicly-owned resource (wildlife) from placing too large a burden on individuals and their businesses. A recent audit by the Government Accountability Office reports that the benefits of USDA’s Wildlife Services wildlife control efforts outweighed costs by 3:1 to 27:1.

Agriculture:

Potential Damages Should Hunting and Trapping Be Lost as a Wildlife Management Tool

- * \$3.027 billion in annual damages to U.S. crops and livestock, and \$35.7 million annually in Canada.
- * A potential increase of \$10.62 in the average U.S. consumer’s annual food bill.
- * A loss of nearly \$1 billion annually in farm and rural landowner income from lost hunting leases and fees.

Problems faced by agriculture are far removed from the thinking of many people in our nation’s suburban and urban regions. However, negative impacts to farmers directly affect food prices paid by everyone. Wildlife, left uncontrolled, can affect agriculture coast-to-coast.

Based on a survey of 12,000 agriculture producers, the USDA’s National Agriculture Statistics Service estimated the following damages to U.S. agriculture from wildlife in 2001:

Field crops	=	\$619 million
Livestock & poultry	=	\$178 million
<u>Vegetables, fruits and nuts</u>	=	<u>\$146 million</u>
TOTAL	=	\$944 million

These losses include destruction or damage to crops in the field and death or injury to livestock. Primary species involved were deer (58% of reported damage to field crops, and 33% of damage to vegetables, fruit and nuts). Over half of all farmers and ranchers experienced some type of wildlife-related damage each year—for example, the value of corn lost exceeds \$90 million, 147,000 cattle lost valued at \$51.6 million, and 273,000 sheep lost valued at \$16.5 million.

State wildlife agencies expect wildlife damages would increase on average by 221 percent nationally should hunting and trapping be lost as wildlife management tools. This level of damage would not suddenly appear in the year after any hunting and trapping moratorium, but would be the expected maximum level of damages after several years of increases. Based on a 221 percent increase, total agricultural damages after a loss of hunting and trapping could reach:

Field crops	=	\$1.987 billion
Livestock & poultry	=	\$571 million
<u>Vegetables, fruits and nuts</u>	=	<u>\$469 million</u>
TOTAL	=	\$3.027 billion

If the agricultural damages projected above were realized, the costs would be passed along to consumers. In the U.S., annual food costs could increase \$10.62 per citizen (assuming all production were shipped to U.S. consumers), which would increase production costs enough to put many marginal producers out of businesses. Either way, as with any increase in production, the consumer will always foot the final bill.

Estimates are available regarding crop damage in Canada from wildlife. A 1998 report released by the Canadian Federation of Agriculture and Wildlife Habitat Canada²⁴ reported wildlife damages to agriculture by region:

<u>Province:</u>	<u>Estimate Annual Damage:</u>
Newfoundland	\$ 25,000
Prince Edward Island	\$ 60,000
Nova Scotia	\$ 554,000
New Brunswick	\$ 185,000
Quebec	\$ 1,356,000
Ontario	\$ 5,155,000
Manitoba	\$ 1,352,000
Saskatchewan	\$ 7,798,000
Alberta	\$ 1,908,000
<u>British Columbia</u>	<u>\$ 4,205,000</u>
CANADA	\$22,598,000

Provincial wildlife agencies expect wildlife damages would ultimately increase, on average, by 58 percent nationally should hunting and trapping be lost as wildlife management methods. Based on a 58 percent increase, annual agricultural damages after a loss of hunting and trapping could reach \$35,705,000.

In addition, hunting and trapping provide farmers and rural landowners with an additional source of much-needed income. According to the U.S. Fish and Wildlife Service, \$995.4

²⁴ Proposal for a National Agricultural Stewardship Program: A Wildlife Damage Prevention and Compensation Program for Farmers. Prepared by the Canadian Federation of Agriculture and Wildlife Habitat Canada. April, 1998.

million were paid to landowners by hunters in 2001 to access private land, an amount equivalent to Montana's top source of agricultural income, cattle and calves. In the absence of hunting and trapping, landowners would lose this income, and for many, the ability to maintain their farms and land. The loss of hunting and trapping would also result in increased financial damages to many agricultural operations, diminish the value landowners hold for wildlife, and reduce their tolerance for wildlife and its associated damages.²⁵

Dwellings & Infrastructure

Potential Damages Should Hunting and Trapping Be Lost as a Wildlife Management Tool

* \$972 million in damages to homes annually

According to Utah State University (Conover), metropolitan households nationally incurred \$4.4 billion dollars in wildlife-related damages annually in the mid-1990s. Almost half of the homes in his random household survey (42 percent) incurred wildlife damage in some form or another costing \$38 in often-unsuccessful attempts to ameliorate the problems.²⁶ Recognizing damages to households are often caused by species that cannot be hunted due to either their non-game status (woodpeckers, etc.) or their inaccessible location in suburban and urban neighborhoods, some of the culprit species in many areas can be trapped or hunted (squirrel, opossum, raccoon, skunk, etc.). The IAFWA regards 10 percent to be a reasonable estimate of the percentage of wildlife damage incidents affecting houses caused by species subject to trapping or hunting. State wildlife agencies on average estimated damages would increase 221 percent, if trapping - the form of wildlife control for most home-damaging species - and hunting were lost as a means to control nuisance and overpopulated wildlife. Altogether, this translates into an additional \$972 million in damages to homes annually, an amount equivalent to the total damages suffered in the U.S. during the 2002 hurricane season. While no data was available for Canada, one might reasonably expect proportionately similar and significant levels of increased annual damage to homes in Canadian jurisdictions.

Overall Wildlife-Related Damages

Potential Damages Should Hunting and Trapping Be Lost as a Wildlife Management Tool

²⁵ Economic Importance of Hunting In America. Southwick Associates, Inc. IAFWA. 2002. Montana livestock data obtained from the USDA Economic Research Service, 2001.

²⁶ Resolving Human-Wildlife Conflicts: The Science of Wildlife Damage Management. Michael Conover, Ph.D, CRC Press, August 2001, 440pp.

- * \$70.5 billion from all forms of health, structural, agricultural and other forms of wildlife-related damages annually
- * This amount equals \$247 for every U.S. citizen, and represents an economic loss with these dollars going to expenditures for items we already had, instead of to new economic growth.
- * Significant decreases in public tolerance for wildlife, reducing public concern and stewardship for wildlife and natural habitat.

What is the cost of wildlife damage nationally? Developing an overall estimate is extremely difficult. For Canada, too little data exists to develop an educated estimate. Many instances of wildlife damage are never reported. Quantifying the costs of many known damages is difficult, too. Local governments do not have the resources to record damages to highways and infrastructure from burrowing animals or beaver, or to report the cost of maintaining parks in the face of overpopulated wildlife and discarding road kill. Wildlife experts have contemplated the cost of problem and nuisance wildlife. Dr. Michael Conover, a wildlife expert at Utah State University specializing in human-wildlife interactions, has estimated total damages at \$22 billion annually, excluding costs related to human illness and injuries.²⁷ Hunting and trapping are the primary tools used by professional wildlife managers to control animal populations. In the recent IAFWA survey of state and provincial (can we say this?) wildlife agencies, 80.6 percent of the responding agencies reported no amount of increase in their budgets could replace the ability to regulate wildlife populations if hunting and trapping were lost as wildlife management tools. Wildlife agencies also reported current levels of wildlife damages would increase an average of 221 percent if hunting and trapping were halted. This would yield a total damage figure of \$70.5 billion annually, an amount equal to 1.58 percent of the annual income for all U.S. households, or \$247 for each person in the U.S.²⁸ Seventy billion dollars represents a major social loss. Instead of being available for investment in new jobs, technologies, education, entertainment or other places that enhance our quality of life, these funds would go towards replacing homes, crops, infrastructure and other items previously paid for. From a social standpoint, it is important to manage wildlife populations and their related damages within levels acceptable by the public. Hunting and trapping are a vital part of this complex balancing act.

Losing hunting and trapping can also affect public tolerance for wildlife. When wildlife populations exceed human tolerance limits, people tend to label wildlife as pests. For landowners and farmers, this problem is worsened when they can no longer earn income from hunting and trapping fees. Instead of remaining a public treasure, wildlife can become a public target. Already, there are some signs that some wildlife populations are coming closer to the limit of public tolerance.

In the 2004 survey of state and provincial agencies, wildlife managers were asked their opinion about the public's level of tolerance of overpopulated wildlife. The results are presented in the table below, and indicate public tolerance might be lessening, but has not

²⁷ Ibid.

²⁸ 105.5 million households in the U.S., per the U.S. Census Bureau. Annual household income in 2001 = \$42,228, per the U.S. Census Bureau yields household income of \$4.455 trillion annually. U.S. population = 285.318 million in 2001.

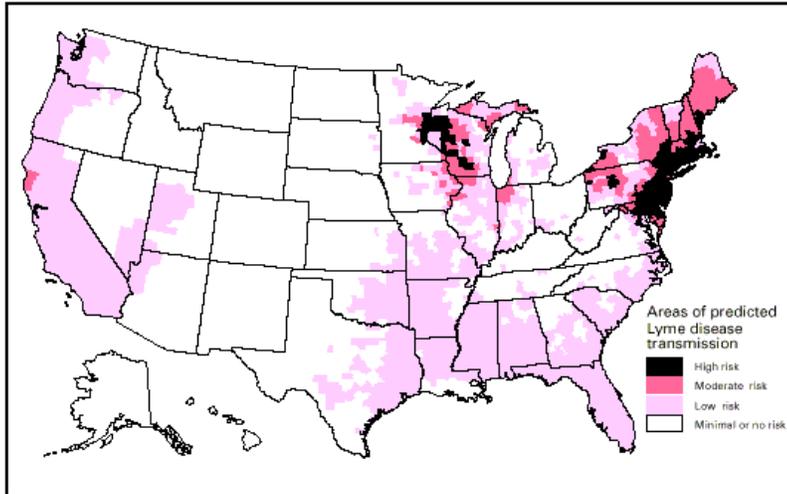
necessarily reached the public's tolerance limits. To ensure the public's limits are not reached, hunting and trapping remain important wildlife management tools.

Percentage of States and Provinces Reporting their Public is Becoming More Tolerant or Less Tolerant of Wildlife Overpopulation Issues						
	<u>U.S.</u>	<u>SE States</u>	<u>NE States</u>	<u>MW States</u>	<u>W States</u>	<u>Canada</u>
Less Tolerant	75.7%	84.6%	88.9%	70.0%	53.8%	72.7%
Stable	18.9%	7.7%	11.1%	30.0%	30.8%	0.0%
More Tolerant	5.4%	7.7%	0.0%	0.0%	15.4%	27.3%

Case Study #1: Hunting Helps Maintain Deer as a Valued Public Resource

Deer are a precious natural resource. They spellbind us with their grace. Their freedom to roam wild without boundaries reaches to our inner soul. But deer can spring without warning into the paths of oncoming vehicles, causing accidents resulting in over \$1 billion annually in damages in the U.S. alone. They extend their grazing into suburban yards, nurseries, orchards and farms. They harbor the ticks that transmit pathogens that cause disease such as Lyme disease, with 23,763 cases reported in 2002 to the U.S. Centers for Disease Control and Prevention. They'll even over-eat their own food supply and face starvation themselves. Deer will browse woodlands to the point that they threaten the future of the woodland forests and therefore all other wildlife that depend on that habitat for survival.

National Lyme disease risk map with four categories of risk

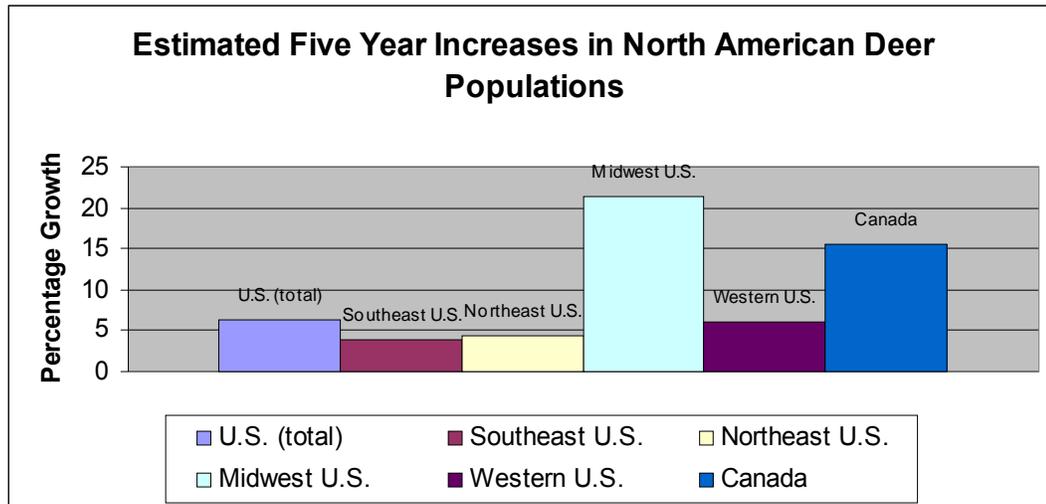


Note: This map demonstrates an approximate distribution of predicted Lyme disease risk in the United States. The true relative risk in any given county compared with other counties might differ from that shown here and might change from year to year. Risk categories are defined in the accompanying text. Information on risk distribution within states and counties is best obtained from state and local public health authorities.

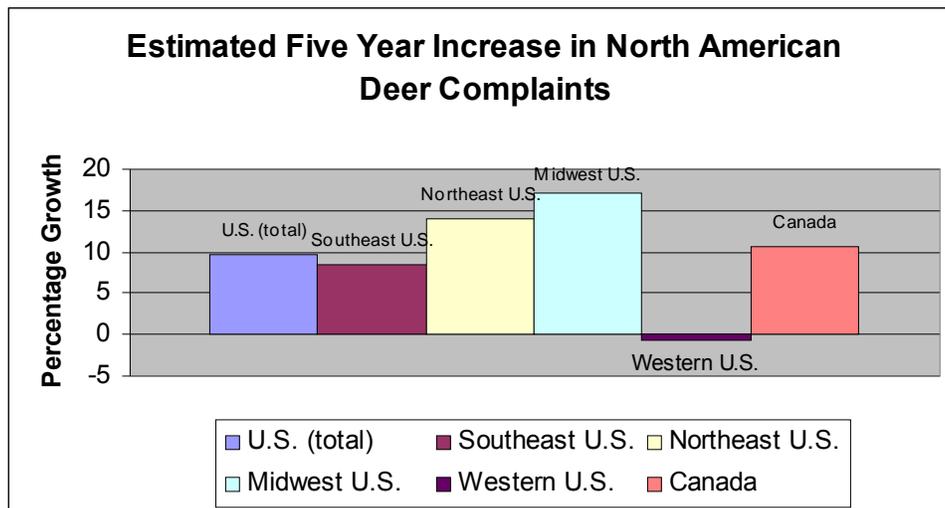
Source: U.S. Center for Disease Control (<http://www.cdc.gov/ncidod/dvbid/lyme/>).

With some exceptions, such as western areas of the U.S. with mule deer, deer populations are at record levels. According to a survey of states in 2004, a majority of states report deer damage complaints are increasing more than twice as fast as deer populations. During the past five years, state agencies' expenditures to address deer damage have increased by an average of 23 percent, with 57 percent of the states reporting budget increases during a time when most states' overall budgets have seen drastic cuts. Personnel-hours assigned to control deer damage have increased 22 percent. In addition, nearly 76 percent of wildlife agencies fear the public is becoming less tolerant of wildlife overpopulation issues. In Canada, over the past five years, provincial wildlife agencies' have spent 6 percent more to address deer damage, even while budgets remained static or in some cases have been drastically cut. Man-hours spent to control deer damage have increased 7.9 percent, and overall deer damage complaints have risen 10.7 percent. While the pattern of increase is

similar in both countries, the lower numbers reported for Canada may in part reflect the dampening effect of more northerly climate on deer population increases in some areas, and of course the combination of the significant northern areas of many provinces and territories where deer are not present and /or where human populations are sparse.



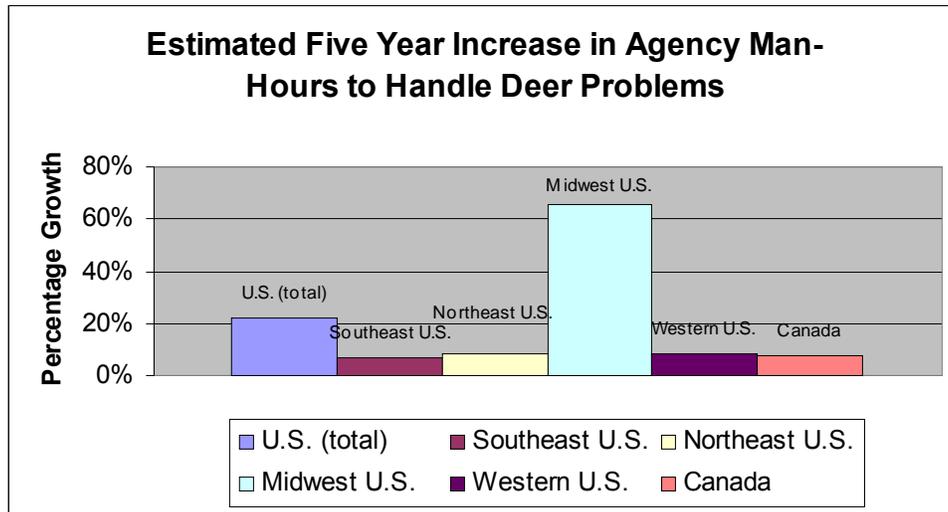
** From the 2004/05 survey of state and provincial wildlife agencies*



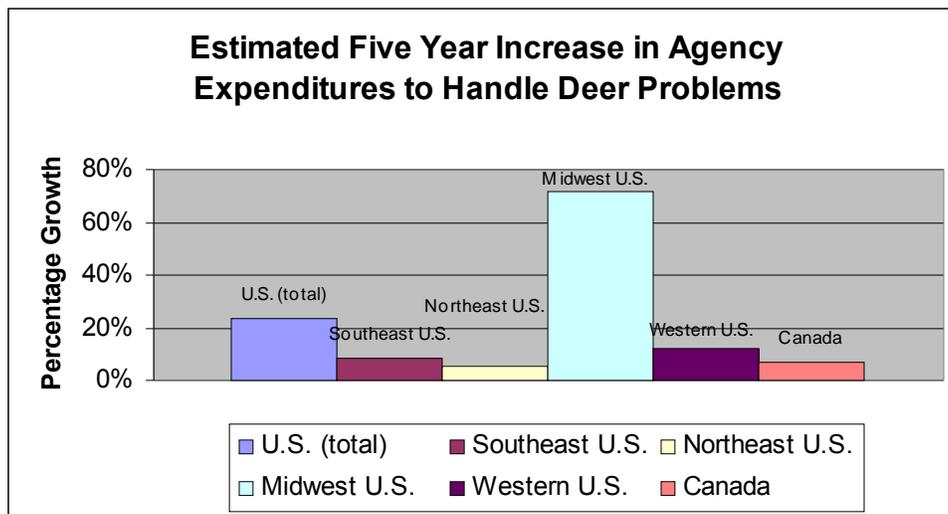
** From the 2004/05 survey of state and provincial wildlife agencies*

Wildlife managers report that the greatest increases in deer populations are where hunting is not allowed or public access to land is limited, such as urban and suburban communities. Wildlife managers consider both biological and cultural elements when managing deer populations. Biologically, they try to keep deer populations at levels where habitat or other wildlife are not negatively affected. Culturally, they try to keep deer populations at acceptable levels where nuisance and human health issues are minimized. Through educational outreach efforts, wildlife agencies try to work with and listen to the public and help them understand ways to minimize damages from deer. But when hunting is not

allowed or public access to land is limited, populations continue to increase and so do the complaints.

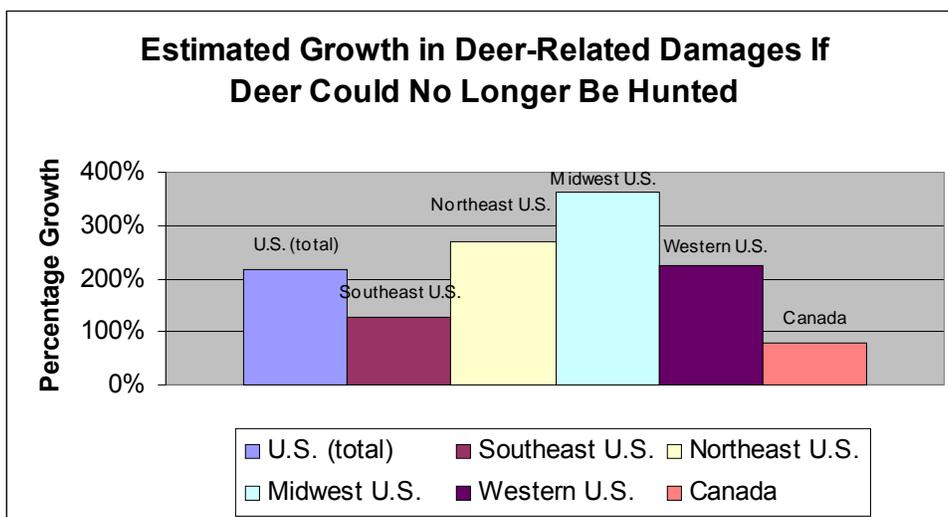


** From the 2004/05 survey of state and provincial wildlife agencies*



** From the 2004/05 survey of state and provincial wildlife agencies*

Left alone with no population control (wild predators, hunting, disease, etc.), deer will eventually destroy their own habitat. Excessive browsing of understory vegetation and elimination of saplings of many desirable tree species in woodlands also reduces the population of ground-dwelling animals and birds. Deer damage to a forest ecosystem can become so great that the forest ecosystem will not recover in a normal person’s lifetime. In a Canadian study (Martin/Baltzinger), researchers concluded that the regeneration of western red cedar is drastically reduced in presence of unregulated, high deer populations. Cedar regeneration is better and browsing stress lower in areas where deer are more exposed to hunting. Wildlife managers agree that hunting is the most important management tool to control deer populations.



** From the 2004/05 survey of state and provincial wildlife agencies*

Typically, in areas where managers want deer populations to expand, they limit hunters to bucks (males) only. However, once biologists need to stabilize or reduce deer populations, they decide on a number of does (females) that must be removed from the population. Therefore, many agencies continually increase the amount of does hunters can take and lengthen hunting seasons in order to bring deer in line with their habitat.

Some communities have found out the hard way that you cannot let deer populations remain uncontrolled. There are hundreds of examples of places where an area at one time in its history did not allow hunting and the whitetail deer multiplied until they caused ecological disaster. Places like Harriman State Park in New York, Bluff Point Coastal Reserve in Connecticut, Ryerson Conservation Area in Illinois, Fontenelle Forest in Nebraska, Thousand Hills State Park in Missouri, Boulder Mountain Park in Colorado, and the coastal area of near Lunenburg and Bridgewater in Nova Scotia have each experienced the effects of overpopulated whitetail deer.

Unfortunately, protest groups continue to confuse the public into thinking that there are substitutes for hunting. In the meantime the controversy drags on and on, and communities lose the things they were trying to protect; the deer die of starvation or disease or the habitat is destroyed.

The following is a list of other methods to deal with deer overpopulation, but each is limiting despite the significant costs associated with each.

- **Trap and Transfer:** Trap and transfer (or translocation) is literally what it says. The deer are trapped, often tranquilized and taken to another location. While this method was a viable option at one time for selected populations, it is no longer a viable option because deer are now abundant and there is no suitable place for excess deer to be released. Also, wildlife agencies at present are concerned about transporting deer across state lines because of the danger of spreading Chronic Wasting Disease. Studies

have shown that about half of all deer trapped and relocated die from capture-related stress and from wandering extensive distances after release resulting in road mortality. Translocation is expensive with costs ranging from \$400 to \$3,000 per deer.

- **Contraception/birth control:** To date, birth control has not been effective in controlling population growth in free-ranging deer herds, and no birth control products are commercially available for managing wildlife populations. They are currently approved for research purposes only. A three-year study (1997-1999) evaluating the effectiveness of birth control (immunocontraception) was conducted by the Humane Society of the United States in cooperation with the Connecticut Wildlife Division and University of New Hampshire. The study, conducted on a deer herd in Groton, Conn., cost approximately \$1,100 per deer treated during the first two years. Despite the cost, the study demonstrated that even with good access to a relatively small isolated deer population (about 30 females), an adequate number of female deer could not be successfully treated to limit population growth.
- **Sharp shooting:** Many state laws prevent the use of sharpshooters. Sharp shooting has been successful in addressing small-scale deer problems, but would be impractical to manage free-ranging deer populations over large areas. Sharp shooting involves hiring an expert marksman who has special authorization from the state wildlife agency to remove overabundant deer. Costs for recent sharp shooting programs have averaged about \$300 per deer removed. To remove the 500,000 deer taken annually by hunters in Pennsylvania with sharp shooting techniques, the state would have to pay \$150 million annually, an amount nearly twice as large as the Pennsylvania Game Commission's current budget.

New Jersey is one state that will provide permits to communities to utilize sharpshooters. About six communities in New Jersey use sharpshooters. Princeton Township uses a combination of methods to control its deer population, with costs in previous years that involved sharp shooting ranging \$100,000 to \$150,000 annually. Other communities within New Jersey are welcoming hunters to their neighborhoods to prevent assuming additional costs. Communities can actually generate additional revenue by charging a special access permit to hunters.

Connecticut's suburban communities are also welcoming deer hunters. In Mumford Cove, a combination shotgun/archery hunt was conducted in 2000. Of the 39 landowners approached by a Mumford Cove volunteer resident committee, 39 agreed to waive the 500-foot firearms discharge restriction to increase the amount of land available to firearms hunters. Over six days, hunters removed the number of deer the community requested. No hunting accidents occurred, and there were no reports of wounded deer in the community. A post-hunt survey indicated that residents were satisfied with the success of the hunt, observed fewer deer in the community and reported less damage to plantings. In addition, the number of residents who contracted Lyme disease in the community was greatly reduced the following year. The following year, areas open to hunting increased.

The Fontenelle Forest Nature Area in eastern Nebraska had maintained a "hands-off" policy with wildlife and basically let nature take its course for 30 years until it was

ultimately recognized that a burgeoning population of whitetail deer was severely degrading native plant communities. In 1995, members of a community task force implemented a hunting season and estimated that deer densities exceeded 28 deer per kilometer. Then, a regulated hunting plan was implemented and proved effective for deer population management. Population models predicted that densities would have increased to 55 deer per kilometer in five years if hunting was not allowed in that area.

The North American conservation model uses regulated deer hunting seasons and bag limits to help maintain a sustainable population of deer and minimize conflicts with humans. Hunting allows deer to remain a valued public resource instead of a pest. Hunters help bring millions of dollars into management programs instead of management programs requiring millions of taxpayer dollars for other control methods. The general consensus of wildlife agencies that completed the 2004 survey said that if hunting were ever lost as a management tool, deer populations would increase by over 200 percent and no increase in agency budgets could effectively replace the loss of hunting as the primary deer management tool.

Controlled hunting termed effective in areas that it is permitted

By: Jill Matthews, Staff Writer; 06/04/2004

Princeton Packet, New Jersey

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MONTGOMERY — The deer-management program the township uses is effective in the areas it is permitted, according to the township's Wildlife Management Committee, but it needs to expand in order to be more effective.

The program, which is managed by the committee, permits deer hunting, mostly during winter months, on some public and private lands by hunters who meet safety guidelines set forth by the township.

"In the areas that we have been monitoring every year, there are less deer now than there was four years ago when we started the program," said Frank Drift, Wildlife Committee chair. "The program is very effective in the areas where we are allowed to hunt."

Mr. Drift estimated that the deer-management program has reduced the overall number of deer in the areas where it has been implemented by about 10 percent.

The Wildlife Management Committee report states that during the 2003-2004 deer-management program, the pickup road kill yielded 291 deer; the deer harvest program yielded 316 deer; one private group of hunters yielded 52 deer; and deer collected from state-owned property was 36. That is a total of 695 deer.

"Our program saves the town money and doesn't cost the taxpayer any money," said Mr. Drift.

The program in place for the 2003-2004 hunting season sold 76 out of 78 available permits at a cost of \$75 each for total revenues of \$5,700, according to the report. The program sent 49 deer at a cost of \$60 per deer to a company to be processed as food for the needy. In total, the program has a surplus of \$2,760.

But the program's success, great in the areas hunters are allowed, is limited by the number of places it can be implemented, said Mr. Drift.

"The deer population is certainly still a problem but I think the hunting program is successful and what we would like to see is the program expanded," said Gwen Farley, Environmental Commission co-chair. "It works so well, we would like to see it operating on more properties."

The Environmental Commission will work with the Wildlife Committee to reach out to private property owners, including corporations and residents, in an attempt to see if they would be willing to open their land to the program, said both Ms. Farley and Mr. Drift in separate interviews. They will also work on an expanded residents' education program to let them know about the environmental harm of a deer population too large for its ecosystem.

In addition to being effective, the program is one of the safest in the state, they said.

Montgomery has several requirements for participants entering its program, including a 10-year background check by the police department; participation in required safety programs given by the township and the state; familiarization with the boundaries of hunting property; and requirements to send in a hunting report at the end of the season.

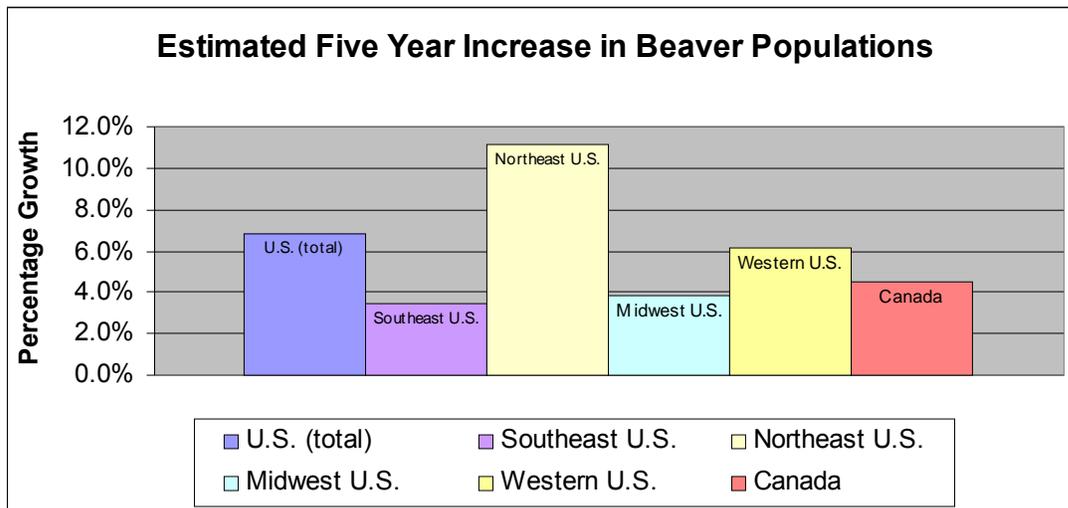
The Township Committee was expected to pass an ordinance amendment to its deer-management program Thursday that would set the number of permits available, types of hunting allowed and hunting locations for the program. This renewal process is completed annually.

Township Administrator Donato Nieman said he has seen fewer deer while driving through the township, but that the township would need to consider completing a deer census to know the number of deer within its borders.

The last infrared deer census by the township was completed in 2001 and determined Montgomery's deer population was approximately 90 deer per square mile, towering above the environmentally sustainable number of about 20 deer per square mile.

Case Study #2: Eliminating Trapping Escalates Beaver Complaints and Costs to the Public

Beaver populations are healthy and well established across North America after being nearly eliminated during the previous 200 years due to unregulated harvests. According to a 2004/05 survey of state and provincial wildlife agencies, a majority of states and provinces report beaver populations are stable or slightly increasing. However, the loss of trapping can upset the current balance. For example, in Massachusetts, a trapping ban was passed through a public ballot referendum. With the inability to utilize effective quick-kill traps and leg-hold and other live-restraining devices during regulated harvest seasons, beaver populations have increased significantly. Along with that increase in the population came an even greater amount of beaver complaints from homeowners, farmers and communities. All experienced varying degrees of economic loss.



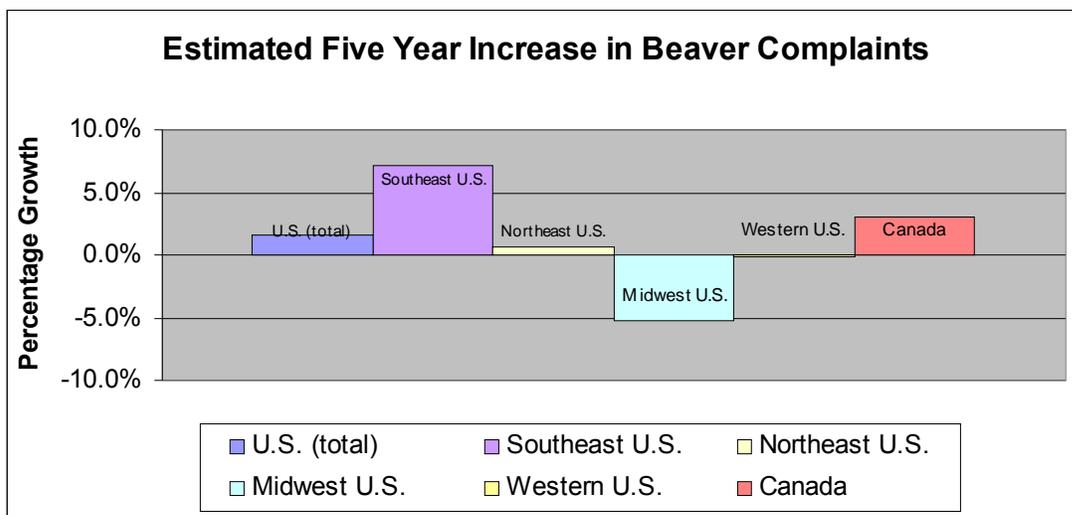
** From the 2004/05 survey of state and provincial wildlife agencies*

Beaver are natural environmental engineers. On one hand, impoundments and cutting by beavers can add diversity and enhance habitats for other species. On the other hand, beavers' action can also have the opposite effects and cause tremendous damage to infrastructure, agriculture and wildlife:

- Beaver damage to roads is a widespread problem for highway departments through much of North America. When beaver occupy roadside areas, they can seriously damage the highway by plugging culverts or constructing dams nearby that flood the road or cause water to impound against the road base. This can result in the formation of potholes and generally destabilize roads. Beaver also cause millions of dollars in damage to other types of infrastructure, including dams, electric utility installations, railroad lines, and water drainage systems.

- Beaver cause damage to timber and is the primary wildlife species that causes damage to southern U.S. timber causing an estimated \$1.1 billion loss annually. Beaver impoundments flood hundreds of thousands of hectares of timber and beaver also fell and gnaw on valuable commercial and residential trees.
- Homeowner's pocketbooks are affected when beaver cut their trees, flood cellars, basements, sewer systems, wells and driveways.
- Beaver dams can restrict access to spawning grounds for many fish, such as cutthroat trout in western states, Atlantic salmon, alewives, sea-run brook trout and other anadromous fishes on the east coast of North America, and many other examples.

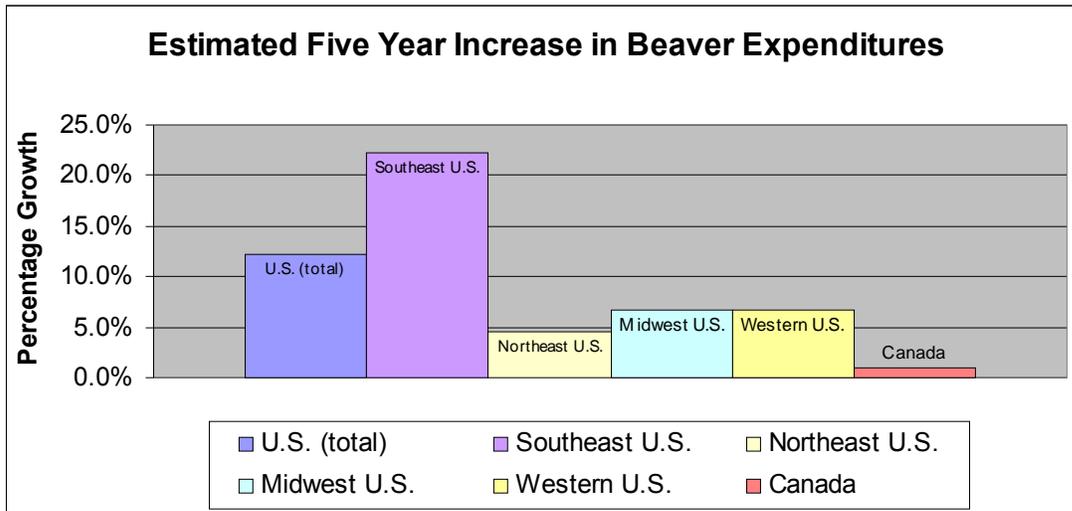
Wildlife managers utilize a variety of tools to maintain a balance between beavers and the public's tolerance level. However, alternative methods only go so far. When traditional trapping is essentially eliminated, beaver populations increase significantly as do complaints, damages and control costs. The public's attitude toward beaver becomes negative, causing beaver to be labeled as pests. Wildlife managers want to maintain beaver as a valuable resource with healthy populations that are in line with the human tolerance level. Without trapping, that may not be possible.



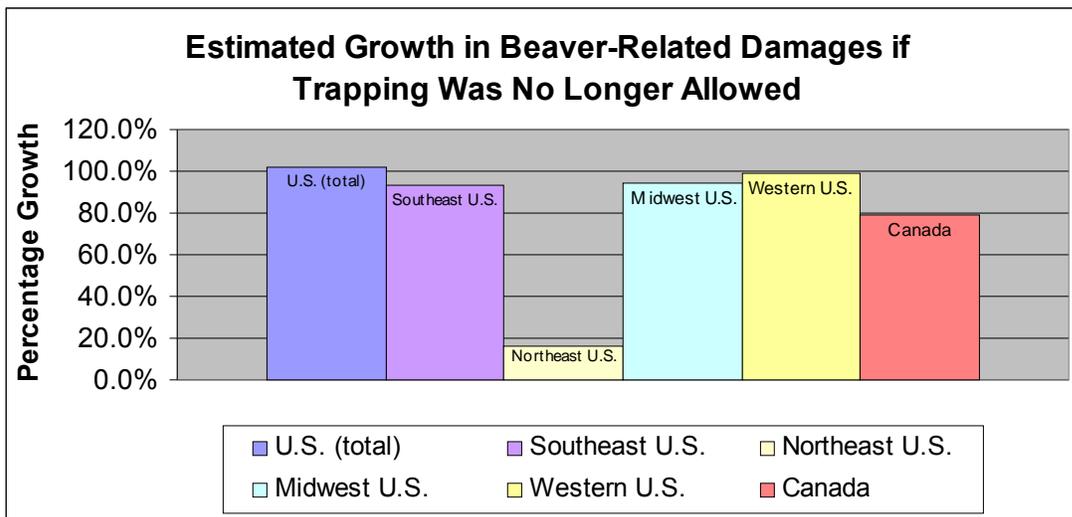
* From the 2004/05 survey of state and provincial wildlife agencies

The 2004/05 state and provincial wildlife agency survey reported that, during the past five years, agency expenditures to address beaver damage increased by 12 percent in the U.S. In Canada, expenditures increased only 0.9 percent, but drastic cuts in provincial budgets prevented any additional increases that may have been merited, some survey respondents reported. The costs of addressing increased beaver problems have often been passed down either to municipal governments or directly to private sector property owners who are experiencing the problems. In addition, wildlife agencies report that without trapping, beaver could increase an additional 102 percent in the U.S. and 78.8 percent in Canada, potentially resulting in significant increases in beaver damage. Beavers are not a growing problem in all regions. In some areas, populations have stabilized, and nuisance complaints

and related agency expenditures have decreased. In wild areas across Canada, a very small human presence results in minimal conflicts. Agency expenditures and man-hours have fluctuated as agency budget cuts, matched with increasing demands to address other wildlife concerns, has impacted the amount of funds and/or man-power agencies can expend on beaver problems.



** From the 2004/05 survey of state and provincial wildlife agencies*



** From the 2004/05 survey of state and provincial wildlife agencies*

When Massachusetts passed a law in 1996 to prohibit or restrict (by permit only) many types of traps, the beaver population exploded from approximately 24,000 beaver in 1996 to more than 70,000 today, and growth is expected to continue rapidly. The statewide beaver harvest dropped from 2,083 beaver in 1995 to 98 beaver in 1998. Complaints related to beaver activity rose from an average of 310 per year prior to 1996 to 615 per year after trapping restrictions went into effect. In 2000, in response to an increasing number of beaver-related complaints, the Massachusetts legislature made changes to the trapping restrictions to allow for the use of conibear traps by permit only for threats to human health

and safety, but this change has done little to stop the economic loss to communities. For example, in 2001, beaver-related debris cost the Spence Highway Department \$25,000. Infrastructure damage to a water reservoir in Leicester cost the town \$80,000. Worcester County's highway department's beaver-related expenses increased from \$4,000 in 1998 to \$21,000 in 2002. Estimates for removing a nuisance beaver range from \$150 a beaver to \$1,000 a colony. Many residents want to change the law and welcome trappers back.

In contrast, in states like Kansas, farmers, landowners and communities have always welcomed trappers and provided them access to their lands. Trapping regulations in Kansas allow beaver populations to be controlled at stable, healthy levels while also keeping human/beaver conflicts at a minimum. Kansas Department of Wildlife and Parks furbearer biologist Matt Peek said, "It's a mutually beneficial relationship between the trapper and landowner." Trappers assist landowners at no cost to the landowner and the trappers benefit by the satisfaction of diverse motivations and the actual monetary value of pelts. As a result, beaver are considered a valuable resource.

Colorado has experienced an increasing number of beaver problems. In 1996, the voters of Colorado passed an amendment banning the use of leg-hold and kill traps. The agricultural exemption of the Amendment allows farmers to trap beavers one 30-day period a year, but most residents cannot do anything to control damage. The most problematic animals are lone male beavers living along the stream banks, making them difficult to trap (compared to colonies living in lodges or dens. Non-lethal methods involve wrapping individual trees, using electrified fencing, and applying paint and sand to bark. These methods are time consuming and are only partially effective. Alternative methods in Colorado include live trapping and shooting. These are not permanent solutions considering the ever-increasing number of beavers and related problems.²⁹

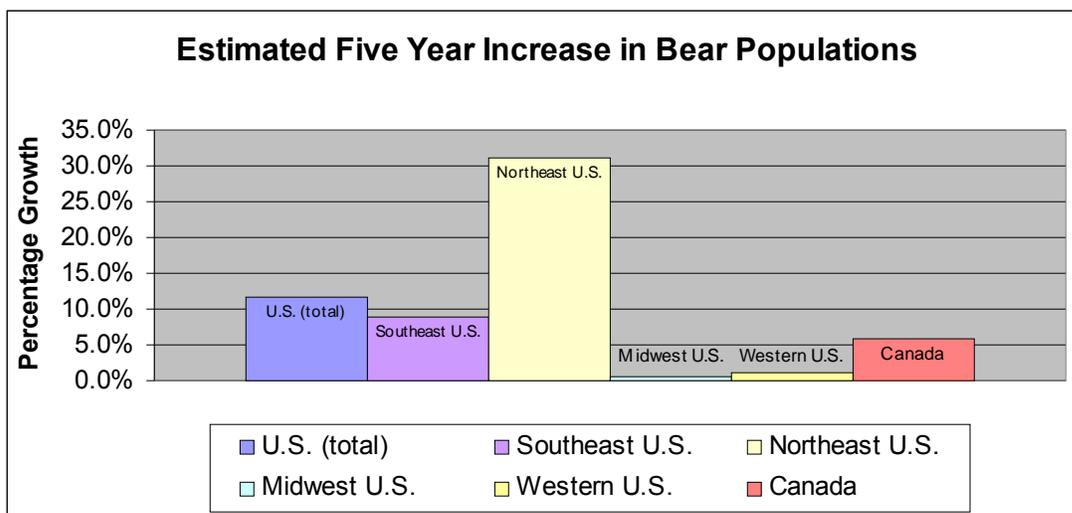
"The beaver over-population problem can be solved by trapping." (Ted Williams, Management by Majority, Audubon, 1999)

²⁹ Colorado State University. Coexisting with Wildlife. 2003.

Case Study #3: Expanding Bear Populations Bring New Wildlife Management Challenges

In the 1800s, bear were almost eliminated in much of North America because they were seen as a threat to humans and livestock and were labeled as pests. Now, bear populations are growing and becoming more widely dispersed across North America. Their populations are increasing and continually extending into new territories, including suburban areas. Suburban developments are also expanding into already established bear territory. This helps to explain that while wildlife managers estimate bear populations have increased 12 percent during the past five years, bear complaints have increased 19 percent, personnel-hours to resolve complaints have increased 22 percent, and agency expenditures to control bear damage have increased 45 percent.

In the U.S., the northeast region has experienced the fastest increase in bear populations with a 31 percent growth rate. As a result, complaints have increased 36 percent, and personnel-hours and expenditures have increased 63 percent and 56 percent respectively. If hunting and trapping were eliminated, northeastern states estimate the bear population could increase an additional 166 percent. In Canada, not one province reported a declining bear population. One half of the provinces reported increased populations while another half reported stable populations. Most of the bear population increases, along with the corresponding increases in related expenses and man-hours to address bear problems, are occurring in the eastern provinces. Bears are reported to have been a nuisance issue in some of the western provinces for some time, where populations remain high, but steady.



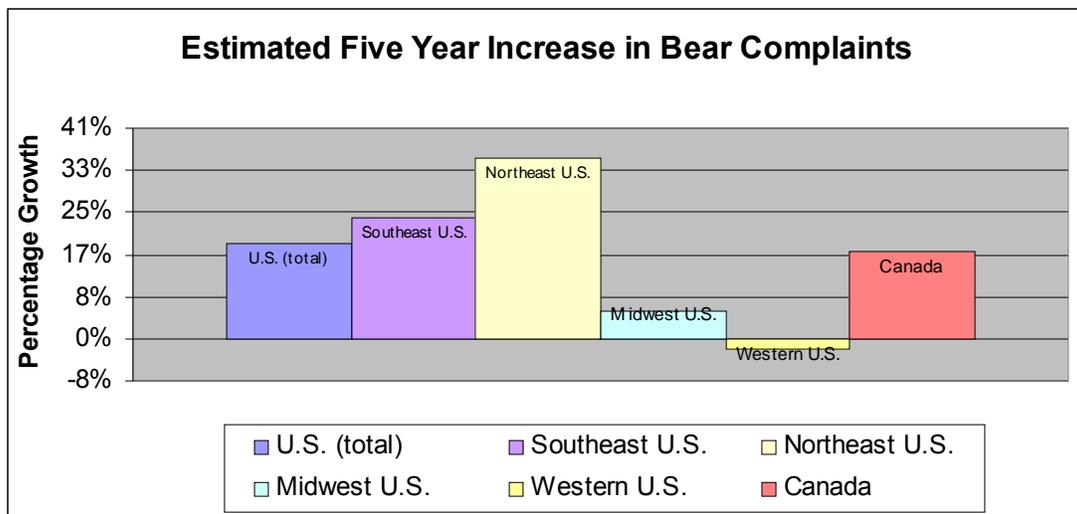
* From the 2004/05 survey of state and provincial wildlife agencies

In 2003, William Siemer and Daniel Decker from Cornell University conducted a survey of people with an interest or concern about black bears and people who can affect or are affected by the black bear management program. This was done to help the Bureau of Wildlife in the New York State Department of Environmental Conservation develop a black bear management plan. In all geographic areas, 80 percent of respondents agreed

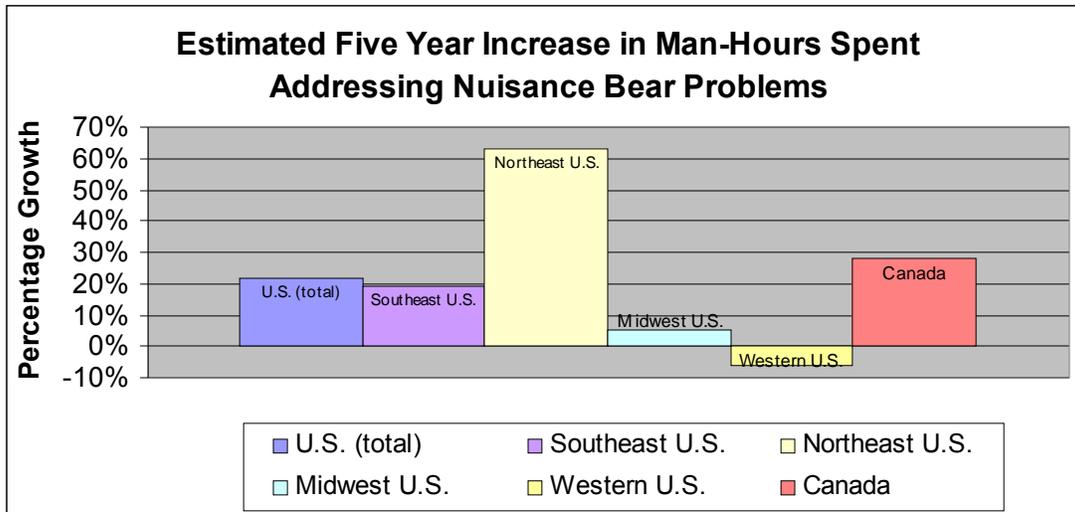
with the statement, “I enjoy having black bears in New York State.” However, about a third of respondents in each geographic area also agreed with the statement, “I worry about problems that bears may cause.”

Today, wildlife managers work with residents in bear country to help them understand how to live with bear and in many areas conflicts have been reduced. Education does help individuals to become more comfortable living with bears, but a certain amount of conflict is still going to occur. During times of increased bear populations and/or decrease in the availability of natural foods, the likelihood of human-bear conflicts increase substantially. Human-bear conflicts are also likely to occur when bears become conditioned to things such as garbage, birdseed and dog food. Occasionally, direct contact with bears can result in physical harm and even death to humans.

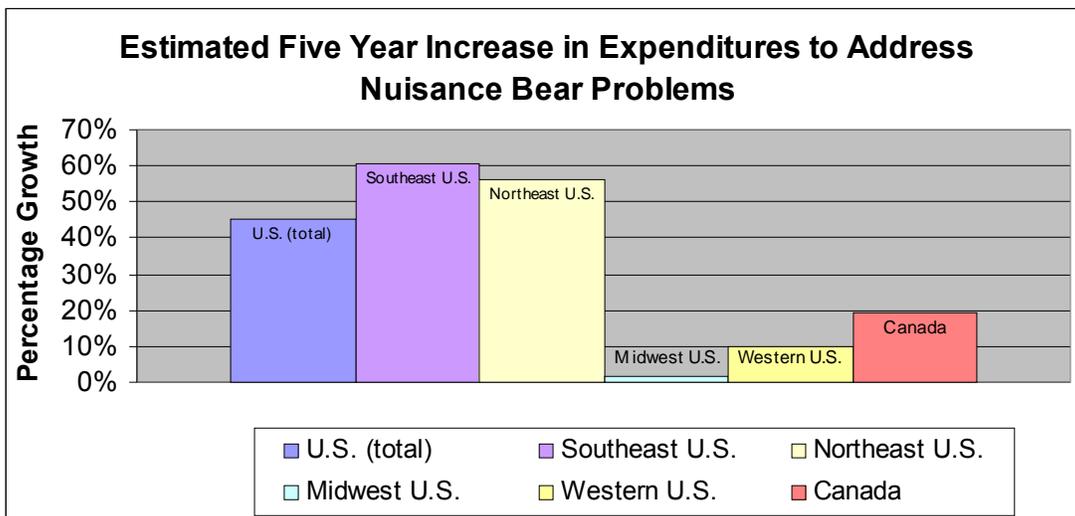
Typical residential complaints include destruction of bird feeders, consumption of pet foods, raiding and damaging of trash containers and dumpsters, digging in compost piles, breaking into sheds and outdoor structures, damaging grease-stained grills and barbecues, and begging food from backyard picnickers. Occasionally, people report that bears have entered their homes.



* From the 2004/05 survey of state and provincial wildlife agencies



** From the 2004/05 survey of state and provincial wildlife agencies*



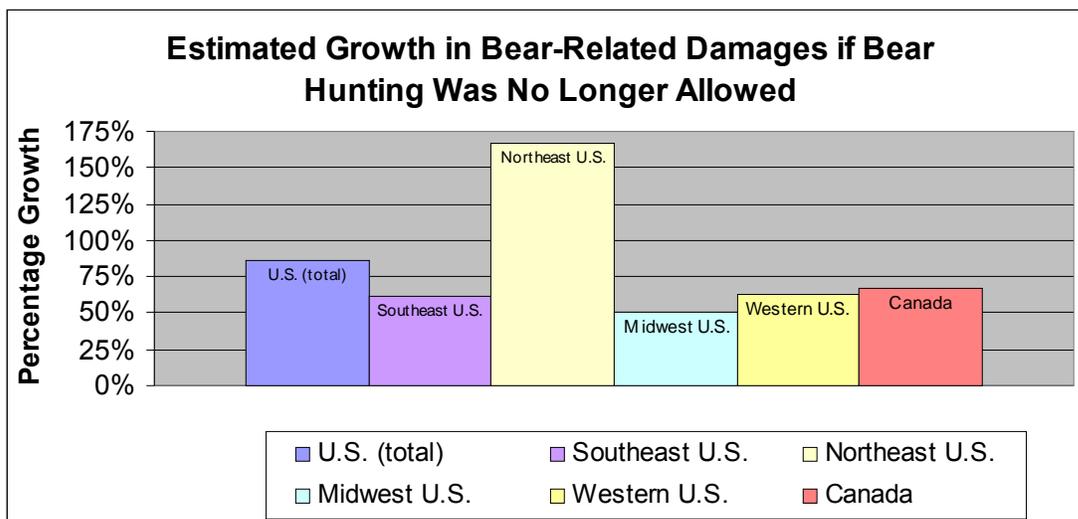
** From the 2004/05 survey of state and provincial wildlife agencies*

Bear can cause a wide range of economic damages:

- Bears can also have an impact on timber. Bears feed on trees by removing the bark with their claws and scraping the sapwood from the heartwood with their incisors. Any age tree is vulnerable and bears occasionally strip entire trees. A single foraging bear may peel bark from as many as 70 trees a day. Damage inflicted through this behavior can be extremely detrimental to the health and economic value of a timber stand.
- Black bears find artificial beehives a treat and eat the honey and larvae. Beehive damage from bears is substantial in many areas of the United States and Canada and losses have exceeded \$200,000 U.S. annually in some states and provinces.

- Black bears cause damage to agriculture, particularly corn. Corn is not only consumed but stalks are flattened, hindering mechanical harvesting.
- Bears kill various livestock and poultry, including sheep, goats, swine, cattle, rabbits, turkeys, and chickens.

To slow the growth of bear populations and reduce conflicts, over half of all states and most provinces have established regulated bear hunting seasons. Many wildlife agencies in jurisdictions without bear seasons, but where bear populations are close to reaching the cultural carrying capacity (the limit that human populations are willing to accept), are beginning to put hunting seasons in their plans. The primary goal is to keep bear populations healthy yet keep their populations within cultural tolerance limits. Wildlife managers do not want bears returning to a nuisance/pest status. Therefore, managers need all of the tools available to them, hunting being one of the most important methods for controlling populations.



* From the 2004/05 survey of state and provincial wildlife agencies

New Jersey, which is the most densely populated state in the nation and the fifth smallest in land area, has a growing bear population that has created a major public debate. Increasing human development in rural northwestern counties of New Jersey, the coincident increase of bear populations within these counties and resulting expansion south and east has resulted in an increase in bear-human conflicts.

Although black bear occurred statewide in New Jersey through the 1800s, by the mid-1900s, less than 100 existed. Since 1953, the New Jersey Division of Fish and Wildlife and the Fish and Game Council have managed black bear as a game animal. Game animal status protected bears from indiscriminate killing, which stabilized the population. Limited hunting was legal in 10 seasons from 1958 to 1970. Based upon data gathered through regulated hunting seasons, the bear population status was assessed and the bear-hunting season closed in 1971. Since the 1980s, the black bear population has increased and its range has expanded due to the protection afforded them by a closed season, coupled with

bear population increases in adjacent states (Pennsylvania and New York) and improved habitat from the maturation of forested areas (increased food supplies).

The 1997 Black Bear Management Plan recognized that cultural carrying capacity had been reached in northern New Jersey and the bear population was large enough to sustain a limited, regulated hunting season. However, in response to a lawsuit, then-Governor Whitman suspended the hunt.

Incidents involving bear damage to property and livestock remained high in frequency and severity. The DFW's Wildlife Control Unit received 1,096 complaint calls in 2001, 1,412 calls in 2002, and 1,308 calls in 2003. These complaints included raids on garbage bins and birdfeeders, attacks on humans, entering homes, killing livestock and pets, and destroying beehives and agricultural crops. Damage estimates are in excess of \$100,000 annually. It is important to note that since 2001 there have been four aggressive contacts with humans reported to the DFW. Of the four, two took place in 2003. Only minor injuries were reported in all instances.

In 2003, the Fish and Game Council decided on a conservative approach to the first bear hunt in over 30 years. Bear hunting was limited to a selected area of New Jersey where the population of black bears was estimated to be 1,777 adult bears. Prior to the season, seven lawsuits regarding the hunt were filed but all lawsuits were decided in favor of the bear hunting season. Although opponents to the bear season speculated that the bear hunt would create trespass and safety problems, no specific landowner complaints involving bear hunters and no hunter accidents were reported. The hunt successfully established that hunters could safely harvest bears in a controlled manner, with 328 bears harvested that year.

Alternatives to Hunting and Trapping and Their Limitations

The causes of wildlife conflicts can be complex. They relate to the type of species and site-specific environmental factors. Once problems develop, wildlife managers must apply the best solutions for resolving the conflict. Often hunting and trapping are the most effective and cost-efficient methods relied on by professional biologists. However, the public often misunderstands the seriousness of the problem, finding the solution to be unacceptable. Wildlife professionals are constantly researching new ways to protect livestock and endangered species from predators. They also have relied on a combination of methods based on the complexity of the specific wildlife problem.

“Letting nature take its course” is not always an acceptable alternative. For example, if certain animal populations were on the decline, it would be unacceptable to allow these species to become endangered. In every case, the public would insist that wildlife professionals step in and find ways to protect the species and its habitat. What if the opposite occurred and a certain animal population had actually exceeded its carrying capacity? Once again, it would be irresponsible to sit by and let these animals destroy the habitat of other species. In fact, this scenario has often led to declines in other animal populations, cases of starvation, and the spread of transmittable diseases such as Lyme disease or rabies.

Obviously, banning hunting and trapping does not end the need to manage wildlife populations, so alternatives will be needed to help professionals maintain a healthy balance between wildlife, habitat and man. What are the options and why are they not always the best solution to problem wildlife?

- **Animal Contraception:** Animal contraception is the subject of much study and misunderstanding. Though some research is promising for a few species, it doesn't address all problem animals and is not always effective when implemented in the field. Where threatened and endangered species are at risk and don't have the benefit of time on their side, controlling population growth of competing species is extremely important. The future cost of such programs is extraordinary, requiring millions of dollars that would severely impact the budgets of fish and wildlife agencies.

For example, the Department of Natural Resources at Cornell University conducted a study during a four-year period in Irondequoit, New York where contraceptive vaccines were used for treating an overpopulation of whitetail deer. The cost of capturing and inoculating 531 deer was more than \$250,000. It would be extremely expensive to treat enough individual deer to successfully regulate their growth. Furthermore, the FDA and wildlife veterinarians have concerns about the long-term genetic and physiological well-being of wildlife populations treated with contraceptive vaccines. See the first case study presented in this document for more examples and cost information.

- **Relocation:** Relocation of animals is relatively ineffective for most species although it has sometimes been successful for some species such as bear and moose. However,

many individuals may try to return to their original homes. Relocation results in the death for many animals due to stress, starvation, predation, intra-species strife, or other factors related to placing an animal in a new habitat. One can hardly say such an ordeal is humane. Other species that have been relocated end up disrupting their new ecosystem, causing many of the same problems as before. Most states and provinces limit the relocations of certain wildlife due to the risk of transmittable diseases such as rabies, distemper, and Chronic Wasting Disease. In addition, relocation efforts are often not feasible because very little unoccupied habitat is available.

- **Guard Dogs:** Some sheep ranchers with hopes of reducing predation by coyotes have employed livestock guard dogs. Though effective in some situations, guard dogs don't always carry out their protective role. This may be a result of ineffective training. Guard dogs, like any animal can become ill, may wander away from the flock, or become overly aggressive causing harm to the livestock they were trained to protect. In the western U.S., guard dogs have been killed by wolves re-colonizing ranges occupied by domestic sheep.
- **Scare Tactics:** Ranchers often use certain "scare" tactics to ward off predators (aversive conditioning). Old-fashioned scarecrows, bells and noisemakers have been replaced by electronic sound and light devices. These techniques include sirens and strobe lights during the night when predation is most likely to occur. Scare devices are also used to chase deer and other species out of agricultural fields. Unfortunately, this tool alone cannot be used in the long term since most animals learn to ignore them after a short period of time.
- **Landscaping:** Some plants, shrubs and trees attract certain types of wildlife. Often homeowners use vegetation and foliage to bring wildlife into their backyards. The opposite approach can also be used to keep nuisance animals away from urban and home landscaping. This approach can reduce consumption of plants but it is generally not effective as many of the nuisance species have lost their habitat and may be starving. In many cases they will eat anything to stay alive, including the flora that was planted to keep them away. Other alternatives, such as repellent sprays, soaps and fertilizers have had a short-term or limited effect in keeping unwelcome animals away.
- **Fencing:** One alternative to protecting crops, domestic pets, or small animals such as chickens, ducks, rabbits or young livestock is fencing. Though costly, fencing will keep some predators out. Unfortunately, coyotes and foxes tend to be skillful climbers, making a roof of netting or wire necessary over small enclosures. Fencing in a limited way can be effective. However, keeping deer or elk out of one's crops or backyard often requires a structure at least eight feet high that includes electric fencing. This is often unaffordable for many farmers and most homeowners. An additional cost relates to maintenance, which is required regularly for fencing methods to remain effective.

Wildlife professionals always consider a number of management options when faced with depredating or overpopulated wildlife. In North America, millions of tax dollars are spent each year on habitat modification, research and new alternatives. Even so, hunting and trapping have proven to be highly effective and cost efficient in many cases. Often, they are

the best methods available to wildlife managers responsible for maintaining a healthy balance between people and wildlife.

State and Province-Specific Examples Regarding Hunting, Trapping and Their Importance as Wildlife Management Tools

States and provinces are experiencing a wide range of problems with wildlife that can, in part, be minimized and managed through professionally regulated hunting and trapping seasons. This section is intended to provide media and others with local examples of human-wildlife conflicts plus examples of how hunting and trapping are important and effective wildlife management tools.

Alabama

Comparing deer, bear and beaver in Alabama, beaver are winning the population growth race. According to Keith Guyse of the Alabama Department of Conservation and Natural Resources, beaver populations have increased by 10 percent over the past five years causing a direct increase in beaver nuisance complaints. The deer population has only increased by six percent, but continues to inflict damage at the same growth rate as beaver. Canada geese have popped up on the radar screen with large population growth over the last five years and a 25 percent increase in damage complaints. So far, man-hours and expenditures to control animal damage has only slightly increased but, if hunting and trapping were no longer available as management tools, that could change. Guyse believes that if hunting and trapping were banned, damage levels could triple for deer and double for geese with beaver adding considerable additional damage as well. In Guyse's opinion, no budget increase could compensate for the loss incurred should Alabama lose hunting and trapping.

Alaska

Alaska has a variety of wildlife species occurring at a range of natural densities in large expanses of basically undisturbed habitats, but no significant overpopulation issues. Generally the species include deer, black bear, brown bear, polar bear, beaver, caribou, Dall sheep, moose, mountain goat, musk ox, wolves, other furbearers and a variety of marine mammals. Populations have remained roughly the same over the past five years, although low densities of some important ungulate populations have led to declines in hunting opportunity. However, nuisance complaints have continued to increase in western and northern Alaska especially for beaver and bear according to estimates from the Alaska Department of Fish and Game. Examples of nuisance complaints include wolves invading communities and taking pets, beavers building dams with associated flooding in/near settlements, and bears invading camps or neighborhoods seeking food. Taking black bears with bait contributes substantially to harvest in some parts of the state with dense forest habitat, and seems to keep nuisance bear numbers down.

California

California Department of Fish and Game (DFG) has recorded 12 bear attacks on humans in recent years. According to the DFG's guidelines, a wild animal attack is defined as "physical contact, injury or death." Other common problems include bears killing livestock, destroying beehive boxes, and breaking into buildings and automobiles in search of food. Without hunting, bears can quickly lose their wariness of people. That wariness is a necessity to minimize unfortunate encounters and conflicts.

Wild pig densities would be unacceptably high on public land in California without hunting. Most pigs in California are on private land due to hunter pressure on public lands. This is greatly appreciated by other land agencies (e.g., BLM) as they typically don't have the pig-related disturbances so familiar to private landowners and parks.

In September 2003, the California Senate passed legislation that created a "Shared Habitat Alliance for Recreational Enhancement" program. The program, once fully established, could benefit sportsmen by encouraging property owners to open their land to hunting and other wildlife-related recreation. Obviously, this could help keep nuisance species populations in check and consequently reduce negative encounters.

Connecticut

Deer populations and nuisance complaints in Connecticut have been stabilized in areas where hunting is allowed, but in areas where hunting is not allowed, such as some suburban communities, deer populations and complaints are increasing dramatically. Biologists estimate that between 15,000 and 20,000 deer/auto collisions occur annually with the greatest incidents occurring in urban and suburban communities. When considering the significance of these figures, remember that Connecticut is the third smallest state in land area. Connecticut has an extensive program that works with suburban areas to implement deer management programs; as a result many of these communities have started allowing special deer hunts. Many residents report the hunts have been very successful in helping to control populations and damages caused by the deer.

Beaver populations are increasing at a healthy rate partially due to fewer and fewer trappers in the state. As a result, beaver nuisance complaints and costs to the agency have increased significantly statewide as well.

Bear are fairly new to Connecticut, with populations moving in from bordering states. The estimated population is approximately 500 bears. Currently the state does not allow hunting, but biologists report that they will need to consider it in the near future recognizing bear nuisance complaints have increased about 300 percent. Agency costs and man-hours assigned to control bear damages have increased about 500 percent.

In areas of the state where there is no hunting, resident Canada geese populations are increasing dramatically. Geese populations have stabilized in areas where hunters have access to private lands. Coyote populations are increasing but agency officials say it is hard to estimate how much. They report the bigger issue is that coyotes are dispersing into heavily populated areas. Nuisance complaints on coyotes and geese have increased an estimated 100 percent over the past five years and the agency's expenses and man-hours assigned to control damages have increased about 30 percent for geese and 75 percent for coyote.

Moose is considered to be the species of concern for the future. Like the bear, they are moving in from neighboring states. One moose was on I-95, one of the nation's most heavily traveled roads, near Old Lyme, Conn. It cost the Connecticut Department of Environmental Protection about \$10,000 to move that one moose.

The DEP says that, if hunting and trapping were lost as management tools, their agency would not exist because all funding for wildlife management comes from hunter's licenses, fees and excise taxes. Plus, no increase in the state budget could make up for the loss of hunting and trapping as management tools to maintain wildlife at current populations.

Delaware

Over the past six years, the Delaware Division of Fish and Wildlife (DDFW) has liberalized its deer hunting regulations to control increasing deer populations that have less and less natural habitat available to them. DDFW Wildlife Administrator Greg Moore said, “The human population is increasing substantially every year and we are continually loosing woodlands and farmlands to shopping centers and neighborhood developments. Although we’ve only had an approximate increase of 15 percent in the deer population, complaints from deer damage have increased 50 percent.”

On what habitat Delaware has left, they are seeing some ecological damage from deer browsing. With deer consuming almost all under-story vegetation (the lower branches and bushes that deer can reach), the future of the woodlands is impacted, negatively affecting other wildlife species as well. From a human safety standpoint, deer-vehicle collisions are increasing as are deer on airport runways.

The DDFW is in the process of developing a long-range deer management plan that will allow greater accuracy in deer density figures, and improve management for problems related to deer and increased urban development. For the 2004 hunting season, the agency has liberalized the season and the number of deer hunters. Previously, hunters were allowed two antlerless deer per hunting license, now they’re allowed two doe and two antlerless deer for a total of four. Plus they can purchase a permit to take an antlered buck. They’ve also added extra firearm days in October to allow hunters to take more antlerless deer. The annual deer harvest is currently taking approximately 51 percent does and they would like to increase that to a 60 or 65 percent doe-to-buck ratio.

Moore says hunting is the only true alternative to control deer populations and said that the loss of hunting as a management tool would result in an ecological disaster.

Public encroachment on beaver habitat has also resulted in a 25 percent increase in beaver nuisance complaints when the beaver population has increased only an estimated 15 percent. Delaware’s trapping season helps to control the beaver population and, when necessary, the agency issues permits to landowners to take beaver out of season.

Nuisance wildlife complaints have also increased for nutria, resident Canada geese and snow geese in Delaware.

Florida

Florida reports minor increases in deer and beaver populations over the past five years but says wildlife complaints have increased about 10 percent for deer and 5 percent for beaver. The Florida Fish and Wildlife Conservation Commission's expenditures for controlling damages caused by deer and beaver have increased between 5 and 10 percent. FWC indicates that no level of increase in their budget would be sufficient to make up for loss if hunting and trapping were lost as management tools.

The Florida black bear is state listed as an endangered species. The populations are fragmented and are at varying levels of population viability. In certain areas, FWC reports that there has been an increase in the number of nuisance bear-related complaints since 1976 (average of 48 calls/year during 1976-1995 and 559 calls/year during 1996-2001). From 1976 to 2003, the most common

bear-related complaints were seeing a bear in an area or yard (40 percent) and bears feeding on garbage (19 percent). Other complaints such as bears feeding on feeders (4 percent), depredating on beehives (4 percent), damaging buildings (2 percent), and threatening or killing animals (2 percent) were far less common. The number of bears killed from vehicle-bear collisions has increased from an average of 24 per year from 1976 to 1995 to 86 per year during 1996-2001. Through education efforts and increased awareness of the threatened status of bears by Florida residents, reporting rates of black bear activity have increased in efficiency in recent years. In addition, during this same time period Florida has experienced a dramatic increase in human population and related urban development, which has implications for the fragmented bear populations in Florida.

Illinois

During the past five years, deer populations have increased slightly in some areas, but overall have primarily stabilized throughout most of Illinois due to harvest liberalization by the Illinois Department of Natural Resources implemented in the 1990s. The IDNR continues to receive limited complaints of deer-related damage/problems statewide. Most complaints have been associated with damage to agricultural crops. However, more special deer-removal permits were issued to airports in 2001 than before. Often, complaints of deer-related damage are received for properties where little or no hunting is allowed, or properties adjacent to unhunted or under-hunted lands.

Over the past five years, beaver populations have increased at a greater rate than deer populations. Beaver nuisance complaints have increased at basically the same pace. This has caused IDNR expenditures and man-hours assigned to control beaver damage to increase about 10 percent.

IDNR biologists say that if hunting or trapping were lost as management tools, no increase in the agency's budget could make up for that loss.

In a survey of greater Chicago metropolitan region homeowners conducted in 2001, 16 percent of the respondents reported coyotes as the most severe threat to human health and safety, whereas raccoons were the species most frequently mentioned as posing a moderate threat, and birds as the least. Raccoons were viewed as the greatest threat to property damage, followed by skunks, squirrels, and Canada geese. When presented with a list of species, homeowners stated Canada geese presented the most problems, followed by raccoons, squirrels and rabbits. Overall, respondents were unaware of the role public agencies play in controlling wildlife.

Iowa

According to Dale Garner of the Iowa DNR, the deer population in Iowa has increased by 25 percent over the last five years and nuisance complaints have followed suit. Consequently, personnel-hours assigned to control the damage and the cost to the agency has increased by 500 percent. Limited hunting access to deer herds perpetuates the problem associated with controlling deer numbers. In most cases, 'private refuges'—where individuals are overprotective of their own hunting opportunities—and public refuges such as state parks or incorporated communities are the primary examples where extra work is needed to solve future chronic deer complaints related to overabundance. It is felt that 40 percent of deer complaints, or much of the complaint volume not associated with these 'refuge' situations, can eventually be solved when more-informed and goal-oriented hunters and landowners work together. In Garner's opinion, if hunting and trapping were no longer available as management tools, the damage levels caused by deer would increase 1,000 percent and no increase in the agency's budget could make up for the loss.

While the deer population is rapidly growing in Iowa, beavers seem to be maintaining a consistent level both in population and damage control expenditures. However, if hunting and trapping were no longer available, he estimates a 30 percent increase in damage levels due to beaver.

Another species causing damage and consequently an increase in wildlife nuisance complaints in Iowa are Canada geese. Garner estimates a 20 percent increase in Canada geese population over the last five years causing the number of man-hours and expenditures to control the damage to double. Again, if hunting and trapping were no longer available, there would be a significant increase in wildlife damage levels, likely 200 percent due to geese alone.

Kansas

In 1998, the Kansas Department of Wildlife and Parks (KDWP) significantly increased antlerless permits issued during the hunting season to control the deer population. Until that time, the deer population had continued to increase and the crop damage complaints and deer vehicle collisions increased significantly. The increased antlerless permits helped to lower the deer population and as a result also significantly reduced crop damages. Unfortunately, deer vehicle accidents have only moderately declined. Insufficient levels of deer hunting have occurred in parts of the state, primarily due to a lack of hunting access. Deer populations continue to increase in those areas.

Trapping regulations in Kansas are liberal to allow for the control of abundant furbearer species. Farmers, landowners and even communities rely upon trappers to control furbearers. KDWP furbearer biologist Matt Peek said "It's a mutually beneficial relationship between the trapper and landowners. The trapper gains access, whereas the landowner benefits from the removal of potential problem animals."

In Kansas, from cutting trees to flooding uplands, beavers are an important source of wildlife damage, but no animal makes people appreciate trapping more than the raccoon. Enough Kansans have had trouble with raccoons getting into their sweet corn, buildings and even homes that most people understand the need to control their numbers and therefore realize the importance of hunting and trapping.

If hunting and trapping were eliminated as management tools in Kansas, problems associated with the deer, beaver and raccoon populations would rise dramatically and no increase in the budget of KDWP would make up for the loss of hunters and trappers.

Louisiana

The Louisiana Department of Wildlife and Fisheries (LDWF) estimates deer populations have increased about 8 percent over the past five years and deer nuisance complaints have increased about 10 percent. Deer damage to crops, orchards, nursery enterprises, forest regeneration and urban landscapes would increase significantly if hunting were not allowed. Additionally, vehicle damage and human injury (as a result of deer/vehicle collisions) would also increase.

Bear complaints in Louisiana have increased approximately 135 percent during the past five years, even though population numbers are still low and bear are only found in three small discontinuous areas of Louisiana. The LDWF does not allow bear hunting. LDWF estimates that the agency's expenditures to control animal-damage for bear have increased by 500 percent. In general, the majority of bear/human conflicts arise when bears become garbage habituated and lose their fear

of people. Bear-vehicle collisions are currently one of the factors keeping bear populations at a low level.

Nutria is a species of major concern in Louisiana. Prior to 2002, the agency had no expenditures for nutria control. However, as of 2004, the agency annually spends approximately \$1.8 million in funds provided by the Coastal Wetlands Planning Protection and Restoration Act to control nutria and their damages to the state's unique and valuable coastal wetlands.

Maine

The Maine Department of Inland Fisheries and Wildlife (MDIFW) reports that over the past five years, deer and bear populations have increased slightly, with turkey populations growing more steadily than deer and bear. As a result, turkey nuisance complaints have increased slightly, while deer, beaver and bear complaints have remained about the same during the past five years.

Maine's deer population has increased to an estimated 255,000 wintering deer. The department's objective is to reach maximum sustained harvests, while remaining productive and reasonably available for wildlife viewing. Objectives include about 10 deer per square mile. In some the northern and eastern areas of the state, MDIFW are managing the population to allow for increases. As expected, the Department has had more success in achieving set goals for deer populations in central and southern Maine, where wintering habitat and other factors are more favorable. Some locations, where access for deer hunters has been limited or denied entirely, support populations of 40 to 100 deer per square mile. These latter areas are substantially above desired population levels and are the source of the most deer/people conflicts in the state.

Of great concern to the MDIFW is a bear referendum initiative that will be on the ballot November 2, 2004. National animal rights groups have organized and funded the ballot initiative that would ban the three traditional methods of bear hunting in Maine. Maine's bear population is an estimated 23,000. MDIFW states that bear nuisance activity will definitely increase if 4,000 bears are not taken annually by hunters. *(Note: at press time, the bear hunting referendum failed, thus allowing the continued use of the three traditional hunting methods).*

MDIFW states that if hunting and trapping were lost as management tools, no increase in the state's budget could make up for this loss in ability to maintain wildlife at current population levels.

Manitoba

Over the past five years, the deer, beaver and elk populations in Manitoba have increased moderately, while the bear population has remained stable, albeit at already high levels. However, Manitoba Conservation has reported that nuisance wildlife complaints have increased 20 percent for both deer and bear. During this time period, there has been an estimated 20 percent increase in man-hours assigned to control animal damage, while expenditures have mostly remained constant.

It is estimated that if hunting and trapping were no longer available as a management tool, wildlife damage levels in Manitoba would increase substantially, with an expected increase of 200 percent for deer and bear, and an increase of 300 percent for waterfowl. A nuisance index reported by the Manitoba Crop Insurance Program, Manitoba Agriculture and Agrifoods, reports the number of agricultural claims for deer was highest in 2001 and in 1998 for bear.

Beaver complaints have increased steadily for the past five years. Since 1991, a beaver removal program has removed troublesome beavers damaging private lands, crops and public property. Conservation Minister Stan Struthers stated damage caused by beaver activity to provincial and municipal infrastructure and private property exceeds a million dollars annually. This program employs trappers experienced in humane trapping methods to deal with problem beaver.

In addition, with a population of 1.1 million people, Manitoba experienced 10,475 wildlife collisions in 2003 (Manitoba Public Insurance). As a result, a record \$20.1 million in insurance claims was paid out, the fourth consecutive year payouts for wildlife-auto collisions had risen.

Massachusetts

The primary wildlife issues in Massachusetts are beaver and coyotes. In 1996, a trapping ban known as the Wildlife Protection Act or “Question 1” was passed in Massachusetts through a public ballot referendum. The inability to utilize effective quick-kill and live-restraining devices, such as conibear traps and foot-hold traps, during regulated harvest seasons has affected the harvest of many furbearing species. Since 1996, cage-type traps are the only trap type allowed in Massachusetts during the regulated trapping season.

It is difficult for the Division of Fisheries and Wildlife to respond to questions regarding complaints related to beaver due to the change in legislation in 2000, which gives the emergency trapping permit process to local boards of health. Therefore, the total economic impacts of restricted trapping and increased wildlife population levels are widely unknown and very difficult to estimate. However, the following provides some of the human conflict issues and examples surrounding furbearing species when they are at high population levels.

Beaver: The traps used to harvest beaver prior to 1996 included the conibear trap and foothold live-restraining devices. After the 1996 ballot referendum passed, statewide harvests of beaver dropped from 2,083 beaver in 1995 to 98 in 1998. Complaints related to beaver activity rose from an average of 310 per year prior to 1996 to 615 per year after trapping restrictions went into effect. Subsequently, population levels grew from an estimated 22,000 in 1994 to 65,000 in 2001. In 2000, in response to an increasing number of beaver related complaints, the Massachusetts legislature made changes to the trapping restrictions to allow for the use of conibear traps by permit only for threats to human health and safety. As a result, licensed problem animal control agents have increased due to the demand for the removal of wildlife species outside of harvest seasons.

Expenses of beaver related issues are incurred by highway and road departments through road and highway flooding, and by homeowners who experience flooded septic systems, wells and basements. Estimates of beaver-related expenses for several town highway departments in Worcester County ranged from \$4,000 to \$21,000 per year from 1998-2002. Infrastructure damage to a water reservoir in Leicester cost the town \$80,000. Keeping surface water drainage systems (culverts) free of beaver-related debris cost the Spencer highway department \$25,000 in 2001. Towns reported an average of \$1,000 per beaver colony to hire trappers to remove individual colonies in specific areas. A 2004 survey of 100 Massachusetts towns by the Department of Public Works, as reported by the Division of Fisheries and Wildlife, estimated that \$500,000 was spent by these municipalities for road and infrastructure repairs related to beaver activity. Not included were the additional costs associated with contamination of public water supplies, flooding of private property, breaching dams, removing nuisance beaver, etc. Therefore, this estimate is only a minor part of the costs related to beaver problems. Homeowners face similar

expenses when wells, septic systems and basements are flooded. Residents must also pay for removal of beaver and/or the installation of water flow devices. Estimates for trapping beaver can range from \$150 a beaver outside of the beaver harvest season and \$75 a beaver during the harvest season, to \$1,000 a colony. Installation of a water flow device ranges from \$500-\$700 depending on the site and design.

Coyotes: The harvest of coyotes was also affected by trap restrictions. Statewide harvests of coyotes during the trapping seasons of 1995 and 1996 with soft-catch traps were 53 and 47 respectfully. After 1996, only 3 coyotes have been harvested with box-type traps statewide. The difficulties of trapping a coyote in a box-type trap, coupled with the decreasing amount of land open to coyote hunting in Massachusetts, has decreased the coyote harvest. This has allowed for accelerated expansion and growth of the coyote population in Massachusetts to all areas except for the islands of Martha's Vineyard and Nantucket. Areas with coyotes include some of the most densely human populated areas of the Commonwealth. Common complaints related to coyotes include the depredation of pets, safety of children, and general nuisance issues.

Once the public incurs excessive levels of wildlife damage, the responsible species begin to be considered "pests" and the inherent value associated with this species declines. Instead, it is important to maintain wildlife species as valued natural resources by relying on professional wildlife managers and trusting them to effectively employ hunting and trapping methods along with other management tools.

Since Massachusetts is the third most densely populated state in the country, many people are surprised to hear that the state's black bear population is healthy and growing. Black bears were once considered to be varmints and agricultural pests, but have been regulated as a game animal in Massachusetts since 1952. Since substantial changes were made in the 1970 hunting season, the black bear has become prized among Massachusetts sportsmen. In response to well-managed hunting seasons, changes in forest structure and composition and increased availability of supplemental fall foods, the bear population has grown from about 100 in the early 1970s to about 2,000 in 2002.

Nevada

The Nevada Department of Wildlife (NDW) estimates population increases over the past five years of approximately 15 percent for beaver and 30 percent for elk and pronghorn antelope. Over the past five years, despite a decrease in the deer population, there have been a growing number of deer nuisance complaints. Beaver and bear nuisance complaints have also increased slightly but elk and pronghorn nuisance complaints have increased dramatically. NDW man-hours and expenditures to control damages from these species have increased proportionally, and elk-related expenditures have increased 1,000 percent as a result of legislative approval of an elk damage/compensation fund. In the last couple of years, Nevada has fenced agriculture to a much greater extent than in the past. The funding for this program comes from sportsmen access fees. Without hunting license revenue and federal matching dollars, Nevada would have no money to deal with depredation problems for any of the species.

New Hampshire

New Hampshire Fish and Game wildlife biologist Mark Ellingwood states that generally speaking, wildlife complaint rates appear to be increasing as a result of increasing human populations. Increasing human populations tend to reflect population urbanization that is characterized by decreasing wildlife tolerance and increasing demand for public services. These trends coupled

with the urban adaptability of deer and bears in particular, but other species as well, make future increases in complaints likely, despite pro-active resource investments by agencies. Opposition to baiting and hounding of bears will further complicate bear management, with likely negative social impacts.

New Hampshire Fish and Game (NHF&G) works in close partnership with USDA APHIS Wildlife Services (WS) in New Hampshire. NHF&G has a cost-share animal damage control program with shared staff. While NHF&G investments and staff resources have been stable or modestly increasing, WS has added substantially to their budget (+\$150,000 per year) and personnel (+2 full-time additional staff) to strengthen their partnership, and in response to growing demands.

WS estimates the following increase in person-hours over the past 5 years: deer = 25 percent, beaver = 0 percent, bear = 50 percent, geese = 15 percent, all other species combined = 15 percent. WS estimates the same percentage increase in dollar expenditures for each species, respectively.

In some regard, trends in complaints likely reflect the establishment of a cost-shared fencing program (deer), enhanced public educational efforts (bears), and creation of licensed nuisance wildlife control operators (beaver), all of which impact complaint rates. Consequently, wildlife population status, agency resource expenditures, and complaint rates may not correlate in predictable fashion.

Ellingwood says that in the absence of hunting and trapping programs, wildlife populations and damage complaints could be expected to escalate rapidly. It would be impractical to assume that additional resources could be found to address problems that would result in the absence of hunting and trapping.

New Jersey

Despite being the most densely populated state in the nation and the fifth smallest in land area, New Jersey provides habitat for an incredible number and diversity of wildlife species. Wildlife management in the state is not without challenges, but even with the threat of habitat loss confronting many species, proper management has allowed New Jersey wildlife to thrive.

Bear: Bear tend to get the most political attention in New Jersey. Increasing human development in rural northwestern counties of New Jersey, the coincident increase of the bear populations within these counties, and resulting expansion south and east has resulted in an increase in bear-human conflicts.

Although the black bear occurred statewide in New Jersey through the 1800s, by the mid-1900s, less than 100 existed. Since 1953, the New Jersey Division of Fish and Wildlife (DFW) and the Fish and Game Council have managed black bear as a game animal. Game animal status protected bears from indiscriminate killing, which stabilized the population. Limited hunting was legal in 10 seasons from 1958 to 1970. Based upon data gathered through regulated hunting seasons, the bear population status was assessed and the bear-hunting season closed in 1971. Since the 1980s the black bear population has increased and its range has expanded due to the protection afforded them by game animal status, coupled with bear population increases in Pennsylvania and New York and improved habitat in New Jersey provided by the maturation of forested areas (increased food supplies).

The 1997 Black Bear Management Plan recognized that cultural carrying capacity had been reached in northern New Jersey and the bear population was large enough to sustain a limited,

regulated hunting season. However, in response to a lawsuit, then-Governor Whitman suspended the hunt.

Incidents involving bear damage to property and livestock remain high in frequency and severity. The DFW's Wildlife Control Unit received 1,096 complaint calls in 2001 and 1,412 complaint calls in 2002 and 1,308 complaint calls in 2003. These complaints ranged from raids on garbage bins and birdfeeders to bears attacking humans, entering homes, killing livestock and pets or destroying beehives and agricultural crops. Damage estimates are in excess of \$100,000 annually. It is important to note that since 2001 there have been four aggressive contacts with humans reported to the DFW. Of the four, two took place in 2003. Only minor injuries were reported in all instances.

In 2003, the Council decided on a conservative approach to the first bear hunt in over 30 years. Bear hunting was limited to a selected area of New Jersey where the population of bear was estimated to be around 1,777 adult bears. Prior to the season, seven lawsuits regarding the hunt were filed but all lawsuits were decided in favor of the bear hunting season. Although opponents to the bear season speculated that the bear hunt would create trespass and safety problems, no specific landowner complaints involving bear hunters and no hunter accidents were reported. The hunt successfully established that hunters could safely harvest bears in a controlled manner.

New Jersey Division of Fish and Wildlife wants the black bear to remain a public asset rather than a cost liability to the citizens of the state. Hunting is therefore considered one element of an integrated approach to manage bear populations.

New York

Over the past five years, Canada geese populations have grown faster than any other wildlife species in the state of New York. However, the greatest increase in wildlife nuisance complaints during the past five years concern bear and deer. While beaver complaints have remained about the same during this period, beaver complaints still exceed that of bear and deer. In 2003, the Department of Environment Conservation's Bureau of Wildlife received 1,922 beaver nuisance complaints, 1,573 deer nuisance complaints and 985 black bear nuisance complaints.

New York's growing deer herd of approximately one million animals, coupled with slowly declining numbers of deer hunters, results in growing concerns about meeting future deer management needs. In 2000, the reported financial loss due to deer damage had reached more than \$3 million. The peak of deer-vehicle collisions came in the 1990s with 34 human fatalities as a result of deer/vehicle accidents with eight of those occurring in 1998. The Bureau of Wildlife initiated an effort in spring of 2000 to consider changes to help maintain an effective deer management program. Part of those changes included liberalized issuance of antlerless permits and bag limits.

In recent years, black bears have become more widely distributed across the state, and interactions between people and bears have increased. These developments prompted DEC staff to develop a new framework for making decisions about black bear management. DEC conducts wildlife management in a way that achieves a range of outcomes that people desire: continued existence of wildlife; opportunities to utilize wildlife in sustainable ways; and relief from problems related to wildlife. Their bear management programs have included public education, habitat protection and bear population management. New York had a record bear harvest in 2003 of 1,854 bears. In line with their plan, the Bureau of Wildlife has proposed expanding the area opened to bear hunting.

Beaver populations have increased in New York due to changes in land use patterns across the state. Abandonment of farmland and a subsequent increase in the amount of forest cover has provided more beaver habitat.

The Bureau of Wildlife stated that if hunting and trapping were lost as management tools, no increase in the agency's budget would be sufficient to cover the additional demands of managing growing wildlife populations.

North Carolina

For the past five years, North Carolina has seen an increase in wildlife nuisance complaints concerning bear, beaver, and deer. The North Carolina Wildlife Resources Commission reports that the deer population has remained stable during this time period, but beaver populations have increased in many areas. Reports of deer damage to crops have declined while more agency technical guidance efforts have been directed to urban/suburban deer issues. Bear populations have reached modern highs in the coastal region and may have stabilized while mountain bear populations appear to be experiencing continued growth. The increase in bear complaints has occurred because of increasing bear-human conflicts in mountain counties while coastal complaints have remained constant over the last decade. Managing bear-human conflicts in both regions has required more effort and expenditures to educate the public and deal with public concerns. If deer and bear hunting were no longer available as a management tool, the subsequent public outcry from perceived and real nuisance issues most likely would elevate to a level where no agency budget increase could offset the losses. Additionally, if beaver trapping were no longer available, significant monetary losses would occur statewide from damage to timber, crops and highways.

Nova Scotia

Over the past five years, deer and raccoon populations in Nova Scotia have decreased, while coyote and bear populations have increased. Beaver populations have remained constant. Nuisance wildlife complaints have only slightly risen for bear while complaints for most other species have remained stable or slightly decreased. The person-hours assigned to control animal damage has increased 100 percent for bear but decreased 40 percent for deer. Most nuisance control work is completed by private nuisance wildlife operators, and the Department of Natural Resources is involved for special situations intervention like bear, beaver and coyote. Over the past five year period, expenditures on controlling animal damages have increased 60 percent for bear, while expenditures have decreased 40 percent for deer. Hunting and trapping is credited for helping keep populations of many potentially damaging species in check. However, if hunting and trapping were no longer available as a management tool, wildlife damage levels in Nova Scotia would be expected to increase 150 percent for both beaver and bear. Raccoon damage estimates would also be expected to increase 100 percent. Deer populations and damage estimates are typically affected by the severity of the winter.

The Nova Scotia Department of Natural Resources states that the public reacts to wildlife issues mostly when it impacts humans. For example, the Canadian National Railway has reported beaver flooding of rail beds has created significant safety issues and, despite the overall decline in deer numbers, residential developments in rural communities have experienced a significant rise in damage plus an increase in deer-auto collisions. Special harvest measures have been implemented to encourage increased harvest to keep wildlife-related damages at publicly-acceptable levels.

Oklahoma

In Oklahoma, deer, bear and Canada geese populations have increased and nuisance complaints for bear and Canada geese have increased as well. Beaver damage concerns more landowners than damage caused by any other wildlife species in Oklahoma. It is hard to believe that beaver were considered nearly extinct as recently as 1920 and then reached an estimated all-time high in 1991. As populations of beaver increased, beaver damage complaints also became more numerous with agencies responsible for handling animal damage complaints receiving more than 1,000 reports of beaver damage annually. If hunting and trapping were lost as management tools, Oklahoma reports that no increase in the state budget would make up for the loss.

Pennsylvania

The Pennsylvania Game Commission reports that deer, beaver, bear and geese populations have remained relatively stable over the past five years, but bear and geese nuisance complaints continue to increase. The Commission has had to increase person-hours and expenditures 15 percent for bear damage control and 20 percent for geese damage control.

During the mid 1970s, Pennsylvania's bear population ranged between 3,000 and 4,000 animals. Today it is estimated to be around 15,000. This distribution of bears in Pennsylvania has also expanded with 49 counties reporting bear harvests by the year 2000. Bear harvest reached approximately 3,000 during the past two years (2002 and 2003). The agency's Nuisance Black Bear Management Committee reported that feeding bears was a leading cause in both nuisance complaints and in the chance of bears injuring humans. As a result, in January of 2003 the Pennsylvania Board of Game Commissioners approved a regulatory change that bans the intentional and unintentional feeding of bears.

Pennsylvania joined a growing list of states that expanded antlerless deer and doe permits to reduce the population of approximately 1.6 million deer to reduce the number of damage complaints and to obtain a better balance between the doe and buck harvest.

Saskatchewan

Saskatchewan Environment, in a twenty-one year period from 1980 to 2000, paid \$57.8 million (CAN \$) to townships as compensation for waterfowl damage. In a five-year period from 1996-2000, Saskatchewan Environment paid more than \$8.1 million (CAN \$) respectively to townships as compensation for damage from big game species. When hunters and hunting are available, such damages can be minimized. The five-year payout was limited by the amount of funds available and could have been greater if more funds were available.

South Carolina

South Carolina reports that the bear population has increased slightly over the past five years while deer populations have decreased slightly and beaver populations have remained relatively the same. However, nuisance complaints for deer, beaver and bear have each increased moderately. Bears have resulted in the greatest cost to the agency in person-hours and expenditures to control animal damages.

The social cost of South Carolina's deer herd has grown substantially over the past two decades. Reported deer vehicle accidents have grown from a minimum of 592 in 1975 to a high of over

5,000 in recent years, an increase of more than 900 percent. Although there has not been a corresponding nine-fold increase in the deer herd, there has been a substantial increase in vehicle miles driven and miles of roadways. As South Carolina continues to develop, traffic will increase. Deer-vehicle accidents could increase even with a decrease in the state's deer population.

Farmers also report substantial deer damage to crops. The number of deer depredation permits issued by the SCDNR has increased from 68 in 1982 to over 800 in recent years. This represents an increase of over 1,000 percent. Again, this problem is not due solely to a change in the deer population. Over the past 15 years, the acreage of soybeans has declined by 60 percent while the total acreage of summer row crops has suffered similar declines. SCDNR says the harvest will require a greater percentage of does each year until the deer management needs of each community are met.

Tennessee

The Tennessee Wildlife Resources Agency receives hundreds of wildlife damage complaints each year, which is in addition to complaints handled by animal damage control agents. The largest increase in nuisance wildlife complaints in Tennessee over the past five years has been attributed to river otters. Randy Huskey of TWRA estimates only a slight increase in bear and beaver related complaints but at least a 50 percent increase for river otters. This is likely due to the estimated 40 percent growth in the river otter population. The beaver population has grown by an estimated 10 percent and bear appears to have remained stable over the last five years. The TWRA has been compelled over the past five years to increase person-hours and expenditures by ten percent to control animal damage for all species combined.

Just a few of the problems Tennessee officials have had to deal with include roads that have become impassible due to flooding caused by beaver dams, fish ponds completely wiped out by river otters, gardens destroyed by deer, and black bear breaking into individual residences.

The raccoon population has steadily increased in the past 15 years. Raccoon hunters and trappers on the other hand have decreased at a rapid rate. Raccoon strain rabies was first documented in Tennessee in June, 2003 and remains a concern.

If hunting and trapping were no longer available as management tools, the TWRA says that it would be impossible to increase the state budget enough to control damage from escalating wildlife populations.

Utah

Over the past five years, beaver and bear populations have increased in Utah, but deer and elk populations have actually decreased. Cougar have had the highest increase of nuisance complaints followed by elk and bear. Big game damage to agriculture crops, mostly caused by mule deer, elk and pronghorn, is compensated annually in the amount of \$450,000 and increases with inclement weather patters such as drought, heavy snow and colder temperatures. Human safety issues receive priority where cougar and bear issues occur, and incidents are increasing, drawing personnel away from other valuable duties.

An unusually hard winter in 1992-93 and the ongoing drought have impacted Utah's big game animals. The statewide mule deer population slowly increased after the disastrous 1992-93 winter. However, the mule deer population is again on a decrease due to five years of extended drought. Utah recorded the driest year on record and the hottest month on record in July, 2002, and broke it

again in July of 2003. The drought has resulted in poor fawn production and damage to vegetation on many critical deer winter ranges. As a result, deer have turned to agricultural crops and are more frequently found in urban and suburban areas.

Another impact on deer herds results from growing cougar populations. In August of 2004, the Utah Wildlife Board approved changes that could result in more cougars being taken by hunters in different areas of the state. Under the rules approved by the Board, the Utah Division of Wildlife Resources (UDWR) is projecting that 500 cougars might be taken in Utah this season, which begins in late November. As deer populations increase in urban areas, cougars “follow the deer to town” resulting in increases in cougar problems.

The UDWR currently spends \$1.5 million on wildlife complaints, \$1.1 million on livestock and crop depredation, and \$0.4 million on nuisance wildlife issues annually. The UDWR said that if hunting and trapping were lost as management tools, they simply would not be capable of addressing damages and could not satisfy legal mandates.

Virginia

The Virginia Department of Game and Inland Fisheries reports that, over the past five years, deer and beaver populations have increased slightly, while the bear population has increased an estimated 30 percent. Deer nuisance complaints have increased proportionately with the population, beaver nuisance complaints have increased twice as fast as the population, and bear nuisance complaints are slightly below the percentage increase in the population. Beaver have caused the greatest increase in agency person-hours and damage-control expenditures over the past five years.

During the 2003 season, hunters harvested 237,035 deer and 1,510 black bear, representing an increase of 62 percent over the previous year’s bear harvest of 932.

The Virginia DGIF reported that if hunting and trapping were lost as management tools, no increase in their budget could make up for the loss of these tools to maintain wildlife at safe and acceptable population levels.

Washington

The Washington Department of Fish and Wildlife (WDFW) reports that as the human population continues to grow and wildlife habitat is lost, human conflicts with wildlife grow in proportion. Cougar have received the most attention in Washington over the past five years.

Washington’s cougar population went unchecked between 1996 and 2000 after voters passed a ballot measure banning cougar hunting with hounds. The WDFW has responded to an average of one or two non-fatal attacks per year over the past decade. As a result of the increasing number of conflicts between people and cougars, the 2000 legislative session passed a bill that amended the 1996 measure and directed the Fish and Wildlife Commission to authorize the use of dogs for the removal of cougar for the purpose of meeting a demonstrated public safety need. Following passage, the WDFW expanded general hunting seasons for cougars, which have helped to control the state’s cougar population. According to WDFW enforcement records, the number of complaints filed about cougars has dropped steadily from an all-time high of 955 in 2000 to 255 in 2003. In addition to written complaints, many more calls are received. WDFW’s goal is to reduce the number of cougars in areas where they are causing the most trouble, not reduce populations everywhere.

Overall, Washington's deer populations have decreased in the past five years. Washington has three species of deer. Whitetail deer are actually on the increase because they adapt well to human encroachment. However, the mule deer population has declined the most primarily from loss of habitat, fire impacts and the severe winter of 1997. The black-tailed deer is maintaining its population, but is also facing a loss of habitat due to fewer clear cuttings by the timber industry. Clear cuts provide for new vegetation and food sources while old growth timber provide adequate habitat, but intermediate stage timber (20-30 years growth) limits understory vegetation leaving little food for wildlife. Disease, thought to be an exotic louse, is also causing added loss to the black-tailed deer population. This disease causes deer to rub off their hair, then die of exposure in the winter.

Over the past five years, the agency's expenditures to control animal damages have increased. If hunting and trapping were no longer available as management tools, the agency reports that no increase in the agency's budget would make up for the loss of this tool to maintain beaver, deer, elk bear and cougar at current population levels.

West Virginia

In West Virginia, over the past five years bear and coyote populations have been on the increase as well as the amount of associated nuisance complaints. Coyote nuisance complaints have increased in relationship to the increase in populations, but bear nuisance complaints are increasing almost as twice as fast as the bear population. The West Virginia Division of Natural Resources reports that the person-hours assigned to control animal damage have increased about 50 percent for bear during the past five years and the expenditures to control bear damage have increased 100 percent. In 1999, black bear damage claims amounted to \$36,900; in 2003 that figure jumped to \$112,843.

West Virginia's deer population has been relatively stable over the past five years. Antlerless deer seasons and bag limits have been increased in much of the state to stabilize or reduce the deer herd.

Wyoming

Over the past five years, deer and antelope populations have increased slightly while elk have decreased. However, the Wyoming Game and Fish Department reports that nuisance damage complaints have increased between 24 and 39 percent for each of these species. The primary cause is two fold. Wyoming has experienced several years of drought which has affected the food supply for wildlife, driving wildlife to developed areas searching for food and water, while people continue moving into areas that previously were rural wildlife habitat.

Yukon

The information below was provided directly by the Yukon provincial wildlife agency. Comments are added in parenthesis when needed for clarification:

“The Yukon Territory has a very low density human population, with approximately 31,000 people in a space of 483,500 sq km. (1 per 15 sq.km.). The (natural) productivity of the Yukon is also low, which means we generally have low densities of wildlife. Consequently, our wildlife/human encounters are minimal by any measure (which makes it difficult to answer some of the survey questions posed by the researchers of this project). In Yukon, we typically regulate hunting to ensure there isn't an over exploitation of our

healthy wildlife populations. The exception to this is the recent introduction of hunting to regulate our wood bison population, which has increased favourably since the re-introduction in the 1980's. Another successful management tool has been the use of electrical fences for the control of bears, specifically in remote camps, and landfills or dumps.

We included bison, wolves and coyotes as species that are involved in wildlife damage in Yukon. We also included moose and caribou, especially caribou, the species most frequently hit by vehicles. In some areas, highway fatalities of caribou consume the entire annual growth in the herd.

Bears (black and grizzly): About 10 years ago the Yukon government began a strong initiative to reduce bear/human encounters and problems, through the use of electrical fencing. Electrical fences were installed at all community landfill sites. Also businesses with remote camps, such as mining exploration camps were advised to install their own electrical fences as needed for the same reasons. Solar panels are used to power these fences. This effort has been a great success, and significantly reduced bear/human encounters and/or damage. An interesting note is that as more people are out in the back-country, the potential for encounters increases.

Bison: In 1998, hunting of wood bison in the Aishihik herd was opened up due to strong growth in the population and a high incidence of damage or encounters. Hunting this herd has resulted in the numbers remaining at a sustainable level, and the bison are less likely to frequent populated areas and highways.



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AMERICAN PUBLIC ATTITUDES

And Awareness About Regulated Trapping





ISTOCKPHOTO

Introduction

Responsive Management™



This study was conducted for the Association of Fish and Wildlife Agencies (AFWA) by Responsive Management during 2016 to determine public opinion on regulated trapping and trapping issues. The study entailed a scientific telephone survey of 200 residents of three states (n = 600): Connecticut, Indiana, and Wisconsin. The entire report is at: <https://tinyurl.com/public-attitudes-trapping-2016>.

Awareness of Regulated Trapping

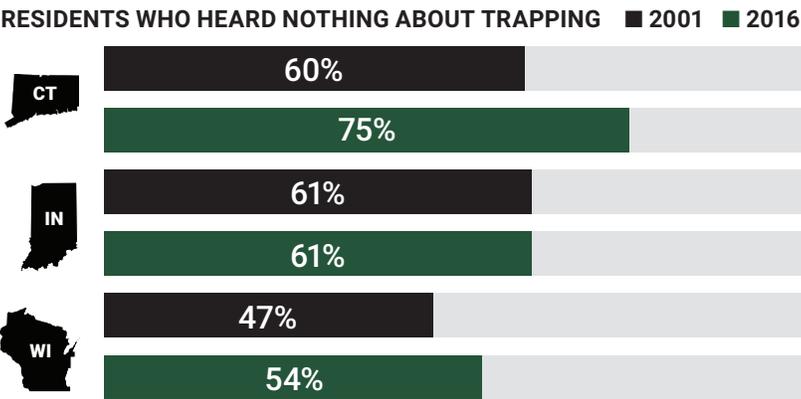
Most people (just over half of Connecticut residents, about three quarters of Indiana and Wisconsin residents) are aware that people trap in their state, and similar proportions are aware that the state regulates trapping. Furthermore, in Indiana and Wisconsin, a majority of residents are aware that their state fish and wildlife agency (the actual name of the agency was used in the question wording) regulates and manages trapping in their state, but only about a third of Connecticut residents are aware of this.



COVER IMAGE:
Trappers make a set. Trapping provides many benefits to society, animal populations, and habitats, and has a high approval rating from the public.
PHOTO BY DAVID DENTON

TRAPPING AWARENESS

Residents, in general, are not hearing much about trapping — either good or bad. A majority have heard nothing at all in the past year. In direct questions about whether they had heard positive things in the past 12 months, no more than 10% of residents of any state answered in the affirmative, and almost identical results occurred when residents were directly asked about negative things.



MOST COMMON SOURCES OF INFO IN 2016 (positive and negative)

#1: Television

#2: Internet

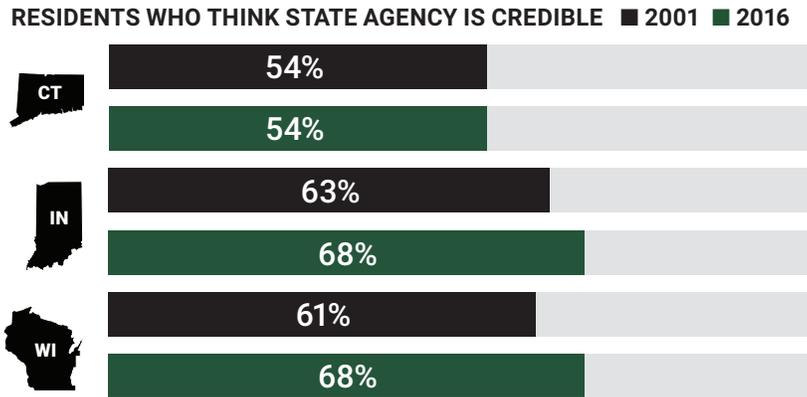
#3: Newspapers

Credibility of Information Sources

Residents generally have positive opinions about their state's fish and wildlife agency. Residents more often give positive ratings than negative ratings, by about 3 to 1, to their state's fish and wildlife agency at managing trapping. Also, a large majority of each state are very/somewhat confident that their state agency is properly managing the state's wildlife. The trends show little marked difference between the two survey years on these questions. State fish and wildlife agencies, compared with other sources of information, are by far considered the most credible sources.

TRUSTING WILDLIFE AUTHORITIES

Each state fish and wildlife agency (the actual name of the agency was used in the question wording) has a majority of residents in the state saying that the agency is credible.



Familiarity With Trappers

DO YOU KNOW, OR ARE YOU, A TRAPPER?

About a third of residents from Connecticut and half of residents from Indiana and Wisconsin say they have known a trapper or someone who has trapped wild animals (or they have done so themselves).

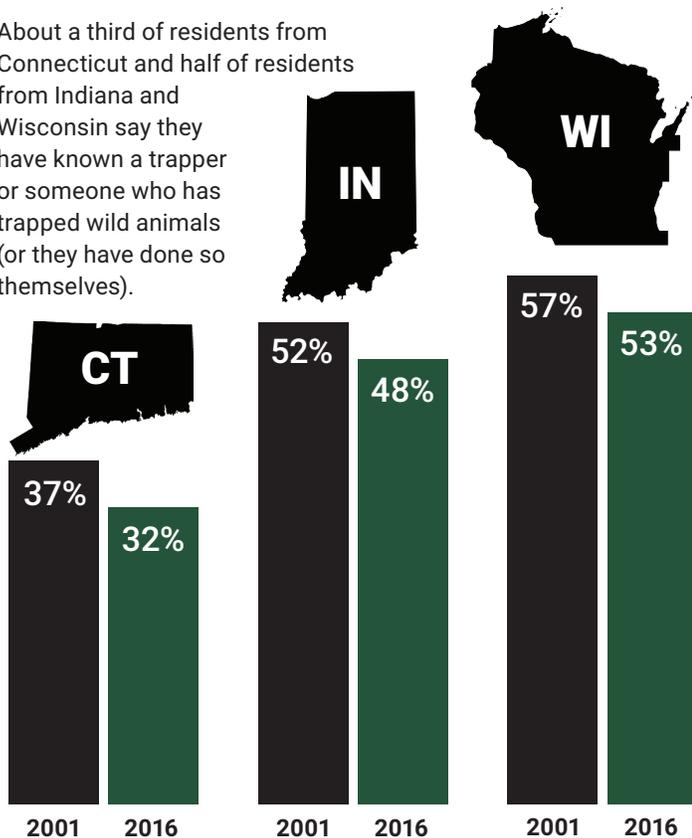


PHOTO BY DAVID DENTON

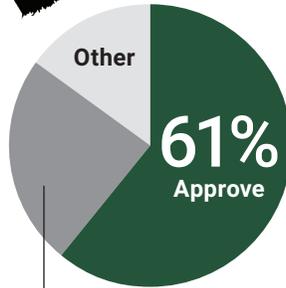
A trapper removes a beaver from a swamp in North Carolina. Trapping is a skill that can be passed down among generations.

Approval of Regulated Trapping

In our 2016 survey, approval of trapping far exceeds disapproval of trapping in each state. For 2016, even larger majorities agree that people should have the freedom to choose to participate in regulated trapping if they want to (64% in CT, 82% in IN, 79% in WI).

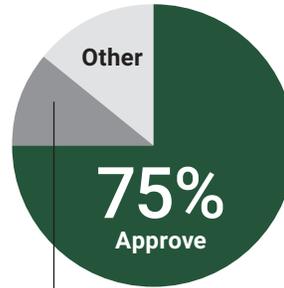
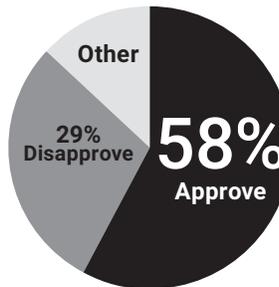


ISTOCKPHOTO



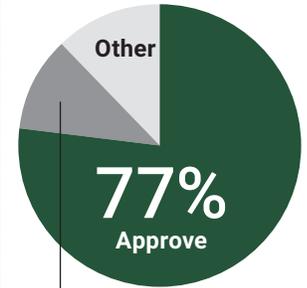
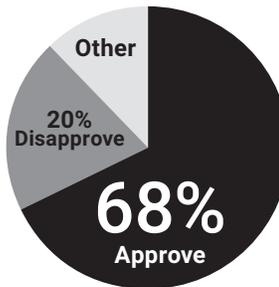
24% Disapprove

2001 DATA FOR CT



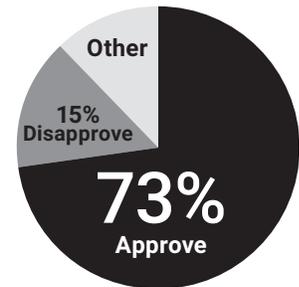
11% Disapprove

2001 DATA FOR IN



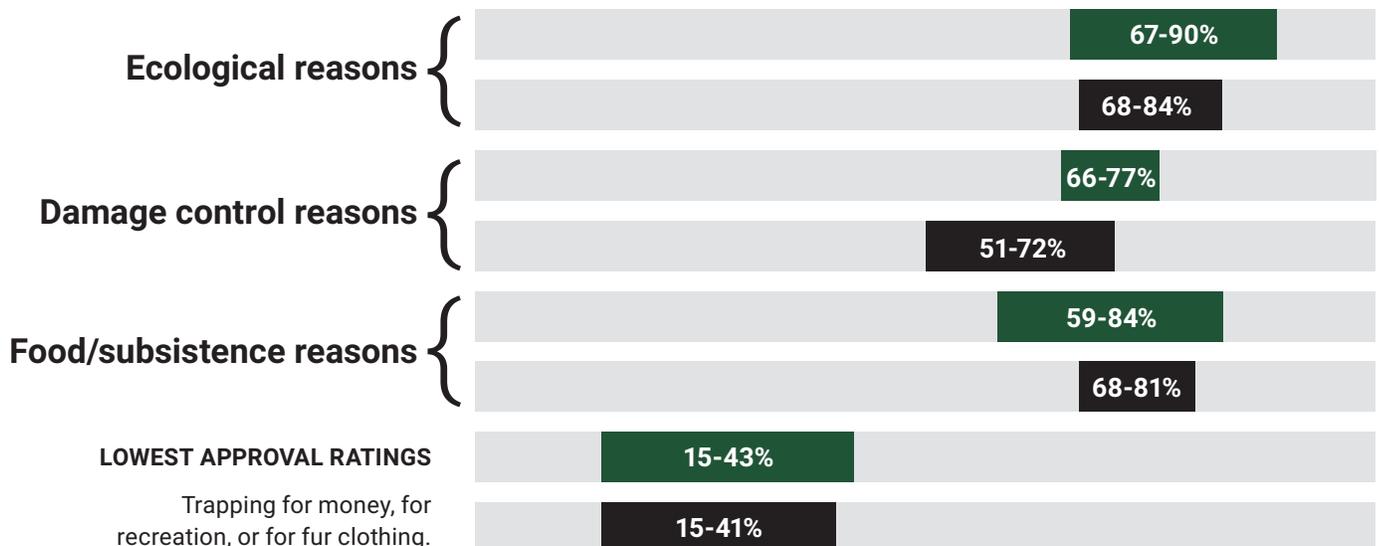
11% Disapprove

2001 DATA FOR WI



HIGHEST APPROVAL RATINGS ON REASONS FOR TRAPPING

■ 2001 ■ 2016



Attitudes on Animal Welfare



PHOTO BY BRYANT WHITE

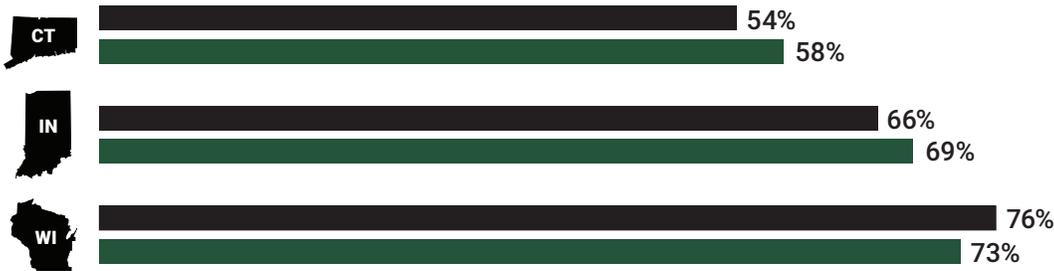
Trappers set a cage trap in hopes of capturing an Arctic Fox on St. George Island, Pribilof Islands, Alaska. Arctic Fox are trapped for human-wildlife conflict resolution, protection of ground nesting seabirds, and fur harvest.

Residents in general agree that regulated trapping is okay if animals that are accidentally caught can be released, and they agree (to a lesser extent) that trapping is okay if the animals die quickly and without undue pain. However, residents are less likely to agree, compared to the above questions, that trapping is more humane today than it was 10 years ago because of improvements in traps.

Residents are generally not aware about efforts to improve traps to make them more humane, but when informed of efforts to do so, residents are more supportive of trapping. They are also more supportive of trapping when told that the whole animal is used. Some residents disapprove of trapping and are not swayed by arguments in favor of trapping — the arguments tended to make “approvers” more approving and the “undecided” more approving, but made only a small part of the “disapprovers” more approving.

% OF RESIDENTS WHO AGREE WITH THE FOLLOWING STATEMENTS ■ 2001 ■ 2016

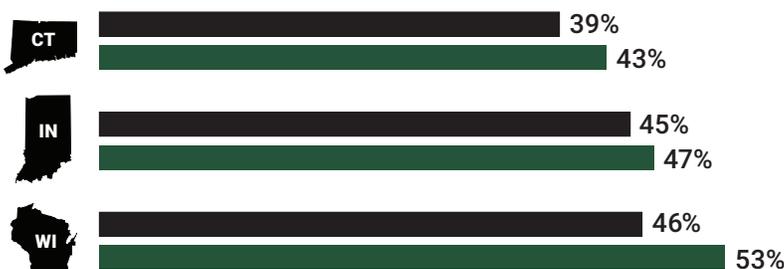
I think regulated trapping is okay if the animals die quickly and without undue pain.



I think regulated trapping is okay if animals that are accidentally caught can be released.



Because of improvements in traps, trapping is more humane today than it was 10 years ago.



Misperceptions of Trapping

The 2016 survey found that there are many residents of the three survey states who have damaging misperceptions about regulated trapping in their state. This is similar to the results found in 2001.

MISPERCEPTION #1

A majority of residents of **Connecticut (56%)** and **Wisconsin (53%)** and a near majority of **Indiana residents (45%)** agree that, today, regulated trapping can cause wildlife species to become endangered or extinct. **This, of course, is a misperception.**

MISPERCEPTION #2

About a third of each state's residents agree that "endangered species are frequently used to make fur clothing" (ranging from 29% to 33%). **This is another misperception.**



ISTOCKPHOTO

Fur pelts — sometime perceived as luxury items — are used by people of all cultures for clothing like coats, hats, mittens, and blankets. Fur is also used in the decorative arts, such as rugs, wall hangings, moccasins, brushes, and felt.

Human-Wildlife Conflicts

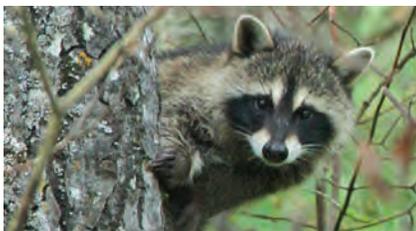
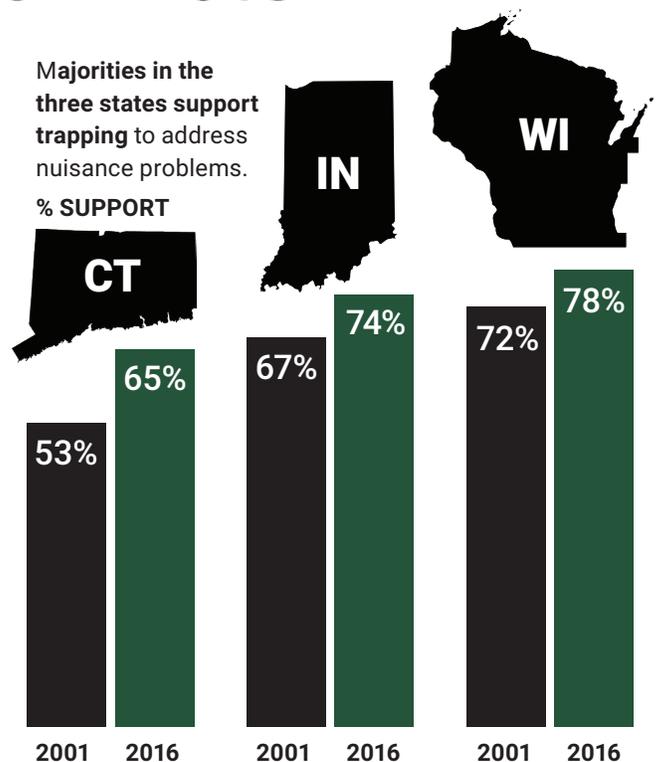


PHOTO BY TOM HARRISON

40% to 46% of residents in the three states say they have had problems with wild animals or birds within the past two years, and 4% to 5% of residents paid for nuisance wildlife removal in the past two years. Raccoons are, by far, the animals that most commonly cause problems in all three states. The ranking differs slightly from state to state, but other common species that cause problems are squirrel, deer, coyote, woodchuck/groundhog, opossum, rabbit, various bird species, skunk, chipmunk, and bear. Damage to gardens and getting into garbage lead the list of problems that they cause. The trends analysis found little marked difference between survey years on any of these questions.





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A Transformation in Trapping

TRAPPING HAS EVOLVED, AIDING FURBEARER RESEARCH AND CONSERVATION

By Nathan Roberts and Colleen Olfenbuttel



Credit: Colleen Olfenbuttel/North Carolina Wildlife Resources Commission

canadensis), martens (*Martes spp.*), wolves (*Canis lupus*), coyotes (*Canis latrans*), foxes (*Vulpes spp.* and *Urocyon spp.*), lynx (*Lynx canadensis*) and bobcats (*Lynx rufus*).

This species cohort creates many complex and unique challenges for wildlife researchers, managers and policymakers. With few exceptions, furbearer species have been restored and are considered abundant thanks to efforts from management agencies, researchers and trappers. While a wildlife success story, the abundance of many furbearer species is also associated with increasing human-wildlife interactions, as well as potential impacts on certain prey species, including federally threatened and endangered shorebirds.

▲ Modern traps are designed to cause little to no injury. The foot of the bobcat captured for a research project was held secured and without injury by a foothold trap.

It's been over 20 years since the best management practices (BMPs) for trapping were conceived and implemented. At the time, furbearer managers, researchers and trapping organizations identified a need for a process to scientifically evaluate traps and trapping systems used to capture furbearers in the United States.

The evaluation system was based on five criteria — animal welfare, capture efficiency, trap selectivity, practicality and safety of the user. Since then, continuous trap research has had impacts far beyond regulated trapping. Furbearer conservation and research have also been transformed.

Furbearers are those species valued for, among other things, the utility of their fur. They include beavers (*Castor canadensis*), mink (*Neovison vison*), muskrats (*Ondatra zibethicus*), river otters (*Lontra*

A wealth of data

Despite these interactions, trappers and many members of the public hold certain furbearer species, such as bobcats, in high regard and expect management agencies to use scientifically sound data to inform management decisions. However, obtaining these data can be challenging. Most furbearers are difficult to visually or audibly monitor due to their smaller sizes, behaviors and preferred habitat. Think of the last time you saw or heard a bobcat in the wild. Bobcats are found throughout the U.S., having recovered in many areas in recent decades, but are still rarely seen or heard due to their cryptic coloring, behavior and elusive nature.

Harvest-dependent data, like age structure and catch-per-unit effort, are valuable to help understand and monitor trends in furbearer populations. These data have limitations, however, and cannot address all of



the questions important for management and conservation. Collecting data from live animals can yield a wealth of information, especially when combined with harvest-dependent data. Data derived through radio-transmitters attached to animals can address questions about space and habitat use, movements, survivorship and cause-specific mortality rates. Tissue samples, including hair for isotope analysis and genetics; morphometrics and pregnancy rates can be collected from live animals to address some questions as well.

However, whether equipping animals with a radio transmitter or collecting many types of samples, the key is first to have captured a live animal using methods that minimize injuries.

Trap technology

Some furbearers, like coyotes and foxes, are relatively difficult to capture, as they are very wary of changes in their surroundings. Box and cage traps are useful for small mammals and for some furbearers, such as raccoons and opossums. But box and cage traps are not an efficient or selective method for capturing coyotes, red foxes or river otter.

Live-restraining foothold traps and cable restraints not only provide a humane and efficient way to capture these furbearing species, but researchers are more likely to get a representative sample of the sex and age structure of the population versus box or cage traps. Thanks largely to two decades of concentrated research efforts to evaluate traps and trap modifications, modern-day traps and trapping perform much better than those from a few decades ago.

Trappers and wildlife professionals are taking notice of improvements in trap technology. A recent trapping survey (Responsive Management 2015) found that 66% of trappers that were aware of trapping BMPs used BMP-approved traps. Even those trappers that were not aware of trapping BMPs are increasingly using trapping devices that have various modifications to improve animal welfare, efficiency and selectivity compared to a similar survey in 2005. For example, no trapper reported using toothed or studded traps for coyotes or bobcats, but 50% and 53% used foothold traps with modified jaws, such as padding, lamination or offset jaws, for these species, respectively.

Overall, the 2015 survey found that trappers had shifted from using traditional, unmodified foothold

traps to using modified foothold traps for most furbearer species. This shift in trap use by trappers is likely due to several reasons. Seventy-three percent of trappers support trapping BMPs, with a plurality supporting BMPs for reasons related to animal welfare. Trappers also felt that BMP traps were good for animal populations and good for the future of trapping and that the BMPs provided necessary guidelines for trapping.

Researchers benefit

Trappers are not the only ones benefiting from advancements in trapping technology and methods. As ongoing results from the BMP trap research continue to be disseminated, more wildlife professionals are realizing the value of trappers and trapping devices in conservation and research efforts. The species-specific information from BMPs for trapping helps wildlife professionals determine which trapping devices are appropriate for research, management and conservation activities such as endangered resources protection, restoration and translocations, research captures and mitigating wildlife damage. In order to address the welfare of research animals, many institutional animal care and use committees (IACUCs) are requiring researchers to use BMP-approved traps for their projects, as well as requiring researchers to take trapper education and be trained by an experienced trapper.

▼ Researchers fit a GPS collar on a coyote (*Canis latrans*) caught by a trapper in a modern foothold trap.



Credit: Nathan Roberts/Wisconsin Department of Natural Resources



Credit: Perry Sumner/North Carolina Wildlife Resources Commission



Credit: Perry Sumner/North Carolina Wildlife Resources Commission

▲ A river otter is captured in a foothold trap for restoration efforts. River otters have been restored throughout the United States due to relocation efforts.

► A double long spring trap includes modification such as laminated jaws and a center-anchored chain equipped with a swivel. This style of foothold trap was widely used across the United States to capture river otters for restoration efforts.

The ability to partner with trappers is particularly exciting for wildlife researchers. A great example of this is coyote and bobcat research occurring in Wisconsin. While both species are wary, coyotes, particularly adult coyotes, are almost impossible to catch in anything other than a foothold trap or cable restraint.

Researchers who study these animals using radio-collars need to ensure that they can obtain a sufficient sample size that allows for reasonable inference while minimizing any capture-associated bias (e.g., capturing a sufficient number of adults). Other challenges that researchers face are limited funding, staffing and time. These factors complicate efforts to capture coyotes and bobcats, as trapping is not only constrained by season, but by the number of trap-nights (the number of traps set multiplied by number of nights set) it takes to capture these species. We know from postseason surveys of licensed trappers that it takes on average about 350 trap-nights to catch one bobcat or coyote. To catch 30 animals, a reasonable estimate would be over 10,000 trap-nights — 200 nonstop days of running 50 traps!

This task is even more daunting when you consider distributing effort and captures across a large study area. The logistics of having an adequate sample size that is representative of the coyote or bobcat population (not sex- or age-biased) becomes extremely challenging and expensive.

Partnering for bobcats

Fortunately, the trapping public is already afield and already using the same tools that researchers would use. Researchers with the Wisconsin

Department of Natural Resources (WIDNR) saw an opportunity to partner with licensed trappers toward a common goal of better understanding the population status and ecology of these cautious critters.

Prompting the partnership between trappers and WIDNR was the need to better understand bobcat populations to help inform management decisions such as harvest quota allocations by management unit. WIDNR researchers determined that GPS collars would provide the information needed, such as habitat use, home-range overlap, survivorship and cause-specific mortality. Licensed trappers received a letter prior to the fall trapping season requesting that they call a hotline number if they caught a bobcat in a specified study area and they either did not want to harvest that bobcat or they could not legally harvest it.

To date, this partnership resulted in over 90 bobcats being captured and equipped with GPS collars, an unheard-of sample size for bobcats that is yielding a wealth of information that directly informs bobcat research and management questions. These bobcats were caught in foothold traps and cable restraints that the trappers owned and were using on their own traplines. To date, there have been no handling mortalities nor any injuries that have precluded using any of these captured bobcats in the collaring program.

Collaring coyotes

With the success of the bobcat project, WIDNR researchers saw another great opportunity to partner with the trapping public by placing GPS collars on coyotes — part of a larger study examining the role



of coyotes in white-tailed deer (*Odocoileus virginianus*) population dynamics.

Coyote trappers within the study areas were offered an incentive of \$99 for captured coyotes that could be collared and released between September and January. While the coyote collaring efforts have not been underway as long as bobcats, over 50 coyotes were successfully collared and, given a nearly 50/50 split of males and females, it is unlikely this sample has significant bias. Further, no animals were lost due to capture injuries.

These 50 coyotes represent around 17,500 trap nights. This same effort, if using paid technicians and vehicles, would have easily exceeded \$150,000. While the cost savings of such partnerships are immense, the ability to incorporate trappers into research efforts is equally valuable.

‘Original citizen scientists’

Furbearer managers and researchers often call licensed trappers the “original citizen scientists.” Trappers have collaborated with management agencies for decades to help address knowledge gaps and aid in research and restoration projects.

In the article “An Otterly Successful Restoration,” appearing in the May/June 2018 edition of *The Wildlife Professional*, the role of licensed trappers in voluntarily providing harvest data and biological samples was highlighted as critical to monitoring restored and abundant river otter populations. Most state agencies, including the North Carolina Wildlife Resources Commission (NCWRC), enlisted licensed trappers to capture river otters in foothold traps for translocation to areas in which otters were absent or no longer abundant.

Trappers were critical to the success of river otter restoration efforts in North Carolina. They had the skills to capture the demographic of otters needed for successful restoration and to capture these otters efficiently and humanely. Licensed trappers in North Carolina continue to support the NCWRC’s efforts to monitor river otters by participating in the agency’s voluntary furbearer harvest survey and by providing the jaws of harvested otters to monitor the sex and age ratio of the population.

Their cooperation made it possible for a successful joint research project between NCWRC and North



Credit: Colleen Offenbuttel/North Carolina Wildlife Resources Commission

Carolina State University to determine the age structure, diet, health and reproduction of river otters in all three furbearer management units of North Carolina. To achieve research objectives, river otter carcasses were needed. A graduate student spent 898 trap-nights at 39 sites to capture six river otters. By working with trappers, that student was able to collect approximately 800 river otter carcasses, providing a massive dataset that will allow multiple comparisons among regions, time periods and states, as well as providing new information on emerging diseases that may be impacting aquatic mammals.

▲ Modern foothold traps are widely used to capture wolves for research and restoration.

▼ Trappers and researchers release a captured bobcat.



Credit: Colleen Offenbuttel/North Carolina Wildlife Resources Commission



Modern methods

The rapidly evolving landscape of traps, trapping and trappers makes such partnerships possible. Dedicated and concentrated efforts to improve animal welfare, selectivity and the efficiency of traps and trapping are being adopted by trappers and agencies alike, and the potential to benefit resource management is enormous as new information and technology is embraced and adopted.

Unfortunately, some agencies and institutions still face challenges regarding the trapping of furbearer species. The outdated image of a rusty “leghold” trap with teeth still comes to mind for many when they imagine traps used by trappers. These outdated impressions occasionally persist in IACUCs and within some segments of the public. Trappers, management agencies and researchers will need to shed the image of unmodified and antiquated traps in order to maintain traps as an important tool for research and management.

The Association for Fish and Wildlife Agencies has created a website (furbearermanagement.com) with resources to learn more about trapping BMPs,

as well as how to easily identify BMP-approved traps. These trapping BMPs are an important and science-based source of information that IACUCs can use when reviewing research proposals. By recognizing and understanding the evolution of trapping and trap technology over the past few decades, we can continue to see the conservation success stories that modern trapping has to offer looking forward. ■



Nathan Roberts, PhD, is the furbearer, wolf and bear research scientist for the Wisconsin Department of Natural Resources.



Colleen Olfenbittel, MS, CWB®, is the black bear and furbearer biologist for the North Carolina Wildlife Resources Commission, past-president of the North Carolina Chapter of TWS, at-large member of *The Wildlife Professional* Editorial Advisory Board and chair of the SEAFWA Furbearer Working Group.

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Original Article

Limiting Conflicts When Managing Public Lands for Furbearer Trapping and Dog-Related Recreation

HEATHER A. TRIEZENBERG,¹ *Michigan State University Extension, Department of Fisheries and Wildlife, 1405 S Harrison Road, East Lansing, MI 48823, USA*

BARBARA A. KNUTH, *Cornell University, Center for Conservation Social Sciences, Department of Natural Resources, Fernow Hall, Ithaca, NY 14853, USA*

ABSTRACT Resource users with different interests frequent public lands, resulting in opportunity for conflict. We examined the issue of interactions among wildlife trappers and dog owners by examining stakeholders' socio-demographics, land usage, concerns, attitudes, and satisfaction with multiuse public land management for recreation with dogs and furbearer trapping. We sent mail-back questionnaires to licensed dog owners ($n = 1,000$; hereafter, dog owners) and licensed wildlife trappers ($n = 1,000$; hereafter, wildlife trappers) in a 10-county area of New York, USA, during 2009. After weighting data, results revealed dog owners and wildlife trappers had differences in land usage patterns for all land types. Dog owners and wildlife trappers, regardless of whether they owned a dog, differed in all items except that they had similar levels of satisfaction for management of public lands in their region for both recreation with dogs and wildlife trapping. Seeing dogs under voice and sight command of their owner or trainer was positively related to satisfaction with management of public lands for wildlife trappers and agreement that dog owners have few places to take their dogs and allow them to run off-leash. Concern about dogs getting caught in wildlife traps was negatively related to satisfaction with public lands management for wildlife trappers. For dog owners, agreement that trappers should be allowed to trap on public lands was positively related to satisfaction. Our results suggest that state wildlife agencies seeking to improve stakeholder interactions and satisfaction with public land management for both wildlife trapping and recreation with dogs should promote the importance of dogs being under control through voice or sight command or directly on a leash, and should consider creating spaces for dogs to run off leash. © 2018 The Wildlife Society.

KEY WORDS dog owners, furbearer trappers, multiple-use, New York, public land, social conflicts, wildlife trapping.

Wildlife trapping played an important role in the exploration and development of North America, and provided a foundation for economic activity (Manfredo et al. 1999). Since its inception, wildlife management has included a focus on managing furbearer species, and attention to furbearers was an integral part of the early conservation movement (Batcheller et al. 2000). More recently, wildlife management has been challenged by antitrapping sentiment (Gentile 1987). Today, furbearer management confronts many challenges, including declining participation in trapping activities (Andelt et al. 1999, Batcheller et al. 2000, U.S. Fish and Wildlife Service [USFWS] 2014), limited public support for wildlife trapping (Cockrell 1999, Manfredo et al. 1999, Batcheller et al. 2000), increased demand for nuisance animal control (Armstrong and Rossi 2000), and limited understanding of

furbearer management by wildlife professionals and administrators (Batcheller et al. 2000). At the same time, motivations of wildlife trappers have shifted from revenues from pelts toward recreation and lifestyle (Hiller et al. 2011, Kapfer and Potts 2012, Landriault et al. 2012, Dorendorf et al. 2016). Recreational-based trapping effort is heavily influenced by land access, social conflict, furbearer population abundances, and outdoor recreation (Dorendorf et al. 2016). Decline in trapping participation across the United States is related to increased urbanization, decreased land access, and the animal rights movement (Daigle et al. 1998, Jung and Slough 2011, Dorendorf et al. 2016). Contemporary furbearer management must manage the social landscape, including social conflicts, land access, and impacts from stakeholder interactions (Riley et al. 2002, Dorendorf et al. 2016). Our research examined potential social conflicts between furbearer trappers (hereafter referred to as wildlife trappers) and nonconsumptive recreationalists who use lands with dogs (hereafter referred to as dog owners).

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¹E-mail: vanden64@msu.edu

Wildlife trapping and dog-related recreation on public lands may lead to negative interactions among stakeholders related to furbearer management. In Montana, USA, for example, concerned stakeholders organized the Footloose Montana campaign, focusing on the threat of trapping to public safety on public lands and its effect on natural resources (Footloose Montana [FM] 2017). Although most trapping controversies have focused on foothold traps (Gentile 1987, Andelt et al. 1999), in New York, USA, the issue has been body-gripping wildlife traps associated with domestic dog deaths from such traps placed on public lands in Southampton in 2005 (Microsoft/National Broadcast Company [MSNBC] 2006) and Lake Luzerne in 2006 (The Post Star 2006). Eighty-five percent of New York wildlife trappers reported owning No. 110 body-gripping traps, 72% owned No. 1 1/2 coil-spring foothold traps, and 61.2% owned No. 2 coil-spring foothold traps (Siemer et al. 1994). Nationwide, there was an estimated 176,573 trappers 2014–2015 (excluding Delaware), and 86% of trappers reported using foothold traps and 60% used body-gripping traps (International Association of Fish and Wildlife Agencies [IAFWA] 2015).

New York State Environmental Conservation Law [NYS ENV Law] (2017) (§11-1101 to-1109) is intended to minimize such conflict by regulating activities of wildlife trappers and prohibiting interference with legally set wildlife traps set by another person (§11-1101 [9] [NYS ENV Law 2017]) or threatening, following, or physically attacking trappers (§ 11-0110 [2] [NYS ENV Law 2017]). New York State Agriculture and Markets Law [NYS AGM Law] (2017) regulates the licensing of domestic dogs in New York State (§109) and enables local municipalities' authority to register dogs and prevent them from running at large (i.e., local leash laws; §109 [NYS AGM Law 2017]). Free-roaming dogs are prohibited from running at-large in fields or woods inhabited by deer (*Odocoileus virginianus*), except on lands owned by the owner or trainer (§ 11-0923 [NYS ENV Law 2017]). This law applies to our study context, with dogs prohibited from running at-large because of the abundance of deer throughout the state.

Although negative interactions between dog owners and trappers are limited, such disputes have the potential to escalate into broader social conflicts as these events become a more public issue, and stakeholders seek to influence wildlife management policy through interest group formation, lobbying agency personnel or commissioners, or direct democracy (Minnis 1998, Cockrell 1999). The general public is highly uninformed about wildlife trapping, and takes seriously the killing of animals (IAFWA 2001). At the same time, the number of companion dogs, as well as the percent of households with dogs, steadily increased from 1987 to 2001 (Clancy and Rowan 2003), although a recent small decline occurred from 1.7 dogs/dog-owning household in 2007 to 1.6 dogs/dog-owning household in 2012 (American Veterinary Medical Association [AVMA] 2017). Currently, approximately 62% of U.S. households have pets, and likely half of these pets are dogs (Shuttlewood et al. 2016).

A negative interaction with a wildlife trap or trapper, especially one involving a pet, could motivate an uninformed public to coalesce and focus its concern about animal killing on contesting furbearer trapping and related wildlife management activities. Despite recent polarization of furbearer management, pet owners are an important wildlife stakeholder (Schroeder and Fulton 2015). Owning a pet is related to support for some wildlife management strategies (Shuttlewood et al. 2016). There is a need for a shared understanding of the attitudes and behaviors of wildlife trappers and dog owners, as well as the factors that contribute to satisfaction with management of public lands both for recreation with dogs and wildlife trapping. This information can inform policies and practices to limit negative interactions and maximize positive interactions between wildlife trappers and dog owners recreating on public lands with their dogs.

Motivations of trappers are moving toward noneconomic aspects, such as lifestyle, nature appreciation, wildlife management, escape, solitude, personal achievement, fitness, and socialization (Siemer et al. 1994, Daigle et al. 1998, Schroeder and Fulton 2015, Dorendorf et al. 2016). Insights from our research on trapper–dog owner differences may also extend to other scenarios where managing effects from stakeholder interactions may be important for wildlife management agencies seeking to manage for multiple uses, including the broadest range of recreational opportunities on public lands, wildlife trapping opportunities, and public support for wildlife as a resource (Riley et al. 2002). Our research objectives were to 1) determine differences between dog owners' and wildlife trappers' land-use patterns; 2) determine differences between dog owners' and wildlife trappers' attitudes and perceptions toward multiple uses of public lands; and 3) identify variables that predict satisfaction with management of regional public lands for both recreation with dogs and wildlife trapping.

STUDY AREA

The sample frame and study area for this research were licensed wildlife trappers and licensed dog owners from a 10-county area (Chemung, Chenango, Cortland, Madison, Ontario, Schuyler, Seneca, Steuben, Tompkins, and Yates) in the Southern Tier of New York. This region was selected because at the time of the study it was a heavily trapped area of New York (G. R. Batcheller, New York State Department of Environmental Conservation, personal communication) and had significant dog owner population distributed across suburban centers and rural counties (Table 1). In our study area, there were state wildlife management areas, where hunting, fishing, and trapping activities are encouraged; state forests, where the primary purpose is forest management, though other uses are allowed, such as wildlife trapping and recreation with dogs; state parks, where wildlife trapping is not permitted, though recreation with dogs is allowed as long as the dog is on a maximum 1.8-m (6-foot) leash in most parks; national forest, where a variety of uses are permitted, including hunting and recreation with dogs; municipal lands, where local units of government permit the allowable

Table 1. Characteristics of 10-county study area in Southern Tier, New York, USA, where dog owners and fur trappers were surveyed regarding attitudes and perceptions of potential conflicts on public lands during 2009.

County	Total licensed trappers ^a	Total licensed dog owners ^b	Total county population ^c	Density (people/mile ² in 2000) ^c	Major city ^{c,d}
Chemung	117	13,537	87,813	223.2	Elmira
Chenango	266	9,175	50,898	57.5	None
Cortland	133	5,866	48,302	97.2	Cortland
Madison	240	9,001	69,766	105.9	None
Ontario	244	14,550	104,475	155.6	None
Schuyler	78	4,054	18,888	58.4	None
Seneca	80	3,845	34,086	102.6	None
Steuben	332	18,228	96,573	70.9	Corning
Tompkins	83	10,487	101,136	202.7	Ithaca
Yates	109	3,420	24,652	72.8	None
Total	1,682	92,163	636,589		

^a New York State Department of Environmental Conservation (2009).

^b New York State Department of Agriculture and Markets (2009).

^c U.S. Census Bureau [USCB] (2017).

^d Major city = >10,000 population (USCB 2017).

activities; and private lands, where the landowner determines the uses consistent with land-use zoning. Our research focused on anticipating where conflicts between dog owners and wildlife trappers may emerge and managing potential stakeholder interactions. There were no known incidents of dogs caught in wildlife traps in this area in the 5 years prior to survey implementation.

METHODS

We drew the trapper sample ($n = 1,000$) randomly from the population of wildlife trappers age ≥ 18 years living in the 10-county study area who had purchased a trapping license in 2008. We drew the dog owner sample ($n = 1,000$) randomly from the population of dog owners (age ≥ 18 yr) who were current license holders registered with the New York State Department of Agriculture and Markets. We used a modified tailored design method to collect our data during spring 2009 (Dillman et al. 2009). The first mailing consisted of a cover letter and questionnaire with return postage paid. The second mailing, sent 1 week later, consisted of a thank you–reminder letter. The third mailing, sent 2 weeks after the second mailing, consisted of a cover letter and replacement questionnaire with return postage paid. The final mailing, sent 1 week after the third mailing, was a thank you–reminder letter. Two weeks after the final mailing, we conducted a short telephone survey with $n = 90$ non-respondents from each group (trappers, dog owners) using a subset of the questionnaire items. The Cornell University Institutional Review Board (#0908000566) approved this research.

Insights from informal exploratory interviews with staff from the New York State Department of Environmental Conservation [NYS DEC 2009] and from case study communities that had experienced conflicts relating to wildlife trapping and recreation with dogs informed development of the questionnaires (e.g., Triezenberg 2010, Triezenberg et al. 2011). Collaborators with the NYS DEC reviewed the questionnaires for content validity. Colleagues at Cornell University Human Dimensions Research Unit reviewed the questionnaires for face validity.

We incorporated their feedback into the final questionnaires to improve clarity and precision of the survey instruments.

We asked both dog owners and wildlife trappers to indicate on which types of land they conducted trapping activities or walked their dog in a typical year for private, state, or federal lands, as well as municipal lands, and along a road (e.g., U.S. or NY Routes, gravel roads; for wildlife trappers) and public roads or sidewalks (for dog owners) similar to Muth et al. (1996). Although the latter questions were different, they reflected the logical descriptors for where the 2 different groups might be engaged in their activity. Trappers would not legally be setting traps along sidewalks so we did not ask that. Dog owners may legally walk either on sidewalks or roads, and typically many sidewalks are adjacent to roads because few sidewalks are unrelated to roads or in remote locations. We asked dog owners to indicate their level of concern that their dog may get caught in a wildlife trap set on public lands. We asked respondents about their evaluative beliefs and perceptions relating to outcomes for multiple-use management of public lands for wildlife trapping and recreation with dogs (Vaske and Manfredo 2012). Conceptually, these items are similar to expectancy theory where mental processing for selection of behaviors is related to desirability of outcome (Vroom 1964). Respondents were asked to indicate their agreement or disagreement using a 5-point scale regarding the extent to which they strongly disagreed (1) to strongly agreed (5) with these statements. A set of socio-demographic and recreational activity questions was included on the questionnaire for each group.

We used chi-square analyses to detect possible differences between mailback survey respondents and nonrespondents who completed a short telephone survey, for both dog owners and wildlife trappers. We used chi-square analyses to detect possible differences between dog owners and wildlife trappers for land usage types. We calculated percent of unconcern and concern that dogs may be caught in a trap based upon land uses and used chi-square analyses to detect for differences in reported and expected concern based upon land usage types. We used analysis of variance and Bonferroni pair-wise comparisons ($\alpha = 0.01$) to detect

differences in mean levels of attitude and perception statements toward multiple-use management of public lands for wildlife trapping and recreation with dogs among dog owners, non-dog-owning wildlife trappers, and dog-owning wildlife trappers. We then examined boxplots of attitudinal items, and conducted Levene's test for homogeneity of variances. We conducted Welch test for the 4 attitudinal items with significant Levene's test. We used linear regression to identify factors that predicted satisfaction with management of public lands in the region for both recreation with dogs and wildlife trapping for dog owners and wildlife trappers.

RESULTS

We received 446 completed questionnaires from the dog owner sample and 487 from the wildlife trapper sample. After accounting for undeliverables and refusals, the response rate was 46% for dog owners and 51% for wildlife trappers. Dog owner nonrespondents (25%) were less likely than respondents (42%) to express concern that their dog might get caught in a wildlife trap on public lands in New York State ($\chi^2_1 = 17.05$, $P \leq 0.001$) and expressed less satisfaction with management of public lands in the region for both recreation with dogs and wildlife trapping ($\chi^2_1 = 7.03$, $P \leq 0.01$). Dog owner respondents and nonrespondents did not differ on their reported land usages of state forests ($\chi^2_1 = 1.56$, $P = 0.21$), state wildlife management areas ($\chi^2_1 = 0.38$, $P = 0.54$), municipal lands ($\chi^2_1 = 3.44$, $P = 0.06$), along a road or sidewalks ($\chi^2_1 = 0.05$, $P = 0.82$), or private lands that they own ($\chi^2_1 = 0.50$, $P = 0.48$). Wildlife trapper respondents (55%) were more likely to express concern about dogs getting caught in wildlife traps on public lands than were nonrespondents (44%; $\chi^2_1 = 4.53$, $P = 0.03$) and expressed less satisfaction with management of public lands in the region for both recreation with dogs and wildlife trapping ($\chi^2_1 = 6.30$, $P \leq 0.01$). Wildlife trapper respondents and nonrespondents did not differ on their reported land usages of state forests ($\chi^2_1 = 0.43$, $P = 0.51$), state wildlife management areas ($\chi^2_1 = 0.22$, $P = 0.64$), municipal lands ($\chi^2_1 = 3.36$, $P = 0.07$), along a road ($\chi^2_1 = 0.00$, $P = 0.99$), or private lands that they own ($\chi^2_1 = 3.17$, $P = 0.08$). There were differences between respondents and nonrespondents for both dog owners and wildlife trappers, so we created adjusted weight factors for additional analyses based on level of concerns and used them in the analyses herein (Table 2; Vaske 2008).

Respondent Socio-Demographics

On average, dog owners were 56 ± 12.9 years (SD) old and greater than half (54%) were female. Approximately one-quarter (24%) of dog owners attained a high-school (or general equivalency diploma [GED]) education while another 29% reported having some college education. The median income reported for dog owner households was US \$60,000–\$79,999, and 50% reported earning <US\$60,000 annually. Only 2% of dog owners reported trapping wildlife in the previous 12 months. In contrast, wildlife trappers were

53 ± 15.3 years (SD) and almost all (99%) were male. Approximately one-third (34%) of wildlife trapper respondents' highest level of education attainment was a high-school education or GED with another third (33%) having some college education. The median income reported for trapper respondent households was US\$40,000–\$59,999, and 60% reported earning <US\$60,000 annually. Almost two-thirds (63%) of wildlife trapper respondents owned a dog.

Reported Usage of Lands and Concern Dog May Get Caught in Trap

Wildlife trappers and dog owners differed on their reported usage of lands. More dog owners (83%) than wildlife trappers (67%; $\chi^2_1 = 20.12$, $P \leq 0.001$) primarily used their own private property. Wildlife trappers more frequently reported using private property where another owner had granted them permission (91%) compared with only 26% of dog owners ($\chi^2_1 = 378.11$, $P \leq 0.001$). Forty-one percent of wildlife trappers reported trapping along a public road and 48% of dog owners reported walking their dog along a public road or sidewalk ($\chi^2_1 = 9.27$, $P \leq 0.01$). Twenty-seven percent of wildlife trappers reported using municipal lands compared with 31% of dog owners ($\chi^2_1 = 4.64$, $P \leq 0.05$). Twenty-six percent of wildlife trappers reported using state forests and only 11% of dog owners used these lands ($\chi^2_1 = 25.28$, $P \leq 0.001$). Nineteen percent of wildlife trappers reported using state wildlife management areas compared with 6% of dog owners ($\chi^2_1 = 30.20$, $P \leq 0.001$). Twelve percent of dog owners reported using state parks. Dog owners exhibited differences in reported concern their dog would be caught in a wildlife trap from expected concern for each of the public lands (i.e., state forest lands, state parks, public roads or sidewalks, municipal lands, or state wildlife management areas) used (Table 3).

Attitudes Toward Multiuse Land Management for Wildlife Trapping and Recreation with Dogs

Dog owners and wildlife trappers (regardless of whether they owned a dog) differed on all attitude statements toward multiple use management of public lands for wildlife trapping and recreation with dogs in southern New York, with one exception (Table 4). The exception was that no differences were detected between dog owners' and wildlife trappers' agreement with the statement "I am satisfied with management of public lands in my region for both recreation with dogs and wildlife trapping." Dog owners had greater agreement than wildlife trappers with attitude items about dog owners having few places to take their dogs to allow them to run off-leash, seeing dogs on public lands under voice and sight command of their owner or training, and concern about dogs getting caught in wildlife traps on public lands (Table 4). Wildlife trappers had greater agreement than dog owners that trappers should be allowed to trap wildlife on public lands (Table 4).

Predicting Satisfaction with Multiuse Land Management for Wildlife Trapping and Recreation with Dogs

We used 2 linear regression models to predict satisfaction with multiuse land management for wildlife trapping and recreation with dogs (Table 5). Agreement with the

Table 2. Data weights used to adjust for differences between random sample mailback survey sample responses and nonrespondent telephone survey sample responses, licensed dog owner respondents ($n = 446$), and licensed wildlife trapper respondents ($n = 487$) surveyed regarding attitudes and perceptions of potential conflicts on public lands in a 10-county Southern Tier area, New York, USA, 2009.

Group	Mail-back survey sample %	Nonrespondent sample %	Weight ^a	Adjusted weight ^b
Trappers				
Agreement with concern	56	44	0.78	0.76
Disagreement with concern or neutral	44	56	1.27	1.24
Dog owners				
Agreement with concern	46	25	0.54	0.56
Disagreement with concern or neutral	54	75	1.39	1.43

^a Random sample mail-back survey sample percent/nonrespondent telephone survey percent.

^b Adjusted weight = weight/(mean of weights).

statement that dog owners have few places where they can take their dogs and allow them to run off-leash and agreement with the statement that most dogs seen on public lands are under voice and sight command of their owner or trainer, and reported trapping on state wildlife management areas, were positively correlated with satisfaction for wildlife trappers. Concern about dogs getting caught in wildlife traps on public lands was negatively correlated with satisfaction for wildlife trappers. Agreement with the statement that trappers should be allowed to trap wildlife on public lands and reported year born were positively correlated with satisfaction for dog owners. Gender and reported household income were negatively correlated with satisfaction for dog owners.

DISCUSSION

This study occurred in an area of New York State that had not experienced a high-profile conflict incident in at least the 5 years prior to this study, so it is not surprising that both dog owners and wildlife trappers, regardless of whether they own dogs or not, expressed satisfaction with management of public lands in the region for both recreation with dogs and wildlife trapping. All groups exhibited some agreement in concern about dogs getting caught in wildlife traps on public lands and that most dogs that they see on public lands are under voice or sight command. Our study revealed that wildlife trappers and dog owners may be more similar in

attitudes and perceptions about the multiple-use management of public lands for both wildlife trapping and recreation with dogs than previously known. Pet owners' commitment to biodiversity may be attributed to their intrinsic valuing of wildlife (Shuttlewood et al. 2016). Although wildlife trappers may have a utilitarian view of wildlife, it is likely that pet owners exhibit moralistic or ecologicistic attitudes for wildlife (Kellert and Berry 1987). Given these motivations for wildlife, dog owners may be an important ally in supporting wildlife management for biodiversity conservation, even when specific animals may be harvested through techniques such as wildlife trapping (Shuttlewood et al. 2016). Emotional connection to wildlife is important for motivating pro-conservation behavioral intentions and can be an asset in broadening stakeholder support for wildlife management (Skibins et al. 2017).

Our results suggest empathy may play an important role in preventing and managing conflict over wildlife conservation. Specifically, the wildlife trappers who demonstrated empathy through concern about dog owners needing more places to run dogs off-leash were more satisfied with multiuse land management than were wildlife trappers with less concern about the needs of dog owners. These results reveal that stakeholders are already exhibiting a perspective-taking process called cognitive empathy that helps one understand another perspective, as in the case of wildlife trappers' understanding the concerns of dog owners and vice versa

Table 3. Percent of licensed dog owner respondents ($n = 413$) concerned their own dog may be caught in a wildlife trap set on public lands, by the type of public lands used in a 10-county area in New York State's Southern Tier, USA, 2009, and χ^2 comparison of reported concern versus expected concern.

Land type	Nonusers		Users		Users		χ^2 ^c	<i>P</i>
	% Unconcerned ^a	% Concerned ^b	% Unconcerned ^a	% Concerned ^b	Reported concern ^b (<i>n</i>)	Expected concern ^b (<i>n</i>)		
State forests	66.0	34.0	42.4	57.6	19	12	6.99	<0.01
State parks	66.1	33.9	44.4	55.6	20	13	6.39	0.01
Public roads or sidewalks ^d	71.9	28.1	54.3	45.7	64	51	9.56	<0.01
Municipal lands	67.5	32.5	54.8	45.2	42	34	4.36	0.04
State wildlife management areas	63.4	36.6	61.1	38.9	7	7	0.04	0.84

^a % Unconcerned = respondents who indicated they were not at all concerned, somewhat unconcerned, or neither concerned nor unconcerned.

^b % Concerned = respondents who indicated they were somewhat concerned or very concerned.

^c Reported concern compared with expected concern per land use type, 1 degree of freedom for all tests.

^d For the wildlife trapper questionnaire, this item was stated as "Along a road (e.g., US or NY Routes, gravel roads)." On the dog owner questionnaire, this item was stated as "Public roads or sidewalks." We combined these categories because spatially they overlap, although trappers are not permitted to place wildlife traps within 100 feet (~30 m) of a house, dwelling, etc.

Table 4. Licensed dog owner respondents' ($n = 446$) and wildlife trapper respondents' ($n = 487$) attitudes and perceptions toward the multiple-use management of public lands for wildlife trapping and recreation with dogs in 10-county Southern Tier area, New York, USA, 2009.

Attitude statement	Dog owners		Wildlife trappers (non-dog-owners)		Dog-owning wildlife trappers		F	P
	\bar{x}^a	SD	\bar{x}^a	SD	\bar{x}^a	SD		
Dog owners have relatively few places where they can take their dogs and allow them to run off-leash.	3.88A	1.02	2.56B	1.20	2.63B	1.23	125.23 ^b	<0.01
Most dogs I see on public lands are under voice and sight command of their owner or trainer.	3.55A	1.03	3.11B	1.17	3.28B	1.10	9.70 ^c	<0.01
Trappers should be allowed to trap wildlife on public lands.	2.90A	1.40	4.56B	0.77	4.61B	0.76	219.67 ^d	<0.01
I am satisfied with management of public lands in my region for both recreation with dogs and wildlife trapping.	3.31A	0.94	3.29A	1.17	3.36A	1.08	0.24 ^e	0.79
I am concerned about dogs getting caught in wildlife traps on public lands.	3.82A	1.09	3.35B	1.19	3.43B	1.21	14.051 ^f	<0.01

^a Five-point Likert scale with 1 = strongly disagree, 3 = neither agree nor disagree, 5 = strongly agree. Any 2 means that do not have the same letter are significantly different at $P = 0.01$ using Bonferroni *post hoc* pairwise comparison, with correction of $\alpha = 0.01$.

^b Welch test statistic $F_{2,372}$.

^c Welch test statistic $F_{2,374}$.

^d Welch test statistic $F_{2,485}$.

^e ANOVA $F_{2,693}$.

^f Welch test statistic $F_{2,422}$.

(Preston and de Waal 2002). Empathy can be highly relevant for resolving conflicts and bringing stakeholders together in wildlife-management planning processes and correcting misconceptions or misunderstandings about trapping (Siemer et al. 1994). Empathy for others (e.g., concern about dogs being caught in traps) was revealed among our male-dominated wildlife trapper respondents, even though it is often predominantly a female-orientated characteristic.

Our study revealed that dog owners' agreement that trappers should be allowed to trap on public lands was related to their satisfaction with public land management for both wildlife trapping and recreation with dogs. Engaging with pet-based groups, such as dog owners, for wildlife management planning could have benefits to both dog owners and wildlife trappers (Shuttlewood et al. 2016). This may be especially important if policies that require dogs to be constrained in some way (e.g., on a leash or under voice or sight command on public lands) are implemented to address or reduce potential conflicts and increase wildlife trappers' satisfaction levels (Shuttlewood et al. 2016). Multiple-land-use management practices can create conditions that meet trappers' primary motivations of lifestyle, appreciation, social, and management participation and land access needs (Schroeder and Fulton 2015, Dorendorf et al. 2016). If such efforts are successful, they may result in reducing the rate of declining participation in trapping (USFWS 2014).

Dogs may still be at risk for being trapped on private lands where landowners gave wildlife trappers permission to use their property because they are the most commonly used lands reported in this study. Agency outreach and communication to wildlife trappers may be beneficial at increasing the likelihood of trappers adopting behaviors to reduce human-wildlife conflict situations, such as trapping a dog accidentally on private lands owned by another person (Pienaar et al. 2015). Communication message frames likely to be effective should include recommending that wildlife trappers 1) inquire what other land uses, especially involving dogs, may be used on the private lands; 2) inform the owners of the type of trapping activities likely to take place; and 3) educate land owners about safety strategies to keep dogs safe or to free them from a trap, should they become caught. When wildlife trappers understand ways to reduce the likelihood of social conflicts, they may be more satisfied with their experience and likely to continue wildlife trapping (Dorendorf et al. 2016).

Outreach efforts to dog owners may be beneficial to increase their knowledge of activities allowed or disallowed on public lands and perceptions of norms. When people have a greater sense of control, they have lower perceptions of risk (Fischhoff et al. 1978). Even in places where trapping is allowed, understanding that wildlife trapping regulations prohibit the placement of body-gripping traps within 100 feet (~30 m) of a public trail (except in wildlife management areas; 6 New York State Codes Rules and Regulations [NYS CRR] section 6.3 2017) may help dog owners more accurately assess the risk to their dog. Dog owners may also benefit from knowing that New York State Environmental Conservation Law prohibits wildlife trappers from

Table 5. Regression models predicting satisfaction with management of public lands in region for both recreation with dogs and wildlife trapping in a 10-county Southern Tier area, New York, USA, 2009.

Variable	Definition	Model 1 ^a				Model 2 ^a			
		Licensed dog owners		Licensed wildlife trappers		Licensed dog owners		Licensed wildlife trappers	
		Unstandardized	Standardized	Unstandardized	Standardized	Unstandardized	Standardized	Unstandardized	Standardized
Off-leash dog places	Respondents' disagreement or agreement (1–5 scale) with statement "Dog owners have relatively few places where they can take their dogs and allow them to run off-leash."	–0.10	0.06	–0.12	0.16*	0.06	0.16		
Dogs under control	Respondents' disagreement or agreement (1–5 scale) with statement "Most dogs I see on public lands are under voice and sight command of their owner or trainer."	0.06	0.07	0.06	0.19*	0.06	0.19		
Trap public lands	Respondents' disagreement or agreement (1–5 scale) with statement "Trappers should be allowed to trap wildlife on public lands."	0.17*	0.06	0.26	0.04	0.10	0.02		
Dog concern	Respondents' disagreement or agreement (1–5 scale) with statement "I am concerned about dogs getting caught in wildlife traps on public lands."	0.001	0.07	0.01	–0.12*	0.06	–0.13		
State forest	Dummy variable, 1 if respondent used state forests for trapping or dog-walking activities, 0 otherwise.	–0.21	0.22	–0.08	0.16	0.16	0.06		
State wildlife management areas	Dummy variable, 1 if respondent used state wildlife management areas for trapping or dog-walking activities, 0 otherwise.	–0.12	0.26	–0.04	0.35*	0.18	0.13		
Municipal land	Dummy variable, 1 if respondent used municipal lands for trapping or dog-walking activities, 0 otherwise.	0.28	0.15	0.15	0.23	0.16	0.09		
Roads or sidewalks	Dummy variable, 1 if respondent used public roads or sidewalks ^b for trapping or dog-walking activities, 0 otherwise.	–0.13	0.15	–0.07	–0.25	0.15	–0.11		
Year born	Reported year born	0.014*	0.006	0.20	–0.002	0.01	–0.02		
Gender	1 = male, 2 = female	–0.44*	0.15	–0.24	–0.58	0.72	–0.05		
Education	Levels of attainment: some high school, high school diploma or GED, some college or technical school, completed an undergraduate degree, or completed a postgraduate degree	0.08	0.07	0.09	0.01	0.07	0.01		
Income	Respondent indicated annual household income, before taxes, in 2008. Six categories from ≤US\$39,000 to ≥US\$120,000.	–0.18*	0.05	–0.29	0.05	0.05	0.07		
Constant		–23.02	11.01		5.94	9.31			
			$R^2 = 0.25$			$R^2 = 0.13$			
			$F_{1,2,147} = 4.05, P < 0.001$			$F_{1,2,242} = 2.89, P = 0.001$			

^a Model 1 = dog owner respondents ($n = 446$), model 2 = licensed wildlife trapper respondents ($n = 487$).

^b For the wildlife trapper questionnaire, this item was stated as "Along a road (e.g., US or NY Routes, gravel roads)." On the dog owner questionnaire, this item was stated as "Public roads or sidewalks." We combined these categories because spatially they overlap, although trappers are not permitted to place wildlife traps within 100 feet (~30 m) of a house, dwelling, etc.

* $P < 0.05$.

setting or placing traps on public highways (§11-1101 [10]; NYS ENV Law 2017). When dog owners have a more accurate understanding of allowed land uses, they may have fewer concerns about their dog getting caught in a wildlife trap. Although our study revealed dog owners' agreement that they have few places to take their dogs and allow them to run off-leash, they would benefit from knowing that other people expect dogs to be leashed on public lands and the impacts of dogs on conservation outcomes (Williams et al. 2009). If dog owners are uncomfortable with using multiuse public lands or other private lands, state parks and historic sites may be a viable option for recreating with dogs because recreation or commercial wildlife trapping are not allowed, as long as dogs are on a maximum 1.8-m (6-foot) leash (New York State Parks [NYS Parks] 2017, Pet Friendly Travel 2017).

MANAGEMENT IMPLICATIONS

State wildlife agencies seeking to improve satisfaction with public lands for recreation with dogs and wildlife trapping can promote dog owners keeping their dogs under control—either through voice or sight command or directly on a leash—while using public lands. If dog owners are seeking nontrapping lands, they can consider recreating with their dog on State Park lands or other areas that prohibit trapping. Spatial designation of public lands to delineate nontrapping areas where dog owners can take their dogs and allow them to run free may also lead to increased satisfaction, especially among wildlife trappers. Coordination and communication among different land owners or managers (e.g., private, local municipal, transportation, parks, etc.) can present a unified message about practices that allow both wildlife trapping and recreation with dogs to occur safely, as well as encourage responsible dog owner behaviors and trapping activities. Better understanding of how dog walkers and wildlife trappers share the use of forest and municipal lands is needed to more effectively manage these shared spaces to minimize potential conflicts between dog owners and wildlife trappers, and foster public support for and participation in wildlife trapping. Future research on normative perceptions of dog control, multiuse recreation, and impacts of dogs on conservation can inform community-based engagement and educational efforts (Williams et al. 2009, Weston et al. 2014).

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An Otterly Successful Restoration

THE RETURN OF NORTH AMERICAN RIVER OTTERS

By John Erb, Nathan M. Roberts and Chris Dwyer

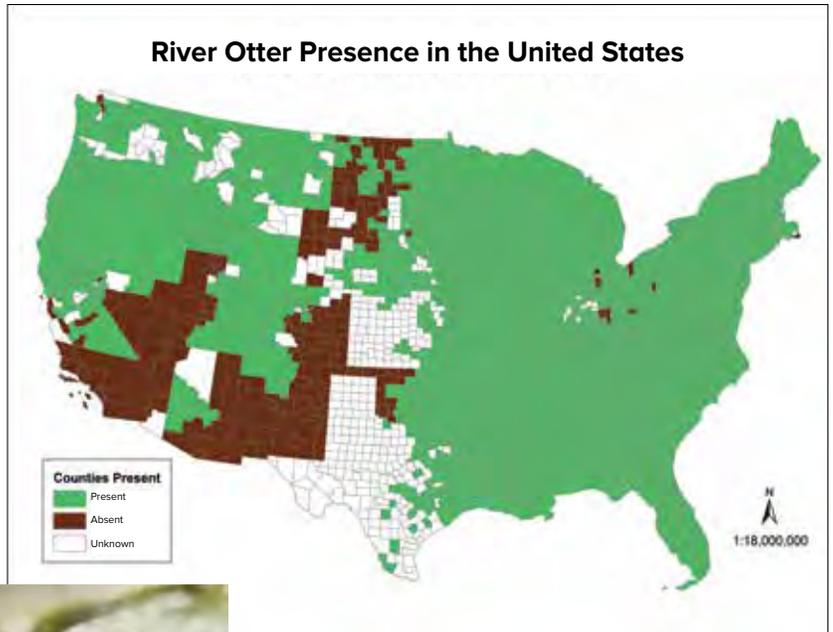
Severely impacted by changes in land use, destruction of wetland and riparian ecosystems, water quality issues, and unregulated trapping during the late 1800s, the North American river otter (*Lontra canadensis*) was reduced to less than 75 percent of its range by the early 1900s. But as a result of societal efforts to improve water quality in the 1970s — along with actions by natural resource agencies to improve habitat and implement modern, science-based harvest regulations — today the wildlife profession can claim one of its most successful wildlife recovery efforts.

A recent survey of all state wildlife agencies conducted by the Association of Fish and Wildlife Agencies indicates that these semiaquatic mammals endemic to North America have been restored throughout much of their historic range (2017). Of the 22 states that reintroduced river otters, populations in all but two continue to expand, while two other states report a constrained, but stable, reintroduced population. To get to this point, biologists captured a total of over 4,100 otters — starting in Colorado in 1976 and ending in New Mexico in 2010 — in areas where they were abundant and released them at various locations

where they were absent or no longer abundant to encourage recovery and restore the otter's range.

The road to recovery

One of the most important steps of the restoration efforts was eliminating factors causing the loss of healthy and abundant populations. State wildlife agencies conducted feasibility studies and developed recovery plans that included trapping, handling and post-release monitoring data for documenting reproduction, population in-



Source: Association of Fish and Wildlife Agencies



Credit: Tim Daniel/Ohio Division of Wildlife

◀ River otters are a charismatic species that has benefitted from improvements in habitat quality, establishment of regulations that are strictly enforced by State wildlife agencies and restoration efforts.

▲ The map shows the current distribution of river otters in the U.S. following reintroduction efforts and effective management programs.

crease, expansion and stability (Melquist et al. 2003) — many of which are still in use today to monitor post-release populations.

As reintroduced river otter populations started showing signs of success, agencies began to turn their focus from reintroduction and recovery to broader conservation efforts, including habitat and population monitoring and management. The success of these efforts is clear today: river otters are now found in all of the contiguous United States and



Alaska, with no state showing evidence of declining populations in the last decade (AFWA, 2017). In fact, populations are robust enough to provide limited and highly regulated harvest opportunities in 40 states and all of the Canadian provinces.

Next steps

Protecting, restoring and creating aquatic ecosystems on which river otters depend has been — and will continue to be — a key focus in the U.S. and Canada. As with any wildlife species, long-term persistence requires a sufficient quantity of suitable habitat. Achieving and maintaining this goal requires collaborative funding and effort on multiple levels, including from government agencies, conservation organizations and private individuals.

The revenues generated by sportsmen and women — either through direct hunting and trapping license sales or from Pittman-Robertson dollars generated by excise taxes collected on the purchase of hunting and sporting equipment — also provide a significant source of funding for aquatic habitat management that benefits river otters as well as other species such as aquatic and semi-aquatic mammals, numerous water birds, reptiles, amphibians, and fish. Another benefit that should not be overlooked is the recreational opportunities that come from restored waterways. These activities attract additional supporters for aquatic habitat restoration efforts.

However, we cannot lose sight of the challenges that remain. Preventing otter habitat loss or degradation and addressing emerging concerns related to invasive aquatic species and climate change will be key aspects of ecosystem management in the future. On the upside, we are now better able to map and monitor aquatic ecosystems cost-effectively — often in real-time — using various remote-sensing methods. Plus we have an extensive network of monitoring sites used to track water flows and various metrics of water quality.

During the long recovery effort, we've also learned one surprising thing. The success of populations on some landscapes has shown us that river otters can not only persist, but sometimes thrive in areas historically considered not pristine enough to support them.

Research needs

Targeted research is still needed to inform management and conservation decisions in the future. A cursory examination of a recent bibliography compiled by the International Union for Conservation of Nature's Otter Specialist Group suggests there are now over 1,000 publications related to some aspect of the ecology or management of the North American river otter. Although these publications give wildlife managers a significant amount of information for making scientifically based decisions, there will always be more to learn. Research by state

▶ Starting with Colorado in 1976 and ending with New Mexico in 2010, biologists captured over 4,100 river otters in areas where they were abundant and released them at locations across 22 states to help the species recover.



Source: Association of Fish and Wildlife Agencies



wildlife agencies, universities and others serves to improve our understanding of river otter ecology and is essential to informing future management decisions and prioritizing population and habitat management activities.

Population monitoring

Now that populations are doing well, a key focus of state wildlife agencies is monitoring them. River otters, like many carnivores, can be difficult to observe, individually identify, and capture and recapture — the common requisites of many population estimation methods. However, mark-recapture approaches using artificial biomarkers that require only one physical capture event or DNA obtained from remote, noninvasive sampling such as hair or scat collection, may be useful for estimating abundance. We will know more about these newer methods in the future as several jurisdictions are currently considering both approaches.

Some jurisdictions also employ population modeling to track or estimate otter abundance and to assist with decision-making related to harvest season parameters or research priorities. Models can vary in complexity, but so-called accounting models are often used. These models rely on estimates of age-specific birth and death rates obtained from research projects or from analyses of data on harvested animals.

In states with regulated harvests, a promising new approach to population estimation is statistical population reconstruction. Many states have ongoing work using this method because it produces estimates of abundance, survival and recruitment at substantially lower costs. The analysis relies on age-at-harvest data derived from teeth and effort data obtained from trapper surveys. Both data sources are easily collected and many state wildlife agencies already do so.

Empirical estimates of abundance, while valuable, are not often necessary or logistically feasible. Various indices of abundance already commonly used by wildlife managers also provide sufficient and reliable monitoring data if the indices come from carefully designed surveys. All states that allow the regulated harvest of river otters use at least one monitoring technique, but most rely on multiple techniques. Both harvest-dependent data — such as measures of catch and effort — and



Credit: Colleen Olfenbuttel/NCWRC

harvest-independent data— such as bridge and camera surveys — can provide data on the status and trends of river otter populations. Common harvest-independent methods include track/sign surveys from a network of bridge crossings on the landscape, transect or other targeted snow-track surveys by air or ground, and otter latrine surveys in wetland complexes or along riverine systems.

Practical, biological and statistical pros and cons exist for each monitoring approach. The most appropriate method depends on the landscape and project goals, the spatial scale-of-interest and funding. Increasingly, state agencies are considering approaches that allow for multiple within-season surveys to obtain detection-corrected estimates of otter occupancy.

So far, remote trail cameras have received little attention for otter surveys; but, they do have one thing in their favor: cost. Camera traps may work as a low-cost, multi-occasion survey tool when deployed at accessible stations, including bridges, high-use stations such as latrines or lured stations along waterways.

Harvest data

In states with regulated take, harvest levels across time sometimes serve as useful indicators of population change. But, the data are generally more reliable when combined with trapper-effort data

▲ North Carolina Wildlife Resources Commission Black Bear and Furbearer Biologist Colleen Olfenbuttel examines an anesthetized river otter captured in a foothold trap for a research project examining reproductive rates.



► Fish are the primary food item of river otters, but they are also known to feed on crustaceans, molluscs, frogs, insects, waterfowl and occasionally mammals such as muskrats and beaver.



Credit: Tim Daniel/Ohio Division of Wildlife

expressed as catch-per-unit-effort. This type of data offers both a low-cost and reliable population index, and, with time-specific effort and harvest data, it can be used to estimate abundance.

Biological data commonly collected by state agencies from harvested animals also provide demographic indices useful for monitoring populations or managing harvest. Many states collect information from carcasses that are useful for detecting changes in distribution or abundance, including reproductive metrics, sex/age ratios, genetic data, samples for diet or contaminant analysis and harvest location. As long as the limitations of each data category are understood, these data can provide a diverse picture of the status, health and distribution of otter populations through time, all for a relatively low cost.

Sound harvest management is another critical aspect of river otter conservation and usually involves ongoing communication between researchers and biologists conducting population and harvest monitoring surveys. Harvest data provide critical information for understanding how season parameters like timing, length and methods affect the nature of the harvest, allowing agencies to properly manage harvests and help sustain healthy populations and harvests levels.

Like other permitted harvests, wildlife management agencies need to be cognizant of social

concerns associated with river otter harvests, including animal welfare and trap selectivity. Over the past 20 years, a collaboration among trappers; state, provincial and federal wildlife agencies; and veterinarians has spent some \$40 million evaluating animal welfare, and trap efficiency, selectivity, safety and practicality. Recent surveys show that nearly all river otters harvested in the U.S. are taken in traps that meet the five criteria outlined by AFWA's trapping best management practices (2014). Continued collaboration with trappers regarding education and testing of new trap innovations will help address any societal concerns related to harvest.

Pelt exportation

Today, the Convention on International Trade in Endangered Species of Flora and Fauna, to which the U.S. is a signatory, lists the river otter in Appendix II. This list includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with the species' survival. It also includes species like river otters whose inclusion on the CITES Appendix II stems not from conservation concerns or threats to this species, but rather from their "look-alike" status with threatened otter species in other parts of the world.

As part of the U.S. Fish and Wildlife Services' CITES implementation policy, pelts from otters harvested in the U.S. and destined for export must be tagged, confirming both the species identity and legal acquisition when the pelt enters international markets. In addition, the CITES requires each exporting country to conduct an assessment to ensure that the harvest of river otters will not be detrimental to the overall survival of the species. To conduct this assessment in the U.S., the USFWS compiles and reviews population, harvest, and other management data or plans from states that allow harvest. The data have consistently confirmed that modern regulated harvests have not been detrimental to the survival of the species.

Reflecting on success

By any measure, otter conservation efforts over the last four decades have been a tremendous success. By the late 1990's, river otters were present in approximately 90 percent of their historic range, a number that has undoubtedly grown since then. And, thanks to research, surveys and collection of



biological data from harvested animals, a wealth of information is now available on otter ecology.

Today, the International Union for Conservation of Nature considers the North American river otter a species of least concern and stable, while finding the remaining 12 species of otters occurring elsewhere in the world near threatened and declining at best.

Now recovered throughout much of its range, the river otter is a true conservation success story and one of the greatest in the history of wildlife management. Its successful recovery is a testament to the commitment and efforts of many conservation enthusiasts, including trappers, biologists, citizens and stakeholder organizations. Because of their focus on shared goals, populations are doing well in vast areas of North America where not long ago populations had dwindled and otters had even disappeared.

No doubt new challenges will emerge in the future. But with continued monitoring of current populations and harvests, and continuing research, we need not let the past dictate the future. ■

Disclaimer: The findings and conclusions are those of the authors and do not necessarily represent the views of the USFWS.



John Erb, PhD, is a furbearer research scientist with the Minnesota Department of Natural Resources.



Nathan Roberts, PhD, is the carnivore and furbearer research scientist for the Wisconsin Department of Natural Resources.



Chris Dwyer, MS, is the regional chief of hunting and fishing for the Northeast Region of the U.S. Fish and Wildlife Service.

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State Fish and Wildlife Agency

TRAPPING REGULATIONS SURVEY

& Best Management Practices



Introduction

TRAPPING IS A HEAVILY REGULATED ACTIVITY IN THE UNITED STATES AND REMAINS AN IMPORTANT TOOL

for managing numerous species of wildlife and habitats, protecting public and private property, protecting endangered and threatened wildlife and restoring extirpated and endangered wildlife populations. In a continuous effort to understand the full scope and breadth of this activity across North America, surveys have intermittently been conducted by the Association of Fish and Wildlife Agencies. The annual regulated harvest of wild furbearers occurs under the conditions set forth in regulations promulgated within each state. The summary data of furbearer trapping regulations contained in this report were gathered by the

Association of Fish and Wildlife Agencies during the summer and fall of 2016 in an effort to examine current laws for the harvest of 26 species of furbearers by regulated trapping throughout the United States. Response rate to the survey was 100%. To see the full report, visit www.fishwildlife.org.



KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES

State Fish and Wildlife agencies strive to educate and recruit young people into outdoor activities, like regulated trapping, to continue their conservation programs.

Association of Fish and Wildlife Agencies during the summer and fall of 2016 in an effort to examine current laws for the harvest of 26 species of furbearers by regulated trapping throughout the United States. Response rate to the survey was 100%. To see the full report, visit www.fishwildlife.org.

FOCUS ON: LICENSING

Are trappers required to have a license?

All states where trapping occurs require a trapping license for residents and non-residents. In some states, resident landowners are not required to have a license when trapping on their own property. States vary in resident and non-resident trapper license age thresholds. Most states require anyone ages 12-64 to have a license.

How much does a trapping license cost, on average?

A resident license is ~\$30. A non-resident license is ~\$200.

Do states allow nonresident trapping?

48 states allow nonresidents to trap; the one exception, besides Hawaii where no trapping for fur harvest occurs, is Florida. Minnesota is unique in that only nonresidents who own land in Minnesota may buy a nonresident trapping license. With the nonresident license in Minnesota, trappers may only trap on the property they own. In some other states, harvest may be restricted for non-resident trappers to certain species or quotas, which may not apply to resident trappers.



Trapper Education

THE PUBLIC WHO TRAP MUST BE FAMILIAR WITH THE MANY LAWS AND REGULATIONS that govern trapping, as well as animal behavior, wildlife habitat, types of traps, trap preparation, sets and lures for different animals, and care of pelts. All these elements are taught in state or national trapper education courses. Trapper education is available in every state via the North American Trapper Education Program developed by the Association of Fish and Wildlife Agencies. This course is available online (conservationlearning.org) and via a booklet downloadable at www.fishwildlife.org. The AFWA curriculum has been incorporated, at least in part, into ~80% of trapper education programs nationally. Fifteen states use this program exclusively and about 45% of the states were aware (at the time of the survey) that this program had been unanimously recognized by AFWA member states as a reciprocal course for the qualification of state licensing.



North American
Trapper Education
Course

safety
skill
ethics
responsibility

education courses. Trapper education is available in every state via the North American Trapper Education Program

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BY THE NUMBERS

21

States where trapper education is mandatory for individual licenses.

35

States where trapper education is offered through the state agency or a trapper association.

50

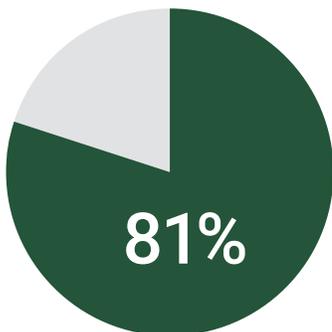
States where the AFWA North American Trapper Education Program is available.

Best Management Practices

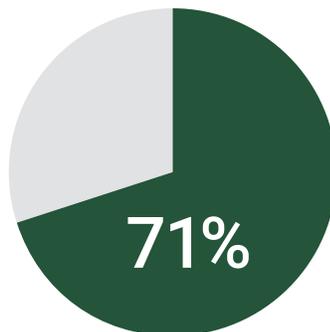
BEST MANAGEMENT PRACTICES (BMPS) ARE BASED ON THE MOST EXTENSIVE STUDY OF ANIMAL TRAPS ever conducted in the United States, combining scientific research and professional experience related to traps and trapping technology. BMPs are based on five elements or criteria related to trap performance: Animal Welfare, Efficiency, Selectivity, Practicality and Safety. Traps are tested, and if they meet benchmark criteria related to these performance elements, they are considered BMP traps.

BMP traps are divided into two types: lethal devices or live restraining devices. BMPs serve as a framework for identifying and documenting trapping methods and equipment that improve trapping. BMPs are intended to complement and enhance trapper education programs, providing technical information to help managers and trappers alike to select the best and most appropriate devices. Eighty-five percent of existing U.S. trapper education programs incorporate BMPs.

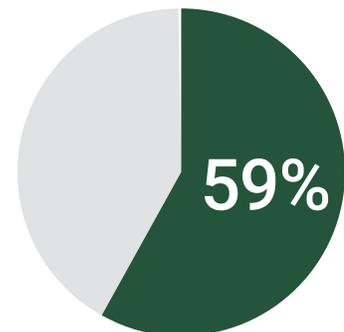
OVER THE PAST SEVERAL YEARS, HAS YOUR STATE USED BMPs IN MANAGEMENT PROGRAMS OR PROMOTED AND IMPLEMENTED BMPS IN ANY OF THE FOLLOWING WAYS? (TOP 3 RESPONSES)



At training sessions for external audiences (e.g., NWCO courses, trappers, public)



Media contacts (interviews, articles, etc.)



Legislative actions or Agency Commission actions (use BMP data in talking points for legislators and commissioners)

General Trapping

THE FOLLOWING SECTION ADDRESSES OTHER MANAGEMENT PROGRAM INFORMATION of interest to wildlife managers. These include questions on the sale and export of wildlife, dispatch methods, public and private lands trapping. Most states require the immediate dispatch or release of furbearers captured alive; however, a few states allow furbearers that are trapped alive to be sold as live animals. Coyotes and foxes are the species most commonly allowed, and are restricted only to be sold within the state of capture.

Trappers make an effort to use all parts of harvested furbearers. As such, the sale of furbearer parts (in addition to the fur) such as glands (including castor and skunk essence) urine, skulls, bones and meat is allowed in most states. A trapping license is required to legally sell these items.



ISTOCKPHOTO

WHAT TYPES OF TRAPS ARE ALLOWED?*

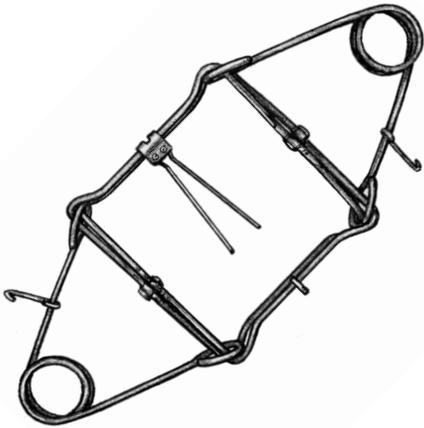
NOTE: Regulations change periodically; verification of existing laws is appropriate before setting traps in each state.

STATE	BODYGRIP	FOOTHOLD	SNARE	CAGE/BOX
Alabama	✓	✓	✓	✓
Alaska	✓	✓	✓	✓
Arizona	✓	✓	✓	✓
Arkansas	✓	✓	✓	✓
California	✓		✓	✓
Colorado		✓		✓
Connecticut	✓	✓		✓
Delaware	✓	✓	✓	✓
Florida			✓	✓
Georgia	✓	✓	✓	✓
Hawaii				
Idaho	✓	✓	✓	✓
Illinois	✓	✓	✓	✓
Indiana	✓	✓	✓	✓
Iowa	✓	✓	✓	✓
Kansas	✓	✓	✓	✓
Kentucky	✓	✓	✓	✓
Louisiana	✓	✓	✓	✓
Maine	✓	✓	✓	✓
Maryland	✓	✓	✓	✓
Massachusetts				✓
Michigan	✓	✓	✓	✓
Minnesota	✓	✓	✓	✓
Mississippi	✓	✓	✓	✓
Missouri	✓	✓	✓	✓

STATE	BODYGRIP	FOOTHOLD	SNARE	CAGE/BOX
Montana	✓	✓	✓	✓
Nebraska	✓	✓	✓	✓
Nevada	✓	✓	✓	✓
New Hampshire	✓	✓	✓	✓
New Jersey	✓		✓	✓
New Mexico	✓	✓	✓	✓
New York	✓	✓	✓	✓
North Carolina	✓	✓	✓	✓
North Dakota	✓	✓	✓	✓
Ohio	✓	✓	✓	✓
Oklahoma		✓		✓
Oregon	✓	✓	✓	✓
Pennsylvania	✓	✓	✓	✓
Rhode Island	✓	✓		✓
South Carolina	✓	✓	✓	✓
South Dakota	✓	✓	✓	✓
Tennessee	✓	✓	✓	✓
Texas	✓	✓	✓	✓
Utah	✓	✓	✓	✓
Vermont	✓	✓		✓
Virginia	✓	✓	✓	✓
Washington				✓
West Virginia	✓	✓	✓	✓
Wisconsin	✓	✓	✓	✓
Wyoming	✓	✓	✓	✓

*Differences may exist in various states between what is allowed for some traps between: 1) Land and water use 2) Take during regulated harvest seasons and trapping for human-wildlife conflict resolution, and 3) Whether a device may be set for lethal or live capture.

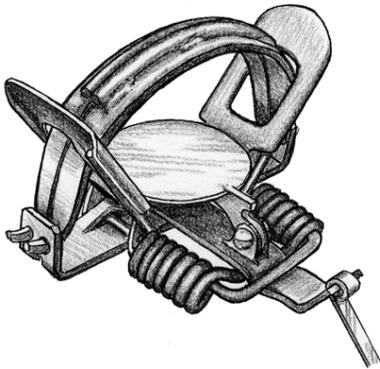
Trapping Devices



BODYGRIP TRAPS

Bodygrip traps are designed to kill an animal quickly when one or two rotating jaws strike an animal's neck or chest. States regulate when and where bodygrip traps may be used, and the legality of certain trap jaw spreads.

- The use of bodygrip traps is allowed in 43 states. All of these states allow bodygrip traps to be placed in water sets; 41 states allow the placement of bodygrip traps on dryland.
- Of those states that allow the use of bodygrip traps on dryland, some restrict the jaw spread and/or require traps of certain sizes to be elevated or in cubbies when on dryland.
- The majority of states do not allow the use of bodygrip traps with a jaw spread of 8 inches or greater on dryland, but rather, such traps must be used in water sets, often partially to fully submerged.
- Bodygrip traps set on dryland must generally be checked every day, in the majority of states where they are allowed.



FOOTHOLD TRAPS

Foothold traps are live-restraining traps designed to close on an animal's foot across, or above the foot pad, and they may be used on land or water.

- The use of foothold traps is allowed in 43 states, with 42 states allowing them to be used in land sets and 41 states allowing their use in water sets.
- Trap check intervals vary among states, but of those states allowing the use of foothold traps, a daily trap check is most common.
- The setting of foothold traps is often restricted by location (to enhance selectivity of this technique), and most states have jaw spread restrictions for traps that may be set on dryland.
- Some states also require trap jaws to be modified with offset, laminated or padded jaws and have a shock-spring incorporated into the chain.



SNARES

The use of snares (any device that consists primarily of a cable and lock used to restrain a furbearer) to capture furbearers is allowed in 40 states. In some, the use of these devices is restricted to various species: beaver, otter and canids.

- Four states require trappers to take a snare-specific class before they may use snares.
- 34 states allow the use of snares in land sets. Most states restrict the locations where snares may be set.
- The majority of states require snares to be checked daily.
- Snares may be used for live restraint (often called a cable restraint device) or lethal capture, depending on the components of the snare and the location of the set.
- Snares may be set for live restraint in 33 states; 27 states allow snares as lethal devices.



CAGE AND BOX TRAPS

49 states allow the use of cage/box traps and often restrict where devices may be placed. A daily check and removal of captured animals is required in most states. Multi-catch colony traps are allowed for use on land in 33 states, whereas 39 states allow their use underwater.

TRAP ILLUSTRATIONS BY JOE GOODMAN



ISTOCKPHOTO

CAPTURE TECHNIQUES FOR MOUNTAIN LIONS AND BLACK BEARS

- Twelve states allow the harvest of mountain lions, and of these, 11 allow the capture of lions with trapping devices (mostly for human-wildlife conflict resolution).
- Two states allow trapping devices (foothold, box/cage/culvert, snares) to be used to harvest mountain lions (New Mexico, Texas).
- Thirty-two states allow the regulated harvest of black bears; 9 allow the capture of black bear with trapping devices (mostly for human-wildlife conflict resolution). Foothold traps may not be used to capture black bear in any state. The state of Maine allows the regulated harvest of black bears with trapping devices. Only specific foot snares or cage/box/culvert traps may be used, and only one device can be deployed at any one time. Bag limit is one bear.

FURBEARER HUNTING

- Forty-four states allow the hunting of furbearing animals during night time hours. Forty-two of these states allow the use of artificial light to assist in the take of animals. Many restrictions apply.
- Forty states allow the use of electronic calls for hunting furbearers.
- Forty-four states allow dogs to be used in their take. Further regulations are described with the use of dogs.
- All 49 states surveyed allow the harvest of furbearers by hunting.

About CITES

THE CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES) is an international treaty to prevent species from becoming endangered or extinct because of international trade. Under this treaty, countries work together to regulate the international trade of animal and plant species and ensure that this trade is not detrimental to the survival of wild populations. Thanks to conservation efforts by state and federal wildlife agencies, North American river otters and bobcats are common and abundant in the United States. However, these two species are included in Appendix II of CITES due to their similarity of appearance to threatened and endangered otter and Lynx species in other countries. Before the pelt of a North American river otter or bobcat can be exported from the United States, a CITES tag must be affixed to the pelt. This CITES tag verifies that the animal originated from the United States, which aids custom officers in detecting illegal trade in otter and Lynx species from other countries.

HOW HARVESTERS RECEIVE TAGS

11

Number of states where CITES tags are mailed by the agency.

35

Number of states where tags are applied to the carcass by an agency representative.

6

States where there are other methods of tag distribution.

Science-Based Management and Conservation Programs

PROFESSIONAL WILDLIFE BIOLOGISTS MONITOR AND EVALUATE THE STATUS OF FURBEARER POPULATIONS on a regular basis and respond with appropriate management actions. Much of the information known about furbearer populations, and the scientific management of furbearer populations, has been derived from information collected through regulated trapping programs.

Two key methods used by states to collect data on furbearer populations are mail surveys and carcass collection. Mail surveys of licensed trappers generally provide information on the annual harvest, presence/absence and range expansion or decline of various species. Carcasses (or parts such as teeth, reproductive tracts, etc.) provide vital information on genetics, diseases, overall health, food habits, reproductive success, heavy metals and contaminant loads, and more.

When additional information is needed, more intensive research programs can be initiated. Information collected through regulated trapping programs is invaluable, and these data demonstrate how regulated trapping has historically contributed to the scientific conservation and management of furbearer populations.



KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES

Passing on a heritage of trapping: State Fish and Wildlife agencies rely on information collected through regulated trapping to continue their conservation efforts.

MONITORING DATA COLLECTION PRACTICES

27

Number of states that currently collect teeth or carcasses for biological analysis.

23

Number of states that have per-trapper quotas in place for various species.

42

Number of states that collect information to estimate the harvest levels of furbearers, and for most, this includes all furbearers. The primary method used is a mail survey of trappers.

2016 Summary of Furbearer Trapping Regulations in the United States



ASSOCIATION *of*
FISH & WILDLIFE
AGENCIES



**Association of Fish and Wildlife Agencies
Furbearer Conservation Technical Work Group**

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Introduction

Trapping is a heavily regulated activity in the United States. In a continuous effort to understand the full scope and breath of this activity across the North America, surveys have intermittently been conducted by the Association of Fish and Wildlife Agencies. A “Summary of Trapping Regulations for Fur Harvesting in the United States and Canada” was originally conducted by the International Association of Fish and Wildlife Agencies Furbearer Resources Technical Subcommittee in 1995. A second iteration was conducted in 2007. Throughout the evolution of this survey, trapping devices and methods, as well as the regulations that guide them have undergone changes. The annual regulated harvest of wild furbearers occurs under the conditions set forth in regulations promulgated within each state. The summary data of furbearer trapping regulations contained in this report were gathered during the summer/fall of 2016 in an effort to examine current laws for the harvest of 26 species of furbearers by regulated trapping throughout the United States. The survey contains 247 questions. Response rate to the survey was 100%. Some responses were more thorough than others which added to the length of this survey.

An on-line survey was developed and distributed to wildlife agencies in 49 U.S. states (excluding Hawaii). Information was compiled under the following 11 general categories:

- 1) Licensing
- 2) Trapper Education
- 3) Best Management Practices for Trapping
- 4) General
- 5) Bodygrip traps
- 6) Foothold traps
- 7) Snares
- 8) Miscellaneous Trapping Devices
- 9) Capture Techniques for Mountain Lion and Black Bear
- 10) Furbearer Hunting
- 11) Tagging, Registration, and Management of Furbearers.

Readers should note that the comprehensive body of regulations set forth by state wildlife agencies for the trapping of furbearers is among the most complex and comprehensive of all laws concerning wildlife today. The environmental, climatological, social, cultural and economic conditions under which furbearers are harvested dictate that the methods and devices used to capture furbearers be flexible and diverse. No single device is appropriate to capture the wide diversity of furbearer species under the variety of conditions existing in the United States. Users of this data should be careful when drawing conclusions about trapping and harvest regulations. Due to the complexity of trapping regulations, analysis of this information should be discussed with state wildlife project leaders.

The underlying premise of what is lawful and the fundamental context in which regulations are constructed is important in understanding state trapping laws. For example, in some jurisdictions a technique or device is lawful, unless otherwise prohibited. In other jurisdictions, a technique or device is prohibited unless specifically allowed by regulation. Thus the reader is cautioned not to draw broad conclusions from any single response within this summary.

Information presented on any page of this report is only a single component within more comprehensive regulations. To understand the full relevance and importance of any response, the listed information needs to be examined within the context and in concert with all other existing regulations.

If viewed in this context the information within this report is very useful to wildlife managers to help examine technologies and initiate appropriate furbearer management decisions.

The Furbearer Conservation Technical Work Group of the Association of Fish and Wildlife Agencies is grateful to all agencies for their cooperation in gathering this information and thanks them for their assistance in these efforts.

For questions regarding this survey, contact:

Bryant White
Program Manager of Trapping Policy
Association of Fish and Wildlife Agencies
BWhite@fishwildlife.org

Thomas Decker
Wildlife Biologist USFWS
Division of Wildlife and Sport Fish Restoration
Thomas_Decker@fws.gov

Results

Licensing

Trapping is a highly regulated activity and state wildlife agencies regulate trapping not only for fur harvest but also for nuisance and animal damage control. States require trapping license for residents and non residents. In some states landowners are not required to have a license when trapping on their own property. States also vary in their resident and non-resident trapper license regulations based on cost and age thresholds. 48 states allow non-residents to trap on state land.

1. What is the cost of your standard resident license required for trapping furbearers? (Please include the cost of additional required permits or stamps separately, e.g., \$30 license + \$1 habitat stamp)
Note: For the duration of the survey, when we refer to “trapping license”, we will be referring to this license.
Answered Question 49
Skipped Question 0
AL - \$21.40
AK – 15
AZ - \$30 license
AR – 0 + cost of res hunting license which can be 10.50-25 depending on type they get
CA – 117.16
CO – Resident = \$21 + \$10 habitat stamp. (habitat stamp required only for ages 18-64)
CT - \$34.00
DE – 3.50
FL – 26.50
GA - \$30
IA - \$22.50 furharvest license + \$13.00 habitat fee
ID - \$26.75
IL - \$10.50 + \$5.50 (resident)
IN - \$17.00
KS - \$25 license + \$2.50 processing fee
KY - \$20 Resident, \$10 Landowner / Tenant
LA – 25
MA - \$30.50 license plus \$5 habitat stamp
MD - \$24.50 + \$5.00 furbearer stamp
ME – 35.00
MI - \$11 base license \$15 furharvester license
MN - \$22 small game license + \$23 trapping license
MO – 10
MS - \$25
MT - \$20 license _ \$8 conservation license
NC – 30

ND - \$15 license + \$1 certificate
NE – 36
NH – 31.00
NJ - \$32.50 + \$15.00 beaver permit (if applicable) + \$2.00 otter permit (if applicable) + \$10.50 rifle permit (if using rifle to dispatch)
NM - \$20 license + \$5 habitat stamp + \$4 habitat management and access validation
NV - \$42
NY – 20
OH – 34.00
OK - \$10 trapping license + \$10 special fur license
OR – 47.00
PA – Adult Resident Furtaker License = \$20.70
RI - \$10.00
SC - \$25 plus the cost of a hunting license (required)
SD - \$30.00
TN - \$34
TX - \$19
UT - Resident furbearer \$29 nonres furbearer \$154 (additional charge for bobcats \$15each up to 6 per person)
VA - \$46 for statewide resident license
VT – 23.00
WA - \$41.60 license
WI - \$20.00
WV - \$24 This is a hunting/trapping license
WY - \$44

2. Does your state offer a junior resident trapping license?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	63.27%	31
No	36.73%	18

3. At what age(s) is the junior resident trapping license available? (e.g., <16, 12-16, etc.)		
Answered Question 31		
Skipped Question 18		
AZ – 14-17		
CA - <16		
CO - <18		
CT - <16		
IA - < 16		
ID - <18		
IL - <18		
KS - <16		
KY- 12-15		

LA - <15
MA - 12
MD - No minimum age
ME - 10-15
MI - 10-16
MN - 13-17
MT - 6-11 years of age
NH - <16
NJ - 12-16
NM - 12-17
NV - <16
NY - <16
OH - <17
OK - 14-17
OR - 12- 16
TN - 13-15
VA - <16
VT - Age 17 or under
WA - <16
WI - <15
WV - 15
WY - <17

4. How much does the junior resident trapping license cost? (Please include the cost of additional required permits or stamps separately, e.g., \$10 license + \$10 habitat stamp)
Answered Question 31
Skipped Question 8
AZ - \$10
CA - 39.40
CO - \$1.75 license, habitat stamp is not required for ages <18
CT - 11
IA - \$7.50
ID - 7.25
IN - \$7.00
KS - \$12
KY - \$5
LA - 5
MA - \$6.50 license plus \$5 habitat stamp
MD - \$10.50 license + \$5.00 furbearer stamp
ME - 9.00
MI - DNR sportcard \$1, base license \$6, furharvester license \$15
MN - \$5 small game license 16-17 + \$5 trapping 13-17; free small game license under 16
MT - Free trapping license + \$8 conservation license
NH - 9.00

NJ - \$0 license + \$6 rifle permit (if using to dispatch) + \$15 beaver permit (if applicable) + \$2 otter permit (if applicable)
NM - \$9 license + \$5 habitat stamp
NV - \$14
NY - 5
OH - \$8
OK - 17.00
OR - \$6.70
TN - \$10
VA - \$11
VT - 10.00
WA - \$18.50
WI - \$10.00
WV - \$16 hunting/trapping license
WY - \$6

5. Are some individuals exempt from buying a resident trapping license based on age? (e.g., no license required before age 12 or after age 65.)		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	46.94%	23
No	53.06%	26

6. At what age is a license required? (e.g., 12-65)
Answered Question 22
Skipped Question 27
AK - 16-59
AZ - 14
AR - 16
CT - 0-64
DE - 10-65
IL - no minimum age
KY - 12
MA - 12 +
MN - 13 and up
MS - 16 and older, no exemption over 65
ND - 16 and older
NE - 16
NH - 68
NM - 12 years and older
NY - 12
OR - 14 and older
PA - Age 12 or older
SD - under 12

TN – 13 and older
VA – 16+
VT – 0-64
WV – 15

7. Do you offer a nonresident trapping license?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	97.96%	48
No	2.04%	1

8. How much does your nonresident trapping license cost? (Please include the cost of additional required permits or stamps separately, e.g., \$300 license + \$10 habitat stamp)		
Answered Question 47		
Skipped Question 2		
Answer Options	Response Percent	Response Count
AL – 201.15 and up depending on reciprocal agreement with home state of applicant		
AK - \$250		
AZ - \$275		
AR – 125 + cost of non-resident hunting license (55-350 depending on type of nonres permit they get)		
CA – 577.50		
CO – Non-resident = \$56 + \$10 habitat stamp (habitat stamp only for ages 18-64)		
CT - \$250		
DE – 25.00		
GA - \$295		
IA - \$200		
ID – 301.75		
IL - \$175.50 if IL resident can trap in this state; \$250.50 if not + \$5.50 habitat stamp		
IN - \$140.00		
KS - \$250		
KY - \$130		
LA - 200		
MA - \$200		
MD - \$130 license + \$5.00 furbearer stamp + \$25.50 nonresident trapping license		
ME – 317.00		
MI – Base license \$51, furharvester license \$15		
MN - \$84 license		
MS - \$205		
MT- \$250 license + \$10 conservation license		
NC – 125		
ND - #350 license + \$2 certificate		
NE - \$225 nonresident fur harvest permit + \$20 habitat stamp		

NH – 303.50
NJ - \$200.50 license + \$10.50 rifle permit (if using to dispatch) + \$15 beaver permit (if applicable) + \$2 otter permit (if applicable)
NM - \$345 license + \$5 habitat stamp + \$4 habitat management and access validation
NV - \$192
NY – 275
OH - \$15
OK - \$345 trapping license + \$51 special fur license
OR – 352.00
PA - \$81.70
RI - \$30.00
SC - \$200 plus a nonresident hunting license is required
SD - \$275.00
TN - \$201
TX - \$315
UT – Nonresident \$154 (bobcat tags \$15 each up to 6 per person)
VA - \$206
VT – 305.00
WA - \$200.00
WI - \$150.00
WV - \$132 hunting/trapping license
WY - \$242

9. Are there restrictions on who may get the nonresident license?		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
Yes	33.33%	16
No	66.67%	32

Additional Comments
<i>Comments include yes and no responses.</i>
AK - nonresident, active duty military on military lands can trap without a license on military land open to trapping if they have been on duty at an installation of facility within Alaska for more than 30 days but less than 12 months. In the first 30 days, they need a nonres licence.
CA – Issued to any nonresident for the purpose of trapping only if the state in which they reside provides for issuance on a nonresident trapping license to California residents.
CT – requires an approved trapper education course
IA - Reciprocity with their state of residence. Meaning they can buy a nonresident furharvester license if their state of residence offers nonresident trapping licenses to Iowa.
MD – Trapper education is required OR individual must have purchased a furbearer stamp prior to August 1, 2007.
ME – Must have completed a trapper education course or have held a trapping license in another state
MI – Require hunter safety

MN – Non-residents may only trap on their own land.
MT – Residents of states have a nonresident trapping license available to Montana residents
ND – Reciprocal – only nonresidents from states that allow ND residents to trap in their state may legally trap in ND
NE – Reciprocity requirement
NM - Nonresidents of states not allowing New Mexico residents to trap may not legally purchase a NM nonresident trappers license.
PA - First time trappers must present evidence that applicant held a license in another state, a certificate of training, or completion affidavit of voluntary trapper training sanctioned by our agency.
SD – Nonresident (and the state they come from) have to have reciprocity with South Dakota.
TN – age 15 and older
UT – They must have passed furharvester education if born after Dec 31 1984
WI - Wisconsin allows trapping by non-resident U.S. citizens from those states that allow Wisconsin residents to purchase non-resident licenses and trap in that state; this includes all states except Hawaii, Minnesota and Washington D.C. Non-resident licenses require the successful completion of the Wisconsin trapper education course or a comparable, as determined by the Wisconsin DNR, trapper education course from another state or province. Currently, in person courses from AL, CT, ID, IL, KS, MA, MD, ME, MI, MN, MT, ND, PA (“successful furtaking” course), SC, TN, VA and VT are accepted as comparable. Non-resident trappers are subject to all seasons and regulations that pertain to the state of Wisconsin. Trapping licenses for the 2015–16 license year expire on March 31, 2016.
WY - The Department shall issue a trapping license to a nonresident only if his state issues licenses to Wyoming residents to trap the same species for which residents of that state may be licensed to trap in that state.

10. Are harvest restrictions placed on nonresidents that do not apply to residents (species they can trap, season dates, number of traps they can use, etc.)		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
Yes. If Yes, how are nonresidents regulated differently than residents?	25.00%	12
No	75.00%	36

If Yes, how are nonresidents regulated differently than residents?
<i>Comments include yes and no responses.</i>
CA - A nonresident issued a trapping license may take only those species, and may take or possess only that quantity of a species which a California resident may take or possess under a nonresident trapping license or permit in the state of residence of that nonresident.
ID – reciprocal agreement: can only trap species that NR are allowed to be trapped in NR home state.
MD – Nonresidents may not trap otter or beaver.
MI – May not take bag limited species (currently badger, bobcat, fisher, marten, otter). Some

season timing restrictions.
MT – Can not trap furbearers, only predators (coyotes, weasels, skunks), nongame wildlife (examples raccoon, badger, red fox), and wolves.
ND – Nonresidents are not allowed to trap fishers or bobcats
NE – Nonresident licenses allow the harvester of 1,000 or less furs. To harvest additional furs a permit to harvest 100 more must be purchased as needed.
NH – Restricted from taking beaver and otter.
NM - Nonresidents who hunt protected furbearers or who trap protected and unprotected furbearers in New Mexico must have a Nonresident Trapper License. Nonresidents who hold a Nonresident Nongame License or any current New Mexico nonresident hunting license may use any legal sporting arm to hunt and possess coyote, prairie dog, rabbit or skunk, but may not set traps or snares unless they also have a Nonresident Trapper License.
NV – Non-residents may not harvest bobcat or gray fox
SD – Season dates.
WI - For Raccoon only, the non-resident season opener is ~2 weeks later than the resident trapping opener. Resident raccoon: Oct. 17, 2015 – Feb. 15, 2016 Non-resident raccoon: Oct. 31, 2015 – Feb. 15, 2016

Trapper Education

The public who trap must be familiar with the many laws and regulations that govern trapping, as well as animal behavior, wildlife habitat, types of traps, trap preparation, sets and lures for different animals, and care of pelts. All these elements are taught in state or national trapper education courses. While some states do not require trappers to take a trapper education course, trapper education is offered by most states (69.39%) either through the state agency or a trapper association. Nationally a trapper education course entitled Best Management Practices for Trapping in the United States is offered as an online course. A National Trapper Education curriculum developed by the Association of Fish and Wildlife Agencies have been incorporated, at least in part, by a majority (79.41%) of state trapper education programs across the country.

11. Is a trapper education program offered in your state?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	69.39%	34
No	30.61%	15

12. Is trapper education mandatory for some trappers?		
Answered Question 35		
Skipped Question 14		
Answer Options	Response Percent	Response Count
Yes. If Yes, for whom? (e.g., everyone, all trappers born after a certain date, first time trappers, etc.)	60.00%	21

No	40.00%	14
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<p>If yes, for whom? (e.g., everyone, all trappers born after a certain date, first time trappers, etc.)</p> <p><i>Comments include yes and no responses.</i></p>
AZ - Persons applying for a trapping license (14 years old or older) who were born after January 1, 1967 or who have not completed, from and after December 31, 1987 and prior to the date when trapper ed became mandatory, the voluntary trapper ed course conducted in cooperation with AZGFD.
CA - California Fish and Game Code §4005(b) states that "The department shall develop standards that are necessary to ensure the competence and proficiency of applicants for a trapping license. No person shall be issued a license until he or she has passed a test of his or her knowledge and skill in this field" Therefore, all persons who wish to obtain a trapping license in California must first pass the CDFW trapping license examination (requirements are 70% accuracy or 60 questions correctly answered out of 85 questions)
CT – all new trappers and those that have not held a trapping license in the past 5 years
DE - All
ID – we are in the process of implementing a mandatory trapping class but have not yet.
IL - Persons born after January 1, 2015 and those who have not purchased a trapping license during the past 3 years (bill amending requirements was introduced during current legislative session)
KS – Persons born on or after July 1, 1966
MA - Everyone
MD – Trapper education is required for anyone who did not purchase a furbearer stamp prior to August 1, 2007.
ME – All trappers born after 1978.
MN – Persons born after Dec. 31, 1989 who have not been issued a trapping license in a previous year.
MT – to obtain a wolf trapping license
NH – First time trappers
NJ - Mandatory for first time trappers ages 12 and up, or those that have not had a trapping license since 1985
NY – All
OH - Everyone
OR - All trappers born after June 30, 1968 and all first-time trappers in the state (out of state certifications and licenses are not recognized)
PA – First time trappers
UT - Anyone born after December 31, 1984 must have passed furharvester education.
VT - All who have not previously held a valid trapping license from any state or Canadian province
WA – everyone
WI - All first-time trappers must complete the Wisconsin trapper education course prior to purchasing a trapping license. It is recommended that individuals be at least 10 years old to attend. Persons who purchased a Wisconsin trapping license on or before May 12, 1992 or are

actively engaged in farming in Wisconsin as defined by State Statute 102.04(3) and are a current Wisconsin resident are exempt from completing trapper education.

13. Does your state recognize the AFWA North American Trapper Education Program for trapper certification?

Answered Question 35

Skipped Question 14

Answer Options	Response Percent	Response Count
Yes	51.43%	18
No	48.57%	17

14. Does your state use the AFWA North American Trapper Education program to certify trappers?

Answered Question 35

Skipped Question 14

Answer Options	Response Percent	Response Count
Yes. If yes, do you use the on-line course, written manual or both?	42.86%	15
No	57.14%	20

If Yes, do you use the on-line course, written manual or both?

Comments include yes and no responses.

AZ – online course

DE – Used written manual in the past, but now use a different manual “NCA trapping handbook”

ID – we are trying to get an on-line option

MA - Both

MD – written manual

ME – written manual

NC – written manual; will be offering the on-line course for the first time in 2016.

OR – Written manual

PA – Both

TN – Written manual

UT – Written manual

VA – Written manual is used for classroom courses.

VT – Both

WI - Yes and No. The AFWA North American Trapper Education program has been incorporated into the Wisconsin Trapper Education program, but we do not accept the on-line course as certification at this time. We recognize and accept trapper education certification from other states that use the AFWA curriculum.

15. Has your state incorporated the Association of Fish and Wildlife Agencies' North American Trapper Education curriculum in any way into your state agency trapper education program?

Answered Question 34

Skipped Question 15

Answer Options	Response Percent	Response Count
Yes	79.41%	27
No	25.59%	7

16. Are Best Management Practices (BMPs) for Trapping in the U.S. used in any way in trapper education programs offered by your state agency or other trapper education providers?

Answered Question 34

Skipped Question 15

Answer Options	Response Percent	Response Count
Yes. If Yes, please list briefly the ways in which they are being used.	85.29%	29
No	14.71%	5

If Yes, please list briefly the ways in which they are being used.

Comments include both yes and no responses.

AK – no, but now that AFWA has made all the BMP's and the trapper education materials available, it is likely that some will be incorporated in the future.

DE – our regulations adhere to BMPs

IA - I recently had the opportunity to attend a Trapping Matter's workshop. We will be incorporating the BMP's into our seminars/workshops and will also be sharing the information with our hunter education instructors/officers and other outreach/communication pieces regarding trapping to the public. Outreach/communication pieces include: handouts, website, email outreach to hunters, trappers, and hunter education graduates.

ID – offered as BMP suggestions

IL – Describe BMPs. Online course provides link to BMPs at AFWA website. Devices recommended for particular species are BMPs.

IN – They are discussed during the class

KS – Information on BMP's is provided.

MA – An explanation of how BMPs were developed. Also which traps are used for the BMPs.

MD – BMPs are covered in the trapper education classes and info given as references for trappers.

ME – mentioned in trapper education, serve as guidance for some rule making.

MI – Described, overview

MN – BMPs are referenced in the trapper education manual used by the Minnesota Trappers Association, which manages Minnesota's trapper education courses.

NC - 1. Presentation on BMPs provided at trapper educational courses. 2. Presentation on BMPs provided at Wildlife Damage Control Agent certification courses. 3. BMPs on our state wildlife agency website.

ND – BMPs are a stand-alone chapter in our education manual and courses.
NE – BMP information is provided to during voluntary trapper education programs.
NH – Course curriculum required to be covered for certification.
NJ - To the extent possible (steel-jaw leghold type traps are statutorily prohibited in NJ), we encourage the use of BMP approved devices and capture techniques.
NY – Specific chapter in trapper education on BMPs
OR – Only the BMP material found in the written manual is used
PA - The features of BMP-recommended traps are discussed. Trap modifications that result in greater humaneness, efficiency, and practicality are reviewed in the training program.
SC – Use the curriculum to help teach the trapper education class. Discuss trapping BMPs and what that are.
TN – taught in course
UT - It is used and referred to in our bobcat species management plan and then referred to on our website and through our publications and pamphlets.
VA - To demonstrate which traps have lowest injury scores for various furbearer species. Also, to demonstrate the value of using the most humane trap possible to reduce potential for injury to non-target wildlife and domestic species. And the value for public relations when speaking with the non-trapper community.
VT - BMPs are discussed in classroom portion and are again used during any hands-on portion.
WA – In the trapping training manual
WI - BMPs for Trapping are emphasized throughout all trapper education courses and there is a chapter/section with specific focus on the history and importance of BMPs covered during all trapper education courses. BMPs for Trapping are also covered during internal/external trainings for staff.
WV – Mentioned as preferable if I remember correctly.

17. Are you aware that AFWA member states formally recognized by resolution (via all state fish and wildlife agency director vote) the AFWA North American Trapper Education course as a reciprocal course for the qualification of state licensing?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	44.90%	22
No	55.10%	27

Best Management Practices for Trapping

Best Management Practices (BMPs) are based on the most extensive study of animal traps ever conducted in the United States, combining scientific research and professional experience related to traps and trapping technology. BMP's are based on five elements or criteria related to trap performance. These criteria include animal welfare, efficiency, selectivity, practicality, safety. Traps are tested and if they met bench mark criteria related to these performance elements they are considered BMP traps. BMP traps are divided into killing devices and live restraining devices. BMP's serve as a framework for identifying and documenting trapping methods and equipment that improve trapping. BMPs are intended to complement and enhance trapper education programs, providing technical information to help managers and trappers alike to select the best traps available for 24 species of furbearers.

18. Over the past several years has your state used BMPs in management programs or promoted and implemented BMPs in any of the following ways (check all answers that apply):		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
Media contacts (interviews, articles, etc.)	70.73%	29
At training sessions of state agency staff (handouts, posters, notices, presentations, etc)	51.22%	21
At training sessions for external audiences (e.g., NWCO courses, trappers, public)	80.49%	33
During professional conferences (posters, presentations, workshops, etc	19.51%	8
At fairs, sportsmen shows or trade shows	48.78%	20
At regional or statewide meetings	43.90%	18
Incorporated into administrative codes or policy	21.95%	9
Regulatory language or justification during implementation of regulations	53.66%	22
Legislative actions or	58.54%	24

Agency Commission actions (use BMP data in talking points for legislators and commissioners, demonstration of animal welfare to help pass regulations or statutes)		
Use when evaluating or issuing scientific collector permits related to furbearer	34.15%	14
Use or promote with Institutional Animal Care and Use Committees within your state	34.15%	14

Other Comments
AK – It’s hard to know the correct answer for this huge and diverse state, but if so, very little. I see it more as a future use.
AR – Links to BMPs placed on agency web site
FL – We recognize the BMPs on our website but have done no other promotion of them.
NC – In agency reports.
NM – No, but we really need to start doing this.

19. For any species or situation, are trappers in your state restricted to the use of BMP recommended trapping devices?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	18.37%	9
No	81.63%	40

20. Does the use of BMP recommended trapping devices only apply to certain species, users, or situations? Specify if so.		
Answered Question 9		
Skipped Question 40		
Answer Options	Response Percent	Response Count
No	44.44%	4
Yes (please specify)	55.56%	5

Yes (please specify)
AZ – Only cage traps can be used on public lands in Arizona. On private lands body grip, certain footholds including powered cable devices can be used.
CT - Connecticut has a highly restricted placement of traps in land sets. Uses of foothold traps

on land are restricted to padded traps which, by our definition, includes only a subset of BMP traps. Trappers can generally only use land sets when trapping for coyotes during December and January. Cage traps and traps placed in water only include BMP recommended traps. An exception, deadfalls are allowed, but their use is practically zero.
DE - Pertaining to foot hold traps the size trap you're allowed to use is dictated by location, larger foot holds are allowed below the waterline. not based on species.
MN – For foothold and body-grip traps used in northeast Minnesota, where trapping regulations have been modified to eliminate the incidental take of Canada lynx.
WI - Use of BMP recommended trapping devices is a requirement of certain scientific research permits approved by the DNR. Examples include recent research that included trapping of badger and coyotes. Use of BMP trapping devices during traditional harvest season is strongly encouraged, but not required. Trapping on beaver dams in Wisconsin is restricted to BMP approved Enclosed Trigger Traps.

21. Please explain what type of BMP traps are required (e.g., certain footholds, cable restraints, bodygrip, or cage traps).
Answered Question 9
Skipped Question 40
AZ – Certain footholds, foothold powered cable devices, certain bodygrip, and cage
CT – certain footholds, body grips (in water), cage traps
DE - foot hold traps below waterline may be larger than those on land. Cable restraint required stop.
MA – cage traps, certain body gripping traps under special permits
MN - Chain attachments (footholds) must be 18 inches long with at least two swivel points; selectivity features (recessed in cubby or elevated) required for body-grip traps
RI – Use of footholds to trap coyote and fox under special permit
TN – Certain footholds, cable restraints, bodygrip, cage, cushion, dog-proof
UT – Certain footholds, cable restraints, body grip and artificial cubby
WI – Certain footholds (badger), cable restraints (coyotes)

22. Have BMPs been used to expand the types of traps or methods that can be used in your state?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	81.63%	40
Yes (please specify)	18.37%	9

Yes (please specify)
AZ - Expanded to the use of foothold powered cable devices
CT – Land trapping for coyotes was instituted in 2005. Arguments for the regulation change included that the traps allowed were BMP approved
DE - within the last few years trapping regs were substantially liberalized. larger foot holds were allowed to be set on land. Non relaxing snares are no longer allowed. Foot hold traps now include foot encapsulating traps.

IL - Many state-owned, -managed, and -leased sites allow enclosed foothold traps (e.g., EGG, L'il Grizz) for land sets (did not allow land sets prior to development of BMPs)
NH - We used BMP documents to authorize the use of foot encapsulating traps for raccoon beginning September 2015.
PA – Expanded cable restraint use
TN – certain traps such as dog-proof
VA – We expanded the use of cable restraint devices based on BMP study results.
WI - The BMP research protocols and results allowed the use of cable restraints on dryland in Wisconsin and use of Enclosed Trigger Traps on beaver dams.

23. A number of states formed in-state BMP or “Trap Standard Committees” to help develop BMPs, participate in the BMP process, and to promote them within the state. Did your state form such a committee?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	87.76%	43
Yes. If Yes, is this committee still active?	12.24%	6

If Yes, is this committee still active?
AL - No
MA – Not active still
ME – Don’t know
PA – No, committee is not active
VT – No
WI - The basic answer is yes, but we actually worked through several committees! President of the state trappers association was super supportive so we worked through his executive council; we worked through our state Furbearer committee; and we decided early-on to only use trappers who are official Trapper Education instructors. Doing so, we also worked through our joint Wisconsin Cooperative Trapper Education Committee. For 20 years we lived BMPs! Often times we had more willing trappers to assist in BMP work than we could accommodate! BMPs and trap standards are still discussed during an annual 2-day Furbearer Advisory Committee Meeting (held in late May, early June).

24. What additional venues or strategies for promoting BMPs do you think would be effective?
Answered Question 25
Skipped Question 24
AK – state agencies and trapper education programs
AZ – Workshop
CT – Trapper & Hunter Ed classes, Master Conservationist classes, undergraduate classes
DE – previous surveys have indicated limited internet access for trapping community. Mailing surveys, brochures would be a better way to do outreach for Delaware’s trapping community.
IA – With many of the BMPs being developed now, just a lot more outreach and promotion

would be good. A lot of work, time, and money has gone into it.
KS – Trapper-friendly publications
KY – State websites.
ME – having them incorporated into traps that you purchase.
MN – Anything that raises awareness to the existence of BMPs with the trapping community. Reach out directly to trappers associations in newsletter articles and/or advertisements.
MT – Regulations
NC – Articles in trapping magazines, promote at conferences (TWS, SEAFWA, AFWA, MAFWA, NEAFWA, WAFWA), workshops
ND – Targeted mailings to active trappers, because most are not members of a trapper association.
NH – Publication reporting how BMPs have helped expand trapping opportunities in various states.
NJ – Add a BMP button on the AFWA home page that would quickly bring interested visitors to the BMP documents
NV – Department needs to make use of our web page to promote BMPs
NY - "Continuing education" workshops for licensed trappers (delivered by state agency, state trapping org. or both)
OH – Incorporating their use into regulations
RI – Don't know
SC – not sure
SD – More online information (i.e. where to find them).
UT - We use our Utah Trappers Association and the Utah Houndsmen Association to help educate and provide information
VA – IACUC at universities
VT - Encourage trapper's associations to "carry the banner" more, conduct trap trade-ins at selected venues such as rendezvous, ramp up BMP use in trapper education classes
WA – Distributing pamphlets at sporting good stores
WI – I think promotion of BMPs through trap supply companies may be one avenue to further promote BMPs.

25. What outreach tools, techniques or strategies would be useful to your state to help promote BMPs?
Answered Question 25
Skipped Question 24
AK – Brochures, pamphlets
AZ - Brochures
CT – Increase wildlife staff awareness, conservation officer awareness, perhaps short brochures
DE – Previous surveys have indicated limited internet access for trapping community. Mailing surveys, brochures would be a better way to do outreach for Delaware's trapping community.
IA – Articles, web materials, videos, and seminars with trappers would be possible good avenues.
KS – Media press release for general public, information for university wildlife professors
KY – Concise summary of reasons for BMP, summary of traps that have high animal welfare

values over several species.
LA – State specific online trappers ed classes
ME – Pamphlets of BMP traps effectiveness
MN - Business-size reference cards (similar to communications cards) that could be distributed to individual trappers. Publication-ready advertisements that could be used on state websites and in trapping regulations books. YouTube videos are very popular for how-to demonstrations.
MT - ?
NC - Easy to read material on how to determine if a trap meets BMP specifications. Include easy to read data on how these traps are also more efficient than non-BMP traps.
ND – Paper copies of the BMPs for distribution to various publics.
NH – Publications and video messaging.
NJ – DVD containing all final BMP documents (not every trapper is computer savvy)
NM - Having a tri-fold glossy 8 1/2 x 11 brochure that introduces the history, goals, etc of BMPs and contains the website of where to find them would be great because most trappers I have talked to have no idea of what they are.
NY - Have BMPs be promoted by entities other than state agency.
OH – PowerPoint presentations
OR – Digital media (e.g. images of bullet point facts, figures) that can be used for social media, websites and publications
RI – Don't know
SC – One page (or trifold) flyer summarizing BMPs that could be handed out with trapping related literature
VA – More written materials to distribute (versus CDs or online)
VT - Disseminate a comprehensive "final" report that details methodology, accomplishments to date, and key findings including stats on changes this work has brought about. Develop and disseminate outreach materials such as displays, brochures and booklets for use at festivals, events and speaking engagements.
WA – State trapping clinics to give information out doing hands on experience
WI - Possibly short promotional videos and/or short videos covering BMPs for each species and where more information can be found (if interested).

26. Have you shared information regarding BMPs with federal land managers in your state?		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
No	83.33%	40
Yes. If Yes, what entities?	16.67%	8

If Yes, what entities?
ID – We include many in our rules book and discuss with USFS and BLM and USFWS during reviews of TE species.
MA – USFWS
MT – USFS

NC – US Forest Service, US Fish and Wildlife Service
NY – Refuge managers.
UT – USFS, and BLM
VA – USFWS Refuge staff
WI – Forest Service, US Fish and Wildlife Service

General

The following section addresses other management program information of interest to wildlife managers. These include questions on the sale and export of wildlife, dispatch methods, public and private lands trapping.

27. Do your regulations govern how trapped furbearers which are alive in traps must be dispatched?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	75.51%	37
Yes. If Yes, how must they be dispatched?	24.49%	12

If Yes, how must they be dispatched?
AL – Standard 22 caliber
CA – Immediately, on site, with a firearm where local ordinances, landowners and safety permit.
GA – shot with .22
MA – “In a humane manner”
MI - We just say "humanely". In addition, some species may be shot in traps, others cannot. Animals must also be dispatched or release immediately upon finding the animal in the trap.
MT – Furbearers must be dispatched immediately, no method specified. Wolves must be dispatched immediately by gunshot.
NM - Legal means of harvest is defined as firearms, bow and arrows, crossbow, traps and snares. There are no additional requirements
PA – Use of carbon monoxide is prohibited, otherwise no other restrictions
UT – All animals must be killed or released immediately
WA – A firearm may be used to dispatch trapped animals
WI – Semi-aquatic species found alive in a trap cannot be dispatched with a firearm. AVMA approved dispatched techniques are recommended.
WY - must be dispatched immediately or released unless trapper has a permit for possession of live furbearers

28. Can furbearers that are trapped alive be sold as live animals?
Answered Question 49
Skipped Question 0

Answer Options	Response Percent	Response Count
Yes	22.45%	11
No	77.55%	38

29. List what furbearer species can be sold live.		
Answered Question 11		
Skipped Question 38		
AR – coyote, gray fox, red fox		
GA – gray fox, red fox, coyote		
IL – Raccoons, foxes, coyotes		
LA – foxes, coyotes, otter		
MN - Coyote, long-tailed weasels, short-tailed weasels, least weasels, striped skunks, gophers, northern flying squirrels and southern flying squirrels.		
MO – Fox coyote		
MS – Fox and coyote only		
NC – coyote, gray fox, red fox		
SC – technically any		
VA – Red fox & gray fox only under certain conditions		
WY – Coyote, red fox, raccoon, bobcat		

30. Can they only be sold in-state, or are there any export restrictions?		
Answered Question 11		
Skipped Question 38		
AR – No restrictions		
GA – must be sold in state unless have a permit to export		
IL – Only in state		
LA – they treated the same as fur, trappers are only restricted by federal regulations and permits		
MN - Coyotes may not be exported or imported without a permit. They may be sold live in state.		
MO - Yes		
MS – Yes. Yes.		
NC – in-state only		
SC – in state (though export may technically be legal)		
VA – In-state only, no export		
WY – Yes but all dependent on regulation in “receiving” state.		

31. Can legally live-trapped species be imported into your state from another state?		
Answered Question 47		
Skipped Question 2		
Answer Options	Response Percent	Response Count
No	63.83%	30
Yes. If Yes, what species are allowed?	36.17%	17

If Yes, what species are allowed?
AR – We don't specify what can be brought in, rather prohibit ones that we don't allow.
CT - possession of live canidae, felidae and ursidae is prohibited. Importation of other species requires an import permit. Import for liberation would generally be prohibited
GA – any with approved permit
IA - Residents and nonresidents are prohibited from possessing live dangerous animals (coyotes are named specifically, fox could be considered dangerous because it says not limited to, bobcats could be considered dangerous for the same reason, raccoon, mink, otter, beaver, and others are not listed as dangerous) prohibits the live transport/possession, etc of dangerous animals within Iowa (717F.1) They cannot be brought it from out of state (717F.3) There are some exemptions for zoos etc. If they are not listed as dangerous ,nothing prohibits them from being brought in from out of state.
ID – permit required for importing, any species
IN – Bobcat, fox, coyote
KY – In theory, several species may be allowed that are not rabies vector species the way the law is written. However this does not happen; animals are from captive bred sources.
MI - Must be legally acquired following source state regulations. Must have a permit, must have health inspection paperwork. Raccoons and skunks may not be imported.
MN - Live game species may not be possessed without proof they were reared in captivity. Coyote may not be imported or exported without a permit. Live beaver may not be imported/transported without a permit. Live skunks may not be possessed. Long-tailed weasels, short-tailed weasels, least weasels, striped skunks, gophers, northern flying squirrels and southern flying squirrels may taken alive, possessed and potentially imported/exported under DNR regulations. Import/export of these species may be regulated by other state and/or federal agencies.
MO – <i>Left blank</i>
MS – Fox and coyote, with specific restrictions
ND - Any species is potentially allowed, but only after approval and permitting by the state's Board of Animal Health and Game and Fish Department. This is uncommon outside of a zoo setting.
NJ – Any species, provided an important permit is issued.
NM - Technically, any species can be imported with a permit issued by NMDGF. However, we would be disinclined to issue them in many instances depending on what the owner plans to do with it, because of disease transmission concerns, etc.
SD – I think most anything, another agency (Animal Industry Board) regulates this activity.
UT - We have a rule that prohibits many different species from being imported - wild caught are generally not allowed for fur-dealers. They must be captive born.
WY - These can be brought in without a permit - coyotes, red fox, raccoon These can be brought in after obtaining a permit from WGFD - badger, beaver, bobcat, marten, mink, muskrat, weasel

32. Is it legal to sell furbearer glands, including castor, skunk essence, etc.?
Answered Question 49
Skipped Question 0

Answer Options	Response Percent	Response Count
No	10.20%	5
Yes. If Yes, is a license required to sell these items?	89.80%	44

If Yes, is a license required to sell those items?
AL – just the standard furcatcher license
AK – no license
AR – Not specifically, though I would assume that they would have a hunting license and trapping permit in order to have caught the animals.
CO – Yes, if legally acquired during the course of hunting/trapping furbearers. No special license is required but the person must have had a small game or furbearer license.
CT – Trapping license is necessary to acquire, then sale is not restricted.
DE – yes need trapping license
GA – Technically a person would have to have a taxidermy license to sell body parts
IA - Yes, these things can be sold so long as they were taken legally and in season (no Nuisance Wildlife Control Operator can out of season). A fur harvester’s license/habitat fee is needed. Coyotes could be taken with hunting/habitat fee.
ID - no
IL – Yes, hunting or trapping license depending on species
IN - Yes
KS - No
KY - This is a gray area that we need to clarify.
LA – A trapping license or dealers permit is needed
MD – No.
ME – yes
MI - The license used to legally take the animal (furharvester license in most cases) For 28- fur dealer license is required for people "in the business" of buying and selling fur, etc Others are not required to have a license.
MN – No license required.
MO – No
MS – Not specifically addressed for a license.
MT – No
NC – Trapping license
ND – No
NE – Yes
NJ – No license required to sell.
NM – No
NV – No license required
NY – No
OH – No
OK – Required license to harvest act as license to sell when asked.
OR – No license is required to sell legally acquired furbearer parts.

PA – Yes, a license/permit is required.
RI – No
SC – No
SD – Some sort of license that allows these folks to legally possess these parts.
TN – trapping
TX – Commercial Fur Dealer License
UT - Any person who possess a valid furbearer license may sell, offer for sale, barter or exchange only those species they were licensed to take and that were legally harvested. Any person who obtains a furdealers certificate of registration may buy, sell or trade green pelts or parts of furbearers within Utah.
VA - Yes. Can only be sold by licensed trappers or hunters (or those who are license exempt) or by licensed fur buyers.
VT – No
WA – No
WI – No.
WV - Well, not really legal to sell period. This was just an oversight when the law was written many years ago. But, everyone does so anyway with no repercussions. And yes, a license is required.
WY – No license required.

33. Is a license required to buy these items?		
Answered Question 44		
Skipped Question 5		
Answer Options	Response Percent	Response Count
Yes	27.27%	12
No	72.73%	32

34. Is it legal to sell urine from furbearers?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
No	13.04%	6
Yes. If Yes, is a license required to sell these items?	86.96%	40

If Yes, is a license required to sell these items?		
AL – just the standard furcatcher license		
AK – no license		
AR - Not specifically, though I would assume that they would have a hunting license and trapping permit in order to have caught the animals.		
CO – Same as Q22.		
CT – Commercial urine products may be sold. Trappers could theoretically sell urine if they acquired some through their trapping activities.		

DE – yes trapping license
GA - no
IA - Yes, these things can be sold so long as they were taken legally. A fur harvester's license/habitat fee is needed to take the animal. No specific license to sell (ex. Trap supply company). Coyotes that are hunted only require a hunting license/habitat fee.
ID - no
IN - No
KS - No
LA – trapping license, dealers permit, captive animal permit
ME – don't know
MI - License used to legally take animal- law states that the " A person may buy, offer to buy, sell, offer to sell, or exchange for anything of value animals or parts of animals only as provided in this section: 2) The carcass and parts thereof, of fur-bearing animals lawfully taken during their open season or lawfully
MN - No
MO – No
MS – Not specifically address for a license.
MT – No
NC – Trapping license
ND – No
NE – No
NJ – No license required.
NM – No
NV – No license needed
NY – No
OH – No
OK – No license required.
OR – No license is required to sell legally acquired furbearer parts.
PA – Yes with proper permit/licensing.
RI – No
SC – No
SD – license to legally obtain/possess it.
TX – Commercial Fur Dealer License
UT – Furbearer license with a legal harvest or a furdealers license
VA - Yes. Can only be sold by licensed trappers or hunters (or those who are license exempt) or by licensed fur buyers.
VT – No
WA – No
WI – No.
WV – See answer 28.
WY – No license required.

35. Is a license required to buy urine from furbearers?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
Yes	16.28%	7
No	83.72%	36

36. Is it legal to sell tanned furs?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes. If Yes, is a license required to sell these items?	100.00%	46

If Yes, is a license required to sell these items?
AZ – No
AL – just the standard furcatcher license
AK – no license
AR - No
CA - Yes
CO – Same answer as Q22.
CT – Generally, once a fur is tanned or made into a garment there are no restrictions on sale
DE – trapping license required
FL – IS allowed with the tapping license.
GA - no
IA – Yes. No license required to sell, just required to harvest. There is some regulation of taxidermists to get them tanned.
ID – anyone
IL – No license required
IN - No
KS - No
LA – trapping license or dealers permit
MA – Furbuyers license
MD - no
ME – no
MI – Sometimes. A valid furharvester license, fur dealer license, taxidermy license all may be required under various circumstances.
MN – No
MO - No
MS – Standard trapping license
MT – No

NC - Trapping license, hunting license, fur-dealer license, or trophy permit
ND – No
NE – No
NJ – No license required.
NM – No
NV – No licenses needed
NY – No
OH – No
OK – Once tanned, furs in Oklahoma are considered a finished product and are not regulated.
OR – No license is required.
PA – No
RI – No
SC - No
SD – no
TN – no
TX – Commercial Fur Dealer License
UT - You must have a valid furbearer license for a legally harvested animal or have a furdealers license
VA - Yes. Can only be sold by licensed trappers or hunters (or those who are license exempt) or by licensed fur buyers.
VT – No
WI - A resident fur dealer license is required of any person having an established post or place of business in the state where they carry on the business of buying, bartering, trading or otherwise obtaining raw or dressed furs.
WV – No license required.
WY – No, bobcat must have CITES tag

37. Is a license required to buy tanned furs?		
Answered Question 47		
Skipped Question 2		
Answer Options	Response Percent	Response Count
Yes	23.40%	11
No	76.60%	36

38. Is it legal to sell skulls, bones, or meat from harvested furbearers?		
Answered Question 47		
Skipped Question 2		
Answer Options	Response Percent	Response Count
No	12.77%	6
Yes. If Yes, is a license required to sell these items?	87.23%	41

If Yes, is a license required to sell these items?
AL – just the standard furcatcher license
AK – no license for those, just license to sell the hide.
AZ – No license required. Heads, hides, feet, or skin of wildlife lawfully taken can be sold.
AR – Not specifically, though I would assume that they would have a hunting license and trapping permit in order to have caught the animals.
CO – Same answer as Q22.
CT – Skulls may be sold, bones and meat may not, a special license beyond a trappers license is not required
DE – trapping license required
GA – A licensed Taxidermist can sell body parts from furbearers. A licensed trapper may sell the fur “in the round” to a taxidermist or fur buyer.
IA – Yes, a furharvesters license/habitat fee is required to take them. Coyote and groundhog could be shot with a hunting license. No license to sell, just to take.
ID – no lic required
IL – Processed wild game dealer’s permit required for buying, selling, or shipping carcasses for public consumption
IN - Yes
KS - No
LA – trapping license
MD - no
ME – yes
MI – Valid harvest license
MN – No license required. Meat from beavers, muskrat, raccoon, rabbits and hares may be bought and sold.
MO - Yes
MS – Only meat or carcasses of raccoon, opossum, muskrat, or any part of a “nuisance animal” (beaver, coyote, fox, nutria, skunk).
MT – No
NC - Trapping license, hunting license, fur-dealer license, or trophy permit
ND – No
NE - Yes
NJ – No license required
NM - It is legal to sell skull and bones, and a trapping license is required to do so. It is not legal to sell meat.
NV - Legal to sell the skulls, bones and meat of non-classified mammals (i.e., coyotes, skunk, badger, weasel) but not the parts of those classified as furbearer.
NY – Trapping license
OH – No
OK – Same license as required to harvest.
OR – No license is required to sell legally acquired furbearer parts.
PA – Yes, with proper permit/licensing.
RI – No
SC – No

SD – same as others
TX – Commercial Fur Dealer License
UT - If it was legally harvested and a the person has a valid furbearer license or is registered as a furdealer
VA - Yes. Can only be sold by licensed trappers or hunters (or those who are license exempt) or by licensed fur buyers.
VT – No
WI – No.
WY – No license required.

39. Is a license required to buy these items?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
Yes	18.60%	8
No	81.40%	35

40. Does your State restrict the total number of traps a person can set?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	4.08%	2
No	95.82%	47

41. Do you prohibit the possession of specific trap types?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	63.27%	31
Yes. If Yes, what types are prohibited?	36.73%	18

If Yes, what types are prohibited?		
CO - Possession is not prohibited. But we have restrictions on the types of traps that may be used. In general foot-hold traps and snares are prohibited for use in recreational trapping. Under certain conditions for the purpose of trapping animals causing damage to agriculture products or for human health and safety padded foothold traps with pad tension restrictions and chain swivels and spring requirements are allowed. Likewise nonlethal snares may also be used with certain circumference stop restriction. Likewise, instant kill body gripping traps may be permitted with restrictions on the size of the jaw spread depending on the target species. When these exemptions are allowed they are permitted with a 30 day exemption permit on select parcels of private land only.		
DE – body gripping with jaw spread in excess of 5 in		
FL – Possession is not prohibited but use of steel leg-hold traps is prohibited.		

LA – only foothold traps with teeth are outlawed
MA – Any body gripping trap
MD – Snare traps are prohibited by law in 7 of our 23 counties.
MI – Certain types of snares, toothed jaw traps may not be used (Possession without use is not prohibited)
MO – Toothed
NE – Toothed traps
NH – Steel-jawed leghold type traps such as coil-springs and longsprings are prohibited in NJ
NY – Snares
OH – Toothed traps
OK - Cable restraints, body-gripping traps, any double spring foot hold trap with a jaw spread greater than 8 inches.
RI – Prohibit the “use” of footholds and snares, possession is not restricted
UT - We have trap restrictions in certain places to protect river otters. - nonlethal foothold with jaw spread less than 5/18 inch and nonlethal set padded foothold traps, drowning sets are prohibited. Body-gripping killing-type with body gripping areas less than 30 sq inches, nonlethal dry-land cable devices equipped with a stop-lock mechanism that prevents it to closing less than a 6-inch diameter, size 330 body gripping killing type traps modified by replacing the stand v-trigger assembly with one top side parallel trigger assembly with the trigger placed within one inch of the side - we have recommendations on avoiding trapping non-target species as well. all long-spring, jump or coil spring traps must have spacers.
VT – Snares
WA – No body gripping traps
WY – Pitfall traps prohibited.

42. Is the use of visible/exposed bait (e.g., fur, feathers, flesh) allowed for land sets?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	14.29%	7
Yes. If Yes, is there a set-back regulation regarding how close a trap can be placed or other visual/exposed bait?	85.71%	42

If Yes, is there a set-back regulation regarding how close a trap can be placed to a carcass or other visual/exposed bait?		
AL – For hanging or suspended bait traps must be no less than 25 feet away		
AK – no set back		
AZ – Not within 30 feet of a foothold trap		
AR - Animal matter, including meat, skin, bones, feathers, hair or any other solid substance that used to be part of an animal, may not be used as bait within 20 feet of a trap set, unless it is adequately covered to prevent it being seen from above. The cover also must withstand		

wave and wind action or other normal environmental conditions that could cause the bait to become visible.
CA - No
CO - No set backs are required. However, there are certain locations in the state where the use of visible baits and meat baits or scent lures are not permitted (within the Canada lynx recovery area).
DE – no restriction on fur or feathers. Visibly exposed meat must be at least 10 feet away unless using a box or a cage trap.
FL – no set-back regulation
GA – no restrictions
IA – Yes, with setback
ID – trap must be 30 ft. from exposed bait
IL – Must be 30 feet from exposed bait when using foothold traps for land sets
IN - No
KS - No
KY - no
LA - no
MA – There is no set-back regulation
MD - no
MI – No.
MN - Yes
MO - No
MS – Any amount of lure/bait larger than the equivalent volume of golfball must be covered and not visible from above it with 20 feet of any trap.
MT – No trap or snare may be set within 30 feet of an exposed carcass or bait which is visible from above.
NC – no set-back regulation
ND – Yes, set-back a minimum of 25 feet.
NE – Foothold traps may not be set within 30 ft of sight exposed bait.
NH - (g) Traps shall not be set within 50 feet of exposed bait, as defined in (h), but may be set any distance from a covered bait, as defined in (i). (h) “Exposed bait” means bait that is the body of any animal, including fish, or parts thereof including meat, organs, viscera, bones, or any other parts of an animal, that is visible from above, but does not include meat, organs, viscera, or bones totaling 4 ounces or less, or skin, hair or feathers 25 square inches or less, droppings, urine, or living or dead animals held in a trap as the result of lawful trapping activity. (i) “Covered bait” means bait that is the body of any animal, including fish, or parts thereof including meat, organs, viscera, bones, or any other parts that are covered so as to not be visible from above, where cover includes, but is not limited to, brush, branches, leaves, soil or snow and is constructed in a manner to withstand wind and normal environmental conditions. “Covered bait” includes baits less than one-half pound when placed in a dirt hole 6 inches in diameter or less at a depth of 6 inches or greater, and baits of less than 5 pounds placed on pole sets 5 or more feet above ground are also considered covered bait.
NJ – NJ has a set-back regulation for land sets if natural bait is uncovered.
NM – There is a 25 ft. set-back regulation

NV - A set-back of 30 feet is required. Also prohibition of use of any parts (fur, feathers, flesh) of any game animal.
OK – No.
OR - It is unlawful to trap using sight bait within 15 feet of any foothold trap set for carnivores.
RI – No
SC – No set back given
SD – Has to be further away than 30 feet.
TN – no setback
TX – No
VA - Yes. We have a 50 foot set-back required for exposed meat/bait visible from above (to reduce potential for non-target captures of eagles and other raptors).
VT – No
WA - Within thirty feet of any exposed meat bait or nonedible game parts which are visible to flying raptors
WI - Use of sight exposed bait consisting of feathers, animal flesh, fur, hide or entrails within 25 ft. of any trap, snare or cable restraint is illegal.
WY - A trap or snare shall not be set within 30 feet of any exposed bait or carcass over 5 pounds in weight. If bait weighs less than 5 pounds can be right next to trap or snare.

43. What is the distance of visible/exposed bait (e.g., fur, feathers, flesh) allowed for land sets?
Answered Question 40
Skipped Question 9
AL – 25 feet suspended bait
AK – no restriction
AZ – 30 feet
AR – 20’
CO – n/a
DE – meat only 10 feet unless box or cage trap-in which case no restriction
GA – none
IA – 20 feet
ID – 30 ft.
IL – 30 feet
IN – Is no distance
KS – n/a
KY – no restrictions
LA – there is no regulation on this
MA – n/a
MD – n/a – no setback requirement
MI – none
MN – 20 feet
MO – No
MS – See answer to question 33.

MT – 30 feet for visible from above (raptors)
NC – 0
ND – 25
NE – 30ft
NH – See previous explanation.
NJ – 30 feet
NM – 25 ft
NV – 30 feet
OK – N/A
OR – 15 feet
RI – None
SC – N/A
SD - 30 feet
TN – no restriction
TX - NA
VA – 50 feet
VT – Unregulated
WA – Greater than 30 feet
WI – 25 feet
WY - A trap or snare shall not be set within 30 feet of any exposed bait or carcass over 5 pounds in weight. If bait weighs less than 5 pounds can be right next to trap or snare.

44. Does the setback only apply to certain trap types (e.g., snares or footholds)?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
Yes	23.53%	8
No	76.47%	26

45. Is trapper identification (e.g., name and/or address, license number, etc.) required on traps?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	16.33%	8
Yes. If Yes, what is the requirement?	83.67%	41

If yes, what is the requirement?		
AL – Name and address		
AZ – Trapper ID # assigned by the Department or name and address of the trapper		
AR - It is unlawful to use any trap, snare or cable-restraint device for taking furbearing animals without a legible name and address or vehicle operator's license number or AGFC customer identification number or current vehicle license number (registered to the trap user) affixed to device.		

CA - Any person who traps furbearing mammals or nongame mammals shall obtain a trap number issued by and registered with the department. All traps, before being put into use, shall bear only the current registered trap number or numbers of the person using, or in possession of those traps. This number shall be stamped clearly on the trap or on a metal tag attached to the chain of the trap or to any part of the trap.
CT – Name or conservation ID (similar to license #) number must be attached to trap
DE – except for traps used for muskrats
GA – name and/or trapper number
IA – Name and address
ID – name or trapper ID off of license
IL – name and address
KS – user’s name and address or KDWPT number
KY – Name and address OR unique ID number issued by KDFWR and the 1-800-25ALERT phone number so that a person finding a trap may report it.
MA – Trap Registration Number
ME – trap tag with name and address
MI – Name and address or driver license or sportcard #
MN - Except on property owned by the trapper, one of the following must be affixed to the trap from Sept. 1-March 31: Driver's license number, state ID number, name and mailing address or state DNR number.
MO – Name address or number
MS – Trapper ID# must be etched or on an attached tag.
MT – Name and address OR birthdate and automated licensing system number e.g., 9.16.1968- 22
NC – name and address
ND – Required only for snares. Tags must include the trapper’s name, address and telephone number.
NE – Driver’s license # or state ID #
NH - All metal traps shall have the name of the person setting them, either stamped or engraved in a legible and permanent manner on the trap or on a durable tag securely affixed to the metal trap or chain holding said trap.
NJ - All traps set or used must bear a legible tag of durable material with the name and address of the person setting, using and maintaining the traps. Trap tags with Fish and Wildlife-issued trap identification number or the trapper's Conservation Identification Number (i.e., license number) may be used in lieu of name and address to mark each trap.
NM – They must put their NMDGF issued Identification Number or their name and address
NY – Name and address or trapper ID number
OH – Name or customer ID
OK – Trapper name and address
OR – A trap must be marked or branded with the owner’s furtaker license number.
PA – Trapper identification number or name and address is required to trap tags.
RI – Trapping license number
SC – Either Name and Address, or the DNR-issued customer ID number.
TN - Name or license id number

TX - Any device employed or emplaced to take or attempt to take nongame wildlife shall be marked with a gear tag. The gear tag must bear the name and address of the person using the device and the date the device was set out. The information on the gear tag must be legible. The gear tag is valid for 30 days following the date indicated on the tag.
UT - It must be permanently marked with a trap registration number. You may not have more than one registration number on a trap
VA – Name and address OR a permanent ID number issued by the Department.
VT – Trapper name and address
WA - Trappers must attach to each trap or device capable of taking an animal, a legible metal tag with either the Fish and Wildlife Department identification number or the name and address of the trapper, in English letters not less than 1/8 inch in height
WI - Traps, which includes cable restraints and snares for which a trapping license is required, must have a metal tag attached to be legal. The tag must be stamped or engraved legibly with the name and address of the operator or their customer ID number. Heavy-duty stamped tags are recommended
WV – Durable tag with name and address to be affixed to trap or chain.
WY – Name and address or trap ID number

46. Is there a requirement for minimum spacing between traps?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	95.92%	47
Yes. If Yes, how far apart do traps have to be set?	4.08%	2

If Yes, how far apart do traps have to be set?
KY – 10 ft
ME – 10 ft between two license holders at beaver flowages

47. Is trap setting/checking limited to only certain times of the day?		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
No	93.75%	45
Yes. If Yes, what times?	6.25%	3

If Yes, what times?
MN – 5a.m. – 10 p.m.
OH – 24 hours
WI - Legal trapping hours are from 4:00 a.m. to 8:00 p.m. provided the season is open. This rule will be changing soon.

48. Is landowner/tenant permission required to trap on all private property?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	87.76%	43
No. If No, please clarify any exemptions.	12.24%	6

If No, please clarify any exemptions.
AK – that falls completely under trespass law in this state, not trapping laws.
CA - California Penal Code Section 602.8 states: Any person who without the written permission of the landowner, the owner's agent, or the person in lawful possession of the land, willfully enters any lands under cultivation or enclosed by fence, belonging to, or occupied by, another, or who willfully enters upon uncultivated or unenclosed lands where signs forbidding trespass are displayed at intervals not less than three to the mile along all exterior boundaries and at all roads and trails entering the lands, is guilty of a public offense. The requirement for permission/written permission depends on the above criteria
MA – Unless the land is posted or there is a written permission bylaw for the town, then permission is not required to trap on the land of another
ME – permission is not required in unorganized townships (the rural industrial forest parts of the state)
MN – Traps may be set on private property that is not legally posted and is not agricultural.
OR – No exemptions.

49. Is written permission required to trap on private property?		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
Yes	41.67%	20
No	58.33%	28

50. Do trappers on any public lands need any additional permits not required on trap on private land?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	40.82%	20
Yes. If Yes, please clarify details.	59.18%	29

If Yes, please clarify details.
AL – On WMA’s need additional trapping permit from the Dept. of Conservation
AR – Some National Wildlife Refuges require additional permits. There are 16 AGFC-owned Wildlife Management Areas which require an additional free permit to trap (and hunt) on.
CT – A permit is required to trap on state-owned lands. Federal owned lands require written

permission similar to private lands
DE – need permit from land managing agency
FL – They may need an area-specific quota permit.
GA – trapping is allowed on only a few Wildlife Management Areas and a special free permit from the DNR is required
IA – US FWS federal land
ID – permits for trapping on State Wildlife Management Areas
IL – Requirements vary
IN – Fish and Wildlife areas are assigned to trappers by draws
KY – A written permit through department policy.
MA – Town conservation lands are not open to the public unless posted that they are open or have given permission for use.
MD – Trappers must have written permission of public land manager to trap on public land. Some public lands lease land to trappers through a bid process.
MN - Trapping permits are required for beaver and otter on all wildlife management areas. Permits are required for trapping all species on six large wildlife management areas identified as "major units"
MO – Special use permit on State owned land
MS – As regulated by the government agency.
MT – State lands require a permit
NC - Game Lands License needed to trap on game lands.
NY - Some public lands require additional permits to access them, but not necessarily associated with trapping.
OH – Additional permit is needed for beaver and river otter on public land.
RI – State land trapping permit (no fee).
SD – In state parks they would have to obtain a permit.
TN – WMA Permit
UT - Only on state wildlife management areas. We have too much interest and want to control where the trapper goes and when so this is done through an application process.
VA - National Forest Stamp needed for U.S. Forest Service lands, Virginia State Forest Stamp needed for State Forest lands. Special permission required for some state-owned wildlife management areas. Special permits required for some refuge lands managed by the US Fish & Wildlife Service.
VT – Trappers must be issued a Special use Permit prior to trapping on USFWS refuge lands.
WI – A permit is required to trap on certain federal wildlife refuges in Wisconsin.
WV – Free Wildlife Management Area trapping permit obtained at district offices.
WY - Office of State Lands and Investments require a permit to trap on state (school) lands. These lands are not technically public lands in the USFS sense so you can decide here.

51. Is any public land divided to allow separate areas for hunting and trapping?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	81.63%	40

Yes, please explain.	18.37%	9
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If Yes, please explain.
DE - in some areas hunting is restricted when trapping activities are occurring.
IA – Some County Conservation Board areas are trapping by permission only.
ID – I am not sure about this as it is allowed by managers but not sure if they do it.
ME – some USFWS refuges do not allow trapping but do allow hunting
NC - Trapping is permitted on all game lands except on posted "safety", "temporarily restricted" and "restricted" zones. Trapping is not permitted on two game lands with waterfowl refuge and on a field trial area.
NE - Traps/trapping is prohibited during certain times to reduce conflict between user groups. Snares are not allowed on public Wildlife areas during upland game bird seasons. Also, 2 Wildlife areas prohibit trapping until after Dec 15th due to dog trials/bird hunting
NJ – State Wildlife Management Areas that receive pheasant or quail liberations may not be trapped until January 1
TX – Some state lands allow public hunting but not trapping.
WI - The state end of Horicon Marsh is divided into zones. These zones are opened via auction each fall. Successful trappers are restricted to trapping in the zone they successfully bid on.

52. Do you notify hunters/outdoor recreationists by signage or other means that trappers may be using a public area?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	79.59%	39
Yes. If Yes, please explain details.	20.41%	10

If Yes, please explain details.
AK – Trappers often do, but the State does not.
CA - When any conibear trap is set on publicly owned land or land expressly open to public use, fail to post signs at every entrance and exit to the property indicating the presence of conibear traps and at least four additional signs posted within a radius of 50 feet of the trap, one in each cardinal direction, with lettering that is a minimum of three inches high stating: "Danger! Traps Set For Wildlife. Keep Out." Signs shall be maintained and checked daily.
GA – signs at kiosks
IA – Public use signs list trapping. However, there is nothing specifically noting trapping that I'm aware of.
ID – We recommend trappers use signs but we do not place signs ourselves unless we are trapping in area.
IN – At some Fish and Wildlife areas it is posted at the sign-in.
KS – Provide notification in hunting regs summary and on kiosks at properties.
MA – All of our Wildlife Management areas have a sign stating that the area is open to hunting and trapping.

NH – All Wildlife Management Areas have signage listing the multi uses including trapping.
 NY - We post signage listing the uses of the property including hunting and trapping, but don't specifically alert people that trapping is occurring.

53. Does your state have registered trap lines on public lands?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	6.12%	3
No	93.88%	46

54. Does your state have registered trap lines on private lands?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	6.12%	3
No	93.88%	46

55. Does your state recognize staking privileges (e.g., prior to the open season a trapper can mark or stake areas which then legally allow only his traps to be set at that location during the open season)?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
Yes	4.08%	2
No	95.92%	47

56. Do you restrict how close a trap may be set to a beaver lodge?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	81.63%	40
Yes. If Yes, what is the distance in feet it must be set back away from the lodge?	18.37%	9

If Yes, what is the distance in feet it must be set back away from the lodge?		
ID – not allowed to set in or on muskrat house – so if they are in beaver lodge then not allowed. no other restrictions.		
CT – 10 feet		
ME – 10 ft		
MN – Traps may not be set inside or upon the outside of any beaver house above the waterline.		
NY – Traps may not be set on or within 15 feet of a lodge.		

PA – 15 feet
RI – 10 feet, unless otherwise authorized under nuisance permit
TN – 12 in
VT - 10' - but only when otter season is closed (March). Otherwise there is no setback required.

57. Do you restrict how close a trap may be set to a beaver dam?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	89.80%	44
Yes. If Yes, what is the distance in feet it must be set back away from the dam?	10.20%	5

If Yes, what is the distance in feet it must be set back away from the dam?		
ME – 10 ft		
NY Traps may be set on or within 15 feet of a dam only if the otter season is open. If the otter season is closed trapping on or within 15 feet of a dam is restricted to body-gripping traps less than 5.5 in., foot-encapsulating traps, foot-hold traps 4.75 in. or less, and cage/box traps.		
PA – 15 feet		
VT - 10' - but only when otter season is closed (March). Otherwise there is no setback required.		
WI - A trapper may not set a trap, cable restraint or snare other than a commercially manufactured enclosed trigger trap closer than 15 ft. from any beaver dam.		

58. Do you restrict how close a trap may be set to a muskrat house or burrow?		
Answered Question 49		
Skipped Question 0		
Answer Options	Response Percent	Response Count
No	81.63%	40
Yes. If Yes, what is the distance in feet it must be set back away from the house or burrow?	18.37%	9

If Yes, what is the distance in feet it must be set back away from the house or burrow?		
ID – no trapping on or in muskrat house		
CT – 10 feet		
ME – 5 ft		
NH – 15 feet		
NY – 5 ft.		
RI – 8 feet, by state law		

SD – Certain times of year, traps cannot be placed on the lodge.
TN – 12 in
VT - "A person shall not disturb or destroy a beaver or muskrat house or den or place a trap therein, thereon, or in the entrance thereof."

59. Do you restrict how close a trap may be set to a hole, burrow or den on land?		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
No	91.67%	44
Yes. If Yes, what is the distance in feet it must be set back away from the hole, burrow or den?	8.33%	4

If Yes, what is the distance in feet it must be set back away from the hole, burrow or den?
IL – 10 feet
MA - It is prohibited to trap on land with a Bailey or Hancock beaver trap or other suitcase type cage trap of similar design, except when set upon a beaver lodge or beaver dam, snag, stump, rock, or other above-water protrusion entirely or substantially surrounded by water, or, when the pan of such trap is not completely submerged in water.
PA – No specific set-back distance listed in regulation.
TN – 12 in

60. Is it legal to damage a house/dam to set muskrat/beaver traps?		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
No	37.50%	18
Yes. If Yes, please explain (e.g., some states allow muskrat huts to be opened up to set trap if hole is then closed)	62.50%	30

If Yes, please explain (e.g., some states allow muskrat huts to be opened up to set trap if hole is then closed).
AL – No regulations prevent this
AK – yes on muskrat house, but no on beaver house.
AZ – No restrictions; not addressed in regulations
AR – No prohibition against it.
CT – Insignificant alteration of a dam would be allowed
DE – you can not damage or dig out a muskrat house. nothing for beavers.

FL – It is not specifically prohibited.
GA – anything is allowed
IN – Dams are not protected in any way
KS –legal to damage, illegal to destroy
KY – No restrictions.
LA – there is no regulation on this
MD – No regulations prohibiting such activities.
MN - Traps may be set at natural entrance to muskrat burrows and openings may be made in muskrat houses for trapping if all material removed is wetted and used to plug the opening.
NC – A house/den may be opened or damaged, but only with a permit from our agency.
ND - Yes, beaver dams may be dismantled when their presence causes property damage. Additionally, muskrat huts may be opened to insert traps or cable devices, but must be restored to their approximate original condition afterwards.
NM – There are no restrictions
NV – No restrictions
OH – No limitation.
OK – We have no state regulations regarding this practice.
PA – Cannot damage a beaver lodge or muskrat hut.
SC – No restrictions
SD - Muskrat huts can be opened to set a trap but must be closed again in a manner that doesn't destroy the hut.
TX – There are no restrictions regarding opening beaver or muskrat lodges.
UT – There are no restrictions
VA – Yes. No restrictions.
VT - "A person shall not disturb or destroy a beaver or muskrat house or den or place a trap therein, thereon, or in the entrance thereof."
WI - A trapper may not disturb or molest any mink den, muskrat house, muskrat feeding house or beaver dam.
WV – No stipulations.
WY – No restrictions here.

Bodygrip Traps

Bodygrip traps are designed to kill an animal quickly when one or two rotating jaws strike an animal’s neck or chest. States can regulate whether bodygrip traps are restricted to particular furbearer species (6.98%), and the legality of certain trap jaw spreads.

61. Is the use of any bodygrip traps allowed in your state?		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
Yes	89.58%	43
No	10.42%	5

62. Is the use of bodygrip traps restricted to particular furbearer species?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	93.02%	40
Yes. If Yes, what species?	6.98%	3

If Yes, what species?
CT – Functionally yes because they are restricted to placement in water
NJ – Beaver, mink, muskrat, nutria, and river otter
UT – They are restricted in areas occupied by river otters.

63. Is use of any bodygrip traps limited to a narrower time frame than the overall open season for any species?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	100%	43
Yes. If Yes, please explain.	0.00%	0

64. Within your regulations/state laws, how is the jaw-spread of bodygrip traps measured?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
Not stated	34.88%	15
Between the inside edges of the jaws when the trap is in the open/set position	34.88%	15
Between the midpoints of the jaws when the trap is in the open/set position	2.33%	1
Between the outside edges of the jaws when the trap is in the open/set position	11.63%	5
Other (please specify)	16.28%	7

Other (please specify)
CA – Our regulations state “jaw opening” size.
KY – Inside jaw spread measured parallel with the trigger; do not specify whether trap is in the open/set position or not.
MI – Inside the jaw hinges.
NH (b) No foothold trap shall be set on land with an inside jaw spread greater than 6½ inches, measured between the inside edges of the opened jaws, across the trap trigger, and

perpendicular to the trap base plate. (c) Body gripping traps with an inside jaw spread greater than or equal to 6½ inches, measured inside the jaws perpendicular to the trap’s pivoting joints, shall only be set
NM - The measurements are based on the outside edge or the inside edge depending on the regulation being enforced. Example- Maximum trap size is measured using outside edge, but the offset requirement is based on inside jaw spread.
TX – We measure the diagonal opening
WY – Measured vertically at the widest part of the jaw

65. Is the use of at least some dryland bodygrip traps allowed in your state?		
Answered Question 44		
Skipped Question 5		
Answer Options	Response Percent	Response Count
No	6.32%	3
Yes	36.36%	16
Yes, but with restrictions (please explain).	56.82%	25

Yes, but with restrictions (please explain).
AL – body grip must be 5 inch jaw spread or less for use on land
AZ – A trapper shall not use any body-gripping or other instant kill trap with an open jaw spread that exceeds 5 inches for any land set.
AR – May be used: Size 110, 120 and 160 or comparable body-tripping traps, with a jaw spread of 6 inches or less (measured on the inside edge of the trap from hinge-to-hinge and from top-to-bottom at the dog and may not exceed the specified maximum size either horizontally or vertically)
CA - “body gripping traps” are only allowed for depredation. They are not allowed for recreation or commerce in fur. There are exclusion zones where "conibear-type Traps and Snares" (and deadfall traps) are prohibited except for those that are totally submerged. See Fish and Game Code: § 3003.1 § 4004 § 4152 § 4155 § 4180 and Title 14 of the California Code of Regulations: § 465.5 Notwithstanding Sections 1001, 1002, 4002, 4004, 4007, 4008, 4009.5, 4030, 4034, 4042, 4152, 4180, or 4181: (a) It is unlawful for any person to trap for the purposes of recreation or commerce in fur any fur-bearing mammal or nongame mammal with any body-gripping trap. A body-gripping trap is one that grips the mammal's body or body part, including, but not limited to, steel-jawed leghold traps, padded-jaw leghold traps, conibear traps, and snares. Cage and box traps, nets, suitcase-type live beaver traps, and common rat and mouse traps shall not be considered body-gripping traps. (b) It is unlawful for any person to buy, sell, barter, or otherwise exchange for profit, or to offer to buy, sell, barter, or otherwise exchange for profit, the raw fur, as defined by Section 4005, of any fur-bearing mammal or nongame mammal that was trapped in this state, with a body-gripping trap as described in subdivision (a). (c) It is unlawful for any person, including an employee of the federal, state, county, or municipal government, to use or authorize the use of any steel-jawed leghold trap, padded or otherwise, to capture any game mammal, fur-bearing mammal, nongame mammal, protected mammal, or any dog or cat. The prohibition in this subdivision does not apply to federal, state, county, or municipal government employees or their duly authorized agents in the extraordinary case where the otherwise prohibited padded-jaw leghold

trap is the only method available to protect human health or safety. (d) For purposes of this section, fur-bearing mammals, game mammals, nongame mammals, and protected mammals are those mammals so defined by statute on January 1, 1997. Use of Conibear Traps, Snares, Cage and Box Traps, Nets, Suitcase-type Live Beaver Traps and Common Rat and Mouse Traps for Purposes Unrelated to Recreation or Commerce in Fur. Conibear traps, snares, cage and box traps, nets, suitcase-type live beaver traps and common rat and mouse traps may be used by individuals to take authorized mammals for purposes unrelated to recreation or commerce in fur, including, but not limited to, the protection of property, in accordance with subsections (1) through (5) below. Except for common rat and mouse traps, all traps used pursuant to this subsection must be numbered as required by subsection (f)(1) above. The prohibitions of subsections (c) and (d) above shall apply to any furbearing or nongame mammal taken by a conibear trap or snare pursuant to this subsection (g). It is unlawful to use a body-gripping trap, as defined in subdivision (a) of Section 3003.1, for the purpose of recreation or commerce in fur. It is unlawful to use a steel-jawed leghold trap, or to use any trap with Saw-toothed or spiked jaws. It is unlawful to use a conibear trap that is larger than 6 inches by 6 inches, unless partially or wholly submerged in water. Unless prohibited by the department as a permit condition, a lawfully set conibear trap that is 10 inches by 10 inches or less may be set pursuant to subdivision (g) of Section 465.5 of Title 14 of the California Code of Regulations. When any conibear trap is set on publicly owned land or land expressly open to public use, fail to post signs at every entrance and exit to the property indicating the presence of conibear traps and at least four additional signs posted within a radius of 50 feet of the trap, one in each cardinal direction, with lettering that is a minimum of three inches high stating: "Danger! Traps Set For Wildlife. Keep Out." Signs shall be maintained and checked daily. Traps may not be set within 150 yards of any structure used as a permanent or temporary residence, unless such traps are set by a person controlling such property or by a person who has and is carrying with him written consent of the landowner to so place the trap or traps.

GA – Body gripping traps with a jaw spread over 9.5 inches must be set in water or within 10 feet of water

IA – Bodygrip traps originally manufactured that exceed 8 inches with an outside measurement, are unlawful to use except when placed entirely under water.

MD - Body-gripping traps with a diameter of 8 inches or less can be set above ground in tidal wetlands, flooded non-tidal wetlands, fresh water marshes, wooded swamps, bogs in areas where the soil is waterlogged to the surface.

MI – size restrictions, cubby set requirements, elevation requirements for some size body-gripping traps. Differing regulations on public versus private lands.

MN - Size restriction for all dry-land sets Selectivity requirements for some body-grip traps set on public land and in lynx management area. Setback requirements around culverts and buildings occupied by humans or livestock

MT - Numerous restrictions. On public land 7x7 and larger must have recessed trigger by 7" and max opening of 52 square inches. In lynx zones, can not be used unless a water set, an elevated set with a leaning pole <4" diameter, less than 5x5, or recessed trigger by 7".

NC – bodygrip traps greater than 7.5 inches cannot be placed on dryland.

ND – Recess and water depth restrictions apply during certain times of the year. These regulations vary depending on land ownership.

NH - Body gripping traps with an inside jaw spread greater than or equal to 6½ inches,

measured inside the jaws perpendicular to the trap's pivoting joints, shall only be set: (1) Five feet or more above the ground or surface of the snow unless there was a snowstorm during the previous 24 hours; or (2) In water for beaver or otter.
NM - Must have an inside jaw spread of 7 inches or less. Bodygripping traps with inside jaw spreads of 6–7 inches set on land shall be used in conjunction with a cubby set, such that the trap trigger is recessed in the cubby at least 8 inches from an entrance
NY – Bodygrip traps more than 7.5in may not be used on land.
OH – 5 inch diameter or less
PA – Must be set within watercourse/waterway.
RI - State land - No body grips can be set on the ground. Traps up 6 1/2" jaw spread may be set in water or 6 feet above the ground. Greater than 6 1/2 " can only be set completely submerged in water. Private land - Up to 6 1/2" may be set on land or in water, greater than 6 1/2" but not exceeding 8" may be set in water or no less than 6 feet above the ground, greater than 8" can only be set completely submerged in water.
SC – In a “slide set” only
SD - On public lands and public road rights-of-ways when used with bait, larger than 160 conibears have to be recessed 7in or more.
TX – Under 10” diagonal opening.
VA - Baited bodygrip traps >5" and up to 7 1/2" may be used within enclosures with openings no greater than 60 square inches. Unbaited bodygrip traps can be used on land up to 7 1/2". Bodygrips in excess of 7 1/2" must be at least half submerged by water.
WI - No person may set, place or operate any body-grip trap greater than 60 but less than 75 square inches, measured from the widest points on the outside of the jaws (Figure 1) as a: • water set unless at least ½ of the set trap is located underwater at all times; • elevated set unless the trap is placed at least 5 ft. above the surface*; • bottom entry enclosure set, unless the entire opening of the enclosure is no more than 7 inches above the surface*; • baited and/or scented set in or on the ground unless the trap trigger is within an enclosure with openings no greater than 50 square inches for a 7 inch recess or an opening of 8 inches high by 10 inches wide with a 10 inch minimum recess from the enclosure openings, or; • unbaited and/or unscented trail set unless the trap is within an enclosure that provides openings no greater than 10 inches high and 10 inches wide and is recessed a minimum of 15 inches from the enclosure openings. * Surface is the first surface which is ground, ice, crusted or packed snow or any other hard material beneath the trap or opening. the purposes of this section, “enclosure” means any single unit device that creates a barrier to the trap allowing entry only through designated openings. To set, place or operate any body-grip trap that is 60 square inches or less in size, it must have a maximum vertical jaw measurement of 7½ inches when set. The vertical measurement is taken from the widest points on the trap in the set position (Figure 2).
WV – Jaw spread no more than 5 inches.
WY - Body grip traps having a jaw measurement of 10 inches or greater can only be used on private land unless the bottom of the quick kill trap is partially submerged in water.

Bodygrip Traps Set on Land

66. Is it legal to use #110/120 bodygrip traps (4 ½ inch jaw spread) on land?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes	80.49%	33
Yes, but with restrictions (please select options below)	19.51%	8
On private land?	14.63%	6
On State Wildlife Management Areas?	7.32%	3
On State/County Forests?	9.76%	4
In road right-of-ways?	7.32%	3
In baited cubbies?	7.32%	3
In culverts?	4.88%	2
In/near fencelines?	9.76%	4
Other restrictions? (please explain)	17.07%	7

Other restrictions (please explain)
CA – See question 65, page 47 for CA regulations.
IA - Conibear-type traps and snares must not be set on the right of way of a public road within 200 yds of the entry to a private drive serving a residence without permission of the occupant. You cannot set or maintain any snare or conibear-type trap within any public road right of way within 200 yds of building inhabited by humans unless you have permission or unless the trap is completely under water.
MD - Body-gripping traps with a diameter of 8 inches or less can be set above ground in tidal wetlands, flooded non-tidal wetlands, fresh water marshes, wooded swamps, bogs in areas where the soil is waterlogged to the surface.
ME – if out of water and baited the trap must be set in a lynx exclusion device.
PA – Must be within waterway/water course.
RI – No land sets on state land, only up to 6 1/2” on private land, see Question 55 answers
SC – In a “slide set” only

67. Is it legal to use #150 bodygrip traps (5 inch jaw spread) on land?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes	80.49%	33
Yes, but with restrictions (please select options)	19.51%	8

below)		
On private land?	14.63%	6
On State Wildlife Management Areas?	7.32%	3
On State/County Forests?	9.76%	4
In road right-of-ways?	7.32%	3
In baited cubbies?	7.32%	3
In culverts?	4.88%	2
In/near fencelines?	9.76%	4
Other restrictions? (please explain)	17.07%	7

Other restrictions (please explain)
CA - See question 65, page 47 for CA regulations.
IA - Conibear-type traps and snares must not be set on the right of way of a public road within 200 yds of the entry to a private drive serving a residence without permission of the occupant. You cannot set or maintain any snare or conibear-type trap within any public road right of way within 200 yds of building inhabited by humans unless you have permission or unless the trap is completely under water.
MD - Body-gripping traps with a diameter of 8 inches or less can be set above ground in tidal wetlands, flooded non-tidal wetlands, fresh water marshes, wooded swamps, bogs in areas where the soil is waterlogged to the surface.
ME – see 59
PA – Must be within waterway/water course.
RI – See above
SC – In a “slide set” only

68. Is it legal to use #160 bodygrip traps (6 inch jaw spread) on land?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	14.63%	6
Yes	56.10%	23
Yes, but with restrictions (please select options below)	29.27%	12
On private land?	21.95%	9
On State Wildlife Management Areas?	9.76%	
On State/County Forests?	14.63%	6
In road right-of-ways?	12.20%	5
In baited cubbies?	12.20%	5
In culverts?	7.32%	3
In/near fencelines?	14.63%	6
Other restrictions? (please	26.83%	11

explain)		
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Other restrictions (please explain)		
CA- See question 65, page 47 for CA regulations.		
IA - Conibear-type traps and snares must not be set on the right of way of a public road within 200 yds of the entry to a private drive serving a residence without permission of the occupant. You cannot set or maintain any snare or conibear-type trap within any public road right of way within 200 yds of building inhabited by humans unless you have permission or unless the trap is completely under water.		
MD - Body-gripping traps with a diameter of 8 inches or less can be set above ground in tidal wetlands, flooded non-tidal wetlands, fresh water marshes, wooded swamps, bogs in areas where the soil is waterlogged to the surface.		
ME – All 160’s set on dry land must be in a lynx exclusion device		
MI - May be used on private lands- no restrictions. 160s on public lands must be in a cubby set (with specific dimensions (see 2015 Michigan Hunting and Trapping Digest page 57) or may be used in unbaited sets if set so the highest point of the trap is less than 8 inches above the ground level. May be used in any fashion if 4 feet or more above dryland or surface of ice.		
NE - Body-gripping traps with a jaw-spread of larger than 5 inches can only be used on public land if they are placed completely under water or at least 6 ft above the ground.		
PA – Must be within waterway/water course.		
RI – See question 55		
SC – In a “slide set” only		
VA - Unbaited, no restrictions (public and private lands). Baited must be inside enclosure with openings no greater than 60 square inches and 12" trap trigger recess from opening. Baited 160s must have enclosures staked down and may only be used on private lands with written permission of the landowner.		
VT - In Wildlife Management Unit E for the protection of lynx, 160s and smaller are restricted to blind sets; or under overhanging banks; or within an artificial cubby (e.g. 5 gallon bucket set) with an opening not to exceed 50 square inches with the trap recessed no less than 7" from opening; or within an exclusion device (with specifications to complex to describe here); or five feet off the ground on poles not greater than 4" in diameter at the trap and angled no less than 45 degree in an area that is free of any object that is within 4' of the trap.		

69.Is it legal to use #220 bodygrip traps (7 inch jaw spread) on land?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	26.83%	11
Yes	43.90%	18
Yes, but with restrictions (please select options below)	36.59%	15
On private land?	14.63%	6
On State Wildlife Management Areas?	9.76%	4

On State/County Forests?	9.76%	4
In road right-of-ways?	9.76%	4
In baited cubbies?	9.76%	4
In culverts?	4.88%	2
In/near fencelines?	12.20%	5
Other restrictions? (please explain)	31.71%	13

Other restrictions (please explain)		
CA - See question 65, page 47 for CA regulations.		
IA - Conibear-type traps and snares must not be set on the right of way of a public road within 200 yds of the entry to a private drive serving a residence without permission of the occupant. You cannot set or maintain any snare or conibear-type trap within any public road right of way within 200 yds of building inhabited by humans unless you have permission or unless the trap is completely under water.		
MD - Body-gripping traps with a diameter of 8 inches or less can be set above ground in tidal wetlands, flooded non-tidal wetlands, fresh water marshes, wooded swamps, bogs in areas where the soil is waterlogged to the surface.		
ME – All 220’s set on dry land must be in a lynx exclusion device		
MI - May be used on private lands- no restrictions. May be used on public lands in a cubby set with specific dimensions (page 57 of 2015 Michigan Hunting and Trapping Digest). May be used in any fashion if 4 feet or more above dryland or surface of ice.		
MN – Selectivity features required on public land and in in lynx management zone; setbacks required near culverts and buildings occupied by humans or livestock.		
ND - On WMAs, must be in 4 inches or more of water or be recessed in a cubby at least 7 inches. All other lands, varying restrictions apply depending on time of year (http://gf.nd.gov/regulations-hunting-fishing-etc/furbearer-hunting-and-trapping-guide#trapset).		
NE – See above.		
NM - Bodygripping traps with inside jaw spreads of 6–7 inches set on land shall be used in conjunction with a cubby set, such that the trap trigger is recessed in the cubby at least 8 inches from an entrance.		
SC – In a “slide set” only		
SD – Cannot be used in conjunction with baits on public lands and public roads rights-of-ways.		
VA - Unbaited, no restrictions (public and private lands). Baited must be inside enclosure with openings no greater than 60 square inches at 12" trap trigger recess from opening. Baited 220s must have enclosures staked down and may only be used on private lands with written permission of the landowner.		
VT - In Wildlife Management Unit E for the protection of lynx, 220s and larger must be within an exclusion device (with specifications to complex to describe here) or be set 5' off the ground on poles not greater than 4" in diameter at the trap and angled no less than 45 degree in an area that is free of any object that is within 4' of the trap. AND statewide after the close of bobcat season, 220s and larger must be 5' feet of the ground.		

70. Is it legal to use #280 bodygrip traps (8 inch jaw spread) on land?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	53.66%	22
Yes	24.39%	10
Yes, but with restrictions (please select options below)	24.39%	10
On private land?	14.63%	6
On State Wildlife Management Areas?	9.76%	4
On State/County Forests?	12.20%	5
In road right-of-ways?	7.32%	3
In baited cubbies?	9.76%	4
In culverts?	4.88%	2
In/near fencelines?	9.76%	4
Other restrictions? (please explain)	21.95%	9

Other restrictions? (please explain)
IA – Only if outside jaw measurement doesn't exceed 8 inches as originally manufactured.
MD - Body-gripping traps with a diameter of 8 inches or less can be set above ground in tidal wetlands, flooded non-tidal wetlands, fresh water marshes, wooded swamps, bogs in areas where the soil is waterlogged to the surface.
MI – Must be 4 or more feet above the ground or surface of ice.
MS – On public lands, anything over 7" jawsread must be submerged in water.
ND - On WMAs, must be in 4 inches or more of water or be recessed in a cubby at least 7 inches. All other lands, varying restrictions apply depending on time of year (http://gf.nd.gov/regulations-hunting-fishing-etc/furbearer-hunting-and-trapping-guide#trapset).
NE – See above.
OR- When set on public land, a #280 bodygrip trap cannot be set at a distance greater than 50 feet from a permanent water source or a seasonal water source when water is present.
SC – In a “slide set” only
VT – Statewide after the close of bobcat season, 220s and larger must be 5' off the ground.

71. Is it legal to use #330 bodygrip traps (10 inch jaw spread) on land?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	68.29%	28
Yes	17.07%	7
Yes, but with restrictions	14.63%	6

(please select options below)		
On private land?	9.76%	4
On State Wildlife Management Areas?	7.32%	3
On State/County Forests?	7.32%	3
In road right-of-ways?	4.88%	2
In baited cubbies?	4.88%	2
In culverts?	2.44%	1
In/near fencelines?	2.44%	1
Other restrictions? (please explain)	14.63%	6

Other restrictions? (please explain)
GA – must be in water or within 10 feet of water
MI – Must be 4 or more feet above the ground or surface of ice.
MS – On public lands, anything over 7” jawsread must be submerged in water.
ND - On WMAs, must be in 4 inches or more of water or be recessed in a cubby at least 7 inches. All other lands, varying restrictions apply depending on time of year (http://gf.nd.gov/regulations-hunting-fishing-etc/furbearer-hunting-and-trapping-guide#trapset).
SC – In a “slide set” only
WY – If on public land only in water sets where the bottom of the trap is submerged.

72. What is the largest specific jaw spread of the largest bodygrip trap which may be legally used for dryland sets? Please indicate in inches.
Answered Question 41
Skipped Question 8
AL – 5 inches
AK – 13 inches inside spread of jaws
AZ – 5
AR - 6
CA - 6
DE – 5 inches
GA – 9.49
IA – 8 inches
ID – no restrictions
IL – Up to 7” on a side if square and 8” if round
IN – 7.5 inches if square or 8 inches if round
KS – jaw spread < 8 inches
KY – Body-gripping trap with a maximum inside jaw of seven and one-half (7.5) inches measured parallel with the trigger.
LA – there is no specific regulation on this
MD – 8 inches
ME – less than 8 inches

MI – None if set 4 feet above the ground/ice. On ground – 7.5 inches
MN – 7.5 inches
MO - 5
MS – No restrictions
MT – no limit
NC – 7.5 inches
ND – No jaw-spread restrictions.
NE – 8 inches on private land
NH – 6 ½ inches
NM – Inside jaw spread of 7 inches or less
NV – no specification
NY – 7.5 in.
OH – 5 in
OR – Jaw spread must be less than 7.5 inches
PA – 6 ½ inches
RI – 6 ½”
SC – none listed
SD – 8 inches
TN – 16 in square or 12 in round
TX – 10”
VA – 7 ½”
VT – 280 – 8”
WI – 75 square inches
WV – 5 inches
WY – 10”

73. What trap-checking interval is required for bodygrip traps set on land (e.g., daily, every 24 hours, 48 hours, no requirement)?
Answered Question 41
Skipped Question 8
AL – 24 hours
AK – no requirement
AZ - daily
AR – Kill sets must be checked within 72 hours
CA – daily
DE – 24 hours
GA – every 24 hour period
IA – 24 hours
ID – 72 hours
IL – once each calendar day
IN – Every 24 hours
KS – daily
KY – Every 24 hours.
LA – every 24 hours
MD – once per calendar day

ME – 3 days in organized townships, 5 in unorganized
MI – none
MN – 72 hours
MO - 48
MS – 36 hours for all traps.
MT – none
NC- daily
ND – No requirement.
NE – daily
NH – 24
NM – Every calendar day
NV – no restriction
NY – 24-hours in Southern Zone, 48-hours in Northern Zone
OH – 24 hr
OR – 48 hours
PA – 36 hours
RI – “at least once in every 24 hour period”
SC – 48 hours
SD – 48 east of the Missouri River and 72 hours west
TN – 36 hours
TX – 36 hours
VA - Daily.
VT – every 24 hours
WI – Daily
WV – Daily
WY – Once per week, if check on a Sunday one week would not need to check until the Saturday the following week, i.e. up to 13 days

74. Are there any other law(s) that regulate bodygrip trap placement on land?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	73.17%	30
Yes. If Yes, please describe the law(s).	26.83%	11

If Yes, please describe the law.
AK - In spring and fall beaver seasons, beaver sets must be submerged in some of the more populated game management units. this includes footholds and conibears
AZ - A trapper shall not set any trap within 1/2 mile of a boat launching area, camping area, picnic area, roadside rest area, occupied residence or building without permission of owner or resident, 100 yards of an interstate highway or any other highway maintained by ADOT, 75 feet of any other road, or 50 feet of any trail maintained for public use by a government

agency.
CA - See question 65, page 47 for CA regulations.
MN - Body gripping traps set on public land with jaw opening greater than 6.6 inches and less than 7.5 inches must meet one of the following: Recessed 7 inches or more from the top and front of an enclosure No bait, lure or other attractants are within 20 feet of the trap The trap is elevated at least 3 feet from the ground or surface of the snow pack In the lynx management zone (northeast MN): Unless at least half submerged, body-grip traps greater than 5 inches and less than 7.5 inches must be set: In a tree of any diameter or on a pole no larger than 6 inches in diameter at least 3 feet off the ground or surface of the snow. If on the ground, the trap must be in a cubby box with the trap recessed 7 inches from the front and sides with an opening no more than 50 square inches in area.
MO – See code book

NH - Lynx exclusion zone has additional requirements for body gripping traps set on land. The following restrictions on traps shall apply while trapping in WMU's A, B, C1, C2, D1, D2East, E and F: (1) All foothold traps set on land must have one swivel in the chain/cable and one swivel connection to the trap; (2) Body gripping traps with an inside jaw spread of 4 inches or greater and less than or equal to 5 inches, measured inside the jaws perpendicular to the trap's pivoting joints, which are set on the ground shall only be set as follows: a. Set in water at all times; b. Set under overhanging stream banks; and c. Set as a blind set with no bait or attractant; (3) Body gripping traps, measured inside the jaws perpendicular to the trap's pivoting joints, with an inside jaw spread 4 inches or greater which are set off the ground shall only be set as follows: a. Five feet or more above the ground or surface of the snow, unless there was a snowstorm during the previous 24 hours; b. Affixed to a leaning section of a pole or tree, no greater than 4 inches in diameter that is free of branches and angled 45 degrees or greater in its entirety; c. Excluding branch removal the pole or tree shall not have planed or altered sides; d. The area within 4 feet of the trap shall be free of trees, poles or other objects greater than 4 inches in diameter; e. The areas within 4 feet of the trap shall be free of trees or poles that are angled less than 45 degrees to the ground at any point between the ground elevation and the elevation of the trap; and f. The area within 4 feet of the trap shall be free of banks, bluffs, rocks or immediate rise in ground elevation; and (4) Body gripping traps with an inside jaw spread greater than 5 inches and less than 6½ inches, measured inside the jaws perpendicular to the trap's pivoting joints, which are set on the ground, shall only be set: a. Recessed in the den entry of nuisance wildlife with the den entry covered by wire mesh with openings that do not exceed 1 ½ inches side-to-side and wire gauge shall be 16 gauge or less or wire diameter 0.05 inches or greater; b. If placed in a lynx exclusion device, as follows: 1. The trap jaws shall be completely within the device, but the trap springs may be outside of the device; 2. The lynx exclusion device shall not have an opening greater than 6 inches by 8 inches; 3. The opening shall not be directly in front of the trap, but shall be either on the top or side of the device; 4. The trap set within the device shall be a minimum of 18 inches from the closest edge of the opening to the trap; 5. The back of the device shall be secured to withstand heavy pulling; 6. If using wire mesh with a wood box, the wire mesh shall wrap around 2 opposite sides of the box and be secured; 7. There shall be at least 2 attachment points for each side of the device where there is a joint, or where panels come together; 8. The exclusion device shall be constructed of wood, or wire mesh that does not exceed 1½ inch openings from side to side; 9. The wire gauge shall be 16 gauge or less or a wire diameter of 0.05 inches or greater; 10. The opening slot in the device that allows the trap springs to extend outside the device shall be no more than 7½ inches wide and a height of no more than 1½ inches; and 11. The trap shall be anchored outside of the device.

NM - No land set may be placed within one-quarter mile of a designated and signed roadside rest area, picnic area or an occupied dwelling, without the prior written permission of the occupant of the dwelling—except for land sets placed by the occupant/landowner on his/her own land. No land set shall be placed within one-half mile of an established and maintained public campground or boat-launching area. It is unlawful to make a land set within 25 yards of any public road or trail (including culverts or structures located beneath)—except on private land with written permission from the landowner. “Trail” shall mean: any path opened for public use and maintained annually with public funds or any path published on a map by a municipal, state or federal agency that is open for public travel. “Public road” shall mean: any thoroughfare constructed and annually maintained with public funds (regardless of whether it is currently open or closed to vehicular use) and any thoroughfare published on a map by a municipal, state or federal agency that is open for public travel. When a fence is present within 25 yards of the outside edge of a road, sets must be made on the side of the fence opposite the road.

NV - They cannot be placed on dry land within 1/2 mile of a residents within Counties with populations greater than 100,000 (Reno, Las Vegas)

PA - There are special regulations associated with using artificial cubbies on land. Body-gripping sets on land must be within an established watercourse, waterway, pond, lake, or dam and body-gripping traps cannot exceed a 6 1/2 x 6 1/2 jaw spread.

TX - No person may: (A) take fur-bearing animals with foothold or body-gripping traps, except during the open season for commercial harvest or as provided in §65.381 of this title (relating to Nuisance Fur-bearing Animals); (B) set foothold or body-gripping traps within 400 yards of any school; (C) use smoke, explosives or chemical irritants of any kind to harry or flush fur-bearing animals; (D) use a body-gripping trap with a diagonal opening dimension greater than ten inches set on land or in less than six inches of water; (E) use snares, steel foothold traps, body-gripping traps, and live or box traps unless each trap is examined at least every 36 hours; or (F) fail to remove animals from taking devices upon discovery.

VA - Only those described above for baited body gripping traps >5" and up to 7 1/2". Also, it is illegal to set a trap "where it would be likely to injure persons, dogs, stock or fowl".

Bodygrip Traps in Water Sets

75. Is the use of at least some bodygrip traps allowed in water sets in your state?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes	74.42%	32
Yes, with restrictions (please specify)	25.58%	11

Yes, with restrictions (please specify)

AZ - A trapper shall not use any body-gripping or other instant kill trap with an open jaw spread that exceeds 10 inches for any water set.

CA - See question 65, page 47 for CA regulations.

CT - opening of 4 3/4 inches or less can extend above water but be in contact with water. Larger must be completely submerged. Opening greater than 6 1/2 inches is prohibited, except opening up to 10 inches may be used in waters frequented by beavers
ME – all body gripping traps are legal in water sets
NC – bodygrip traps up to 26 inches in width and 12 inches in height can be set in water.
NJ - Must be completely submerged underwater, or in tidal areas completely submerged at mean high tide.
NM – No body gripping traps with an inside jaw spread of greater than 12 inches are allowed.
NY - There are specific trigger regulations for parts of the state during a closed otter season and for bodygrip traps larger than 9 in.
VA - Bodygrip traps in excess of 7 1/2" must be at least half submerged by water.
VT - For the protection of otter statewide in March, all body gripping traps must either be 5" or less, OR have parallel triggers that are fastened together, are no longer than 6.5" and are set off to the side by at least 8" and must include tension adjustable, square notch trigger brackets.
WY – If 10 inches or over, on public land only in water sets where the bottom of the trap is submerged.

76. To be considered a “water set”, how must bodygrip traps be set?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
Completed submerged	13.95%	6
At least half submerged	11.63%	5
Any part of trap placed in water	37.21%	16
Other (please specify)	37.21%	16

Other (please specify)
AK – completely submerged only in a few areas during a spring and fall
AZ – Any trap used and anchored in water rather than on land.
AR – Not defined in our regulations
CA - Traps of the conibear-type with a jaw opening larger than 8" x 8" may be used only in sets where the trap is wholly or partially submerged in water or is: (A) Within 100 feet of permanent water. (B) Within 100 feet of seasonally flooded marshes, pastures, agricultural lands or floodways when standing or running water is present.
CT – Please see response to question 62
ID – originally set in or on any body of water
KY – Gray area.
ME – depends on size of trap.
MT – 1/3 submerged or floating
ND – Trap is set or staked in a manner to permit the trap or trapped animal to reach water.
NH – Bottom of trap (clamping area) must be in water.
NV – Trap must be within waterway
RI – Traps larger than 8” but not exceeding 10” must be completely submerged

TN – can include floating sets
TX – In 6” of water
WY – bottom portion of trap must be submerged.

77. Is it legal to use #110/120 bodygrip traps (4 ½ inch jaw spread) as water sets?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes	97.67%	42
Yes, but with restrictions	2.33%	1
On private land?	11.63%	5
On State Wildlife Management Areas?	6.98%	3
On State/County Forests?	4.65%	2
In road right-of-ways?	2.33%	1
In baited cubbies?	6.98%	3
In culverts?	4.65%	2
In/near fencelines?	4.65%	2
Other restrictions? (please explain)	4.65%	2

Other restrictions? (please explain)		
CA - See question 65, page 47 for CA regulations.		
CT – Fencelines and cubbies are not water sets, and not legal		

78. Is it legal to use #150 bodygrip traps (5 inch jaw spread) as water sets?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes	97.67%	42
Yes, but with restrictions	2.33%	1
On private land?	11.63%	5
On State Wildlife Management Areas?	6.98%	3
On State/County Forests?	4.65%	2
In road right-of-ways?	2.33%	1
In baited cubbies?	4.65%	2
In culverts?	4.65%	2
In/near fencelines?	4.65%	2
Other restrictions? (please explain)	2.33%	1

Other restrictions? (please explain)
CA - See question 65, page 47 for CA regulations.

79. Is it legal to use #160 bodygrip traps (6 inch jaw spread) as water sets?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	2.33%	1
Yes	93.02%	40
Yes, but with restrictions	4.65%	2
On private land?	11.63%	5
On State Wildlife Management Areas?	6.98%	3
On State/County Forests?	4.65%	2
In road right-of-ways?	2.33%	1
In baited cubbies?	4.65%	2
In culverts?	4.65%	2
In/near fencelines?	4.65%	2
Other restrictions? (please explain)	4.65%	2

Other restrictions? (please explain)
CA - See question 65, page 47 for CA regulations.
VT – For the protection of otter statewide in March, 160s cannot be used in water.

80. Is it legal to use #220 bodygrip traps (7 inch jaw spread) as water sets?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	2.33%	1
Yes	83.72%	36
Yes, but with restrictions	13.95%	6
On private land?	11.63%	5
On State Wildlife Management Areas?	6.98%	3
On State/County Forests?	4.65%	2
In road right-of-ways?	2.33%	1
In baited cubbies?	4.65%	2
In culverts?	4.65%	2
In/near fencelines?	4.65%	2
Other restrictions? (please explain)	16.28%	7

Other restrictions? (please explain)
CA – See question 65, page 47 for CA regulations.

CT – Only allowed in waters frequented by beavers
ND - On WMAs, must be in 4 inches or more of water. All other lands, varying restrictions apply depending on time of year (http://gf.nd.gov/regulations-hunting-fishing-etc/furbearer-hunting-and-trapping-guide#trapset).
NJ – For beaver and river otter only
PA – Only for beaver and otter trapping.
RI – Must be completely submerged
VT – For the protection of otter statewide in March, 220s cannot be used in water.

81. Is it legal to use #280 bodygrip traps (8 inch jaw spread) as water sets?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	2.33%	1
Yes	79.07%	34
Yes, but with restrictions	18.60%	8
On private land?	11.63%	5
On State Wildlife Management Areas?	6.98%	3
On State/County Forests?	4.65%	2
In road right-of-ways?	2.33%	1
In baited cubbies?	4.65%	2
In culverts?	4.65%	2
In/near fencelines?	4.65%	2
Other restrictions? (please explain)	23.26%	10

Other restrictions (please explain)		
CA - See question 65, page 47 for CA regulations.		
CT – Only allowed in waters frequented by beavers		
IN – Completed submerged		
ND - On WMAs, must be in 4 inches or more of water. All other lands, varying restrictions apply depending on time of year (http://gf.nd.gov/regulations-hunting-fishing-etc/furbearer-hunting-and-trapping-guide#trapset).		
NJ – For beaver and river otter only		
NY - Bodygrip traps more than 7.5" may only be used in water during an open beaver or otter season.		
OH – Completed submerged.		
RI – Must be completely submerged		
VA – Must be at least ½ submerged by water.		
VT – For the protection of otter statewide in March, 280s cannot be used in water.		

82. Is it legal to use #330 bodygrip traps (10 inch jaw spread) as water sets?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	2.33%	1
Yes	74.42%	32
Yes, but with restrictions	23.26%	10
On private land?	11.63%	5
On State Wildlife Management Areas?	6.98%	3
On State/County Forests?	4.65%	2
In road right-of-ways?	2.33%	1
In baited cubbies?	4.65%	2
In culverts?	4.65%	2
In/near fencelines?	4.65%	2
Other restrictions? (please explain)	25.58%	11

Other restrictions? (please explain)
CA - See question 65, page 47 for CA regulations.
CT – Only allowed in waters frequented by beavers
IN – Completely submerged
ND - On WMAs, must be in 4 inches or more of water. All other lands, varying restrictions apply depending on time of year (http://gf.nd.gov/regulations-hunting-fishing-etc/furbearer-hunting-and-trapping-guide#trapset).
NJ – For beaver and river otter only
NY - Bodygrip traps more than 7.5" may only be used in water during an open beaver or otter season.
OH – Completely submerged.
RI – Must be completely submerged
VA – Must be at least ½ submerged by water.
VT - For the protection of otter statewide in March, all 330s or larger must have parallel triggers that are fastened together and are no longer than 6.5" and are set off to the side by at least 8", and must include tension adjustable, square notch trigger brackets.
WY – If on public land only in water sets where the bottom of trap is submerged.

83. What is the jaw spread of the largest bodygrip trap which may be legally used in water sets? Please indicate in inches.
Answered Question 40
Skipped Question 9
AL – No restriction
AK – 13
AZ – 10 inches
AR - 11

CA – 10
CT – Less than 10 inches
DE - 5
GA – none
IA – 10 inches
ID – no restrictions
IL – 10” on a side if square and 12” if round
IN – No restrictions if completely submerged
KS – not specified
KY – No restrictions.
LA – there is no regulation on this
MD – no size restriction for water sets.
ME – no upper limit
MI – no restriction
MN – No limit
MS – No restrictions
MT – no limit
NC – 12 inches height by 26 inches wide
ND – No requirement.
NE – unlimited
NJ - Six (6) inches for mink, muskrat, nutria; Ten (10) inches for beaver and river otter
NM – 12 inches
NV – 1 No specification
OH – Up to 7 inches in some water; >7 inches must be submerged
OR – No limit.
PA – 10 x 12 inches
RI – 10”
SC – Not listed
SD – no restriction
TN – 16 square 12 round
TX – NA
VA – No maximum.
VT – Unregulated
WI – None.
WV – No limit.
WY – No restriction.

84. Are there any other law(s) that regulate bodygrip trap placement in water?		
Answered Question 42		
Skipped Question 7		
Answer Options	Response Percent	Response Count
No	85.71%	36
Yes. If Yes, please describe the law(s).	14.29%	6

If Yes, please describe the law(s).
AZ – Bodygrip traps cannot be used on public lands.
MS – On public lands, anything over 7” jawsread must be submerged in water.
NC – if setting for beaver, bodygrip traps can be set half-submerged but must be checked daily.
NJ - Body-gripping traps set for beaver and river otter must have their trap tag clearly visible above the level of the water or ice.
OR - If water levels fluctuate, any killing trap with a jaw spread of 9" or more originally set in a water set must be removed or adjusted such that at least a portion of the trap jaws are submerged at the next required trap-check except in tidally influenced areas when set below the mean high water mark.
SC – In vertical position only

85. What trap-checking interval is required for bodygrip traps set in water (e.g., daily, every 24 hours, 48 hours, no requirement)?
Answered Question 43
Skipped Question 6
AL – 72 hours
AK - none
AZ - daily
AR – every 72 hours
CA – daily
CT – every 24 hours
DE – 24 hours
GA – every 24 hour period
IA - No
ID – 72 hours
IL – once each calendar day
IN – Every 24 hours
KS – daily
KY – Every 24 hours.
LA – every 24 hours
MD – once per two calendar days
ME – 3 days in organized, 5 days in unorganized. Under ice has no tending time requirement.
MI – none
MN – 72 hours
MO – 48
MS – 36 hours for all traps.
MT – none
NC – 72 hours for fully submerged traps
ND – No requirement.
NE – Every other day
NH – 24 hours, 72 hours when set under ice.
NJ – Once in every 24 hours
NM – Once per calendar day

NV - No restriction
NY – 24-hours in Southern Zone, 48 hours in Northern Zone
OH – 24 hr
OR – 48 hours
PA – 36 hours
RI – “once in every 24 hour period”
SC- 48 hours
SD – 48 hours east of the Missouri River and 72 hours west
TN – 36 in
TX – 36 hours
VA – Daily, except that completely submerged bodygrip traps can be checked once every 72 hours.
VT – Must be checked at least once every three calendar days.
WI – 4 days
WV – Daily
WY - Once per week, if check on a Sunday one week would not need to check until the Saturday the following week, i.e. up to 13 days

86. Is there a difference in checking intervals for bodygrip traps used in open water sets and under ice sets?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	88.37%	38
Yes. If Yes, what is the check interval for under ice sets?	11.63%	5

If Yes, what is the check interval for under ice sets?		
ME – under ice has no tending time		
MN – No limit		
NH – 72 hours		
SD – 5 days		
WI – No trap check requirement for under ice sets		

Foothold Traps

Foothold traps are live-restraining traps designed to close on an animal's foot across or just above the foot pad. Some combination of foothold traps are allowed in 87.50% of states.

87. Is the use of at least some foothold traps allowed in your state?		
Answered Question 48		
Skipped Question 1		
Answer Options	Response Percent	Response Count
Yes	87.50%	42
No	12.50%	6

88. Is the use of foothold traps restricted to particular furbearer species?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
No	95.35%	41
Yes. If Yes, what species?	4.65%	2

If Yes, what species?
NJ – Opossum and raccoon
RI - Prohibited by statute. Law allows a landowner to request a permit to use footholds to trap furbearers in nuisance situations after all other efforts to abate the problem have failed

89. Is the use of any foothold traps limited to a narrower time frame than the overall open season for any species?		
Answered Question 42		
Skipped Question 7		
Answer Options	Response Percent	Response Count
No	95.24%	40
Yes. If Yes, please explain.	4.76%	2

If yes, please explain.
AK – foot traps can't be used in open wolf seasons in some areas in April in October to avoid incident catch in that shoulder season.
CT – Land sets for coyotes are restricted to December and January

90. Within your regulations/state laws, how is the jaw-spread of foothold traps measured?		
Answered Question 42		
Skipped Question 7		
Answer Options	Response Percent	Response Count
Not stated	35.71%	15
Between the inside edge of the jaws when the trap is in the open/set position	38.10%	16
Between the midpoints of the jaws when the trap is in the open/set position	0.00%	0
Between the outside edge of the jaws when the trap is in the open/set position	11.90%	5
Other (please specify)	14.29%	6

Other (please specify)
AR – measured from the inside edge of the trap at the dog
KY – Inside jaw spread measured perpendicular to the hinges (implied that it should be in the open/set position)
NH - No foothold trap shall be set on land with an inside jaw spread greater than 6½ inches, measured between the inside edges of the opened jaws, across the trap trigger, and perpendicular to the trap base plate.
NM - It is sometimes defined as the outside spread and sometimes as the inside spread, depending on the context.
OR – Inside jaw spread at dog
VA – Inside jaw spread measured perpendicular to the hinges.

91. Is the use of dryland foothold traps allowed in your state?		
Answered Question 42		
Skipped Question 7		
Answer Options	Response Percent	Response Count
No	2.38%	1
Yes.	73.81%	31
Yes, but with restrictions (please explain).	23.81%	10

Yes, but with restrictions (please explain).
AZ – Footholds are not legal on public lands.
DE – spread can't exceed 6.5 inches
CT – May be set for coyotes in December – January, may be set in the burrow of an animal, may be set within 100 feet of a permanent building
GA – no trap with a jaw opening larger than 5.75 inches may be set on land
IA – Cannot set or maintain, on land, any foothold or leghold trap with metal serrated jaws, or

metal-toothed jaws.
ME – In Wildlife Management Districts 1-6 and 8-11 footholds set on dry land may have a jawsread of no greater than 5 3/8”
NC – foothold trap cannot be greater than 7.5 inches
NY - Foothold traps larger than 4 in. set on land must have a pan tension device and be covered when set. Foothold traps on land must be 5.75 in. or smaller (inside jaw spread).
VT - In Wildlife Management Unit E for the protection of lynx, all foothold traps set on land must be anchored using a chain or cable no longer than 18” that is center-mounted to the trap using a swivel connection and must have at least one in-line swivel along the chain or cable (from lynx BMPs) - otherwise, foothold traps are unrestricted.
WI - A trapper may not set, place or operate any steel-jawed trap with a jaw spread width of more than 7 inches from Oct. 15–Nov. 30 unless it is a water set or with a jaw spread width of more than 8 inches at any other time or as a water set.

Foothold Traps Set on Land

A majority of states allow the use of dryland foothold traps on private lands, State WMA’s, state/county forests, and a variety of other settings.

92. Is the use of dryland foothold traps allowed on private land?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes.	92.50%	37
Yes, but with restrictions (please explain).	7.50%	3

Yes but with restrictions (please explain).
CT – For coyotes in December – January, in the burrow of an animal, within 100 feet of a permanent building
GA – no trap with a jaw opening larger than 5.75 inches may be set on land
ID – permission necessary

93. Is the use of dryland foothold traps allowed on State Wildlife Management Areas?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	7.50%	3
Yes.	67.50%	27
Yes, but with restrictions (please explain).	25.00%	10

Yes, but with restrictions (please explain).
CT – In the burrow of an animal
GA – No trap with a jaw opening larger than 5.75 inches may be set on land
ID – permission from manager required
IL – restrictions vary by site
IN – Size restrictions set by property managers
MO – Special permit
NV – Allowed on some WMAs with special use permit
TX – Only with special permission.
VA – Allowed on most WMAs, but not all.
WY – Yes with three specific exceptions where the use of bird dogs for upland game birds or migratory game birds is common.

94. Is the use of dryland foothold traps allowed on State/County Forests?		
Answered Question 39		
Skipped Question 10		
Answer Options	Response Percent	Response Count
No	5.13%	2
Yes.	76.92%	30
Yes, but with restrictions (please explain).	17.95%	7

Yes, but with restrictions (please explain).
CT – In the burrow of an animal
GA – no trap with a jaw opening larger than 5.75 inches may be set on land
IL – restrictions vary by site
LA – managers have the right to restrict trapping
NH – Must have governing authorities permission to set traps.
NV – No such thing in state
TX – On a case by case basis.

95. Is the use of dryland foothold traps allowed on in/near road right-of-ways?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	22.50%	9
Yes.	50.00%	20
Yes, but with restrictions (please explain).	27.50%	11

Yes but with restrictions (please explain).
AL – Must have both adjacent landowner permission
AZ – Only legal on private lands. Cannot be set within 100 yards of an interstate highway or any other highway maintained by ADOT or 75 feet of any other road.

ID – unlawful to place ground set on, across, or within any public highway, except under bridges and culverts
KY – With permission from county.
NM - It is unlawful to make a land set within 25 yards of any public road or trail (including culverts or structures located beneath)—except on private land with written permission from the landowner. When a fence is present within 25 yards of the edge of the road, sets may be made on the side of the fence opposite the road.
NV – Must be more than 200 feet from roadway unless behind fence on private land
NY - You may not set a trap on a public road. You are allowed to set a trap in a culvert or ditch unless the property is posted or the landowner does not allow trapping.
OR - Not allowed on state department of transportation properties; all non-state owned roadway right-of-ways can be trapped on.
TX – Not in a right-of-way. Near a right-of-way is ok.
VA - With landowner permission and/or authorization from Virginia Department of Transportation (VDOT) for public ROWs. VDOT usually does not authorize trapping on state-owned ROWs.
WI - Permission to trap road right-of-ways can be a complex issue. Highway right-of-ways are established to provide areas for vehicle and sometimes pedestrian travel and not for the purpose of trapping. Most are owned by either the state or the local unit of government; however in some cases the adjoining landowner still maintains ownership of the underlying land. Trappers must have permission from the owner of the land underlying any public road, street or highway right-of-way areas before trapping these locations. The Department of Transportation has a policy that trapping is not allowed on DOT-owned roads. Some DOT retention ponds may be open to trapping; contact DOT for details.

96. Is the use of dryland foothold traps allowed on in or near fencelines?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes.	92.50%	37
Yes, but with restrictions (please explain).	7.50%	3

Yes, but with restrictions (please explain).		
CT - If fencelines have any of the following criteria; May be set for coyotes in December-January, may be set in the burrow of an animal, may be set within 100 feet of a permanent building		
GA – no trap with a jaw opening larger than 5.75 inches may be set on land		
NM- When a fence is present within 25 yards of the outside edge of a road, sets must be made on the side of the fence opposite the road		

97. Are there any setbacks from culverts, driveway entrances, houses or buildings, or trails that apply to dryland foothold traps?

Answered Question 40

Skipped Question 9

Answer Options	Response Percent	Response Count
No	62.50%	25
Yes. If Yes, please specify where and the required setback distance.	37.50%	15

If Yes, please specify where and the required setback distance.

AZ – 1/2 mile from any occupied residence or building without permission of owner or resident; 50 feet from any trail maintained for public use by a government agency.

ID – place any sets on, across, or within 5 ft. of center line of any maintained public trail

ME – 200 yards or written permission from an occupied building

MO – yes

MT - prohibited within 1000 feet of an occupied dwelling without written notification of the occupants Setbacks for public campgrounds - 1000 ft, roads and trails - 50 ft, trailheads - 300 ft for ground sets and 1000 ft for lethal sets. Expanded setbacks for certain "high-use recreational trails and roads" - 500 ft.

NE - It shall be unlawful to trap any form of wild mammal within a one-hundred-yard radius of an inhabited dwelling or livestock feedlot, or to trap within a two-hundred-yard radius of any passage used by livestock to pass under any highway, road, or bridge

NM - No land set may be placed within one-quarter mile of a designated and signed roadside rest area, picnic area or an occupied dwelling, without the prior written permission of the occupant of the dwelling—except for land sets placed by the occupant/landowner on his/her own land. No land set shall be placed within one-half mile of an established and maintained public campground or boat-launching area. It is unlawful to make a land set within 25 yards of any public road or trail (including culverts or structures located beneath)—except on private land with written permission from the landowner.

NV - In Urban areas. 1/2 mile from any residence in counties over 100,000 people. Certain designated trails and campgrounds in same counties with setback of 1000 feet

NY - You are not allowed to set a trap within 100 feet of a house, school, playground, or church unless you have permission of the landowner.

OH - Cannot set on a path/road used by domestic animals and/or people. Must be 150 ft away from another person's residence.

OK - Traps may not be set on roads, right of ways or trails that are often used by people, livestock or domestic animals.

OR - On state or federal lands, no traps may be set on land within 50 feet of any public trail

PA – 150 yards for houses or buildings unless owner permission is granted.

SD - On public lands and public road rights-of-ways when used with bait, larger than 160 conibears have to be recessed 7in or more.

WI - In state parks, a trapper may not set, place or check traps located within 100 yards of designated trails or designated use areas such as picnic areas, campgrounds and beaches or in any area in the park closed to trapping indicated on that park's trapping area map.

98. Do you restrict dryland foothold trap placement in other areas not yet addressed (e.g., not allowed near parking areas, boat launches)?		
Answered Question 39		
Skipped Question 10		
Answer Options	Response Percent	Response Count
No	74.36%	29
Yes	25.64%	10

Yes. If Yes, please specify.
AZ – Not within ½ mile from boat launching area, camping area, picnic area, or roadside rest area
ID – no sets (except live traps can be used) within 300 ft. of any designated public campground, trailhead, or picnic area.
IL – Trapping prohibited in road rights of way (applies to all types of traps)
KY – A trap shall not be set in a trail or path commonly used by a human or a domestic animal.
MI – Not within 50 of water for a portion of the year. Some restrictions in state recreation areas (mainly more utilized locations).
ME - Prohibited on state recreation areas within 100 yards of developed facilities such as picnic areas, campgrounds, boat ramps, and parking areas.
OR - On state or federal lands, no traps may be set on land within 300 feet of any trailhead, public campground, or picnic area.
TX – Traps can not be set within 400 yards of a school.
VA - Illegal to set a trap "where it would be likely to injure persons, dogs, stock or fowl".
WV – No human foot trails or livestock trails.

99. Is it legal to set a foothold trap so the captured animal is suspended above the ground (e.g., pole set)?		
Answered Question 39		
Skipped Question 10		
Answer Options	Response Percent	Response Count
No	66.67%	26
Yes	33.33%	13

100. What time checking interval is required for live-restraining foothold trap sets on land? (e.g., daily, every 24 hours, 48 hours, no requirement)?		
Answered Question 40		
Skipped Question 9		
AL – 24 hours		
AK – no requirement		
AR – daily		
AZ - daily		
CT – Every 24 hours		

GA – every 24 hour period
IA – 24 hrs
ID – 72 hours
IL – Once each calendar day
IN – Every 24 hours
KS – daily
KY – Every 24 hours.
LA – every 24 hours
MD – once per calendar day
ME – daily
MI – daily in LP, once every 48 hours in UP
MN – 24 hours
MO – 24
MS – 36 hours for all traps
MT – in lynx zones, bobcat sets must be $\leq 5 \frac{3}{8}$ " or equipped with >10 lbs pan tension
NC – daily
ND – No requirement.
NE – daily
NH – 24 hours
NM – Once per calendar day
NV – 96 hours
NY – 24-hours, 48-hours in some WMUs
OH – 24 hr
OK – Once per 24 hour period
OR – 48 hours
PA – 36 hours
SC – Once daily between 2hrs before sunrise to 2hrs after sunset
SD – 48 hours east of the Missouri River and 72 hours west
TN – 36 hours
TX – 36 hours
VA – Daily
VT – Every 24 hours
WI – 24 hours
WV – Daily
WY – 72 hours

101. Is it legal to use foothold traps with teeth or serrated edges on land in your state?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
Yes	30.00%	12
No	70.00%	28

102. Is there a limit on the jaw spread or size of foothold traps which may be used for land sets?

Answered Question 39

Skipped Question 10

Answer Options	Response Percent	Response Count
No	23.08%	9
Yes. If Yes, please indicate in inches or specify trap size if stated in regulations.	76.92%	30

If Yes, please indicate in inches or specify trap size if stated in regulations.

AL – jaw spread can not exceed 6 inches
AK – 9 inches inside spread
AZ – A trapper shall not use any trap with an open jaw spread that exceeds 6 ½ inches for any land set
AR - 6
CT – Opening greater than 5 ¾ inches prohibited
GA – no trap with a jaw opening larger than 5.75 inches may be set on land
IA – A spread inside the set jaws greater than 7 inches as measured to the outside edge
ID – none > 9 inches inside jaw spread
IL – Up to 6.5”
IN – 5 3/4 inches inside jaw spread or 6 ½ inches inside spread with offset jaws
KS – outside jaw spread < 7 inches
KY – Foothold trap with a maximum inside jaw spread of six (6) inches measured perpendicular to the hinges.
MD – 5 ¾ inches.
ME – see question 84
MI – For mink and muskrat – nothing exceeding number 2 foothold.
MN – 8.75 inches
MT – In lynx zones, bobcat sets must be <=5 3/8” or equipped with >10 lbs pan tension.
NC - Cannot be larger than 7.5 inches. If jaw spread between 5.5 inches and 7.5 inches, must have an offset jaw of 3/16th inch.
NH – 6 ½ inches
NM - No foot-hold trap with an outside spread more than 7 inches, if laminated above the jaw surfaces, shall be used in making a land set. No tooth-jawed traps are permitted. Any foot-hold trap with an inside jaw spread 5½ inches or larger shall be offset, unless it has padded jaws.
NY - On land, foothold traps must be 5.75 in. or smaller (inside jaw spread).
OH - Inside jaw diameter no greater than 5 3/8. If between 5 3/8 and 6 inches, may be used with a minimum of 3 swivels and the gripping surface 5/16 inches or greater.
OK – Foothold may be no larger than 8 inches.
OR – It is unlawful to use footholds with a jaw spread greater than 9 inches.
PA – 6 ½ x 6 ½ inches.
SC – 5 ¾ inches
TN – 9 in

VA - Inside maximum jaw spread can not exceed 6 1/2" measured perpendicular to the hinges.
WI - A trapper may not set, place or operate any steel-jawed trap with a jaw spread width of more than 7 inches from Oct. 15–Nov. 30 unless it is a water set or with a jaw spread width of more than 8 inches at any other time or as a water set.
WV – No more than 6 ½ inches.

103. Do you regulate how dryland foothold traps are secured?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	90.00%	36
Yes. If Yes, explain what is allowed/required (e.g., double staked, drags).	10.00%	4

If Yes, explain what is allowed/required (e.g., double staked, drags).
CT – For coyote trapping in December – January, must be securely anchored to the ground (double staking recommended)
ME – In Wildlife Management Districts 1-11, 14, 18, and 19, traps must be staked solidly to the ground and catch circles clear of any woody vegetation or debris that could cause entanglement.
NH – When set, all traps shall be securely attached to the ground, to a fixed object, to a drag, or to a slide wire.
VT - In Wildlife Management Unit E for the protection of lynx, all foothold traps set on land must be anchored using a chain or cable no longer than 18” that is center-mounted to the trap using a swivel connection and must have at least one in-line swivel along the chain or cable (from lynx BMPs) - otherwise, foothold traps are unrestricted.

104. Do you regulate chain length or # of swivels for dryland foothold traps?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	80.00%	32
Yes. If Yes, explain what is allowed/required (e.g., double staked, drags).	20.00%	8

If yes, what is the requirement?
AZ - Shall ensure that the trap has an anchor chain equipped with at least 2 swivels as follows: 1. An anchor chain 12 inches or less in length shall have a swivel attached at each end. 2. An anchor chain greater than 12 inches in length shall have 1 swivel attached at the trap and 1 swivel attached within 12 inches of the trap. The anchor chain shall be equipped with a shock-absorbing spring that requires less than 40 pounds of force to extend or open the spring.
CT – Chain no longer than 6 inches, swivels located at each end of chain
ME – Traps must have a minimum of three swiveling points at the following locations: where

the chain attaches to the trap (must be attached at the central portion of the base of the trap), one midway along the chain length, and one where the chain is secured to the anchoring device (staking system or drag system)
MN – Chain length of 18 inches with 2 swivels required in lynx management zone.
NC - Chain length cannot be longer than 8 inches from anchor point to the base of the trap unless fitted with shock-absorbing device with at least 40 lbs. and not more than 75 lbs. of pull.
NH – In a lynx zone; All foothold traps set on land must have one swivel in the chain-cable and one swivel connection to the trap
OH - If between 5 3/8 and 6 inches inner jaw width.
VT - In Wildlife Management Unit E for the protection of lynx, all foothold traps set on land must be anchored using a chain or cable no longer than 18” that is center-mounted to the trap using a swivel connection and must have at least one in-line swivel along the chain or cable (from lynx BMPs) - otherwise, foothold traps are unrestricted.

105. Do you require pan tension devices on dryland foothold traps?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	90.00%	36
Yes. If Yes, specify any required pan tension (e.g., 4 lbs)	10.00%	4

If Yes, specify any required pan tension (e.g., 4 lbs)
AZ – no weight specified
CT – Only for coyote trapping in December – January, pan tension must be 2 pounds or greater
MT – 10 lbs for bobcat sets in lynx zones
NY – Traps larger than 4 in. set on land.

106. Do you regulate the number or strength of springs (e.g., prohibit “4-coiling”, require tempered springs) on dryland foothold traps?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	92.50%	37
Yes. If Yes, please specify.	7.50%	3

If yes, please specify.
AZ – The anchor chain shall be equipped with a shock-absorbing spring that requires less than 40 pounds of force to extend or open the spring.
CT – Spring strength less than 55 inch-pounds in the closed position, no greater than 85 inch

pounds in the open position
OK - Single-spring and double-spring traps are the only style foothold traps allowed in Oklahoma

107. Do you require offset jaws on dryland foothold traps?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	77.50%	31
Yes. If Yes, specify any offset spacing (e.g., 1/8")	22.50%	9

If Yes, specify any offset spacing (e.g., 1/8")
AZ – Jaws must be permanently offset to a minimum of 3/16 inch
AR – If the size of the trap exceeds 5"
CT – Gap between the jaws no less than ¼ inch and no shorter than 4 inches
IN – If inside jaw spread is over 5 ¾ inches up to 6 ½ inches
NC – 3/16 th offset if trap is between 5.5 inches and 7.5 inches in jaw spread.
NM – 3/16", unless it has padded jaws.
NV – 3/16"
OK - For double-spring foothold traps there is a required 1/8" offset.
OR – 3/16 inch spacing when sprung.

108. If yes, does the offset requirement include all foothold traps or only certain sized traps? Specify.
Answered Question 12
Skipped Question 37
AZ – All foothold traps
AR – If the size of the trap exceeds 5"
CT – All footholds placed on dryland
IA – All foothold traps
IN – Yes
MD – n/a
NC – only if trap is between 5.5 inches and 7.5 inches in jaw spread.
NM - Any foot-hold trap with an inside jaw spread 5½ inches or larger shall be offset, unless it has padded jaws.
NV - any trap size 2 or larger or with outside jaw spread of 5 1/2 " or larger
OK – Double-spring foothold traps.
OR - #3 or larger or any foothold with jaw spread of 6 inches or greater must have at least 3/16 inch spacing when sprung.
SC – N/A

109. Do you require the use of padded jaws on dryland foothold traps?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	92.50%	37
Yes. If Yes, specify any limitations if used (e.g., only specific locations, certain sized traps, sets for certain species, etc.)	7.50%	3

If Yes, specify any limitations if use (e.g., only specific locations, certain sized traps, sets for certain species, etc.)
AR – If the size of the trap exceeds 5”
CT – All footholds placed on dryland
TN – Can be used in the open

110. Do you require any minimum jaw thickness for dryland foothold traps?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	95.00%	38
Yes. If Yes, please specify.	5.00%	2

If Yes, please specify.
CT – Not less than 3/32 inches
NY - If between 5 3/8 and 6 inches inner jaw width.

111. Are there any other law(s) that regulate the foothold trap design when used on land?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	85.00%	34
Yes. If Yes, please specify.	15.00%	6

If Yes, please specify.
AZ – Must be commercially manufactured.
CT – A Shock absorbing spring incorporated into the anchoring chain is required
MN - No trapping allowed within 100 feet of any public road, except submerged snares are allowed for beaver and nutria by contracted trappers as deemed necessary by the governing municipality.
NY – Traps larger than 4 in. set on land must be covered when set.
WV – Traps may be placed higher than 4 linear feet from the surface of the earth.

WY – Traps must be marked so owner can be identified.

Foothold Traps in Water Sets

112. Is the use of at least some foothold traps allowed in water sets?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
Yes	97.56%	40
No	2.44%	1

113. Is the use of at least some foothold traps allowed in water sets on private land?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
Yes	97.56%	40
No	2.44%	1

114. Is the use of at least some foothold traps allowed in water sets on State Wildlife Management Areas?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
Yes	90.24%	37
No	9.76%	4

115. Is the use of at least some foothold traps allowed in water sets on State/County Forests?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
Yes	92.11%	35
No	7.89%	3

116. Is the use of at least some foothold traps allowed in water sets allowed in/near road right-of-ways?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
Yes	75.61%	31
No	24.39%	10

117. Is the use of at least some foothold traps allowed in water sets allowed in or near fencelines?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
Yes	97.56%	40
No	2.44%	1

118. Are there any setbacks from culverts, driveway entrances, houses or buildings, or trails that apply to foothold traps set as water sets?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	72.50%	29
Yes. If Yes, specify where and the required setback distance.	27.50%	11

If Yes, specify where and the required setback distance.
AZ - 1/2 mile of any occupied residence or building without permission from owner or resident; 50 feet from any trail maintained for public use by a government agency
ID – on, across, or within 5 ft of center line of any maintained public trail.
MD – all traps must be 150 yards from a residence (with few exceptions)
ME – 200 yards from an occupied dwelling or permission from occupant
MT – same as ground sets
NE - It is unlawful to trap within a one-hundred-yard radius of an inhabited dwelling or livestock feedlot, or to trap within a two-hundred-yard radius of any passage used by livestock to pass under any highway, road, or bridge
NY - You are not allowed to set a trap within 100 feet of a house, school, playground, or church unless you have permission from the landowner.
OK – Same as dry land sets.
PA – 150 yards from any house/building without owner permission.
SD – Cannot trap within 660 feet of house, barn, etc. within the public roads rights-of-ways without landowner permission.
WI - In state park, a trapper must not set, place or check traps located within 100 yards of designated trails or designated use areas such as picnic areas, campgrounds and beaches or in any area in the park closed to trapping indicated on that park’s trapping area map.

119. Do you restrict foothold trap placement as water sets in other areas not yet addressed (e.g., not allowed near parking areas, boat launches)?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	87.80%	36
Yes. If Yes, please	12.20%	5

specify.		
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If Yes, please specify.
AZ - 1/2 mile from any boat launching area, camping area, picnic area, roadside rest area; 100 yards from any interstate highway or any other highway maintained by the ADOT; 50 feet of any other road
KY – A trap shall not be set in a trail or path commonly used by a human or a domestic animal.
NE – Prohibited on state recreation areas within 100 yards of developed facilities.
TX – Not within 400 yards of a school
VA - Illegal to set a trap "where it would be likely to injure persons, dogs, stock or fowl".

120. What time checking interval is required for foothold traps set as live-restraining (not submersion) sets in water? (e.g., daily, every 24 hours, 48 hours, no requirement)?
Answered Question 41
Skipped Question 8
AK – none
AL – 72 hours
AR – daily unless it is set as a kill set in which case 72 hours
AZ - daily
CT – Every 24 hours
GA – every 24 hour period
IA – every 24 hours
ID – 72 hours
IL – Once each calendar day
IN – Every 24 hours
KS - daily
KY – Every 24 hours.
LA – every 24 hours
MD –once per two calendar days
ME – daily
MI – daily in LP, every 48 hours in UP
MN – 24 hours
MO - 24
MS – 36 hours for all traps
MT – none
NC – daily
ND – No requirement.
NE - daily
NH – every 24 hours
NM – Once per calendar day
NV – 96 hours
NY – 24-hours, 48-hours for some WMUs
OH – 24 hr

OK – Once per 24 hour period
OR – 48 hours
PA – 36 hours
RI – every 24 hours
SC – between 2hrs before sunrise to 2hrs after sunset
SD - 48 hours east of the Missouri River and 72 hours west
TN – 36 hours
TX – 36 hours
VA – Daily
VT – Every 24 hours
WI – 24 hours
WV – Daily
WY – 72 hours

121. Are ‘submersion sets’ with foothold traps allowed for furbearers?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	4.88%	2
Yes. If Yes, is it allowed for all species, or only some? Specify.	95.12%	39

If Yes, is it allowed for all species or only some? Specify.		
AL - all		
AK - all		
AR - All		
CT – All species		
GA - all		
IA - All		
ID – any		
IL – All species		
IN – All		
KS – all		
KY – all		
LA – all species		
MD – all species		
ME – all species		
MI – no restrictions		
MN – All species		
MO – All		
MS – all		
MT – all		
NC – all species		

ND – All species.
NE – All
NH – all species
NM – All species
NV – all species
NY - During beaver or otter season, foothold traps up to 7.25 in. are allowed if set under water. When beaver or otter season is closed, foothold traps set in water may not be larger than 5.75 in.
OH – All
OK – All
OR – All species
PA – All
SC – all species
SD – all
TN – all species
TX – All
VA – All species
VT – all
WI – All species.
WV – All
WY – All species

122. What time checking interval is required for foothold traps set as ‘submersion sets’ (e.g., daily, every 24 hours, 48 hours, no requirement)?
Answered Question 40
Skipped Question 9
AL – 72 hours
AK – none
AR – 72 hours
CT – Every 24 hours
GA – every 24 hours
IA – No requirement, have to check by the end of the season
ID – 72 hours
IL – once each calendar day
IN – Every 24 hours
KS – daily
KY – Every 24 hours.
LA – every 24 hours
MD – once per two calendar days
ME – 3 days in organized townships, 5 in unorganized, no tending time requirement when setting under the ice
MI – no restrictions
MN – 8.75 inches
MO – 24
MS – 36 hours for all traps

MT – none
NC – daily
ND – No requirement.
NE – every other day
NH – 24 hours
NM – Once per calendar day
NV – 96 hours
NY – 24-hours, 48- hours for some WMUs
OH –24 h
OK – Once per 24 hour period
OR – 48 hours
PA – 36 hours
RI – NA
SC – every 48 hours
SD – 48 hours east of the Missouri River and 72 hours west
TN – 36 hours
TX – 36 hours
VA – Daily
VT – at least once every three calendar days if set under ice
WI – 4 days
WV – Daily
WY – 72 hours

123. Is it legal to use foothold traps with teeth or serrated edges in water sets?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
Yes	45.00%	18
No	55.00%	22

124. Is there a limit on the jaw spread or size for foothold traps used in water sets?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	60.98%	25
Yes. If Yes, please indicate in inches or specify trap size if stated in regulations.	39.02%	16

If Yes, please indicate in inches or specify trap size if stated in regulations.		
AK – 9 inches inside spread		
AZ – A trapper shall not use any foothold trap with an open jaw spread that exceeds 7 ½ inches for any water set		
AR – 8.5”		

CT – Greater than 5 ¾ prohibited, except up to 7 ½ in waters frequented by beavers
IL – Up to 7.5”
MD – 7 ¾ inches.
MN – 8.75 inches
NM – No larger than an inside spread of 7 ½ inches
NY - During beaver or otter season, foothold traps up to 7.25 in. are allowed if set under water. When beaver or otter season is closed, foothold traps set in water may not be larger than 5.75 in.
OH – 8 ¼ inches maximum.
OK – Same as dry land sets
OR – Foothold trap with jaw spread greater than 9 inches is prohibited.
PA – 6 ½ x 6 ½ inches
SC – 7 ¼ inches
TN – 9 in
WI – 8”

125. Do you regulate how foothold traps used in watersets are secured?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	97.56%	40
Yes. If Yes, explain what is allowed/required (e.g., double staked, drags)	2.44%	1

If Yes, explain what is allowed/required (e.g., double staked, drags)		
NH - When set, all traps shall be securely attached to the ground, to a fixed object, to a drag, or to a slide wire.		

126. Do you regulate chain length or # of swivels for foothold traps in water sets?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	97.56%	40
Yes. If Yes, what is the requirement?	2.44%	1

If Yes, what is the requirement?		
NC – Our chain length does not differentiate between water sets and land sets. So, chain must be no longer than 8 inches unless it has a shock absorbing device. However, drags are legal and chains in drags are exempt.		

127. Do you require pan tension device on foothold traps set as water sets?		
Answered Question 40		
Skipped Question 9		

Answer Options	Response Percent	Response Count
No	100.00%	40
Yes. If Yes, specify any required pan tension (e.g., 4 lbs)	0.00%	0

128. Do you regulate # or strength of springs for foothold traps used in water sets (e.g., prohibit "4-coiling", require tempered springs?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
Yes	14.63%	6
No	85.37%	35

129. Do you require offset jaws on foothold traps used in water sets?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	92.68%	38
Yes. If Yes, specify any offset spacing (e.g., 1/8")	7.32%	3

If Yes, specify any offset spacing (e.g., 1/8")		
NV – 3/16"		
OK – 1/8"		
OR - #3 or larger or any foothold water set with jaw spread of 6 inches or greater must have at least 3/16 inch spacing when sprung ONLY if the trap is not capable of drowning the trapped animal.		

130. If Yes, does the offset requirement include all foothold traps or only certain sized traps? Specify.		
Answered Question 5		
Skipped Question 44		
MD – n/a		
NV - Any trap size 2 or larger or an outside jaw spread 5 1/2" or greater		
OK – Double-spring foothold traps only.		
OR - #3 or larger or any foothold with jaw spread of 6 inches or greater		
SC – N/A		

131. Do you require the use of padded jaws on foothold traps in water sets?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	100.00%	40
Yes. If Yes, specify any	0.00%	0

limitations if used (e.g., only specific locations, certain sized traps, sets for certain species, etc.)		
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132. Do you require any minimum jaw thickness for foothold traps used in water sets?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	100.00%	41
Yes. If Yes, specify any limitations if used (e.g., only specific locations, certain sized traps, sets for certain species, etc.)	0.00%	0

133. Are there any other law(s) that regulate foothold trap design in water sets?		
Answered Question 41		
Skipped Question 8		
Answer Options	Response Percent	Response Count
No	100.00%	41
Yes. If Yes, please describe the law(s).	0.00%	0

Snares

85.11% percent of states allow at least some snare usage to capture furbearers.

134. Is the use of at least some snares (any trapping device using a cable to capture a furbearer) allowed in your state?		
Answered Question 47		
Skipped Question 2		
Answer Options	Response Percent	Response Count
Yes	85.11%	40
No	14.89%	7

135. Is the use of snares restricted to particular species?		
Answered Question 40		
Skipped Question 9		
Answer Options	Response Percent	Response Count
No	77.50%	31
Yes. If Yes, please list those species.	22.50%	9

If Yes, please list those species?
GA – beaver only
ME – beaver. Under ice sets only.
MI – beaver, coyote, fox
MT – not allowed for wolves
NC – beaver only
NH – beaver and otter
NY - Some Nuisance Wildlife Control Operators authorized by the department may use cable restraints for nuisance beaver. "Snares" and cable restraints may not be used by licensed trappers for any species.
PA - Restricted to coyote, foxes, and bobcats (with appropriate permit). Trappers may take incidental captures of raccoons, opossums, and skunks.
WI - Dryland cable restraints can only be set for fox, coyote, bobcat, and wolves (when under WI management).

136. Are trappers who set snares required to a snare-specific education class before using them?		
Answered Question 39		
Skipped Question 10		
Answer Options	Response Percent	Response Count
Yes	10.26%	4
No	89.74%	35

137. Is use of snares limited to a narrower time frame than the overall season for any species?		
Answered Question 39		
Skipped Question 10		
Answer Options	Response Percent	Response Count
No	87.18%	34
Yes. If Yes, please explain.	12.82%	5

If Yes, please explain.
ME – Snares can only be used for trapping beaver and only when there is solid ice
MI – Coyote and fox – cable restraints may be used from Jan 1 – March 1. Trapping season is Oct 15 – March 1
ND – Snaring seasons are shorter than the overall season for must species.
PA - Restricted to December 26 to the end of the regular fox/coyote trapping season (mid-February).
WI - December 1 - January 31st of the following year for bobcat. December 1 - February 15th of the following year for coyote and fox.

138. Are at least some snares (any trapping device using a cable to capture a furbearer legal for use in land sets?)		
Answered Question 39		
Skipped Question 10		
Answer Options	Response Percent	Response Count
Yes	86.62%	33
No	15.38%	6

Use of Snares on Land

139. Are both neck/body and foot/leg snares legal in land sets?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
Yes	85.29%	29
No (please clarify)	14.71%	5

No (please clarify)		
AZ – Only foot/leg snares are legal and only private land.		
AR – Neck/body only allowed		
MI – No “snares” are legal on dryland but we allow the use of “cable restraints” for coyote and fox – neck/body only.		
NJ – Neck/body cable restraints		
PA – foot/leg snares are not legal.		

140. Is the use of dryland snares allowed on private land?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes	76.47%	26
Yes, but with restrictions (please explain).	23.53%	8

Yes, but with restrictions (please explain).		
AZ – Only foot/leg snares and must be powered cable device		
CA - See question 65, page 47 for CA regulations.		
GA – for beaver only and must be within 10 feet of water		
IA - A snare set on private land other than roadsides within 30 yards of a pond, lake, creek, drainage ditch, stream, or river must have a loop size of 11 inches or less in horizontal measurement, except for snares with at least one-half of the loop under water.		
IN – With written permission		
MI - Again use of cable restraints for coyote/fox. Many restrictions on how the cable can be set and what the device must consist of. Restrictions on placement location. Cable restrains are		

not allowed on public lands
NC – only for beaver
WI - Cable restraints can only be used on private land during the open season mentioned on the previous page.

141. Is the use of dryland snares allowed on State Wildlife Management Areas?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	20.59%	7
Yes	50.00%	17
Yes, but with restrictions (please explain).	29.41%	10

Yes, but with restrictions (please explain).
ID – permission only
MN - In the northeast portion of the state snares are allowed on private and public lands year round. In the south and west, dryland snares are not allowed on public lands including road rights of way or fence lines along road rights of way.
MO – Special permit
NC – only for beaver
ND – Only allowed after the close of upland game (pheasants and grouse) hunting seasons.
NE - Yes but only after the upland game bird seasons are finished unless the snare is set completely under water.
NV – By permit
SD – Timeframe restrictions.
TX – With special permission.
VA – Special written permission required by Department representative.

142. Is the use of dryland snares allowed on State/County Forests?		
Answered Question 33		
Skipped Question 16		
Answer Options	Response Percent	Response Count
No	15.15%	5
Yes	66.67%	22
Yes, but with restrictions (please explain).	18.18%	6

Yes, but with restrictions (please explain).
IA – State forests no, but county forests yes.
MN - In the northeast portion of the state snares are allowed on private and public lands year round. In the south and west, dryland snares are not allowed on public lands including road rights of way or fence lines along road rights of way.
NC – only for beaver

NJ – Except where posted otherwise
SD – Timeframe restrictions.
VA – Yes, but only with written permission.

143. Is the use of dryland snares allowed in/near road right-of-ways?		
Answered Question 33		
Skipped Question 16		
Answer Options	Response Percent	Response Count
No	18.18%	6
Yes	48.48%	16
Yes, but with restrictions (please explain).	33.33%	11

Yes, but with restrictions (please explain).
IA - No person shall set or maintain any snare in any public road right-of-way so the snare, when fully extended, can touch any fence. All snares must have a loop size of 8 inches or less in horizontal measurement, except for snares with at least one-half of the loop under water. Snares cannot be attached to a drag. All snares must have a functional deer lock which will not allow the snare loop to close smaller than 2 1/2 inches.
ID – same as foot hold
KY – With permission from county.
MI – On private lands (Michigan does not treat road right of ways differently than the adjacent land ownership).
MN - In the northeast portion of the state snares are allowed on private and public lands year round. In the south and west, dryland snares are not allowed on public lands including road rights of way or fence lines along road rights of way.
NC – only for beaver
NE - Must have permission from landowner if right-of-way is not owned by the County. May not trap in Counties or portions of Counties where trapping in the right-of-way is prohibited.
NM – Same rules as with traps
NV – Not within 200 feet of roadway, unless inside fence on private land.
TX – Not in the right-of-way. Nearby is ok.
VA – Yes, but written permission of VDOT and landowner required.

144. Is the use of dryland snares allowed in or near fencelines?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	5.88%	2
Yes	67.65%	23
Yes, but with restrictions (please explain).	26.47%	9

Yes, but with restrictions (please explain).
CA - See question 65, page 47 for CA regulations.

GA – for beaver only and must be within 10 feet of water
IA – No person shall set or maintain any snare in any public road right-of-way so the snare, when fully extended, can touch any fence.
MI - Cable restraints cannot be set attached to a fence or in a way that would allow the animal to become entangled in the fence.
MN - In the northeast portion of the state snares are allowed on private and public lands year round. In the south and west, dryland snares are not allowed on public lands including road rights of way or fence lines along road rights of way.
NC – only for beaver
NM – Same results as with traps
VA - Yes, but only with written permission of landowner. If in the fence that serves as a property boundary, permission of both landowners may be required.
WI - A trapper may not stake a cable restraint in a manner that allows the restraint device to reach any part of a fence, rooted woody vegetation greater than 1/2 inch diameter or any other immovable object or stake that could cause entanglement.

145. Is the use of dryland snares allowed in culverts?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	11.76%	4
Yes	61.76%	21
Yes, but with restrictions (please explain).	26.47%	9

Yes, but with restrictions (please explain).
AR – So long as it isn't under a public road.
CA - See question 65, page 47 for CA regulations.
KY – With permission from county if next to a road.
MN – Snares may be set as a completely submerged waterset in a culvert.
NC – only for beaver
NE – Yes unless it is a livestock passage under a road
NM – Same results as with traps
SD – Timeframe restrictions on public lands and public road rights-of-ways.
VA – Yes, with written permission.

146. Are there restrictions on placing dryland snares near brush or other natural resources of entanglement?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	85.29%	29
Yes, but with restrictions (please explain).	14.71%	5

Yes, but with restrictions (please explain).
CA - See question 65, page 47 for CA regulations.
MI - We have requirements about the woody vegetation on which a cable restraint is anchored but not any surrounding vegetation (no branches or stubs of branches from the ground up to 5ft)
MO – 1”
PA - Any entanglement situation or possibility of entanglement is illegal.
WI - A trapper may not stake a cable restraint in a manner that allows the restraint device to reach any part of a fence, rooted woody vegetation greater than 1/2 inch diameter or any other immovable object or stake that could cause entanglement.

147. Are there any setbacks from culverts, driveway entrances, houses, or buildings that apply to dryland snares?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	58.82%	20
Yes. If Yes, specify where and the required setback distance.	41.18%	14

If Yes, specify where and the required setback distance.
AZ – ½ mile from any occupied residence or building without permission from owner or resident
CA - Traps may not be set within 150 yards of any structure used as a permanent or temporary residence, unless such traps are set by a person controlling such property or by a person who has and is carrying with him written consent of the landowner to so place the trap or traps.
GA – snares are for beaver only and must be within 10 feet of water
IA - Snares must not be set on the right-of-way of a public road within 200 yds of the entry to a private drive serving a residence without the permission of the occupant. You cannot set or maintain any snare within any public road right-of-way within 200 yds of buildings inhabited by humans unless the resident of the dwelling adjacent to the public road has given permission, or unless the at least half the loop of the snare is completely under water.
MD – all traps must be at least 150 yards from a residence (with a few exceptions)
MN - In the south and west, dryland snares are not allowed on public lands including road rights of way or fence lines along road rights of way.
MO – 100

MT – 1000 ft from occupied dwellings without written notification of occupants
NE – Same requirements as other traps
NM – Same rules as with traps
NV - not with 1/2 mile of residence in urban counties (100,000) people or more.
OR - On state or federal lands, no traps or snares may be set on land within 50 feet of any public trail.
PA – 150 yards from any house/building.
SD – If within 660 feet you must have landowner permission on the public road rights-of-ways.

148. Do you restrict snares placement in other areas not yet addressed? (e.g., not allowed near boat launch or parking areas)?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	79.41%	27
Yes. If Yes, please explain.	20.59%	7

If Yes, please explain.
AZ - 1/2 mile from boat launching area, camping area, picnic area, or roadside rest area; 100 yards from an interstate highway or any other highway maintained by ADOT or 75 feet from any other road
AR – Snares are allowed as land sets provided that snares set more than 20 feet from a permanent body of water have a functional “deer lock” that will not allow the snare to close smaller than 2.5 inches;
ID – same as other ground sets
KY – A trap shall not be set in a trail or path commonly used by a human or domestic animal.
MI - Cant be set to allow animal to be suspended with more than 2 feet off the ground. Cant be on Commercial Forest Act enrolled lands. No drag, must be anchored.
OR - On state or federal lands, no traps or snares may be set on land within 300 feet of any trailhead, public campground, or picnic area.
VA - Illegal to set a trap "where it would be likely to injure persons, dogs, stock or fowl".

149. What time checking interval is required for snares set on land (e.g., daily, every 24 hours, 48 hours, no requirement)?	
Answered Question 33	
Skipped Question 16	
AK - none	
AZ - daily	
AR - daily	
CA - daily	
FL – no requirement	
GA – every 24 hour period	

IA – Every 24 hours
ID – 72 hour
IN – every 24 hours
KS - daily
KY – Every 24 hours.
LA – every 24 hours
MD – once per calendar day
MI – daily LP, once every 48 UP
MN – 24 hours unless capable of drowning
MO - 24
MS – 36 hours for all traps
MT – none
NC – daily
ND – No requirement.
NE – daily
NJ – Once in every 24 hours
NM – Once per calendar day
NV – 96 hours
OH – 24 h
OR – 48 hours
PA – 36 hours
SD – 48 hours east of the Missouri River and 72 hours west
TN – 36 hours
VA – Daily
WI – 24 hours
WV – Daily
WY - Once per week, if check on a Sunday one week would not need to check until the Saturday the following week, i.e. up to 13 days

150. Is it legal to use neck/body snares set on land as live restraining devices?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
Yes	97.06%	33
No	2.94%	1

151. Is it legal to use neck/body snares set on land as killing devices?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
Yes	79.41%	27
No	20.59%	7

152. Are there restrictions on the types of snare locks (e.g., cam locks, washer locks) that may be used in land sets?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	64.71%	22
Yes. If Yes, please explain your state regulations.	35.29%	12

If Yes, please explain your state regulations.
AR – Single piece lock required
IN – If loop is larger than 15 inches circumference must be a relaxing lock
KY - "Snare" means a wire, cable, or string with a knot, loop, or a single piece closing device, the deployment of which is or is not spring-assisted, but any spring-assisted device is not for the purpose of applying tension to the closing device.
MI – relaxing lock required.
MO – Relaxing cables
MT – must have a breakaway lock device designed to release with 350 lbs of force (for livestock).
NJ – Cable restraints set for coyote, fox, opossum, raccoon, and skunk must include a relaxing-type lock.
OH - Must have relaxing lock and stop to prevent closing <2.5 or breaking point of 350 lbs.
PA – Only approved locks (relaxing-type) are legal.
VA - Snares with loops set higher than 12" must have single piece locks that are not power assisted. No lock restrictions on snares with the top of the snare loop 12" or less above ground level.
WI - All cable restraints set on dry land must include a relaxing reverse-bend washer lock with a minimum outside diameter of 1 1/4 inches.
WV - Relaxing type lock system with breaking point of 350 pounds or less or with a minimum loop diameter of at least 2 inches.

153. Are 'kill springs' allowed on snares set on land?		
Answered Question 33		
Skipped Question 16		
Answer Options	Response Percent	Response Count
Yes	66.67%	22
No	33.33%	11

154. Is it legal to set a snare so the captured animal is suspended above the ground (e.g., pole or spring-pole set)?		
Answered Question 33		
Skipped Question 16		
Answer Options	Response Percent	Response Count
Yes	57.58%	19
No	42.42%	14

155. Are there restrictions on the type, length, or diameter of cable that may be used for snares on land?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	61.76%	21
Yes. If Yes, please explain.	38.24%	13

If Yes, please explain.
AZ – Must use powered cable device.
AR - Must be braided cable
MI – Must be steel cable 1/16in diameter or larger
MN – Snare cable or wire may not exceed 1/8 inch in diameter.
MO – See code
MT – some in lynx areas
ND - Cable devices must be constructed of single-strand (1x19) or multi-strand (7x7 or 7x19) carbon or stainless steel cable of 1/16-inch diameter or larger.
NJ - Aircraft cable or crucible wire measuring 1/32, 3/64 or 1/16 inches when set for mink, muskrat, nutria and weasel. Aircraft cable or crucible wire measuring 5/64 to 3/16 inches when set for coyote, fox, opossum, raccoon and skunk.
OH – Must be multi-strand steel cable.
PA - Galvanized stranded steel cable not less than 3/32 inch diameter constructed in 7x7, 7x19, and 1x19 bundles. Cable restraint length may not exceed 7 feet.
SD – Deer stops (cannot close tighter than 2.5 inches) or 350 pound breaking device.
TN – Steel 5/64 to 3/32 inches
WI - the cable length may not exceed 7 ft.; – the cable must be galvanized aircraft cable and include a swivel; – it must be non-spring activated; – cable must be made of multiple strands of wire, with a diameter of 3/ 32 inches or larger.

156. Are there restrictions on the minimum loop size (i.e., minimum loop stops) for snares set on land?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	67.65%	23
Yes. If Yes, what is the smallest diameter to which the loop is allowed to close?	32.35%	11

If Yes, what is the smallest diameter to which the loop is allowed to close?
AZ – Cable loop stop size of at least 2 inches in diameter

AR – 2.5”
MI – 4.25 inches
MO – 2.5”
MT – in lynx areas
NJ – 1.9 inches
PA – Loop circumference must be 8 inches or greater ($8/\text{Pi} = 2.544$ inches diameter).
SD – Deer stops (cannot close tighter than 2.5 inches)
VA - If top of snare loop is set higher than 12", a cable stop must be installed that prevents loop from closing smaller than 2 1/2". If top of snare loop is set 12" or lower, no cable stop is required.
WI - Device must include cable stop affixed to the cable to ensure that the portion of the cable that makes up the noose loop may not be less than 8 inches.
WV - 2 inches if do not have a lock system with breaking point of less than 350 pounds.

157. If yes, what is the rationale for the required size?
Answered Question 11
Skipped Question 38
AZ – prevent capture of small non-target species
AR – Allow deer to pull leg out
MD – n/a
MI – reduce risk to incidentals
MO – deer hoof
NJ – Allow deer to escape when caught by foot.
PA – Release of deer lag.
SD – to allow deer to get free
VA – Prevent foot captures of deer. Also a “feel good” restriction for hound hunters.
WI - Minimum length prevents loop from closing and holding a deer's leg.
WV – Deer proof.

158. Are there restrictions on the maximum loop size for snares set on land?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	58.82%	20
Yes. If Yes, are maximum loop stops, which mechanically prevent the snare loop from opening larger than a certain diameter, required on snares set on land?	41.18%	14

If Yes, are maximum loop stops, which mechanically prevent the snare loop from opening larger than a certain diameter, required on snares set on land?
AR – No max loop stops.

IA - No
IN – 15 inch circumference without a relaxing lock no stops are required
MI – Cant exceed 15 in diameter. No specific language on how this maximum is to be maintained.
MN - No
MO – 12”
ND - One stop must be affixed to each cable device on land to prevent the loop from opening to a diameter greater than 12 inches.
NJ – Loop stops are required on cable restraints set for coyote, fox, opossum, raccoon and skunk.
OH – No
PA – Loop circumference must be less than 38 inches (38/Pi = 12.081 inches diameter).
VA – Snare loop can not exceed 12” in diameter.
WI - Device must include cable stop affixed to the cable to ensure that the portion of the cable that makes up the noose loop may not be longer than 38 inches.
WV – No loop stops required.
WY – Loop cannot exceed 12”

159. If yes, what is the largest diameter the loop is allowed to open?
Answered Question 14
Skipped Question 35
AR - 12
IA - A snare set on private land other than roadsides within 30 yards of a pond, lake, creek, drainage ditch, stream, or river must have a loop size of 11 inches or less in horizontal measurement. All other snares must have a loop size of 8 inches or less in horizontal measurement.
MD – n/a
MI – 15in
MN – 10 inches diameter
MO – 12”
ND – 12 inches
NJ – 12 inches
OH – 15 inches
PA – 12.081 inches
VA – 12”
WI – 38 inches
WV – 15 inches
WY – 12 inches

160. If yes, what is the rationale for the required limit?
Answered Question 13
Skipped Question 36
AR - unknown
IA – To minimize risk of catching larger non-target animals such as dogs or deer

MD – n/a
MN – large animal avoidance
MO – 12”
ND – Prevent capture of large, non-target animals.
NJ – Eight (8) inch loop too small to capture eastern coyote.
OH – deer
PA – To prevent capture of large animals (wild and domestic)
VA – Prevent non-target captures of large mammals (i.e. deer).
WI - Allows device to close around the neck of the intended species, rather than closing around the abdomen or back legs.
WV – Deer and livestock avoidance.
WY – Minimize non-target take.

161. Are snares used in land sets required to interview have a “break-away” device (e.g., J hook, S hook, etc) that will allow the loop to break open at a certain weight rating?

Answered Question 34

Skipped Question 15

Answer Options	Response Percent	Response Count
No	64.71%	22
Yes. If Yes, at what weight rating must devices release?	35.29%	12

If Yes, at what weight rating must devices release?

ID – none. All wolf snares required a diverter.
MI – 285 lbs.
MO – K
MT – 350 lbs
ND – 350 pounds or less
OH – 350 lb
PA – Must break at 375 lbs. or less
SD – 350 pounds
VA - Only for snares with top of loop set higher than 12". Break-away device must break or disassemble at no more than 285 pounds of pull.
WI – 350 lbs.
WV – System must have a break away of 350 pounds or less.
WY – 295 pounds.

162. If yes, what species are the primary focus of the avoidance (e.g. deer)?

Answered Question 13

Skipped Question 36

ID - ungulates
MD – n/a
MI – deer
MO – yes

MT – livestock
ND – Deer, livestock
OH – deer
PA – deer,bear, domestic livestock
SD – deer
VA – Deer and livestock
WI – Wolves and deer.
WV – Deer
WY – Ungulates

163. If yes, does your state have a required procedure in place to measure “break-away strength? If so, describe briefly.
Answered Question 12
Skipped Question 37
ID - no
MD – n/a
MI – no
MO – no
MT – no
ND – Yes, we have a cable device testing standard that ust be used to determine legality for use in North Dakota.
PA – No required procedure
SD – no
VA – No
WI – No.
WV – No
WY – Yes developed a snare testing device at our forensics lab.

164. Are swivels required on neck/body or foot/leg snares set on land?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	79.41%	27
Yes. If Yes, are there any restrictions on number or swivel location (e.g., end swivel, in-line swivel)?	20.59%	7

If Yes, are there any restrictions on number or swivel location (e.g., end swivel, in-line swivel)?
AZ - 2 swivels. If the anchor chain is 12 inches or less in length shall have 1 swivel attached at each end. If anchor chain is greater than 12 inches in length shall have 1 swivel attached at the trap and 1 swivel attached within 12 inches of the trap.
MI – Cable restraints require 2 swivels one at anchor point

MO – K
NJ – No restriction on number or location of swivel(s).
PA – At least one swivel (end swivel).
SD – swivel device on the anchor.
WI – Must include at least 1 swivel.

165. Does your jurisdiction regulate how a snare set on land may be secured? (e.g., not on a drag)?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
Yes	32.35%	11
No	67.65%	23

166. Does your jurisdiction regulate or restrict the BOTTOM height of dryland snare placement (e.g., bottom of loop may not be less than 6 inches from the ground/snow)?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	88.24%	30
Yes. If Yes, what is the minimum height (in inches) allowed for the bottom of the loop?	11.76%	4

If Yes, what is the minimum height (in inches) allowed for the bottom of the loop?
AR – lower loop no more than 10 inches off the ground
MO – 6
PA - Minimum height of bottom of loop is 6 inches and maximum height is 12 inches from "walking surface" (from surface of packed or crusted snow).
WI – 6 inches

167. If yes, what is the rationale?
Answered Question 5
Skipped Question 44
AR - Unknown
MD – n/a
MO – 6
PA – To avoid non-target catches
WI – Prevent catching non target species.

168. Does your jurisdiction regulate or restrict the TOP height of snare placement (e.g., top of loop may not be more than 20 inches from the ground/snow)?		
Answered Question 33		
Skipped Question 16		
Answer Options	Response Percent	Response Count
No	78.79%	26
Yes. If Yes, what is the minimum height (in inches) allowed for the bottom of the loop?	21.21%	7

If Yes, what is the minimum height (in inches) allowed for the bottom of the loop?
MI – 24 inches from the ground
MN – 20 inches above ground/snow.
ND – Cable devices must be set so the bottom of the loop is no greater than 12 inches from the ground.
NJ - Cable restraints set within 50 feet of mean high water line for mink, muskrat and nutria or set anywhere for weasel may not exceed a distance of seven (7) inches from the walking surface to the top of the loop (4" loop maximum diameter). Cable restraints set for coyote, fox, opossum, raccoon and skunk may not exceed a distance of twenty-four (24) inches from the walking surface to the top of the loop (12" loop maximum diameter)
VA – 24"
WI – No greater than 12 inches.
WV – Not more than 4 feet from the ground surface.

169. If yes, what is the rationale?
Answered Question 7
Skipped Question 42
MD – n/a
MI – incidental avoidance
MN – large animal avoidance
ND – Prevent capture of large, non-target animals.
VA – Reduce non-target captures, particularly deer.
WI – Prevent catching non target species.
WV – Deer

170. Are there any other law(s) that regulate dryland snare design?		
Answered Question 34		
Skipped Question 15		
Answer Options	Response Percent	Response Count
No	91.18%	31
Yes. If Yes, please describe the law(s).	8.82%	3

If Yes, please describe the law(s).
AZ – A powered cable device with an inside frame hinge width no wider than 6 inches
MO – no snares on land
TN – collarum snares are prohibited

Use of Snares in Water

171. Are snares (any trapping device using a cable to capture a furbearer) legal for use in water sets?		
Answered Question 39		
Skipped Question 10		
Answer Options	Response Percent	Response Count
Yes	97.44%	38
No	2.56%	1

172. Are snares set in water required to be completely submerged?		
Answered Question 36		
Skipped Question 13		
Answer Options	Response Percent	Response Count
Yes	8.33%	3
No	91.67%	33

173. Is the use of snares in water sets allowed on private land?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
Yes	100.00%	37
No	0.00%	0

174. Is the use of snares in water sets allowed on State Wildlife Management Areas?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
Yes	91.89%	34
No	8.11%	3

175. Is the use of snares in water sets allowed on State/County Forests?		
Answered Question 36		
Skipped Question 13		
Answer Options	Response Percent	Response Count
Yes	94.44%	34
No	5.56%	2

176. Is the use of snares in water sets allowed in/near road right-of-ways?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
Yes	78.38%	29
No	21.62%	8

177. Is the use of snares in water sets allowed in culverts?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
Yes	89.19%	33
No	10.81%	4

178. Are there any setbacks from culverts, driveway entrances, houses, or buildings that apply to snares in water sets?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	76.32%	29
Yes. If Yes, specify where and the required setback distance.	23.68%	9

If Yes, specify where and the required setback distance.
CA - Traps may not be set within 150 yards of any structure used as a permanent or temporary residence, unless such traps are set by a person controlling such property or by a person who has and is carrying with him written consent of the landowner to so place the trap or traps.
ID – same as other sets
MD – All traps must be at least 150 yards from a residence (with a few exceptions).
MT – 1000 ft from occupied dwelling without written notification of occupants
NE – Same as other traps
NM – Same as for traps
PA – Cannot make sets less than 150 yards from homes/buildings.
SD – Must have landowner permission if within 660 feet of house or barn, etc.
TX – 400 yards from a school.

179. Are there restrictions on placing snares in water near natural resources of entanglement?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	100.00%	38
Yes. If Yes, explain.	0.00%	0

180. Do you restrict snare placement as water sets in other areas not yet addressed (e.g., not allowed near boat launch or parking areas)?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
No	75.68%	28
Yes. If Yes, please explain law(s).	24.32%	9

If Yes, please explain law(s).
AK – In a few populated areas in spring and fall, beaver sets must be fully submerged. It applies to all types of gear (foothold, conibear, and snare)
ID – same as other sets
IL – Snare loop must be at least half submerged. Restrictions on use in state forests and wildlife management areas vary by site.
KY – A trap shall not be set in a trail or path commonly used by a human or a domestic animal.
ME – snares can only be set under ice for beaver only
MI – Must be half submerged or under ice. Must be set to hold a beaver completely submerged. Only for beaver.
MS - Submerged snares may be used within a public road right-of-way for control of beaver and nutria by contracted trappers when deemed necessary by the governing municipality.
NM – Same as for traps
VA - Illegal to set a trap "where it would be likely to injure persons, dogs, stock or fowl".

181. What time checking interval is required for snares set as live-restraining (not submersion) sets in water? (e.g., daily, every 24 hours, 48 hours, no requirement)?
Answered Question 38
Skipped Question 11
AL – 72 hours
AK - none
AR – 72 hours
CA- daily
FL – no requirement
GA – every 24 hours
IA – every 24 hours
ID – 72 hours
IL – once each calendar day

IN – Every 24 hours
KS - daily
KY – Every 24 hours.
LA – 24 hours
MD – once per two calendar days
ME - NA
MI – not relevant – no live restraining water cable restraints are legal
MN – 72 hours
MO – 24
MS - 36 hours for all traps.
MT – none
NC – daily
ND – No requirement.
NE – daily
NH – every 24 hours
NJ – Once in every 24 hours
NM – Every calendar day
NV – 96 hours
OH – 24 h
OR – 48 hours
PA – 36 hours
SC – between 2hrs before sunrise to 2hrs after sunset
SD – 48 hours east of the Missouri and 72 hours west.
TN – 36 hours
TX – 36 hours
VA – Daily
WI – 24 hours
WV – Daily
WY – Once a week again with maximum of every 13 days.

182. Are ‘submersion sets’ with snares allowed for furbearers?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	2.63%	1
Yes. If Yes, is it allowed for all species, or only some. Specify.	97.37%	37

If Yes, is it allowed for all species, or only some. Specify.
AL - all

AK - all
AR - all
CA - See question 65, page 47 for CA regulations.
FL – not specified in rule
GA – only beaver may be snared
IA - All
ID - any
IL – all species
IN - All
KS – all
KY - All
LA – all species
MD – all species
ME – beaver only
MI – only beaver
MN – All species
MS – All species.
MT – no restrictions
NC – beaver only
ND – All species.
NE – All species
NH – beaver and otter
NJ – Allowed for beaver, mink, muskrat, nutria and river otter
NM – all species
NM – all species
NV – All species
OH – all
OR – All species.
PA – All
SC – all species
SD – All.
TN – all species
TX – All
VA – All species
WI – All species.
WV – All
WY – No limits

183. What time checking interval is required for snares set as ‘submersion sets’ (e.g., daily, every 24 hours, 48 hours, no requirement)?
Answered Question 38
Skipped Question 11
AL – 72 hours

AK – no
AR – 72 hours
CA – daily
FL – no requirement
GA – every 24 hours
IA – No requirement; except that they must be checked and pulled at end of season
ID – 72 hours
IL – once each calendar day
IN – Every 24 hours
KS - daily
KY – Every 24 hours.
LA – 24 hours
MD – once per two calendar days
ME – no tending time requirement see 145
MI – none
MN – 72 hours
MO – 24
MS – 36 hours for all traps
MT – none
NC – daily
ND – No requirement.
NE – every other day
NH – 72 hours
NJ – once in every 24 hours
NM – every calendar day
NV – 96 hours
OH – 24 h
OR – 48 hours
PA – 36 hours
SC – every 48 hours
SD – 48 hours east of the Missouri River and 72 hours west.
TN – 36 hours
TX – 36 hours
VA – Daily
WI – 4 days
WV – Daily
WY – Once a week again with maximum of every 13 days

184. Is a longer check requirement allowed if snares are set under ice?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	86.84%	33
Yes. If Yes, what is this	13.16%	5

time interval (e.g., daily, every 24 hours, 48 hours, no requirement)?		
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If Yes, what is this time interval (e.g., daily, every 24 hours, 48 hours, no requirement)?
ME – Snares may only be set for beaver in a completely submerged set and must be under ice.
MN – No limit
NH – 72 hours
SD – 5 days.
WI – No trap check requirement.

185. Is it legal to use neck/body snares set in water as killing devices?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
Yes	92.11%	35
No	7.89%	3

186. Is it legal to use snares set in water as live restraining devices?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
Yes	91.89%	34
No	8.11%	3

187. Are there restrictions on the types of snare locks (e.g., cam locks, washer locks) that may be used in water sets?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	89.47%	34
Yes. If Yes, please specify.	10.53%	4

If Yes, please specify.
IL – Must be a “mechanical lock”
OH – Same as land snares
PA – Relaxing-type locks only.
WV – Same as previous

188. Are 'kill springs' allowed on snares set as water sets?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
Yes	78.38%	29
No	21.62%	8

189. Are there restrictions on the type, length, and diameter of cable that may be used for snares in water sets?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
No	78.38%	29
Yes. If Yes, please explain.	21.62%	8

If Yes, please explain.		
IL – Prohibit use of cable greater than 1/8” in diameter and less than 5/64”		
MI – Must be 1/16 or larger		
MN – Snare wire may not have a diameter exceed 1/8 inch		
ND - Cable devices must be constructed of single-strand (1x19) or multi-strand (7x7 or 7x19) carbon or stainless steel cable of 1/16 inch diameter or larger.		
NJ – Aircraft cable or crucible wire measuring 1/32, 3/64 or 1/16 when set for mink, muskrat and nutria.		
OH – Same as land		
PA – Galvanized steel cable 3/32 inch.		
TN – Steel 5/64 to 3/32 in		

190. Are there restrictions on the minimum loop size (i.e., required minimum loop stops) for snare set in water sets?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	89.47%	34
Yes. If Yes, what is the smallest diameter to which the loop is allowed to close?	10.53%	4

If Yes, what is the smallest diameter to which the loop is allowed to close?		
IL – Must be equipped with stop device to keep loop from closing to a diameter of less than 2.5”		
MO – 2.5		
PA – 7 inches in circumference ($7/\pi = 2.226$ inches in diameter).		
WV – Same as previous		

191. If yes, what is the rationale for the required size?
Answered Question 6
Skipped Question 43
IL - deer
MD – n/a
MO – deer
PA – Deer leg escape.
SC – N/A
WV – Deer

192. Are there restrictions on the maximum loop size for snares set in water sets?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	81.58%	31
Yes. If Yes, are maximum loop stops, which mechanically prevent the snare loop from opening larger than a certain diameter, required on snares set as water sets?	18.42%	7

If Yes, are maximum loop stops, which mechanically prevent the snare loop from opening larger than a certain diameter, required on snares set as water sets?
IL – No
MN - No
MO – 15
NJ - Cable restraints set for mink, muskrat, nutria and weasel must be equipped with a stop
OH – No
WV – Same as previous
WY – Loop stops not required.

193. If yes, what is the largest diameter the loop is allowed to open?
Answered Question 9
Skipped Question 40
IL – 15”
MD – n/a
MN – 10 inches
MO - 15
NJ – Four (4) inches
OH - 15

SC – N/A
WV – 15 inches
WY – 12 inches

194. If yes, what is the rationale for the required limit?
Answered Question 8
Skipped Question 41
IL – big enough to capture beaver
MD – n/a
MN – Large animal avoidance
MO - ?
NJ – To prevent smaller diameter cable being used for larger furbearers.
SC – N/A
WV – See previous
WY – Limit nontarget take

195. Are snares used in water sets required to have a “break away” device (e.g., J hook, S hook, etc.) that will allow the loop to break open at a certain weight rating?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	84.21%	32
Yes. If Yes, at what weight rating must devices release?	15.79%	6

If Yes, at what weight rating must devices release?
MT – 350 lbs
ND – 350 pounds or less
OH – Same as land
SD – 350 lbs.
WV – Same as previous
WY – 295 pounds

196. If yes, what species are the primary focus of the avoidance?
Answered Question 8
Skipped Question 41
MD – n/a
MT – livestock
ND – Large, non-target animals.
OH – deer
SC – N/A
SD – Same as dryland consistency.

WV – Deer
WY – Ungulates

197. If yes, does your state have a required procedure in place to measure “break-away” strength? Describe briefly, if so.
Answered Question 8
Skipped Question 41
MD – n/a
MO – no
MT – no
ND – Yes, we have a cable device testing standard that must be used to determine legality for use in North Dakota.
SC – N/A
SD – no
WV – No
WY – Yes same as before

198. Are swivels required on snares set as water sets?		
Answered Question 37		
Skipped Question 12		
Answer Options	Response Percent	Response Count
No	91.89%	34
Yes. If Yes, any restrictions on number or swivel location (e.g., end swivel, in-line swivel)?	8.11%	3

If Yes, any restrictions on number or swivel location (e.g., end swivel, in-line swivel)?
IL – anchor swivel
NJ – No restrictions on number or location of swivel(s).
SD – one on the anchor that must operate freely.

199. Does your jurisdiction regulate how a snare set as a water set may be secured (e.g., not on a drag)?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
Yes	23.68%	9
No	76.32%	29

200. Are there any other law(s) that regulate snare design when used as water sets?		
Answered Question 38		
Skipped Question 11		
Answer Options	Response Percent	Response Count
No	92.11%	35
Yes. If Yes, please describe the law(s).	7.89%	3

If Yes, please describe the law(s).
MI – Must be set in a way to keep beaver completely submerged.
MO – 2.5
TN – Collarum snares is not permitted

Miscellaneous Trapping Devices

201. Is the use of cage/box or culvert traps allowed in your state?		
Answered Question 47		
Skipped Question 2		
Answer Options	Response Percent	Response Count
Yes	100.00%	47
No	0.00%	0

202. Is the use of box/cage traps restricted to particular species?		
Answered Question 47		
Skipped Question 2		
Answer Options	Response Percent	Response Count
No	100.00%	47
Yes. If Yes, please list those species.	0.00%	0

203. Is the use of cage/box traps limited to a narrower time frame than the overall season for any species?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
Yes	0.00%	0
No	100.00%	46

204. Is the use of cage/box traps allowed on private land?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
Yes	100.00%	46

No	0.00%	0
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205. Is the use of cage/box traps allowed on State Wildlife Management Areas?

Answered Question 46

Skipped Question 3

Answer Options	Response Percent	Response Count
Yes	91.30%	42
No	8.70%	4

206. Is the use of cage/box traps allowed on State/County Forests?

Answered Question 44

Skipped Question 5

Answer Options	Response Percent	Response Count
Yes	97.73%	43
No	2.27%	1

207. Is the use of cage/box traps allowed in/near road right-of-ways?

Answered Question 45

Skipped Question 4

Answer Options	Response Percent	Response Count
Yes	80.00%	36
No	20.00%	9

208. Are there any setbacks from culverts, driveway entrances, houses, or buildings that apply to cage/box traps on land?

Answered Question 46

Skipped Question 3

Answer Options	Response Percent	Response Count
No	69.57%	32
Yes. If Yes, specify where and the required setback distance.	30.43%	14

If Yes, specify where and the required setback distance.

CA - Traps may not be set within 150 yards of any structure used as a permanent or temporary residence, unless such traps are set by a person controlling such property or by a person who has and is carrying with him written consent of the landowner to so place the trap or traps.

CO - Setback distance of 50 feet of either side of the traveled portion of a county road, state or federal highway.

MD – All traps must be at least 150 yards from a resident (with some exceptions)

ME – 200 yards from an occupied dwelling or written permission from occupant of dwelling.

MO – 150'

NE – Same as other traps

NM – same results as with traps
NY - You are not allowed to set a trap within 100 feet of a house, school, playground, or church unless you have permission of the landowner.
OH – Same as footholds
OK – Same as dry land and water set trapping.
OR - On state or federal lands, no traps or snares may be set on land within 50 feet of any public trail.
PA – Must be at least 150 yards from homes/buildings.
SD – Cannot set these traps unless you have landowner permission within 660 feet of public road rights-of-ways.
WI - In State parks, a trapper cannot set, place or check traps located within 100 yards of designated trails or designated use areas such as picnic areas, campgrounds and beaches or in any area in the park closed to trapping indicated on that park’s trapping area map.

209. Do you restrict cage/box traps placement in other areas not yet addressed (e.g., not allowed near boat launch or parking areas)?		
Answered Question 45		
Skipped Question 4		
Answer Options	Response Percent	Response Count
No	88.67%	39
Yes. If Yes, explain.	13.33%	6

If Yes, explain.
AZ – ½ mile from boat launching area, camping area, picnic area, or roadside rest area
IL – Restrictions for state forests and wildlife management areas vary by site
KY – A trap shall not be set in a trail or path commonly used by a human or a domestic animal.
ME – In Wildlife Management Districts 1-6, and 8-11 cage traps cannot exceed an entrance of 13x13”
NM – Same rules as with traps
OR - On state or federal lands, no traps or snares may be set on public land within 300 feet of any trailhead, public campground, or picnic area.

210. What time checking interval is required for cage/box traps set on land (e.g., daily, every 24 hours, 48 hours, no requirement)?
Answered Question 46
Skipped Question 3
AL – 24 hour
AZ - daily
AR - Daily
CA – daily
CO – must be checked at least once per day
CT – Every 24 hours
FL – no requirement

GA – every 24 hours
IA – every 24 hours
ID – 72hr
IL – Once each calendar day
IN – Every 24 hours
KS - daily
KY – Every 24 hours.
LA – 24 hours
MA – every 24 hours
MD – once per calendar day
ME - daily
MI – daily in LP once every 48 hours in UP
MN – 24 hours
MO – 24
MS – 36 hours
MT – none
NC – daily
ND – No requirement.
NE – daily
NH – 24 hours
NJ – Once in every 24 hours
NM – Once per calendar day
NV – 96 hours
NY – 24 hours, 48 hours for some WMUs
OH – 24 h
OK – 24 hours
OR – 48 hours
PA – 36 hours
RI – Once in every 24 hour period
SC – between 2hrs before sunrise to 2hrs after sunset
SD – 48 hours east of the Missouri River and 72 hours west
TN – 36 hours
TX – 36 hours
VA – Daily
VT – every 24 hours
WA – 72 hours
WI – 24 hours
WV – Daily
WY – No requirement

211. Are multi-catch 'colony' cage traps allowed for use on land?		
Answered Question 44		
Skipped Question 5		
Answer Options	Response Percent	Response Count
Yes	75.00%	33
No	25.00%	11

212. Are multi-catch 'colony' cage traps allowed for use in underwater submersion sets?		
Answered Question 45		
Skipped Question 4		
Answer Options	Response Percent	Response Count
Yes	86.67%	39
No	13.33%	6

Capture Techniques for Mountain Lion and Black Bear

213. Is there an open season for the harvest of mountain lions in your state?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
Yes	26.09%	12
No	73.91%	34

214. Is the take of mountain lion (sport harvest or damage control) allowed with trapping devices?		
Answered Question 43		
Skipped Question 6		
Answer Options	Response Percent	Response Count
Yes	23.26%	10
No	76.74%	33

215. Can foothold traps be used for sport harvest of mountain lions during the legal season for this animal?		
Answered Question 11		
Skipped Question 38		
Answer Options	Response Percent	Response Count
Yes	18.18%	2
No	81.82%	9

216. Can foothold traps be used to capture mountain lions for damage control?		
Answered Question 11		
Skipped Question 38		

Answer Options	Response Percent	Response Count
Yes	100.00%	11
No	0.00%	0

217. Can cage/box/culvert traps be used for sport harvest of mountain lions during the legal season for this animal?		
Answered Question 11		
Skipped Question 38		
Answer Options	Response Percent	Response Count
Yes	18.18%	2
No	81.82%	9

218. Can cage/box/culvert traps be used to capture mountain lions for damage control?		
Answered Question 11		
Skipped Question 38		
Answer Options	Response Percent	Response Count
Yes	90.91%	10
No	9.09%	1

219. Can snares be used to capture mountain lions during the legal season for this animal?		
Answered Question 11		
Skipped Question 38		
Answer Options	Response Percent	Response Count
No	81.82%	9
Yes. If Yes, please specify whether foot snares, neck/body snares, or both may be used.	18.18%	2

If Yes, please specify whether foot snares, neck/body snares, or both may be used.
NM - Foot snares only. Note that use of traps and snares to harvest mountain lions is restricted to private lands and State Trust lands only, and have more restricted dates than the general lion hunting season.
TX – Both

220. Can snares be used to capture mountain lions for damage control?		
Answered Question 11		
Skipped Question 38		
Answer Options	Response Percent	Response Count
No	18.18%	2
Yes. If Yes, please specify whether foot snares,	81.82%	9

neck/body snares, or both may be used.		
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If Yes, please specify whether foot snares, neck/body snares, or both may be used.		
AZ – leg snares		
AR – Neck/body snares only		
IA - Both		
ID – all damage control conducted by USDA WS		
KS - both		
MT – both		
NM - Foot snares can always be used. Neck/ body snares can only be used via permit, which would only be approved for an NMDGF employee, Wildlife Services, or NMDGF contractor, or when an immediate situation allows a landowner to address the problem and notify NMDGF after the fact.		
OR - No wildlife laws adhere to the capture and removal of mountain lions causing damage on private land: all trap devices are allowed for damage control.		
TX Both		

221. Is there an open season for the harvest of black bear in your state?		
Answered Question 47		
Skipped Question 2		
Answer Options	Response Percent	Response Count
Yes	68.09%	32
No	31.91%	15

222. Is the take of black bear (sport harvest or damage control) allowed with trapping devices?		
Answered Question 45		
Skipped Question 4		
Answer Options	Response Percent	Response Count
Yes	20.00%	9
No	80.00%	36

223. Can foothold traps be used for sport harvest of black bears during the legal season for this animal?		
Answered Question 9		
Skipped Question 40		
Answer Options	Response Percent	Response Count
Yes	0.00%	0
No	100.00%	9

224. Can foothold traps be used to capture black bears for damage control?		
Answered Question 9		
Skipped Question 40		
Answer Options	Response Percent	Response Count
Yes	88.89%	8
No	11.11%	1

225. Can cage/box/culvert traps be used for sport harvest of black bears during the legal season for this animal?		
Answered Question 9		
Skipped Question 40		
Answer Options	Response Percent	Response Count
Yes	11.11%	1
No	88.89%	8

226. Can cage/box/culvert traps be used to capture black bears for damage control?		
Answered Question 9		
Skipped Question 40		
Answer Options	Response Percent	Response Count
Yes	88.89%	8
No	11.11%	1

227. Can snares be used for sport harvest of black bears during the legal season for this animal?		
Answered Question 9		
Skipped Question 40		
Answer Options	Response Percent	Response Count
No	88.89%	8
Yes. If Yes, please specify whether foot snares, neck/body snares, or both may be used.	11.11%	1

If Yes, please specify whether foot snares, neck/body snares, or both may be used.
 ME – Foot snares only. Aldridge and ADX style footsnares are legal, belisle foot snares are not legal.

228. Can snares be used to capture black bears for damage control?		
Answered Question 9		
Skipped Question 40		
Answer Options	Response Percent	Response Count
No	0.00%	0
Yes. If Yes, please specify	100.00%	9

whether foot snare, neck/body snares or both may be used.		
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If Yes, please specify whether foot snare, neck/body snares or both may be used.
AZ – Leg snares
IA - Both
ID – USDA WS can trap with foot snares or any device they feel appropriate, safe, expedient
KS - both
ME – Foot snares only.
MO – foot
MT – both
OR - No wildlife laws adhere to the capture and removal of black bears causing damage on private land: all trap devices are allowed for damage control.
WA – Both

Furbearer Hunting

229. Is it legal in your jurisdiction to harvest furbearers by hunting (i.e., use of firearms)?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
Yes	100.00%	46
No	0.00%	0

230. Is hunting of furbearers allowed during night time hours?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
No	4.35%	2
Yes. If Yes, what species may be hunted at night?	95.65%	44

If Yes, what species may be hunted at night?
AL – Raccoon and opossums
AZ – Coyote-only in specific units Raccoon
AR – Raccoon, opossum, bobcat
CA - California Code of Regulations Title 14, section 264 designates zones where furbearers and nongame mammals may be hunted at night. Night hunting is not allowed during the open season for deer.
CO – beaver, bobcat, coyote, gray fox, raccoon, red fox, striped skunk, swift fox
CT – raccoons and opossums

FL – raccoons, opossums
GA – opossum, raccoon, gray fox, red fox, bobcat, coyote
IA – Coyotes, fox, bobcat, and raccoons
IL – Raccoon, opossum, red fox, gray fox, coyote, striped skunk
IN – Raccoon, opossum, fox, coyote
KS – furbearers that may be hunted (excludes beaver and otter) and coyotes
KY – Coyote, raccoon, opossum.
LA – coyotes, beaver, nutria, raccoon, opossum
MA – Raccoon or opossum
MD – coyote, red fox, gray fox, fisher, skunk, raccoon, opossum
ME – coyote
MI – coyote, fox, raccoon, opossum
MN – Raccoon, coyote
MO – raccoon
MS – raccoon, opossum, bobcat, fox, beaver, nutria, coyote, skunk
NC – coyote only
ND – Coyotes, foxes, raccoons, and beavers.
NE - Badger, bobcat, mink, raccoon, opossum, striped skunk, long-tailed weasel, red fox, gray fox.
NH – Eastern coyote
NJ - Opossum and raccoon may only be hunted at night. Coyote and fox have a special permit season (Jan 1-Mar 15) that allows for harvest during night time hours, but otherwise may only be taken during daylight hours.
NM – Raccoons only. Artificial light may also be used for raccoon, but no other species.
NV – All furbearers
NY - Red and gray fox, coyote, bobcat, raccoon, skunk, mink, weasel, and opossum.
OH – raccoon, fox, coyote
OK – Raccoon only
OR – bobcat, opossum, and raccoon
PA - Raccoons, red foxes, gray foxes, coyotes, opossums, striped skunks, weasels, and bobcats.
RI – For raccoons only
SC – Coyote, opossum, raccoon, mink, skunk
SD – All, but cannot use artificial light unless as a landowner guest.
TN – Raccoon and opossum
TX – All
VA - All that have an open hunting season, including bobcat, coyote, fox, raccoon, opossum, and skunk.
VT – Coyote, raccoon
WA – Coyote
WI – Coyote, raccoon, fox, opossum, skunk, weasel
WV – Raccoon, opossum, skunk, coyote, bobcat, fox
WY – On private land with permission of landowner for coyotes, red fox, skunks and raccoons

231. If yes, is it legal to use artificial lights to assist with night time shooting?		
Answered Question 45		
Skipped Question 4		
Answer Options	Response Percent	Response Count
Yes	93.33%	42
No	6.67%	3

232. If yes, are there restrictions on the types of weapons that may be used at night?		
Answered Question 44		
Skipped Question 5		
Answer Options	Response Percent	Response Count
Yes	45.45%	20
No	54.55%	24

233. If yes, are there other night time restrictions not yet described? Specify.		
Answered Question 22		
Skipped Question 27		
AZ – Light may not be attached to or operated from a vehicle; night vision equipment is not legal		
CA – Night hunting is not allowed in Monterey and San Benito counties east of Highway 101		
CO - night hunting not allowed during any open big game season, light may not be permanently attached to a motor vehicle, taking with artificial light within 500 yards of a dwelling, building, campground is not allowed.		
GA - no		
IA – Light may be used when hunting raccoons or other furbearing animals when they are trees with the aid of dogs.		
KY – A person shall not use artificial light or other means designed to make wildlife visible at night from June 1 through January 31.		
LA – nighttime hunting can only be conducted outside of deer season, only on private property, and only with written permission		
MA - No rifles chambered to take ammunition larger than a .22 caliber long rifle rimfire, and pistols and revolvers chambered to take ammunition larger than .38 caliber 1/2 hour after sunset to 1/2 hour before sunrise. No slugs or buckshot may be used at night.		
MD – n/a		
MI – dogs or aid of game call required. Caliber/ammunition restrictions. No tree stands.		
MN - Only handguns or rifles of .17 or .22 caliber with short, long, or long rifle rim-fire ammunition (including .22 magnum)		
ND – May hunter beavers and raccoons and night with the aid of a flashlight.		
NE – Light cannot be used from any type of vehicle/conveyance.		
NM - Artificial light cannot be cast from a vehicle and must be from a handheld flashlight or headlamp. Weapons are limited to .22 caliber, shotgun, bow and crossbow.		
NY – During any open deer season you may not use a centerfire rifle in counties that are		

“shotgun only” for deer hunting.
OK – Type of light used
PA – Shot size must be smaller than no. 4 buckshot.
RI – No
SD – Only guests of landowners that are accompanied by the landowner.
VA – Light may not be attached to a vehicle.
VT – No
WV – Shot #2 or smaller, .22 cal. Rim and center fire or smaller are legal.

234. Are electronic calls allowed during furbearer hunting?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
Yes	86.96%	40
No	13.04%	6

235. Are the use of dogs/hounds allowed in furbearer hunting?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
No	4.35%	2
Yes. If Yes, what furbearers may be hunted with dogs?	95.65%	44

If Yes, what furbearers may be hunted with dogs?		
AL- Raccoon, opossum and fox		
AZ - all		
AR – bobcat, raccoon, opossum, coyote		
CA – Badger, gray fox, muskrat, mink, beaver, and raccoon		
CO - all species classified as a furbearer may be taken with the aid of dogs. Dogs are not allowed to bite or kill but only as an aid in pursuit, flush/point, bring to bay, or retrieval of dead furbearers.		
CT – Foxes, coyote, raccoon, opossum, skunk		
FL – all except bear		
GA – opossum, raccoon, gray fox, red fox, coyote, bobcat		
IA – Raccoons, bobcat, fox, and coyote		
ID – bobcats and fox		
IL – Raccoon, opossum, red fox, gray fox, coyote, striped skunk		
IN – Raccoon, opossum, fox, coyote		
KS – all furbearers that may be hunted (excludes beaver and otter)		
KY – Somewhat of a gray area.		
LA – raccoon		

MA – Coyotes and foxes
MD – coyote, red fox, gray fox, fisher, skunk, raccoon, opossum
ME – coyote, fox, bobcat, black bear, raccoon
MI - bobcat, coyote, fox, raccoon, mink, opossum (Bear also- however bears are not considered a furbearer in Michigan).
MN – Bobcat, fox, raccoon, coyote, and rabbits.
MO – raccoon opossum
MS – raccoon, opossum, fox, coyote
MT – bobcat
NC – bobcat, coyote, gray fox, red fox, raccoon, opossum
ND – Badger, coyote, fox, raccoon, bobcat and mountain lion.
NE - Badger, bobcat, mink, raccoon, opossum, striped skunk, long-tailed weasel, red fox, gray fox. Bobcat, raccoon, opossum and red fox have dedicated running seasons.
NH – all furbearers
NJ – Coyote, fox, opossum and raccoon
NM – There are no restrictions
NV – All furbearer species
NY - Red and gray fox, coyote, bobcat, raccoon, skunk, mink, weasel, and opossum.
OH - Raccoon, fox, coyote
OK – Raccoon only
OR - Bobcat, raccoon, fox (red and gray), and unprotected mammals (badger, coyote, nutria, opossum, spotted skunk, striped skunk, long-tailed weasel, and short-tailed weasel).
PA - Raccoons, red foxes, gray foxes, coyotes, opossums, striped skunks, weasels, and bobcats.
RI – For raccoon hunting
SC – coyote, fox, raccoon, opossum, mink, skunk
SD – all.
TN – Raccoon and opossum
TX – All
VA – Bobcat, coyote, fox, raccoon, opossum, and skunk.
VT - raccoon, red fox, grey fox, coyote, bobcat, muskrat, opossum, skunk, weasel
WI – Coyote, raccoon, fox, opossum, skunk, weasel
WV – Raccoon, opossum, coyote, bobcat, fox

236. Is it legal to hunt furbearers over bait (carcass piles, etc.)?		
Answered Question 45		
Skipped Question 4		
Answer Options	Response Percent	Response Count
No	17.78%	8
Yes. If Yes, are there restrictions on types or amounts of baits? Specify.	82.22%	37

If Yes, are there restrictions on types or amounts of baits? Specify.
AZ – no
AR - No
CA - no
CO - Bait must be solely of animal or plant material and may not contain any metal, glass, porcelain, plastic, cardboard, or paper. If parts of wildlife are used, only the parts of legally obtained furbearers, carp, shad, white and longnose suckers, and nonedible parts of legally obtained game mammals, birds and game fish.
CT – No restrictions
GA – none
IA – None
ID – no
IL – Must comply with Dead Animal Disposal Act (applies to livestock)
IN – No restrictions
KS – No
KY – No restrictions.
MA – Bait for coyotes may not be used during the shotgun deer season.
MD – n/a
ME – This can be done between December 16 th and August 31 st for coyotes only
MI - game animals must be used in the open season for take of that species and lawfully taken. Roadkill salvaged animals may be used with some regulations.
MN – Littering regulations that apply on public land would apply to bait sites.
MO – no
NC – No restrictions.
ND – No restrictions.
NE – No
NH – No restrictions.
NJ - No person shall take or attempt to take any game animal while elevated in a standing tree, or in a structure of any kind within 300 feet of a baited area.
NM – No restrictions
NV – No restrictions
NY – No
OK – On State managed land, no seed may be used.
OR – None
PA – non-living bait only.
RI – Private land only
SC – No restrictions
SD – no.
TX – None
VA – Only coyotes.
VT – No
WV – No restrictions.
WY – None

Tagging, Registration and Management of Furbearers

27 states (58.70%) currently collect teeth or carcasses of furbearers for biological analysis, a mandatory practice for most. 42 states (91.30%) collect information to estimate harvests levels, for all or specific species.

237. Is pelt tagging (other than CITES tagging) required for any harvested furbearers?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
No	52.17%	24
Yes. If Yes, what species?	47.83%	22

If yes, what species?
CT – Coyote, gray fox, red fox, beaver, mink, fisher
KS – swift fox
LA – otter, bobcat
MA – Coyote, fox, mink, fisher, (bobcat and otter with CITES tags)
MD – fisher
ME – coyote, red fox, grey fox, marten, fisher, beaver, mink
MI – fisher, marten
MN – Fisher and marten
MT – marten, swift fox, fisher, wolverine
NC – gray and red fox
ND - fishers and mountain lions.
NE – Gray Fox
NH – Otter
NJ – Pelt tagging is required for beaver and river otter
NY – Bobcat, otter, fisher, marten
PA – Bobcat and river otter.
RI – Fisher and beaver
SC – Bobcat and otter
VT – Fisher, otter and bobcat
WA – Bobcat and river otter
WI – Bobcat, fisher, and otter
WV – Beaver, bobcat, fisher, otter

238. How are CITES tags provided to successful harvesters of CITES species? (Please select all answers that apply)		
Answered Question 45		
Skipped Question 4		
Answer Options	Response Percent	Response Count
Tags are mailed	24.44%	11

Tags must be applied to the carcass by a representative of your department	77.78%	35
Other (please specify)	15.56%	7

Other (please specify)
GA – trappers may pick up tags at DNR offices
IA - Furharvesters must contact a Conservation Officer within 7 days of taking an otter or bobcat to receive a CITES tag. The CITES tags must remain with the animal until it is sold. So the main method is that they are given to trappers in person by the officer or full time DNR staff person.
MS – over the counter sales
ND – Tags are given in exchange for carcasses by Department personnel.
NM – They can be applied to the carcass by licensed fur dealers.
OK – Private tagging stations that are approved by the ODWC are allowed to affix the tags.
RI – No take allowed of any CITES species

239. Does your agency currently collect teeth or carcasses of any species of furbearer from hunters/trappers for biological analysis?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
No	41.30%	19
Yes. If Yes, what species and what samples?	58.70%	27

If Yes, what species and what samples?
AZ – Bobcat; lower jaw
AR – bear teeth
CT – Fishers, carcasses
IA – Bobcats and otters. The lower jaw or skull is collected in which to collect tooth samples.
IL – Depends on objectives of study
IN – Otter teeth and reproductive tracts
KS – otters and bobcats
KY – Tooth samples from bobcat and otter.
MD – river otter taken in Garrett and Allegany counties.
ME – tooth samples: bobcat, fisher, marten, and otter - tissue: bobcat
MI -entire skinned heads/skull - bobcat, fisher, marten, otter (can take front potion of lower jaw of bobcat if harvesters requests skull).
MN – Bobcat carcasses, fisher/marten heads
MO – teeth from cats and otters
MT – jaws/teeth of bobcat, otter, swift fox, fisher. Carcasses of fisher and wolverine.

NC – bobcat and otter
ND – Entire carcasses for bobcats, fishers, and mountain lions.
NJ - Trappers are required to submit all river otter carcasses in their entirety from which we collect teeth and female reproductive tracts. Similar data is collected from incidentally captured bobcats and fisher (which have no open season), and from road kills of the above species.
NV –Bobcats – collect lower jaw for tooth extraction
NY – Marten, fisher, bobcat
OH – river otter jaws on a voluntary basis
OR – Bobcat lower jaw.
PA – River otter carcasses (includes teeth).
RI – Fisher, teeth
SD – Bobcats
VT – Fisher, otter and bobcat
WI – Bobcat, Fisher and Otter. Teeth and reproductive tracts are collected.
WV – Otter and bobcat

240. If yes, is it mandatory or voluntary?
Answered Question 28
Skipped Question 21
AZ – Mandatory for trappers; voluntary for hunters
AR – Mandatory
CT –Voluntary
IA – Voluntary
IL – Voluntary
IN – Mandatory
KS – mandatory for otters, voluntary for bobcats
KY – Voluntary
MD –Mandatory
ME – Mandatory
MI – Mandatory
MN – Mandatory
MO – vol
MT – Mandatory
NC – Voluntary
ND – Mandatory
NJ – Mandatory
NV – Mandatory
NY – Both
OH – Voluntary
OR – Mandatory
PA – Mandatory for river otters.

RI – Mandatory
SC – N/A
SD – Mandatory
VT – Mandatory
WI – Mandatory
WV – Voluntary

241. Do you currently have restricted per-trapper quotas for any species within your state?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
No	50.00%	23
Yes. If Yes, please list the species.	50.00%	23

If Yes, please list the species.		
ID – otter, wolf, some beaver Controlled Hunts		
CT – Fisher 4, otter 8		
IA – Bobcats and otters		
IL – Badger: 1 per season in southern zone; 2 per season in northern zone Otter: 5 per season Bobcat: 1 per season		
IN – Otter		
KS – otter		
KY – Bobcat = 5, Otter 6 or 10, depending on zone.		
MD – fisher, river otter		
ME – Marten: 25 Fisher: 10		
MI – Bobcat fish marten otter badger (bears have a quota also but are not considered furbearers in Michigan)		
MN – Bobcat, fisher marten and otter		
MT – bobcat, fisher, otter, swift fox		
ND – Fishers = 1 per person per season. Mountain lions = 1 person per season		
NH – Otter and Fisher		
NJ - Beaver have a bag limit of eight (8) beaver per permit (trappers may have more than 1 permit). River otter has a season bag limit of one (1) otter.		
OH – River otter		
OK - Bobcat - 20, Raccoon - 40, River Otter - 4, Gray Fox/Red Fox - 2 red only, 4-6 gray (combined total of 6)		
OR – Bobcat		
RI – Fisher – 4, beaver – 20		
SD – Bobcats (limited to one) east of the Missouri River open area.		
WI – Bobcat, Fisher and Otter		
WV – Yearly limits: bobcat 3, fisher 1, otter 1		

WY – Beaver but only in certain areas of the state

242. If yes, does your state allow “party-trapping” (i.e., another licensed trapper can help fill the quota of another trapper)?		
Answered Question 30		
Skipped Question 19		
Answer Options	Response Percent	Response Count
Yes	6.67%	2
No	93.33%	28

243. If yes, specify any conditions that must be met to qualify as legal “party trapping”.
Answered Question 4
Skipped Question 45
MD – N/A
MN - Licensed trappers may act as another's agent with documentation. Allowed to check traps and remove animals, but must have a valid site coupon in their own name when possessing fisher/marten or otter
SC – N/A
WV – No

244. Do you collect information to estimate harvest levels for furbearers?		
Answered Question 46		
Skipped Question 3		
Answer Options	Response Percent	Response Count
No	8.70%	4
Yes. If Yes, what species (ALL or list if a subset)?	91.30%	42

If Yes, what species (ALL or list if a subset)?
AL – All
AZ – All
AR – Will occasionally request information necessary to estimate harvest for a few species.
CA - We collect harvest information on the following furbearers: Badger, beaver, gray fox, long-tailed weasel, mink, muskrat, raccoon and short tailed weasel We also collect harvest information from trappers on the following non-game species: Coyote, opossum, spotted skunk and striped skunk
CO – bobcat, pine marten, gray fox, swift fox
CT - All
GA – trapper surveys of all furbearers trapped
IA – all except otter and bobcat which is collected from CITES harvest reports filled out by staff and sent to the furbearer biologist.
ID – We collect information about all harvested furbearers of all/sample of trappers, mandatory registration, etc).

IL - All
IN - All
KS - all
KY - All
LA – data is collected from out-of-state shipping tags and fur dealers. Nuisance trappers are also required to report their harvest.
MA – All
MD –All
MI – All – some may be lumped (weasels for example)
MN – All species
MO – all
MS – ALL Mandatory annual trapper harvest survey.
MT – all
NC – All
ND – All
NE – All
NH – Mandatory trapper reports.
NJ – All
NM – All protected species of furbearers
NV – All
NY - We conduct a trapper survey to estimate harvest of beaver, mink, muskrat, raccoon, red and gray fox, skunk, coyote, opossum, and weasel.
OH – All
OK – All
OR – ALL
PA – All
RI – NA
SC – All
SD – All.
VA – All
VT – All
WA – all
WI – All
WV – All
WY – CITES tags on bobcats – mandatory report for all successful trappers, Harvest survey for badger, beaver, muskrat, mink, marten and weasel

245. If yes, what method do you use (mandatory/voluntary mail survey of all/sample of trappers, mandatory registration, etc).
Answered Question 42
Skipped Question 7
AL – mandatory fur catch report form
AZ – sub-sample survey for hunters; mandatory harvest report for trappers

AR – Voluntary mail/email survey
CA – Mandatory survey; either by mail or electronically through our Automated License Data System
CO – voluntary phone/internet sample survey
CT – Voluntary mail survey, pelt tagging, state land mandatory report
GA – mail survey of all licensed trappers
IA – It is in state code that all licensed furbuyers report the number of raw furs purchased. This is used to estimate harvest for all species except otter and bobcat which we get from CITES tagging.
ID – mandatory trapper report cards
IL – Mandatory reports from fur buyers; random samples of hunters/trappers via mail survey; mandatory registration (otter/bobcat)
IN – Voluntary mail survey
KS – voluntary mail survey of a sample of trappers
KY – Voluntary survey
LA – mandatory tagging
MA – We mail out a voluntary trapper survey before the beginning of the furbearer seasons to be filled out for any species that is trapped.
MD – voluntary mail survey – sample of those who purchase a furbearer stamp.
MI - voluntary mail survey, mandatory species registration for 4 species
MN – Voluntary mail survey to every trapper; mandatory registration for fisher, marten, otter and bobcat
MO – dealer records
MS – Mandatory annual mailed trapper harvest survey
MT – voluntary mail survey
NC – voluntary mail survey of a subsample of hunters and all licensed trappers
ND – Mail survey, fur buyers' reports, and mandatory tagging.
NE – Voluntary mail survey of all trappers
NH – Mandatory
NJ - Mandatory registration for beaver and river otter; Mandatory call in for coyote; Voluntary online survey of sample of trappers for all other furbearing species.
NM – Mandatory survey of all trappers
NV – Mandatory survey of all trappers
NY – Mail survey of a random sub-sample of licensed trappers.
OH – Trapper mail survey
OK – Sale of furbearer pelts, mail surveys
OR – Mandatory mail survey of all trappers AND information collected on CITES species when tagging pelts.
PA – Furtaker mail survey and mandatory check (otters, bobcat, fisher).
RI - Mandatory reporting of catch
SC – Mandatory reporting
SD – Mail and online survey of all trapping license holders.

VA – Voluntary mail survey, CITES tags for otters, mandatory checking system for bobcats
VT – Voluntary mail survey, pelt tagging, carcass turn-in, mandatory fur buyer report
WA – Mail in trappers form
WI – Mandatory mail survey of a sample of trappers, mandatory registration for bobcat, fisher and otter.
WV - Fur sales, trapper CPUE survey, mandatory checking for 4 species previously listed.
WY – Mail survey of all licensed trappers, voluntary response

246. The Max McGraw Wildlife Foundation has grant funds to offer a three-day advanced furbearer management workshop (Fur School), which is similar to the original Wisconsin Fur School. A one-day professional development workshop on communicating about trapping with the media and public (Trapping Matters) is also being offered through this grant. Are you interested in attending, or perhaps hosting in your state, either of these workshops which will be offered throughout 2016?

Answered Question 40

Skipped Question 9

Answer Options	Response Percent	Response Count
Yes	62.79%	27
No	37.21%	16

247. If yes: Please provide name and contact information of the person we should reach out to.

Answered Question 29

Skipped Question 20

AZ – April Howard 623-236-7352
AR – Black Sasse Black.Sasse@agfc.ar.gov
FL – Jamie.Feddersen@MyFWC.com
ID – Bill Siebold : bsiebold@idfg.idaho.gov
CT – Paul Rego
KY – laura.palmer@ky.gov
LA – Jennifer Manuel 337-373-0032 jhogue@wlf.la.gov
MA – Laura Conlee, laura.hajduk-conlee@state.ma.us We have already been contacted regarding Fur School for 2016
ME – Cory Mosby cory.e.mosby@maine.gov; 207-941-4473
MI – Adam Bump bumpa@michigan.gov 517-284-6157
MN – Jason Abraham
MS – I attended Trapper Matters at 2015 SEAFWA
MT – Bob Inman 406-444-0042
NC – Already hosted one, otherwise I would have been interested.
ND – Stephanie Tucker, 701-220-1871, satucker@nd.gov
NJ – Nathan Figley (856) 629 – 0552 or Nathan.Figley@dep.nj.gov
NM – Elise Goldstein elise.goldstein@state.nm.us

NV – One is planned for our state
NY – We coordinate NE Fur School.
OK – Jerrod Davis, 405-590-2583, Jerrod.davis@odwc.ok.gov
OR – Derek Broman, derek.broman@state.or.us
RI – Charlie Brown, Wildlife Biologist, Division of Fish and Wildlife, (401) 789- 0281 charles.brown@dem.ri.gov
TN – Roger Applegate 615-781-6616
TX – Jonah Evans jonah.evans@tpwd.texas.gov
VA – Mike Fies mike.fies@dgif.virginia.gov 540-248-9390
VT – Chris Bernier, chris.bernier@vermont.gov, 802-885-8833
WA – Angelique Curtis angellique.curtis@dfw.wa.gov
WI – Shawn Rossler (608) 267-9428 or John Olson
WY – Bob Lanka, WY G&F bob.lanka@wyo.gov

Appendix A. Individual Question Responses

1	Open-ended response: See survey question. Skipped: None
2	Yes: AR, CA, CO, CT, IA, ID, IN, KS, KY, LA, MA, MD, ME, MI, MN, MT, NH, NJ, NM, NV, NY, OH, OR, PA, TN, VA, VT, WA, WI, WV, WY No: AK, AL, AZ, DE, FL, GA, IL, MO, MS, NC, ND, NE, OK, RI, SC, SD, TX, UT Skipped: None
3	Open-ended response: See survey question. Skipped: AK, AL, AR, DE, FL, GA, IL, MO, MS, NC, ND, NE, OK, RI, SC, SD, TX, UT
4	Open-ended response: See survey question. Skipped: AK, AL, AR, DE, FL, GA, IL, MO, MS, NC, ND, NE, OK, RI, SC, SD, TX, UT
5	Yes: AK, AR, AZ, CT, DE, IL, KY, MA, MN, MO, MS, ND, NE, NH, NM, NY, OR, PA, SD, TN, VA, VT, WV No: AL, CA, CO, FL, GA, IA, ID, IN, KS, LA, MD, ME, MI, MT, NC, NJ, NV, OH, OK, RI, SC, TX, UT, WA, WI, WY Skipped: None
6	Open-ended response: See survey question. Skipped: AL, CA, CO, FL, GA, IA, ID, IN, KS, LA, MD, ME, MI, MO, MT, NC, NJ, NV, OH, OK, RI, SC, TX, UT, WA, WI, WY
7	Yes: AK, AL, AR, AZ, CA, CO, CT, DE, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY No: FL Skipped: None
8	Open-ended response: See survey question. Skipped: FL, MO
9	Yes: AK, CA, CT, IA, MD, ME, MN, MT, ND, NE, NM, PA, SD, TN, WI, WY No: AL, AR, AZ, CO, DE, GA, ID, IL, IN, KS, NY, LA, MA, MI, MO, MS, NC, NH, NJ, NV, NY, OH, OK, OR, RI, SC, TX, UT, VA, VT, WA, WV Skipped: FL Open-ended response: See survey question.
10	Yes: CA, ID, MD, MI, MT, ND, NE, NH, NM, NV, SD, WI No: AK, AL, AR, AZ, CO, CT, DE, GA, IA, IL, IN, KS, KY, LA, MA, ME, MN, MO, MS, NC, NJ, NY, OH, OK, OR, PA, RI, SC, TN, TX, UT, VA, VT, WA, WV, WY Skipped: FL Additional comments: See survey question.
11	Yes: AK, AZ, CA, CT, DE, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MT, NC, ND, NE, NH, NJ, NY, OH, OR, PA, SC, TN, UT, VA, VT, WA,

	WI, WY No: AL, AR, CO, FL, GA, KY, MO, MS, NM, NV, OK, RI, SD, TX, WY Skipped: None
12	Yes: AZ, CA, CT, DE, IL, KS, MA, MD, ME, MN, MT, NH, NJ, NY, OH, OR, PA, UT, VT, WA, WI No: AK, IA, ID, IN, LA, MI, NC, ND, NE, SC, TN, VA, WV, WY Skipped: AL, AR, CO, FL, GA, KY, MO, MS, NM, NV, OK, RI, SD, TX Additional comments: See survey question.
13	Yes: AZ, CT, DE, IA, ID, KS, MA, MD, ME, MI, NC, NH, PA, TN, UT, VT, WA, WI No: AK, CA, IL, IN, LA, MN, MT, ND, NE, NJ, NY, OH, OR, SC, VA, WV, WY Skipped: AL, AR, CO, FL, GA, KY, MO, MS, NM, NV, OK, RI, SD, TX
14	Yes: AZ, CT, DE, ID, MA, MD, ME, NC, OR, PA, TN, UT, VA, VT, WI No: AK, CA, IA, IL, IN, KS, LA, MI, MN, MT, ND, NE, NH, NJ, NY, OH, SC, WA, WV, WY Skipped question: AL, AR, CO, FL, GA, KY, MO, MS, NM, NV, OK, RI, SD, TX Additional comments: See survey question.
15	Yes: AK, AZ, CT, DE, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, NC, NH, NJ, NY, OR, PA, SC, TN, UT, VA, VT, WA, WI No: CA, MN, MT, ND, NE, OH, WV Skipped question: AL, AR, CO, FL, GA, KY, MO, MS, NM, NV, OK, RI, SD, TX, WY
16	Yes: AZ, CT, DE, ID, IL, IN, KS, MA, MD, ME, MI, MN, MT, NC, ND, NE, NH, NJ, NY, OR, PA, SC, TN, UT, VA, VT, WA, WI, WV No: AK, CA, IA, LA, OH Skipped question: AL, AR, CO, FL, GA, KY, MO, MS, NM, NV, OK, RI, SD, TX, WY Additional comments: See survey question.
17	Yes: AR, AZ, CO, CT, FL, GA, KS, KY, LA, MA, MO, NC, NE, NV, OK, OR, PA, RI, UT, VT, WI, WY No: AK, AL, CA, DE, IA, ID, IL, IN, MD, ME, MI, MN, MS, MT, ND, NH, NJ, NM, NY, OH, SC, SD, TN, TX, VA, WA, WV Skipped: None
18	Media contacts (interviews, articles, etc.): AL, CA, DE, ID, IL, KS, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OK, OR, PA, SD, TN, UT, VA, VT, WI At training sessions for state agency staff (handouts, posters, notices, presentations, etc.): AL, DE, FL, IA, ID, IL, KY, MA, ME, MI, MO, MS, M, NC, NY, OK, PA, SC, UT, VA, VT, WI At training sessions for external audiences (e.g., NWCO courses, trappers, public): AL, CT, DE, GA, IA, ID, IL, KS, KY, MA, MD, ME, MO, MS, MT, NC, ND, NE, NJ, NJ, NY, OH, OR, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI During professional conferences (posters, presentations, workshops, etc.): IA,

	<p>MA, NC, NY, OK, UT, VA, WI</p> <p>At fairs, sportsmen shows or trade shows: AL, GA, ID, KS, MA, ME, MT, NC, NE, NH, NY, OR, SC, SD, UT, VA, VT, WI</p> <p>At regional or statewide meetings: AL, DE, IA, ID, MA, ME, MI, MT, NC, ND, NH, NY, OK, PA, TN, UT, VA, WI</p> <p>Incorporated into administrative codes or policy: AZ, DE, MA, MD, MN, OK, TN, UT, WI</p> <p>Regulatory language or justification during implementation of regulations: AZ, CA, CT, DE, IN, MA, MD, ME, MI, MN, MS, NC, NH, NJ, NY, OH, PA, TN, UT, VA, VT, WI</p> <p>Legislative actions or Agency Commission actions (use BMP data in talking points for legislators and commissioners, demonstration of animal welfare to help pass regulations or statutes): CA, DE, IL, KY, MA, MD, ME, MI, MN, MS, MT, NC, NE, NH, NJ, NM, NY, OK, PA, RI, UT, VA, VT, WI</p> <p>Use when evaluating or issuing scientific collector permits related to furbearer work: CA, CO, KS, MA, ME, MT, NC, NE, NY, PA, SC, UT, VA, WI</p> <p>Use or promote with Institutional Animal Care and Use Committees within your state: CA, CO, KS, MA, ME, MT, NC, NE, NY, PA, SC, UT, VA, WI</p> <p>Skipped question: AK, AR, FL, LA, NV, TX, WV, WY</p> <p>Other: See survey question.</p>
19	<p>Yes: AZ, CT, DE, MA, MN, RI, TN, UT, WI</p> <p>No: AK, AL, AR, CA, CO, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, SC, SD, TX, VA, VT, WA, WV, WY</p> <p>Skipped: None</p>
20	<p>Yes: See survey question.</p> <p>No: MA, RI, TN, UT</p> <p>Skipped question: AK, AL, AR, CA, CO, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, SC, SD, TX, VA, VT, WA, WV, WY</p>
21	<p>Open-ended response: See survey question.</p> <p>Skipped: AK, AL, AR, CA, CO, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, SC, SD, TX, VA, VT, WA, WV, WY</p>
22	<p>Yes: See survey question.</p> <p>No: AK, AL, AR, CA, CO, FL, GA, IA, ID, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, RI, SC, SD, TX, UT, VT, WA, WV, WY</p> <p>Skipped: None</p>
23	<p>Yes: See survey question.</p> <p>No: AK, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, RI, SC, SD, TN, TX, UT, VA, WA, WV, WY</p> <p>Skipped: None</p>
24	<p>Open-ended response: See survey question.</p> <p>Skipped: AL, AR, CA, CO, FL, GA, ID, IL, IN, LA, MA, MD, MI, MO, MS,</p>

	NE, NM, OK, OR, PA, TN, TX, WV, WY
25	Open-ended response: See survey question. Skipped: AL, AR, CA, CO, FL, GA, ID, IL, IN, MA, MD, MI, MO, MS, MT, NE, NV, OK, PA, SD, TN, TX, WV, WY
26	Yes: See survey question. No: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, ME, MI, MO, MS, ND, NE, NH, NJ, NM, NV, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, WA, WV, WY Skipped: MN
27	Yes: See survey question. No: AK, AR, AZ, CO, CT, DE, FL, IA, ID, IL, IN, KS, KY, LA, MD, ME, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NV, NY, OH, OK, OR, PA, SC, SD, TN, VA, VT, WV Skipped: None
28	Yes: AR, GA, IN, LA, MN, MO, MS, NC, SC, VA, WY No: AK, AL, AZ, CA, CO, CT, DE, FL, IA, ID, IL, KS, KY, MA, MD, ME, MI, MT, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SD, TN, TX, UT, VT, WA, WI, WV Skipped: None
29	Open-ended response: See survey question. Skipped: AK, AL, AZ, CA, CO, CT, DE, FL, IA, ID, IL, KS, KY, MA, MD, ME, MI, MT, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SD, TN, TX, UT, VT, WA, WI, WV
30	Open-ended response: See survey question. Skipped: AK, AL, AZ, CA, CO, CT, DE, FL, IA, ID, IL, KS, KY, MA, MD, ME, MI, MT, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SD, TN, TX, UT, VT, WA, WI, WV
31	Yes: See survey question. No: AK, AL, AZ, CA, CO, DE, FL, IL, LA, MA, MD, ME, MT, NV, NE, NH, NV, NY, OH, OK, OR, PA, RI, SC, TX, VA, VT, WA, WI, WV Skipped: TN, KS Left Blank: MO
32	Yes: See survey question. No: AZ, CA, FL, MA, NH Skipped: None
33	Yes: CT, DE, ID, LA, MA, MD, ME, MI, NE, TN, VA, WV No: AK, AL, AR, AZ, CO, GA, IA, IN, KS, MN, MO, MS, MT, NC, ND, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TX, UT, VT, WA, WI, WY Skipped: CA, FL, KY, NJ, NH
34	Yes: See survey question. No: AZ, CA, FL, MA, MD, NH Skipped: IL, KY, TN
35	Yes: DE, ID, LA, ME, MI, VA, WV No: AK, AL, AR, AZ, CO, CT, GA, IA, IN, KS, MA, MD, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TX, UT, VT, WA, WI, WY

	Skipped: CA, FL, IL, KY, NH, TN
36	Yes: See survey question. No: None Skipped: KY, NH, WA
37	Yes: AZ, CA, DE, LA, MA, MT, NV, OH, TX, VA, WI No: AK, AL, AR, CO, CT, GA, IA, ID, IL, IN, KS, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NM, NY, OK, OR, PA, RI, SC, SD, TN, UT, VT, WA, WV, WY Skipped: FL, KY
38	Yes: See survey question. No: CA, FL, MA, NH, WA, WV Skipped: TN, KY
39	Yes: DE, ID, LA, NE, NJ, SC, TX, VA No: AK, AL, AR, AZ, CO, CT, GA, IA, IL, IN, KS, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NM, NV, NY, OH, OK, OR, PA, RI, SD, UT, VT, WA, WI, WY Skipped: CA, FL, KY, NH, TN, WV
40	Yes: AL, OK No: AK, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY Skipped: None
41	Yes: See survey question. No: AK, AL, AR, AZ, CA, CT, GA, IA, ID, IL, IN, KS, KY, ME, MN, MS, MT, NC, ND, NH, NM, NV, OR, PA, SC, SD, TN, TX, VA, WI, WV Skipped: None
42	Yes: See survey question. No: CT, ME, NY, OH, PA, UT, WV Skipped: None
43	Open-ended response: See survey question. Skipped: CA, CT, FL, ME, NY, OH, PA, UT, WV
44	Yes: AZ, DE, IA, IL, MN, NE, NV, VA No: AK, AL, AR, CO, GA, ID, LA, MA, MI, MO, MS, MT, ND, NH, NJ, NM, OK, OR, RI, SC, SD, TN, TX, WA, WI, WY Skipped: CA, CT, FL, IN, KS, KY, MD, ME, NC, NY, OH, PA, UT, VT, WV
45	Yes: See survey question. No: AK, CO, FL, IN, LA, MD, NV, SD Skipped: None
46	Yes: See survey question. No: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, LA, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY Skipped: None
47	Yes: See survey question. No: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MO, KS, MT, NC, ND, NE, NH, NJ, NM, NJ, NM, NV,

	NY, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WV, WY Skipped: MA
48	Yes: AL, AR, AZ, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY No: See survey question. Skipped: None
49	Yes: AL, AR, CT, DE, GA, MD, ME, NC, ND, NH, NM, OH, OK, OR, RI, SC, TN, UT, WV, WY No: AK, AZ, CO, FL, IA, ID, IL, IN, KS, KY, LA, MA, MI, MN, MO, MS, MT, NE, NJ, NV, NY, PA, SD, TX, VA, VT, WA, WI Skipped: CA
50	Yes: See survey question. No: AK, AZ, CA, CO, KS, LA, ME, MI, ND, NE, NH, NJ, NM, NV, OK, OR, PA, SC, TX, WA Skipped: None
51	Yes: See survey question. No: AK, AL, AR, AZ, CA, CO, CT, FL, GA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, MT, ND, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, UT, VA, VT, WA, WV, WY Skipped question: None
52	Yes: See survey question. No: AL, AR, AZ, CO, CT, DE, FL, IL, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NV, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY Skipped: None
53	Yes: AR, OH, UT No: AK, AL, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, NO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY Skipped: None
54	Yes: AR, OH, UT No: AK, AL, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, NO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY Skipped: None
55	Yes: AR, IA No: AK, AL, AZ, CA, CO, CT, DE, FL, GA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY Skipped: None
56	Yes: See survey question. No: AK, AL, AR, AZ, CA, CO, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OK, OR, SC, SD, TX, UT, VA, WA, WI, WV, WY Skipped: None

57	<p>Yes: See survey question.</p> <p>No: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OK, OR, RI, SC, SD, TN, TX, UT, VA, WA, WV, WY</p> <p>Skipped: None</p>
58	<p>Yes: See survey question.</p> <p>No: AK, AL, AR, AZ, CA, CO, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NV, OH, OK, OR, PA, SC, TX, UT, VA, WA, WI, WV, WY</p> <p>Skipped: None</p>
59	<p>Yes: See survey question.</p> <p>No: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IN, KS, KY, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, RI, SC, SD, TX, UT, VA, VT, WA, WI, WV, WY</p> <p>Skipped: LA</p>
60	<p>Yes: See survey question.</p> <p>No: CO, IA, ID, IL, MA, ME, MI, MO, MS, MT, NE, NH, NJ, NY, OR, RI, TN, WA</p> <p>Skipped: CA</p>
61	<p>Yes: AK, AL, AR, AZ, CT, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY</p> <p>No: CO, FL, MA, OK, WA</p> <p>Skipped: CA</p>
62	<p>Yes: See survey question.</p> <p>No: AK, AL, AR, AZ, CA, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY</p> <p>Skipped: CO, FL, MA, MO, OK, WA</p>
63	<p>Yes: None.</p> <p>No: AK, AL, AR, AZ, CA, CT, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY</p> <p>Skipped: CO, FL, MA, NY, OK, WA</p>
64	<p>Not stated: AZ, CT, DE, ID, KS, LA, MO, MS, MT, NE, NV, OR, SC, SD, VA</p> <p>Between the inside edges of the jaws when the trap is in the open/set position: AK, AL, AR, GA, IL, IN, MN, NC, ND, NJ, NY, OH, RI, VT, WV</p> <p>Between the midpoints of the jaws when the trap is in the open/set position: ME</p> <p>Between the outside edges of the jaws when the trap is in the open/set position: IA, MD, PA, TN, WI</p> <p>Other (please specify): See survey question.</p> <p>Skipped: CO, FL, MA, OK, UT, WA</p>
65	<p>Yes: AK, DE, ID, IL, IN, KS, KY, LA, ME, MO, MS, NE, NV, OR, TN, VT</p> <p>No: CT, NJ, UT</p>

	<p>Yes but with restrictions (please explain): See survey question. Skipped: CO, FL, MA, OK, WA</p>
66	<p>No: None Yes: AK, AL, AR, AZ, DE, GA, ID, IL, IN, KS, KY, LA, MI, MN, MO, MS, NC, ND, NE, NH, NM, NV, NY, OH, OR, SD, TN, TX, VA, VT, WI, WV, WY Yes, but with restrictions (please select options below): CA, IA, MD, ME, MT, PA, RI, SC On private land?: AK, AZ, GA, IN, MT, RI On State Wildlife Management Areas?: AK, IN, MT On State/County Forests?: AK, GA, IN, MT In road right-of-ways?: AK, IA, IN In baited cubbies?: AK, GA, IN In culverts?: AK, IN In/near fencelines?: AK, GA, IA, IN Other restrictions? (please explain): See survey question. Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>
67	<p>No: None Yes: AK, AL, AR, AZ, DE, GA, ID, IL, IN, KS, KY, LA, MI, MN, MO, MS, NC, ND, NE, NH, NM, NV, NY, OH, OR, SD, TN, TX, VA, VT, WI, WV, WY Yes, but with restrictions (please select options below): CA, IA, MD, ME, MT, PA, RI, SC On private land?: AK, AZ, GA, IN, MT, RI On State Wildlife Management Areas?: AK, IN, MT On State/County Forests?: AK, GA, IN, MT In road right-of-ways?: AK, IA, IN In baited cubbies?: AK, GA, IN In culverts?: AK, IN In/near fencelines?: AK, GA, IA, IN Other restrictions? (please explain): See survey question. Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>
68	<p>No: AL, AZ, DE, MO, OH, WV Yes: AK, AR, GA, ID, IL, IN, KS, KY, LA, ME, MN, MS, NC, ND, NH, NV, OR, PA, SD, TN, TX, WI, WY Yes, but with restrictions (please select options below): CA, IA, MD, MI, MT, NE, NM, NY, RI, SC, VA, VT On private land?: AK, GA, IN, MI, MT, NE, NM, RI, VA On State Wildlife Management Areas?: AK, IN, MI, MT On State/County Forests?: AK, GA, IN, MI, MT, NM In road right-of-ways?: AK, IA, IN, MI, NM In baited cubbies?: AK, GA, IN, MI, NM In culverts?: AK, IN, NM In/near fencelines?: AK, GA, IA, IN, MI, NM, Other restrictions? (please explain): See survey question. Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>

69	<p>No: AL, AR, AZ, CA, DE, MO, NH, OH, PA, RI, WV Yes: AK, CA, GA, ID, IL, IN, KS, KY, LA, MS, NC, NE, NV, OR, TN, TX, VA, WY Yes, but with restrictions (please select options below): IA, MD, ME, MI, MN, MT, ND, NE, NM, NY, SC, SD, VA, VT, WI On private land?: AK, GA, IN, MT, NE, VA On State Wildlife Management Areas?: AK, IN, MI, MT On State/County Forests?: AK, GA, IN, MT In road right-of-ways?: AK, IA, IN, MI In baited cubbies?: AK, GA, IN, MI In culverts?: AK, IN In/near fencelines?: AK, GA, IA, IN, MI Other restrictions? (please explain): See survey question. Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>
70	<p>No: AL, AR, AZ, CA, DE, IL, IN, KS, KY, ME, MN, MO, NC, NH, NM, NY, OH, PA, RI, SD, VA, WV Yes: AK, GA, ID, LA, MS, NE, NV, TN, TX, WY Yes, but with restrictions (please select options below): IA, MD, MI, MT, ND, NE, OR, SC, VT, WI On private land?: AK, GA, MI, MT, NE, OR On State Wildlife Management Areas?: AK, MI, MT, OR On State/County Forests?: AK, GA, MI, MT, OR In road right-of-ways?: AK, MI, OR In baited cubbies?: AK, GA, MI, OR In culverts?: AK, OR In/near fencelines?: AK, GA, IA, OR Other restrictions? (please explain): See survey question. Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>
71	<p>No: AL, AR, AZ, CA, DE, IA, IL, IN, KS, KY, MD, ME, MN, MO, NC, NE, NH, NM, NY, OH, OR, PA, RI, SD, VA, VT, WI, WV Yes: AK, ID, LA, MS, NV, TN, TX Yes, but with restrictions (please select options below): GA, MI, MT, ND, SC, WY On private land?: AK, MI, MT, WY On State Wildlife Management Areas?: AK, MI, MT On State/County Forests?: AK, MI, MT In road right-of-ways?: AK, MI In baited cubbies?: AK, MI In culverts?: AK In/near fencelines?: AK Other restrictions? (please explain): See survey question. Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>
72	<p>Open-ended response: See survey question. Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>
73	<p>Open-ended response: See survey question. Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>

74	<p>Yes: See survey question.</p> <p>No: AL, AR, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MS, MT, NC, ND, NE, NY, OH, OR, RI, SC, SD, TN, VT, WI, WV, WY</p> <p>Skipped: CO, CT, FL, MA, NJ, OK, UT, WA</p>
75	<p>Yes: AK, AL, AR, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, ND, NE, NH, NV, OH, OR, PA, RI, SC, SD, TN, TX, WI, WV</p> <p>Yes: See survey question.</p> <p>No: None</p> <p>Skipped: CO, FL, MA, OK, UT, WA</p>
76	<p>Completely submerged: DE, IA, IN, NC, NE, NJ</p> <p>At least half submerged: KS, MN, MO, SD, WI</p> <p>Any part of trap placed in water: AL, GA, IL, LA, MD, MI, MS, NM, NY, OH, OR, PA, SC, VA, VT, WV</p> <p>Other (please specify): See survey question.</p> <p>Skipped: CO, FL, MA, OK, UT, WA</p>
77	<p>No: None</p> <p>Yes: AK, AL, AR, AZ, CA, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, NO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY</p> <p>Yes, but with restrictions (please select options below): CT</p> <p>On private land?: AK, AZ, CT, GA, RI</p> <p>On State Wildlife Management Areas?: AK, CT, RI</p> <p>On State/County Forests?: AK, CT</p> <p>In road right-of-ways?: AK</p> <p>In baited cubbies?: AK, GA, RI</p> <p>In culverts?: AK, CT</p> <p>In/near fencelines?: AK, GA</p> <p>Other restrictions? (please explain): See survey question.</p> <p>Skipped: CO, FL, MA, OK, UT, WA</p>
78	<p>No: None</p> <p>Yes: AK, AL, AR, AZ, CA, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY</p> <p>Yes, but with restrictions (please select options below): CT</p> <p>On private land?: AK, AZ, CT, GA, RI</p> <p>On State Wildlife Management Areas?: AK, CT, RI</p> <p>On State/County Forests?: AK, CT</p> <p>In road right-of-ways?: AK</p> <p>In baited cubbies?: AK, GA</p> <p>In culverts?: AK, CT</p> <p>In/near fencelines?: AK, GA</p> <p>Other restrictions? (please explain): See survey question.</p> <p>Skipped: CO, FL, MA, OK, UT, WA</p>
79	<p>No: DE</p> <p>Yes: AK, AL, AR, AZ, CA, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI,</p>

	<p>SC, SD, TN, TX, VA, WI, WV, WY Yes, but with restrictions (please select options below): CT, VT On private land?: AK, AZ, CT, GA, RI On State Wildlife Management Areas?: AK, CT, RI On State/County Forests?: AK, CT In road right-of-ways?: AK In baited cubbies?: AK, GA In culverts?: AK, CT In/near fencelines?: AK, GA Other restrictions? (please explain): See survey question. Skipped: CO, FL, MA, OK, UT, WA</p>
80	<p>No: DE Yes: AK, AL, AR, AZ, CA, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, NY, OH, OR, SC, SD, TN, TX, VA, WI, WV, WY Yes, but with restrictions (please select options below): CT, ND, NJ, PA, RI, VT On private land?: AK, AZ, CT, GA, RI, On State Wildlife Management Areas?: AK, CT, RI On State/County Forests?: AK, CT In road right-of-ways?: AK In baited cubbies?: AK, GA In culverts?: AK, CT In/near fencelines?: AK, GA Other restrictions? (please explain): See survey question. Skipped: CO, FL, MA, OK, UT, WA</p>
81	<p>No: DE Yes: AK, AL, AR, AZ, CA, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OR, RI, SC, SD, TN, TX, WI, WV, WY Yes, but with restrictions (please select options below): CT, ND, NJ, NY, OH, PA, VA, VT On private land?: AK, AZ, CT, GA, RI On State Wildlife Management Areas?: AK, CT, RI On State/County Forests?: AK, CT In road right-of-ways?: AK In baited cubbies?: AK, CT In culverts?: AK, GA In/near fencelines?: AK, GA Other restrictions? (please explain): See survey question. Skipped: CO, FL, MA, OK, UT, WA</p>
82	<p>No: DE Yes: AK, AL, AR, AZ, CA, GA, IA, ID, IL, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NM, NV, OR, RI, SC, SD, TN, TX, WI, WV Yes, but with restrictions (please select options below): CT, IN, ND, NJ, NY, OH, PA, VA, VT, WY</p>

	<p>On private land?: AK, AZ, CT, GA, RI, On State Wildlife Management Areas?: AK, CT, RI On State/County Forests?: AK, CT In road right-of-ways?: AK In baited cubbies?: AK, GA In culverts?: AK, CT In/near fencelines?: AK, GA Other restrictions? (please explain): See survey question. Skipped: CO, FL, MA, OK, UT, WA</p>
83	<p>Open-ended response: See survey question. Skipped: CO, DE, FL, MA, MO, NH, OK, UT, WA</p>
84	<p>No: AK, AL, AR, CA, CT, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NM, NV, OH, PA, RI, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CO, FL, MA, NY, OK, UT, WA</p>
85	<p>Open-ended response: See survey question. Skipped: CO, FL, MA, OK, UT, WA</p>
86	<p>No: AK, AL, AR, AZ, CA, CT, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MO, MS, MT, NC, ND, NE, NJ, NM, NV, NY, OH, OR, PA, RI, SC, TN, TX, VA, VT, WV, WY Yes: See survey question. Skipped: CO, FL, MA, OK, UT, WA</p>
87	<p>Yes: AK, AL, AR, AZ, CT, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY No: CA, CO, FL, MA, NJ, WA Skipped: UT</p>
88	<p>No: AK, AL, AR, AZ, CT, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, FL, MA, UT, WA</p>
89	<p>No: AL, AR, AZ, DE, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, FL, MA, NJ, UT, WA</p>
90	<p>Not stated: AZ, CT, ID, LA, MI, MO, MS, ND, NE, RI, SD, TX, VT, WI, WY From the inside edge of the jaws when the trap is in the open/set position: AK, AL, DE, GA, IL, IN, MD, ME, MN, MT, NC, NY, OH, OK, SC, WV Midway across the jaws when the trap is in the open/set position: 0 From the outside edge of the jaws when the trap is in the open/set position: IA, KS, NV, PA, TN Other (please specify): See survey question.</p>

	Skipped: CA, CO, FL, MA, NJ, UT, WA
91	No: RI Yes: AK, AL, AR, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, ND, NE, NH, NM, NV, OH, OK, OR, PA, SC, SD, TN, TX, VA, WV, WY Yes, but with restrictions (please explain): See survey question. Skipped: CA, CO, FL, MA, NJ, UT, WA
92	No: None Yes: AK, AL, AR, AZ, IA, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes, but with restrictions (please explain): See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA
93	No: AZ, NM, SC Yes: AK, AL, AR, IA, KS, KY, LA, MD, ME, MI, MN, MS, MT, NC, ND, NE, NH, NY, OH, OK, OR, PA, SD, TN, VT, WI, WV Yes, but with restrictions (please explain): See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA
94	No: AZ, SC Yes: AK, AL, AR, IA, ID, IN, KS, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NM, NY, OH, OK, OR, PA, SD, TN, VA, VT, WI, WV, WY Yes, but with restrictions (please explain): See survey question. Skipped: CA, CO, DE, FL, KY, MA, NJ, RI, UT, WA
95	No: CT, GA, IL, ME, MS, NH, OK, SC, WY Yes: AK, AR, IA, IN, KS, LA, MD, MI, MN, MO, MT, NC, ND, NE, OH, PA, SD, TN, VT, WV Yes, but with restrictions (please explain): See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA
96	No: None Yes: AK, AL, AR, AZ, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes, but with restrictions (please explain): See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA
97	No: AK, AL, AR, CT, GA, IA, IL, IN, KS, KY, LA, MD, MI, MN, MS, NC, ND, NH, SC, TN, TX, VA, VT, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA
98	No: AK, AL, AR, CT, GA, IA, IN, KS, LA, MD, MN, MO, MS, MT, NC, ND, NH, NM, NV, NY, OH, OK, PA, SC, SD, TN, VT, WI, WY

	<p>Yes: See question. Skipped: CA, CO, DE, FL, MA, ME, NJ, RI, UT, WA</p>
99	<p>Yes: AK, AR, GA, IA, ID, IL, IN, KS, LA, MD, MI, MN, MO, MS, MT, NE, NH, NM, NV, OR, SC, TX, VA, VT, WI, WY No: AL, AZ, CT, ME, NC, ND, NY, OH, OK, PA, SD, TN, WV Skipped: CA, CO, DE, FL, KY, MA, NJ, RI, UT, WA</p>
100	<p>Open-ended response: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA</p>
101	<p>Yes: AK, GA, ID, MN, MS, MT, ND, NH, SC, SD, TX, WY No: AL, AR, AZ, CT, IA, IL, IN, KS, KY, LA, MD, ME, MI, MO, NC, NE, NM, NV, NY, OH, OK, OR, PA, TN, VA, VT, WI, WV Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA</p>
102	<p>No: LA, MS, ND, NE, NV, SD, TX, VT, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, MO, NJ, RI, UT, WA</p>
103	<p>No: AK, AL, AR, AZ, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA</p>
104	<p>No: AK, AL, AR, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MO, MS, MT, ND, NE, NM, NV, NY, OK, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA</p>
105	<p>No: AK, AL, AR, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NM, NV, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA</p>
106	<p>No: AK, AL, AR, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: AZ, CT, OK Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA</p>
107	<p>No: AK, AL, GA, IA, ID, IL, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, ND, NE, NH, NY, OH, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA</p>
108	<p>Open-ended response: See survey question. Skipped: AK, AL, CA, CO, DE, FL, GA, ID, IL, KS, KY, LA, MA, ME, MI, MN, MO, MS, MT, ND, NE, NH, NJ, NY, OH, PA, RI, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY</p>
109	<p>No: AK, AL, AZ, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TX, VA, VT, WI, WV, WY Yes: See survey question.</p>

	Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA
110	No: AK, AL, AR, AZ, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA
111	No: AK, AL, AR, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NM, NV, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, RI, UT, WA
112	Yes: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY No: RI Skipped CA, CO, DE, FL, MA, NJ, UT, WA
113	Yes: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY No: RI Skipped CA, CO, DE, FL, MA, NJ, UT, WA
114	Yes: AK, AL, AR, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NV, NY, OH, OK, OR, PA, SD, TN, TX, VA, VT, WI, WV, WY No: AZ, NM, RI, SC Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
115	Yes: AK, AL, AR, CT, GA, ID, IN, KS, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SD, TN, TX, VA, VT, WI, WV, WY No: AZ, RI, SC Skipped: CA, CO, DE, FL, IA, IL, KY, MA, NJ, UT, WA
116	Yes: AK, AL, AR, IA, ID, IN, KS, KY, LA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NM, NV, NY, OH, OR, PA, SD, TN, TX, VA, VT, WI, WV No: AZ, CT, GA, IL, MS, NH, OK, RI, SC, WY Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
117	Yes: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WI, WV, WY No: RI Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
118	No: AK, AL, AR, CT, GA, IA, IL, IN, KS, KY, LA, MI, MN, MS, NC, ND, NH, NM, NV, OH, OR, RI, SC, TN, TX, VA, VT, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, MO, NJ, UT, WA
119	No: AK, AL, AR, CT, GA, IA, ID, IL, IN, KS, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN,

	VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
120	Open-ended response: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
121	No: AZ, RI Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
122	Open-ended response: See survey question. Skipped: AZ, CA, CO, DE, FL, MA, NJ, UT, WA
123	Yes: AK, GA, ID, KS, ME, MN, MS, MT, ND, NH, NM, SC, SD, TN, TX, VA, WI, WY No: AL, AR, AZ, CT, IA, IL, IN, LA, MD, MI, MO, NC, NE, NV, NY, OH, OK, OR, PA, RI, VT, WV Skipped: CA, CO, DE, FL, KY, MA, NJ, UT, WA
124	No: AL, GA, IA, ID, IN, KS, KY, LA, ME, MI, MO, MS, MT, NC, ND, NE, NH, NV, RI, SD, TX, VA, VT, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
125	No: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
126	No: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
127	No: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, MI, NJ, UT, WA
128	Yes: MO, OH, OK, TN, VT, WI No: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MS, MT, NC, ND, NE, NH, NM, NV, NY, OR, PA, RI, SC, SD, TX, VA, WV, WY Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
129	No: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NY, OH, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
130	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS,

	KY, LA, MA, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, PA, RI, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY
131	No: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: See survey question. Skipped: CA, CO, DE, FL, MA, NC, NJ, UT, WA
132	No: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: None Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
133	No: AK, AL, AR, AZ, CT, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Yes: None Skipped: CA, CO, DE, FL, MA, NJ, UT, WA
134	Yes: AK, AL, AR, AZ, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY No: CO, CT, MA, OK, RI, VT, WA Skipped: DE, UT
135	No: AK, AL, AR, AZ, CA, FL, IA, ID, IL, IN, KS, KY, LA, MD, MN, MO, MS, ND, NE, NJ, NM, NV, OH, OR, SC, SD, TN, TX, VA, WV, WY Yes: See survey question. Skipped: CO, CT, DE, MA, OK, RI, UT, VT, WA
136	Yes: MO, NJ, OR, PA No: AK, AL, AR, AZ, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MS, MT, NC, ND, NE, NH, NM, NV, OH, SC, SD, TN, TX, VA, WI, WV, WY Skipped: CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
137	No: AK, AL, AR, AZ, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, MN, MO, MS, MT, NC, NE, NH, NJ, NM, NV, OH, OR, SC, SD, TN, TX, VA, WV, WY Yes: See survey question. Skipped: CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
138	Yes: AK, AR, AZ, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, ND, NE, NJ, NM, NV, OH, OR, PA, SD, TN, TX, VA, WI, WV, WY No: AL, IL, ME, NC, NH, SC Skipped: CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
139	Yes: AK, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MN, MO, MS, MT, NC, ND, NE, NM, NV, OH, OR, SD, TN, TX, VA, WI, WV, WY No: See survey question. Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA

140	<p>No: None</p> <p>Yes: AK, AR, FL, ID, KS, KY, LA, MD, MN, MO, MS, MT, ND, NE, NJ, NM, NV, OH, OR, PA, SD, TN, TX, VA, WV, WY</p> <p>Yes, but with restrictions (please explain): See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
141	<p>No: AZ, CA, GA, IN, MI, NM, OH</p> <p>Yes: AK, AR, FL, IA, KS, KY, LA, MD, MS, MT, NJ, OR, PA, TN, WI, WV, WY</p> <p>Yes, but with restrictions (please explain): See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
142	<p>No: AZ, CA, GA, MI, OH</p> <p>Yes: AK, AR, FL, ID, IN, KS, LA, MD, MO, MS, MT, ND, NE, NM, NV, OR, PA, TN, TX, WI, WV, WY</p> <p>Yes, but with restrictions (please explain): See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, KY, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
143	<p>No: AR, AZ, GA, MS, MT, WY</p> <p>Yes: AK, FL, IN, KS, LA, MD, MO, ND, NJ, OH, OR, PA, SD, TN, WI, WV</p> <p>Yes, but with restrictions (please explain): See survey question.</p> <p>Skipped: AL, CA, CO, CT, DE, IL, MA, ME, NY, OK, OR, RI, SC, UT, VT, WA</p>
144	<p>No: AR, PA</p> <p>Yes: AK, AZ, FL, ID, IN, KS, KY, LA, MD, MO, MS, MT, ND, NE, NJ, NV, OH, OR, SD, TN, TX, WV, WY</p> <p>Yes, but with restrictions (please explain): See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
145	<p>No: GA, ID, MT, PA</p> <p>Yes: AK, AZ, FL, IA, IN, KS, LA, MD, MI, MO, MS, ND, NJ, NV, OH, OR, TN, TX, WI, WV, WY</p> <p>Yes, but with restrictions (please explain): See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
146	<p>No: AK, AR, AZ, FL, GA, IA, ID, IN, KS, KY, LA, MD, MN, MS, MT, NC, ND, NE, NJ, NM, NV, OH, OR, SD, TN, TX, VA, WV, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
147	<p>No: AK, AR, FL, ID, IN, KS, KY, LA, MI, MS, NC, ND, NJ, OH, TN, TX, VA, WI, WV, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, MO, NH, NY, RI, SC, UT, VT, WA</p>
148	<p>No: AK, CA, FL, GA, IA, IN, KS, LA, MD, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NV, OH, PA, SD, TN, TX, WI, WV, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
149	<p>Open-ended response: See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, TX, UT, VT, WA</p>

150	<p>Yes: AK, AR, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NV, OH, OR, PA, SD, TN, TX, VA, WI, WV, WY</p> <p>No: AZ</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
151	<p>Yes: AK, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MN, MS, MT, NC, ND, NE, NJ, NM, NV, OR, SD, TN, TX, VA, WV, WY</p> <p>No: AR, AZ, MI, MO, OH, PA, WI</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
152	<p>No: AK, AZ, CA, FL, GA, IA, ID, KS, LA, MD, MN, MS, NC, ND, NE, NM, NV, OR, SD, TN, TX, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
153	<p>Yes: AK, CA, FL, GA, IA, ID, KS, LA, MD, MN, MS, NC, ND, NE, NM, NV, OR, SD, TN, TX, VA, WY</p> <p>No: AR, AZ, IN, KY, MI, MO, NJ, OH, PA, WI, WV</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, MT, NH, NY, OK, RI, SC, UT, VT, WA</p>
154	<p>Yes: AK, AR, CA, FL, GA, ID, KS, LA, MD, MS, ND, NE, NM, NV, OR, TN, TX, VA, WY</p> <p>No: AZ, IA, IN, KY, MI, MN, MO, NC, NJ, OH, PA, SD, WI, WV</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, MT, NH, NY, OK, RI, SC, UT, VT, WA</p>
155	<p>No: AK, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MS, NC, NE, NM, NV, OR, TX, VA, WV, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
156	<p>No: AK, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MN, MS, NC, ND, NE, NM, NV, OH, OR, TN, TX, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
157	<p>Open-ended response: See survey question.</p> <p>Skipped: AK, AL, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MN, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, RI, SC, TN, TX, UT, VT, WA</p>
158	<p>No: AK, AZ, CA, FL, GA, ID, KS, KY, LA, MD, MS, MT, NC, NE, NM, NV, OR, SD, TN, TX</p> <p>Yes: See survey question.</p> <p>Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA</p>
159	<p>Open-ended response: See survey question.</p> <p>Skipped: AK, AL, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, KS, KY, LA, MA, ME, MN, MS, MT, NC, NE, NH, NM, NV, NY, OK, OR, RI, SC, TN, TX, UT, VT, WA</p>

160	Open-ended response: See survey question. Skipped: AK, AL, AZ, CA, CO, CT, DE, FL, GA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MS, MT, NC, NE, NH, NM, NV, NY, OK, OR, RI, SC, SD, TN, TX, UT, VT, WA
161	No: AK, AR, AZ, CA, FL, GA, IA, IN, KS, KY, LA, MD, MN, MS, NC, NE, NJ, NM, NV, OR, TN, TX Yes: See survey question. Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA
162	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, ME, MN, MS, NC, NE, NH, NJ, NM, NV, NY, OK, OR, RI, SC, TN, TX, UT, VT, WA
163	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, ME, MN, MS, NC, NE, NH, NJ, NM, NV, NY, OH, OK, OR, RI, SC, TN, TX, UT, VT, WA
164	No: AK, AR, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MN, MS, MT, NC, ND, NE, NM, NV, OH, OR, TN, TX, VA, WV, WY Yes: See survey question. Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA
165	Yes: IA, MI, MO, MT, ND, OH, PA, SD, WI, WV, WY No: AK, AR, AZ, CA, FL, GA, ID, IN, KS, KY, LA, MD, MN, MS, NC, NE, NJ, NM, NV, OR, TN, TX, VA Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA
166	No: AK, AZ, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MI, MN, MS, MT, NC, ND, NE, NJ, NM, NV, OH, OR, SD, TN, TX, VA, WV, WY Yes: See survey question. Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA
167	Open-ended response: See survey question. Skipped: AK, AL, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, RI, SC, SD, TN, TX, UT, VA, WA, WV, WY
168	No: AK, AR, AZ, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MO, MS, MT, NC, NE, NM, NV, OH, PA, SD, TN, TX, WY Yes: See survey question. Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, OR, RI, SC, UT, VT, WA
169	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MO, MS, MT, NC, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, WA, WY
170	No: AK, AR, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, MI, MN, MS, MT, NC, ND, NE, NJ, NM, NV, OH, OR, PA, SD, TX, VA, WI, WV, WY Yes: See survey question. Skipped: AL, CO, CT, DE, IL, MA, ME, NH, NY, OK, RI, SC, UT, VT, WA
171	Yes: AK, AL, AR, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI,

	<p>MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY</p> <p>No: AZ</p> <p>Skipped: CO, CT, DE, MA, NY, OK, RI, UT, VT, WA</p>
172	<p>Yes: ME, MO, NJ</p> <p>No: AK, AL, AR, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MS, MT, ND, NE, NH, NM, NV, OH, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY</p> <p>Skipped: AZ, CA, CO, CT, DE, MA, NC, NY, OK, RI, UT, VT, WA</p>
173	<p>Yes: AK, AL, AR, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY</p> <p>No: None</p> <p>Skipped: AZ, CA, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA</p>
174	<p>Yes: AK, AL, AR, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NV, OR, PA, SD, TN, TX, VA, WI, WV, WY</p> <p>No: NM, OH, SC</p> <p>Skipped: AZ, CA, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA</p>
175	<p>Yes: AK, AL, AR, FL, GA, IA, ID, IL, IN, KS, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OR, PA, SD, TN, TX, VA, WI, WV, WY</p> <p>No: OH, SC</p> <p>Skipped: AZ, CA, CO, CT, DE, KY, MA, NY, RI, UT, VT, WA</p>
176	<p>Yes: AK, AL, FL, IA, ID, IN, KS, KY, LA, MD, ME, MI, MN, MO, NC, ND, NE, NJ, NV, OH, OR, PA, SD, TN, TX, VA, WI, WV, WY</p> <p>No: AR, GA, IL, MS, MT, NH, NM, SC</p> <p>Skipped: AZ, CA, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA</p>
177	<p>Yes: AK, AL, AR, FL, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, ND, NE, NJ, NM, NV, OH, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY</p> <p>No: GA, ME, MT, NH</p> <p>Skipped: AZ, CA, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA</p>
178	<p>No: AK, AL, AR, FL, GA, IA, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, NC, ND, NH, NJ, NV, OH, OR, SC, TN, VA, WI, WV, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA</p>
179	<p>No: AK, AL, AR, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY</p> <p>Yes: None</p> <p>Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA</p>
180	<p>No: AL, AR, FL, GA, IA, IN, KS, LA, MD, MN, MO, MT, NC, ND, NE, NH, NJ, NV, OH, OR, PA, SC, SD, TN, TX, WI, WV, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AZ, CA, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA</p>

181	Open-ended response: See survey question. Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
182	No: MO Yes: See survey question. Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
183	Open-ended response: See survey question. Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
184	No: AK, AL, AR, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MO, MS, MT, NC, ND, NE, NJ, NM, NV, OH, OR, PA, SC, TN, TX, VA, WV, WY Yes: See survey question. Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
185	Yes: AK, AL, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY No: AR, MO, OH Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
186	Yes: AK, AL, AR, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, MN, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY No: ME, MI, MO Skipped: AZ, CA, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
187	No: AK, AL, AR, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OR, SC, SD, TN, TX, VA, WI, WY Yes: See survey question. Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
188	Yes: AK, CA, FL, GA, IA, ID, KS, KY, LA, MD, ME, MI, MN, MS, MT, NC, ND, NE, NH, NM, NV, OR, SC, SD, TN, TX, VA, WI, WY No: AR, IL, IN, MO, NJ, OH, PA, WV Skipped: AL, AZ, CO, CT, DE, MA, NY, OR, RI, UT, VT, WA
189	No: AK, AL, AR, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, ME, MS, MT, NC, NE, NH, NM, NV, OR, SC, SD, TX, VA, WI, WV, WY Yes: See survey question. Skipped: AZ, CO, CT, DE, MA, MO, NY, OR, RI, UT, VT, WA
190	No: AK, AL, AR, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, ME, MS, MT, NC, NE, NH, NM, NV, OR, SC, SD, TX, VA, WI, WV, WY Yes: See survey question. Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
191	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IN, KS, KY, LA, MA, ME, MI, MN, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, RI, SD, TN, TX, UT, VA, VT, WA, WI, WY
192	No: AK, AL, AR, CA, FL, GA, IA, IN, KS, KY, LA, MD, ME, MI, MS, MT, NC, ND, NE, NH, NM, NV, OR, PA, SC, SD, TN, TX, VA, WI Yes: See survey question.

	Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
193	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IN, KS, KY, LA, MA, ME, MI, MT, NC, ND, NE, NH, NM, NV, NY, OK, OR, PA, SD, TN, TX, UT, VA, VT, WA, WI
194	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IN, KS, KY, LA, MA, ME, MI, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, RI, SD, TN, TX, UT, VA, VT, WA, WI
195	No: AK, AL, AR, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NV, OR, PA, SC, TN, TX, VA, WI Yes: See survey question. Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
196	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NV, NY, OK, OR, PA, RI, TN, TX, UT, VA, VT, WA, WI
197	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MN, MS, NC, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, TN, TX, UT, VA, VT, WA, WI
198	No: AK, AL, AR, CA, FL, GA, IA, ID, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NM, NV, OH, OR, PA, SC, TN, TX, VA, WI, WV, WY Yes: See survey question. Skipped: AZ, CO, CT, DE, MA, NH, NY, OK, RI, UT, VT, WA
199	Yes: AR, IA, MI, ND, OH, SD, WI, WV, WY No: AK, AL, CA, FL, GA, ID, IL, IN, KS, KY, LA, MD, ME, MN, MO, MS, MT, NC, NE, NH, NJ, NM, NV, OR, PA, SC, TN, TX, VA Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
200	No: AK, AL, AR, CA, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, ME, MN, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OR, PA, SC, SD, TX, VA, WI, WV, WY Yes: See survey question. Skipped: AZ, CO, CT, DE, MA, NY, OK, RI, UT, VT, WA
201	Yes: AK, AL, AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY No: None Skipped: DE, UT
202	No: AK, AL, AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY Yes: None Skipped: DE, UT
203	Yes: None

	No: AL, AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY Skipped: AK, DE, UT
204	Yes: AL, AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY No: None Skipped: AK, DE, UT
205	Yes: AL, AR, AZ, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NV, NY, OH, OK, OR, PA, RI, SD, TN, TX, VA, VT, WI, WV, WY No: CA, NM, SC, WA Skipped: AK, DE, UT
206	Yes: AL, AR, AZ, CO, CT, FL, GA, IA, ID, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SD, TN, TX, VA, VT, WA, WI, WV, WY No: SC Skipped: AK, CA, DE, KY, UT
207	Yes: AL, AR, AZ, CT, FL, IA, ID, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NJ, NM, NV, NY, OH, OR, PA, SD, TN, TX, VA, VT, WA, WI, WV No: CO, GA, IL, MS, NH, OK, RI, SC, WY Skipped: AK, CA, DE, UT
208	No: AL, AR, AZ, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MI, MN, MS, MT, NC, ND, NH, NJ, NV, RI, SC, TN, TX, VA, VT, WA, WV, WY Yes: See survey question. Skipped: AK, DE, UT
209	No: AL, AR, CA, CO, CT, FL, GA, IA, ID, KS, LA, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY Yes: See survey question. Skipped: AK, DE, IN, UT
210	Open-ended response Skipped: AK, DE, UT
211	Yes: AL, AR, CT, FL, GA, IA, ID, IN, KS, KY, LA, MD, MN, MS, MT, NC, ND, NE, NH, NM, NV, OH, OK, OR, RI, SC, SD, TN, TX, VA, VT, WV, WY No: AZ, CO, IL, MA, ME, MI, MO, NJ, NO, WA, WI Skipped: AK, CA, DE, NY, UT
212	Yes: AL, AR, CA, CT, FL, GA, IA, ID, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, OH, OK, OR, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY No: AZ, CO, IL, MA, PA, WA Skipped: AK, DE, NY, UT
213	Yes: AZ, CO, ID, MT, ND, NM, NV, SD, TX, WA, WY

	No: AK, AL, AR, CA, CT, FL, GA, IA, IL, IN, KS, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SC, TN, VA, VT, WI, WV, WY Skipped: DE, KY, UT
214	Yes: AR, AZ, IA, ID, KS, MT, NM, OK, OR, TX, No: AK, AL, CA, CO, CT, FL, GA, IN, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NV, OH, PA, RI, SC, SD, TN, VA, VT, WA, WI, WV, WY Skipped: DE, IL, KY, MO, NY, UT
215:	Yes: NM, TX No: AR, AZ, IA, ID, KS, MO, MT, OK, OR Skipped: AK, AL, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NV, NY, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY
216	Yes: AR, AZ, IA, ID, KS, MO, MT, NM, OK, OR, TX No: None Skipped: AK, AL, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NV, NY, OH, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY
217	Yes: NM, TX No: AR, AZ, IA, ID, KS, MO, MT, OK, OR Skipped: AK, AL, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NV, NY, OH, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY
218	Yes: AR, IA, ID, KS, MO, MT, NM, OK, OR, TX No: AZ Skipped: AK, AL, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NV, NY, OH, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY
219	No: AR, AZ, IA, ID, KS, MO, MT, OK, OR Yes: See survey question. Skipped: AK, AL, CA, CO, CT, DE, FL, IL, IN, KY, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NV, NY, OH, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY
220	No: MO, OK Yes: See survey question. Skipped: AK, AL, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NV, NY, OH, PA, RI, SC, SD, TN, UT, VA, VT, WA, WI, WV, WY
221	Yes: AK, AR, AZ, CA, CO, FL, GA, ID, KY, MA, MD, ME, MI, MN, MT, NC, NH, NJ, NM, NV, NY, OK, OR, PA, SC, TN, VA, VT, WA, WI, WV, WY No: AL, CT, IA, IL, IN, KS, LA, MO, MS, ND, NE, OH, RI, SD, TX Skipped: DE, UT
222	Yes: AK, AZ, IA, ID, KS, ME, MT, OR, WA No: AL, AR, CA, CO, CT, FL, GA, IN, KY, LA, MA, MD, MI, MN, MS,

	NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY Skipped: DE, IL, MO, UT
223	Yes: None No: AZ, IA, ID, KS, ME, MO, MT, OR, WA Skipped: AK, AL, AR, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, MI, MN, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY
224	Yes: AZ, IA, ID, KS, MO, MT, OR, WA No: ME Skipped: AK, AL, AR, CA, CO, CT, DE, FL, GA, IL, IN, LA, MA, MD, ME, MI, MN, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY
225	Yes: ME No: AZ, IA, ID, KS, MO, MT, OR, WA Skipped: AK, AL, AR, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, MI, MN, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY
226	Yes: IA, ID, KS, ME, MO, MT, OR, WA No: AZ Skipped: AK, AL, AR, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, MI, MN, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY
227	No: AZ, IA, ID, KS, MO, MT, OR, WA Yes: See survey question. Skipped: AK, AL, AR, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, MI, MN, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY
228	No: None Yes: See survey question. Skipped: AK, AL, AR, CA, CO, CT, DE, FL, GA, IL, IN, KY, LA, MA, MD, MI, MN, MS, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY
229	Yes: AL, AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY No: None Skipped: AK, DE, UT
230	No: ID, MT Yes: See survey question. Skipped: AK, DE, UT
231	Yes: AL, AR, AZ, CA, CO, CT, FL, GA, IA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WI, WV, WY No: KS, MT, ND Skipped: AK, DE, ID, UT

232	<p>Yes: AL, CT, FL, KY, LA, MA, MI, MN, MS, NH, NJ, NM, NY, OK, PA, RI, SC, SD, VT, WV</p> <p>No: AR, AZ, CA, CO, GA, IA, IL, IN, KS, MD, ME, MO, NC, ND, NE, NV, OH, OR, TN, TX, VA, WA, WI, WY</p> <p>Skipped: AK, DE, ID, MT, UT</p>
233	<p>Open-ended response: See survey question.</p> <p>Skipped: AK, AL, AR, CT, DE, FL, ID, IL, IN, KS, ME, MO, MS, MT, NC, NH, NJ, NV, OH, OR, SC, TN, TX, UT, WA, WI, WY</p>
234	<p>Yes: AL, AR, AZ, CO, CT, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV, WY</p> <p>No: CA, FL, ID, MT, NC, WA</p> <p>Skipped: AK, DE, UT</p>
235	<p>No: WA, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AK, DE, UT</p>
236	<p>No: FL, LA, MS, MT, OH, TN, WA, WI</p> <p>Yes: See survey question.</p> <p>Skipped: AK, AL, DE, UT</p>
237	<p>No: AL, AR, AZ, CA, CO, FL, GA, IA, ID, IL, IN, KY, MO, MS, NM, NV, OH, OK, OR, SD, TN, TX, VA, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AK, DE, UT</p>
238	<p>Tags are mailed: FL, GA, IA, IL, KY, LA, MS, NC, PA, SC, VA</p> <p>Tags must be applied to the carcass by a representative of your department: AL, AR, AZ, CO, CT, IA, ID, IN, KS, MA, MD, ME, MI, MN, MO, MT, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, SD, TN, TX, VA, VT, WA, WI, WV, WY</p> <p>Other (please specify): See survey question.</p> <p>Skipped: AK, CA, DE, UT</p>
239	<p>No: AL, CA, CO, FL, GA, ID, LA, MA, MS, NE, NH, NM, OK, SC, TN, TX, VA, WA, WY</p> <p>Yes: See survey question.</p> <p>Skipped: AK, DE, UT</p>
240	<p>Open-ended response: See survey question.</p> <p>Skipped: AK, AL, CA, CO, DE, FL, GA, ID, LA, MA, MS, NE, NH, NM, OK, TN, TX, UT, VA, WA, WY</p>
241	<p>No: AL, AR, AZ, CA, CO, FL, GA, LA, MA, MO, MS, NC, NE, NM, NV, NY, PA, SC, TN, TX, VA, VT, WA</p> <p>Yes: See survey question.</p> <p>Skipped: AK, DE, UT</p>
242	<p>Yes: MN, TN</p> <p>No: CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, ND, NH, NJ, OH, OK, OR, RI, SC, SD, WI, WV, WY</p> <p>Skipped: AK, AL, AR, AZ, CA, DE, MS, MT, NC, NE, NM, NV, NY, PA, TX, UT, VA, VT, WA</p>

243	Open-ended response: See survey question. Skipped: AK, AL, AR, AZ, CA, CO, CT, DE, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY
244	No: FL, ME, TN, TX Yes: See survey question. Skipped: AK, DE, UT
245	Open-ended response: See survey question. Skipped: AK, DE, FL, ME, TN, TX, UT
246	Yes: AR, AZ, CT, FL, ID, KY, LA, MA, ME, MI, MN, MT, ND, NJ, NM, NV, NY, OK, OR, RI, TN, TX, VA, VT, WA, WI, WY No: CA, CO, GA, IA, IN, KS, MD, MO, MS, NC, NE, OH, PA, SC, SD, WV Skipped: AK, AL, DE, IL, NH, UT
247	Open-ended response: See survey question. Skipped: AK, AL, CA, CO, DE, GA, IA, IL, IN, KS, MD, MO, NE, NH, OH, PA, SC, SD, UT, WV

Appendix B.

Survey Question Comparisons between 1995, 2007, and 2016

Trapper Education: In 2016, there were 34 states that offered a trapper education program in their state. Prior surveys questioned how many states required mandatory trapping education class for all trappers: in 1995, 4 states offered classes, and in 2007, the number increased to 6 states.

Mandatory Trapper Education: In 2016, there were 21 states in which trapper education was mandatory for some trappers. In 2007, 17 states required mandatory trapper education for first time trappers, increasing from 15 states in 1995.

BMPs: In 2016, BMPs for Trapping in the US were used in 29 state trapper education programs, up from 28 in 1995.

AFWA Trapper Education: In 2016, there were 27 states that used the Association of Fish and Wildlife Agencies' National Trapper Education curriculum in the state trapper education program in some way. In 2007, 31 states used the AFWA curriculum.

Bodygrip Traps: In 2007, 42 states allowed the use of bodygrip traps. In 2016, the number increased to 43 states.

Foothold Traps: In 1995, there were 3 states that completely prohibited the use of foothold traps. In 2007, the number had risen to 5 states. In 2016, 6 states answered no as to whether or not some foothold traps were allowed in the state.

Snares: In 2016, there were 40 states that allowed the use of snares. Prior surveys indicated that in 1995 there were 39 states that allow snares, while in 2007, there were only 38 states.

Snare Education: Over the 3 iterations of the survey, there were only 4 states that required trappers who set snares to take a snare-specific education class prior to use.

Neck/Body Snares: In 2016, there were 33 states that considered the use of neck/body snares set on land as live restraining devices to be legal, compared to prior surveys that noted 28 states (2007), and 31 states (1995).

FURBEARER TRAPPING AND HUNTING SEASONS BY REGION

THE TRAPPING BROCHURE IS NO LONGER IN PRINT. THESE RULES APPLY.

Furbearer Seasons

Panhandle Region: Benewah, Bonner, Boundary, Koontai, and Shoshone counties	
Badger*	July 1 - June 30 Year-round
Beaver	November 1 - March 31
Bobcat*	December 14 - February 16
Fox*	October 15 - January 31
Marten	November 1 - January 31
Mink	November 1 - March 31
Muskrat	November 1 - March 31
Otter^	November 1 - March 31

Clearwater Region: Clearwater, Idaho, Latah, Lewis, and NezPerce counties	
Badger*	July 1 - June 30 Year-round
Beaver	November 1 - March 31
Bobcat*	December 14 - February 16
Fox*	October 15 - January 31
Marten	November 1 - January 31
Mink	November 1 - March 31
Muskrat	November 1 - March 31
Otter^	November 1 - March 15

Exceptions: Beaver

Idaho County: Within the following drainages: Big Cr. upstream from Monumental Cr., Chamberlin Cr., mainstem of Middle Fk. Clearwater R. from Maggie Cr. upstream, mainstem of Lochsa R., Secesh R. above the Long Gulch Bridge, and mainstem of Selway R - **CLOSED**.

Nez Perce County: All northern tributaries to the Salmon River downstream from but excluding Maloney Cr., and all tributaries to the Snake River below the mouth of the Salmon River to the Clearwater River, excluding the Clearwater River drainage - **CLOSED**.

Exceptions: Otter

Mainstem of the Clearwater R., mainstem of the Middle Fork of the Clearwater R., mainstem of the Snake R., from Lewiston upstream to Hells Canyon Dam, and the mainstem of the main Salmon R. - **CLOSED**.

Southwest Region: Ada, Adams, Boise, Canyon, Elmore, Gem, Owyhee, Payette, Valley, and Washington counties.	
Badger*	July 1 - June 30 Year-round
Beaver	November 1 - March 31
Bobcat*	December 14 - February 16
Fox*	July 1 - June 30 Year-round
Marten	November 1 - January 31
Mink	November 1 - March 31
Muskrat	November 1 - March 31
Otter^	November 1 - March 15

Exceptions: Beaver

Ada & Boise counties: The Boise River WMA - **CLOSED**.

Elmore County: All public lands within the following drainages. Bear Cr. (trib. to Feather R.), Case Cr., Fall Cr. upstream from and including Meadow Cr., Clover Cr., King Hill Cr., Lake Cr. (trib. to Fall Cr.) but flows into Anderson Ranch Reservoir, Wilson Cr., Little Wilson Cr. and Elk Cr. on Wilson Flat north of Anderson Ranch Dam, Hunter Cr., Smith Cr. upstream from Washboard Cr., Syrup Cr., Trinity Cr., Willow Cr. in the Danskin Mts. (trib. to S. Fk. Boise R.), AND all lands within the Boise River WMA - **CLOSED**.

Gem County: Squaw Cr. above the Ola Bridge - **CLOSED**.

Valley County: Within the following drainages. Big Cr. upstream from Monumental Cr., Johnson Cr. upstream from Landmark, S. Fk. Salmon R. upstream from the fish trap near the mouth of Cabin Cr., Bear Valley Cr., and Sulphur Cr. - **CLOSED**.

Washington County: Raft Creek, Dennet Creek, Wolf Creek, Trail Creek, Sumac Creek, Thorn Creek, and Rock Creek on the Rocking M Ranch Conservation easement in Unit 31 - **CLOSED**.

Exceptions: Otter

Payette River: From the confluence of the Middle Fork and South Fork Payette R. downstream to Banks; North Fork of the Payette R. from Cabarton Bridge downstream to Banks; and from Banks downstream to the confluence with the Snake River - **CLOSED**.

Boise River: From Lucky Peak Dam to the confluence with the Snake River - **CLOSED**.

Snake River: From Grandview to Farewell Bend - **CLOSED**.

* Indicates species can also be hunted.

^ All areas closed to beaver trapping are closed to otter trapping.

Magic Valley Region: Blaine, Camas, Cassia, Gooding, Jerome, Lincoln, Minidoka, and Twin Falls counties

Badger*	July 1 - June 30 Year-round
Beaver	November 1 - March 31
Bobcat*	December 14 - February 16
Fox*	July 1 - June 30 Year-round
Marten	November 1 - January 31
Mink	November 1 - March 31
Muskrat	November 1 - March 31
Otter^	November 1 - March 15

Exceptions: Beaver

Blaine County: All public lands within the following drainages. Big Wood River above Magic Reservoir Dam, Copper Cr. (trib. to Muldoon Cr.); all lands within Little Fish Cr. - **CLOSED**.

Camas County: All public lands within the following drainages. Big Deer Cr., Corral Cr. above Baseline Road, Elk Cr., Little Smoky Cr. (except Basalt Cr. is open), and Willow Cr. - **CLOSED**.

Elmore County: All public lands within the following drainages. Bear Cr. (trib. to Feather R.), Case Cr., Fall Cr. upstream from and including Meadow Cr., Clover Cr., King Hill Cr., Lake Cr. (trib. to Fall Cr.) but flows into Anderson Ranch Reservoir, Wilson Cr., Little Wilson Cr. and Elk Cr. on Wilson Flat north of Anderson Ranch Dam, Hunter Cr., Smith Cr. upstream from Washboard Cr., Syrup Cr., Trinity Cr., Willow Cr. in the Danskin Mts. (trib. to S. Fk. Boise R.), AND all lands within the Boise River WMA - **CLOSED**.

Gooding County: All public lands within the following drainages. Black Canyon Cr., and Thorn Cr. - **CLOSED**.

Exceptions: Mink

Gooding County: Hagerman WMA, February 15-February 28.

Exceptions: Muskrat

Gooding County: Hagerman WMA, February 15-February 28.

*To see interactive maps of furbearer hunting and trapping exceptions, please visit the IDFG website:
idfg.idaho.gov/trap*

* Indicates species can also be hunted.

^ All areas closed to beaver trapping are closed to otter trapping.

To apply for controlled beaver trapping permits see page 33.

Southeast Region: Bannock, Bear Lake, Bingham, Caribou, Franklin, Oneida, and Power counties

Badger*	July 1 - June 30 Year-round
Beaver	October 22 - April 15
Bobcat*	December 14 - February 16
Fox*	July 1 - June 30 Year-round
Marten	November 1 - January 31
Mink	October 22 - April 15
Muskrat	October 22 - April 15
Otter^	October 22 - March 15

Exceptions: Beaver

Bannock County: Cherry Cr. (trib. to Marsh Cr.), Cottonwood Cr. drainage, Dempsey Cr. above cattleguard, Mink Cr. drainage, and Gibson Jack Cr. - **CLOSED**.

Bear Lake County: Pearl Cr. drainage - **CLOSED**.

Bingham County: Public lands (Idaho Department of Lands, U.S. Forest Service, and Bureau of Land Management properties) within the Willow Creek drainage. - **CLOSED**.

Caribou County: Dike Lake, Toponce Cr. drainage on National Forest lands, and Pebble Cr. drainage - **CLOSED**.

Franklin County: Logan R. drainage including the Beaver Cr. and White's Cr. drainages - **CLOSED**. Birch Creek Drainage above the Forest Service boundary - **CLOSED**.

Exceptions: Marten

Bear Lake & Franklin Counties: **CLOSED**

Exceptions: Otter

Portneuf R. downstream from Lava Hot Springs: **CLOSED**

Controlled Beaver Trapping Unit Permits

Permit Number	Season Dates and Unit Descriptions	No. of Beaver
201	October 22 - April 15 That portion of Mink Creek drainage in Bannock County, except the East Fork Mink Cr. and West Fork Mink Cr.	5
202	October 22 - April 15 Pebble Creek drainage in Caribou County.	5
203	October 22 - April 15 Toponce Creek drainage in Caribou County.	5
204	October 22 - April 15 Pearl Creek in Bear Lake County	5
205	October 22 - April 15 Logan River drainage, including Beaver Creek and Whites Creek Drainage	5
206	October 22 - April 15 That portion of Unit 74 in the Cottonwood Creek drainage in Bannock County	5
207	October 22 - April 15 That portion of Unit 74 in the Cottonwood Creek drainage in Bannock County	5

Upper Snake Region: Bonneville, Butte, Clark, Fremont, Jefferson, Madison, and Teton counties

Badger*	July 1 - June 30 Year-round
Beaver	October 22 - April 15
Bobcat*	December 14 - February 16
Fox*	July 1 - June 30 Year-round
Marten	November 1 - January 31
Mink	October 22 - April 15
Muskrat	October 22 - April 15
Otter^	October 22 - March 15

Exceptions: Beaver

Bonneville County: All public lands managed by Idaho Fish and Game, Idaho Department of Lands, U.S. Forest Service, and Bureau of Land Management within the Willow Creek drainage - **CLOSED**.

Clark County. All public lands within the following drainages. Edie Cr., Irving Cr., Miners Cr., Three Mile Cr., West Camas Cr., Indian Creek and Middle Creek, upstream from the Targhee National Forest boundary - **CLOSED**.

Teton County. The following drainages upstream from the Targhee National Forest boundary: North Twin Creek, South Fork of Packsaddle Creek, Trail Creek, and Dry Creek including McRenolds Reservoir - **CLOSED**.

Exceptions: Otter

South Fork Snake R. from Palisades Dam to the Heise Cable, mainstem Buffalo R., mainstem Warm R. and mainstem Henry's Fork R. from Big Springs to Del Rio Bridge at St. Anthony - **CLOSED**.

Salmon Region: Custer and Lemhi counties

Badger*	July 1 - June 30 Year-round
Beaver	October 22 - April 15
Bobcat*	December 14 - February 16
Fox*	July 1 - June 30 Year-round
Marten	November 1 - January 31
Mink	October 22 - April 15
Muskrat	October 22 - April 15
Otter^	October 22 - March 15

Exceptions: Beaver

Custer County. Marsh Cr. drainage - **CLOSED**

Lemhi County. Dahlonega Cr. - **CLOSED**

Exceptions: Otter

Main Salmon R. downstream from North Fork, ID. - **CLOSED**.

* Indicates species can also be hunted.

^ All areas closed to beaver trapping are closed to otter trapping.

River Otter Trapping Quota

Region	Harvest Quota
Panhandle	40
Clearwater	20
Southwest	20
Magic Valley	30
Southeast	15
Upper Snake	15
Salmon	15
Statewide Total	155

Trapping on Game Preserves and Wildlife Management Areas

Prior to trapping on any of the following Wildlife Management Areas, trappers must contact or register either at the management headquarters or the regional office:

- Andrus
- Billingsley Creek
- Blackfoot River
- Boise River
- Boundary Creek
- C.J. Strike
- Camas Prairie Centennial Marsh
- Carey Lake
- Cartier Slough
- Coeur d'Alene River
- Cottonwood
- Craig Mountain
- Deer Park
- Farragut
- Fort Boise
- Georgetown Summit
- Hagerman
- Market Lake
- McArthur Lake
- Montpelier
- Montour
- Mud Lake
- Niagara Springs
- Payette
- Pend Oreille
- Portneuf
- Red River
- St. Maries
- Sand Creek
- Snow Peak
- Sterling
- Tex Creek

Bobcat Mandatory Check and Report



Any person taking bobcat whether by hunting or trapping must comply with the mandatory check and report and pelt tag requirements by:

- Presenting the pelts of all bobcat taken to a regional office, the McCall office or official check point to obtain the appropriate pelt tag and complete a harvest report.

To have a pelt tagged, the pelt must be legally taken in Idaho and must be presented during normal working hours - 8AM to 5PM

Pelts must be thawed before they can be checked.

A fee of \$2 will be charged for each pelt tag. An additional \$1.75 vendor fee will be charged to each license holder when pelts are brought in for tagging.

No person, who does not possess a furbearer or taxidermist license and/or appropriate import documentation, shall have in possession, except during the open season and for 10 days after the close of the season, any raw bobcat pelt which does not have an official state export tag attached (either Idaho's or another state's).

No person, who does not possess a furbearer or taxidermist license and/or appropriate import documentation, shall sell, offer for sale, purchase, or offer to purchase any raw bobcat which does not have an official state export tag attached.

River Otter Reporting Requirements



- Pelts must be tagged by Fish and Game personnel at the regional office in the region in which the animal was taken within 72 hours of taking. Trappers unable to comply with the tagging requirements due to special or unique circumstances must report their harvest to the appropriate regional office or field personnel within 72 hours and make arrangements for tagging at the proper regional office. Pelts not registered or presented to Fish and Game personnel within 72 hours are subject to confiscation.

A fee of \$2 will be charged for each pelt tag. An additional \$1.75 vendor fee will be charged to each license holder when pelts are brought in for tagging.

- River otter carcasses do not have to be turned in to Fish and Game, except for otters harvested after the season has closed, or otters in excess of the trappers' personal quota of two. Check with the Fish and Game regional office for further information when reporting a harvest.
- No person shall have in possession, except during the open season and for 72 hours after the close of the season, any raw otter pelt legally harvested in Idaho which does not have an official state export tag attached.

Season Limits:

- A maximum limit of two otters is allowed for any one trapper, provided the harvest quota for that region is not exceeded.

Otter Quota/Season Closure:

- The otter season will close in each region 72 hours after the harvest quota for that region is reached. Trappers will be allowed to keep otters within this 72-hour period provided their personal quota of two has not been reached. Otters may only be turned in for reporting and tagging within the region where they were harvested.
- Current otter harvest information may be obtained by calling the appropriate Fish and Game regional office during normal business hours or online at <https://idfg.idaho.gov/hunt/harvest-quotas>. The reporting hotline (1-800-323-4334) is now only updated when there is a closure.
- All areas closed to beaver trapping are closed to otter trapping. Additional closures have been identified to reduce potential conflicts between user groups.



Beaver Controlled Trapping Permits

No person may trap in a controlled trapping unit for the designated species without having a valid permit in possession for that controlled trapping unit.

In the event that a permit is issued based on erroneous information, the permit will be invalidated and may **not** be used. Fish and Game will notify the permittee of the invalidation of the permit.

Eligibility: Any person possessing a valid Idaho trapping license is eligible to apply for a controlled trapping unit permit.

Applications: Applications for controlled trapping permits shall be made on a form available at all Fish and Game offices and must be received at the Wildlife Bureau of Fish and Game, P.O. Box 25, Boise, Idaho 83707, or postmarked no later than September 15 of each year.

Any application which is unreadable, has incomplete or incorrect trapping license numbers, or which lacks the required information or fee will be declared void and will not be entered in the drawing. All applications will be considered final. They may not be resubmitted after correction.

Applicants must comply with the following requirements:

- No person may submit more than one application for a controlled beaver trapping permit.
- No group applications will be accepted.

Controlled Trapping Permit Drawing: Applications that are not drawn for the first choice unit will automatically be entered into a second choice drawing, provided the second choice applied for has not been filled.

Any permits left unfilled after the second choice drawing may be issued on a first-come, first-served basis.

Successful Applicants: Successful applicants will be notified by mail and must contact the person listed on the notice by October 14 to obtain the permit. The permittee, upon agreeing to follow trapping instructions for the unit, will be issued a permit.

Revocation of Permits: Any permittee who does not comply with trapping laws, rules, proclamations, or the instructions for the trapping unit may have his or her permit revoked.

Alternate Permittee: Any revoked permit may be issued to an alternate, selected at the time of the drawing. If there is no alternate, or the alternate fails to comply with the "Successful Applicants" section above, the permit may be issued to the first eligible trapper answering a notification of vacant trapping unit as approved by the Regional Supervisor.

Mandatory Furtaker Harvest Report

All trappers are required to fill out the mandatory furtaker harvest report form provided by Fish and Game. The completed mandatory report must be returned to Fish and Game, Wildlife Bureau, P.O. Box 25, Boise, Idaho 83707, by July 31. Any trapper failing to send in a report by July 31 shall be refused a license to trap animals for the ensuing year. It is helpful to Fish and Game personnel to receive report forms as soon as trappers are able to submit them. This assists us in getting the departmental progress reports done in a timely manner.

All permittees shall return their controlled trapping unit permits and controlled trapping reports to the office from which they obtained their controlled trapping unit permits within 10 days of the close of the season for the controlled trapping unit.

The mandatory furtaker harvest report form is available on the Fish and Game website at idfg.idaho.gov.

ATTENTION MARTEN TRAPPERS

- Trappers are encouraged to set marten traps at least 2 feet above the ground or snow level to reduce the harvest of female martens.
- Use cubby boxes, with a closed front and 2 1/2 inch entrance hole, to avoid catching fishers.



TO AVOID CATCHING DOGS

- It is recommended trappers use body-gripping or Conibear traps only under water.
- Set traps at least 4 feet above ground when used on land.
- Use only small Conibears (160 or smaller), set 7 inches back inside a long hard box that is no larger than 7 inches in width, preferably with a lid extending beyond the opening (See photo).
- Always look for places without human or dog activity when setting Conibears, and post signs indicating lethal traps are in use.



Attention Trappers

Completion of a trapper education course will be mandatory starting July 1, 2018 for anyone who purchased their first Idaho trapping license on or after July 1, 2011. Trappers who have taken only a wolf trapping education course must take the Idaho trapper education course. Those who present proof of equivalent certification obtained in Idaho or from an authorized agency or association in another state or country are exempt. For more information visit: <https://idfg.idaho.gov/trap> or contact a Fish and Game office.

It is Unlawful

- To trap without a valid trapper's license; see page 47 for exceptions.
- To destroy or damage a muskrat or beaver house.
- To trap in or on a muskrat house.
- To destroy, disturb, or remove any traps belonging to others.
- To use any part of a domestic or wild origin game bird, big game, upland game, game fish, or protected nongame wildlife for bait in trapping furbearing animals, unprotected wildlife, or predatory wildlife.
- To set, place or stake any trap or snare during the closed season.
- To possess a live furbearer taken from the wild.
- To hunt any animal or bird by aid of a spotlight, flashlight or artificial light of any kind; except unprotected or predatory animals on private land after obtaining written permission and on public lands after obtaining the required permit from an Idaho Fish and Game regional office. It is lawful to hunt raccoons on public lands without a permit if such taking is not in violation of state, county, or city laws, ordinances, or regulations.
- To buy furs without a valid fur buyers license.

Definitions

Bait is defined as any animal parts; except bleached bones or liquid scent are not considered bait.

Drainage is defined as the geographic region or area that provides water to a specific stream, river, pond, lake, or reservoir. It includes the specific body of water and all its tributaries.

Furbearing animals are defined as the following species: marten, fisher, mink, otter, beaver, muskrat, bobcat, lynx, red fox (includes all color phases found in Idaho), and badger.

Ground set is defined as any foothold trap, body-gripping trap, or snare originally set in or on the land (soil, rock, etc.). This includes any traps elevated up to a maximum of 36 inches above the natural ground level.

Non-target species are defined as any species caught for which the season is closed.

Other set is defined as any set not defined as a ground or water set, including without limitation, elevated sets originally set 36 inches or more above natural ground level.

Predatory wildlife is defined as the following species: coyote, raccoon, jackrabbit, skunk and weasel.

Public highway is defined as the traveled portion of, and the shoulders on each side of, any road maintained by any governmental entity for public travel, and includes all bridges, culverts, overpasses, fills, and other structures within the limits of the right-of-way of any such road. See page 36.

Public trail is defined as any trail designated by any city, county, state, or federal transportation or land management agency on the most current official map of the agency.

Trapping shall mean taking, killing, and capturing wildlife by the use of any trap, snare, deadfall, or other device commonly used to capture wildlife, and the shooting or killing of wildlife lawfully trapped, and includes all lesser acts such as placing, setting, or staking such traps, snares, deadfalls, and other devices, whether or not such acts result in the taking of wildlife, and every attempt to take and every act of assistance of any other person in taking or attempting to take wildlife with traps, snares, deadfalls or other devices.

Water set is defined as any trap or snare originally set in or on any body of water. This shall include traps on floats in the water and those that are set with a minimum of one-third of the trap submerged. The term water set applies to traps set on beaver dams, in bank holes and in the water at bank slides.

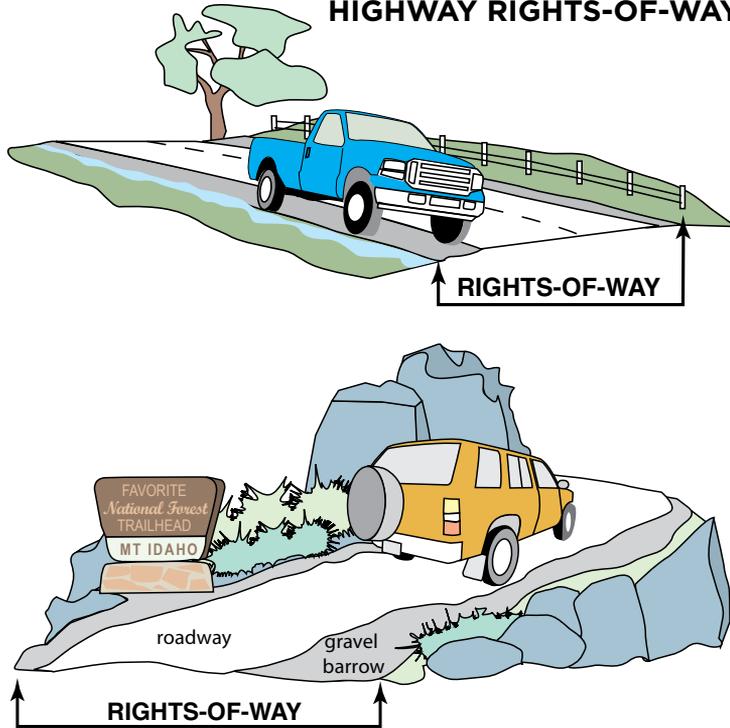
Methods of Take—Trapping

Furbearing Animals: No person shall take beaver, marten, mink, muskrat, or otter by any method other than trapping.

Trapping: No person trapping furbearing animals or predatory or unprotected wildlife shall:

- Use for bait, any part of a domestic or wild origin game bird, big game, upland game, game fish, or protected nongame wildlife.
- Use live animals as bait or an attractant.
- Use any set within 30 feet of any visible bait.
- Use a dirt hole set with bait unless the person ensures that the bait remains covered at all times to protect raptors and other meat-eating birds from being caught accidentally.
- Place any ground, water, or other sets on, across, or within 5 feet of center line of any maintained public trail.
- Place any ground set on, across, or within any public highway, except ground sets may be placed underneath bridges and

HIGHWAY RIGHTS-OF-WAY



Highway rights-of-way: the entire width between the boundary lines of every highway publicly maintained when any part is open to the use of the public for vehicular travel, the jurisdiction extending to the adjacent property line, including sidewalks, shoulders, berms and rights-of-ways not intended for motorized traffic. No person shall shoot from a public highway or discharge any firearm from or across a public highway.

Special Vehicle Restrictions:

State and federal agencies and private landowners have established road closures in key big game areas to protect deer and elk populations. Please check with regional Idaho Department of Fish and Game, Forest Service or Bureau of Land Management offices for information regarding vehicle restrictions on roads, trails, and unroaded areas.

within and at culverts that are part of a public highway right-of-way.

- Place any ground set incorporating snare, trap, or attached materials within three hundred (300) feet of any designated public campground, trailhead, or picnic area. Cage or box live traps are permitted within three hundred (300) feet of designated public campgrounds, trailheads, or picnic areas as allowed by city, county, state, and federal law.
- Place or set any ground set snare without a break-away device or cable stop incorporated within the loop of the snare.
- Place or set any wolf snare without a diverter; or without a break-away device or cable stop incorporated within the loop of the snare.
- Place any ground set incorporating a foothold trap with an inside jaw spread greater than 9 inches.

Release of Non-Target Catches: Non-target species are defined as any species caught for which the season is closed. **All non-target species caught alive shall be released immediately.** If difficulty is encountered releasing a trapped fisher, wolverine, lynx, mountain lion, or wolf please contact Fish and Game immediately for assistance.

Any trapper who catches a non-target species that is dead shall:

- Prior to removing the animal, record the date and species of the animal caught.
- Report the catch on the mandatory furtaker harvest report form.
- Remove the animal from the trap and take it into possession.

- Notify Fish and Game through the local conservation officer, a regional office, or the McCall office within 72 hours to make arrangements to transfer the animal to Fish and Game.
- Fish and Game will reimburse trappers \$10 for each lynx, wolverine, bobcat, or fisher caught accidentally and turned in. A \$10 reward will also be paid for otters accidentally taken after the regional quota has been met.

Closed Statewide: There is no open season for fisher, kit fox, lynx or wolverine.

Traps

Checking Traps: No person shall place snares or traps for furbearing animals, predatory or unprotected wildlife except pocket gophers, most species of ground squirrels, and other unprotected rodents, without visiting every trap or snare once every 72 hours and removing any catch therein.

Trappers acting under authority of the U.S. Department of Agriculture, Animal Plant Health Inspection Service, Wildlife Services are exempt from this rule.

Removing Trapped Animals of Another: No person shall remove wildlife from the trap or snare of another **except** licensed trappers with written permission from the owner.

Tags for Traps

All traps or snares, **except** those used for pocket gophers, ground squirrels or other unprotected rodents, shall have attached to the snare or the chain of every trap, a metal tag bearing in legible English the name and current address of the trapper; or a six-digit number assigned by Fish and Game as it appears on your trapping license adjacent to TRAPPER ID.

Methods of Take—Hunting

Furbearing Animals: No person shall take beaver, marten, mink, muskrat or otter by any method other than trapping. In addition to predatory or unprotected wildlife, the following furbearers may be hunted: badger, bobcat, and red fox.

Hunting: No person hunting permissible furbearing animals (badger, bobcat and red fox) or predatory or unprotected wildlife shall:

- Hunt with any weapon the possession of which is prohibited by state or federal law.

No person hunting raccoon at night shall:

- Hunt from a motorized vehicle.
- Use any light attached to any motor vehicle.
- Hunt on private land without obtaining written permission from the landowner or lessee.

Also see General Hunting Rules, pages 43-45

Hound Hunting Rules

Dogs may be used to pursue black bears, mountain lions, bobcat, raccoon, or fox in either an open take season where use of dogs is allowed, or during a dog training season. During a dog training season, bobcat may be pursued and treed, but may not be captured, killed, or possessed.

Dogs may not be used to take or pursue any other big game species. Any dog found running at large and actively tracking, pursuing, harassing, attacking or killing any big game animal, **except** black bear, mountain lion, bobcat, raccoon or fox may be destroyed without criminal or civil liability by the Director of Fish and Game, any peace officer, or other persons authorized to enforce Idaho wildlife laws.

Hound Hunter Permit

The following persons must have a valid hound hunter permit in possession when dogs are being used to hunt:

- Anyone who owns pursuit dogs.
- Anyone having control of dogs owned by another person.
- Anyone that harvests a black bear, mountain lion, bobcat, raccoon, or fox with the use of dogs, **except** clients of licensed outfitters are not required to have a hound hunter permit.

Closed Areas

Hunting, trapping, killing or molesting of furbearing animals, predatory and unprotected wildlife is prohibited in the following areas except as provided in Idaho Code Section 36-1107:

- Craters of the Moon National Monument, see page 44 for more information.
- Hagerman Fossil Beds National Monument in Twin Falls County.
- Nez Perce National Historical Park in Clearwater, Idaho and Nez Perce counties.

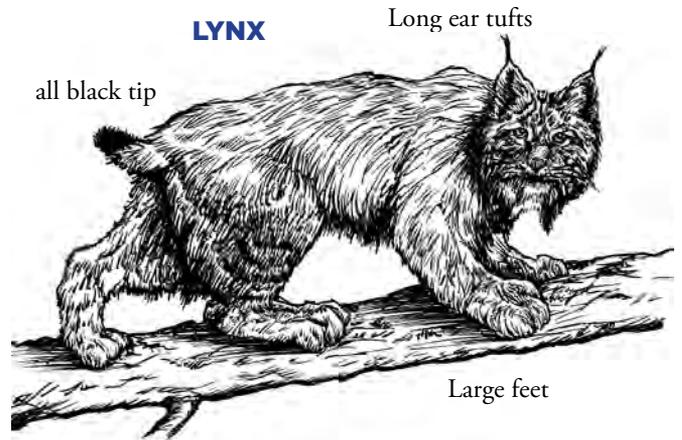
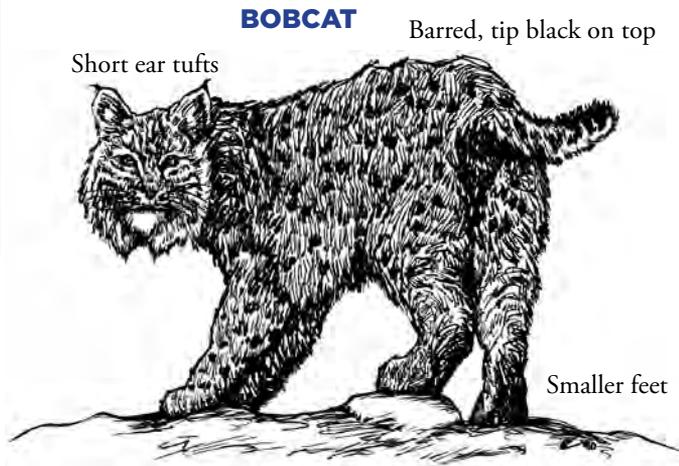
- That portion of Ada County:
 - Within Veterans Memorial Park.
 - Within one quarter mile of the Boise River from the New York Canal Diversion Dam downstream to the Glenwood Bridge.
 - Between State Highway 21 and the New York Canal from the New York Canal Diversion Dam downstream to the Boise City limits.
- Stanley Creek Wildlife Interpretive Area in Custer County.
- Yellowstone National Park in Fremont County.
- On any of those portions of State game preserves, State wildlife management areas, bird preserves, bird refuges and bird sanctuaries for which trapping closures have been declared by legislative or Commission action.
- All or portions of national wildlife refuges, **except** as specified in federal regulations for individual refuges.

Common Season Boundaries

Whenever a stream or river forms a boundary between two different trapping areas for the same furbearer, the stream or river channel proper shall open for trapping on the earliest opening date and close on the latest closing date of the two seasons involved.

BOBCAT AND LYNX IDENTIFYING CHARACTERISTICS

BE SURE OF WHAT YOU SHOOT. THE LYNX IS A THREATENED SPECIES WHICH MAY BE MISTAKEN FOR A BOBCAT.

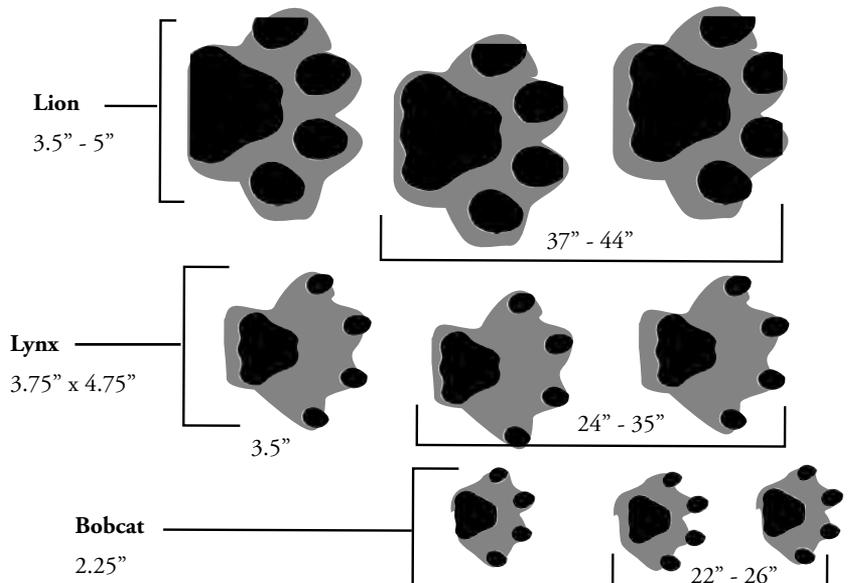


Note: The tail characteristics are most reliable for making positive identification.

	BOBCAT	LYNX
Tail	Underside of tail is white to the tip. Usually some barring on upper side of tail with wide band at end.	Has black tip on tail which completely encircles the end. No barring on upper side of tail between base and tip.
Color	Brownish with clouding or spots over much of the upper body—usually distinct black spots on belly.	Generally pale grey without distinct spotting.
Face	Ear tufts, if present, usually under one inch long. Lacks prominent cheek tufts.	Dark colored ear tufts, conspicuous, 1.5 inches long. Cheek tufts prominent.
Feet	Appear small, lack hair development between pads—bare like those of domestic cat.	Appear large, pads covered with woolly hair.
Size	Appears smaller in overall size (length: 25-37 inches) (weight: 15-35 pounds).	Appears larger in overall size (length: 32-37 inches) (weight: 15-30 pounds). Longer hind legs give the lynx a stooped posture.

Tracks in Snow and Stride Length Comparison for Mountain Lion, Lynx and Bobcat

- Mountain lion and lynx foot sizes are similar; bobcat foot is much smaller.
- Tracks are shown with shaded area representing impression of hair in the snow.
- Note track size and stride length (distance between first and last foot) differences between species.



GUIDELINES TO REDUCE INJURY & MINIMIZE NON-TARGET CATCHES SUCH AS WOLVERINES AND LYNX

- Set pan tension for wolf traps to at least 8 pounds of pressure to prevent a wolverine or lynx from firing a trap set for wolf.
- Make marten sets on leaning poles no larger than 4" in diameter and set at a 45 (or greater) degree angle with trap and bait placed at least 4 feet above the ground or snow level.
- Do not use large bodygrip traps if wolverines or lynx tracks are observed in the vicinity of a set.
- When using baits larger than 5 pounds, traps should be set at least 30 feet from the bait—farther is better.
- To avoid wolverines in snares set for wolves, place the bottom of the snare loop just below knee cap level (18"- 21" above the ground or packed snow surface).
- Use #2 or smaller foothold trap for furbearers or consider a rubber-padded foothold trap if a #3 size or larger is used.
- If using drags, use at least 8-feet of sturdy chain.
- If a larger trap is preferred use padded-jaw or laminated offset jaws, such as padded #3 coil-springs, to minimize injury.
- Anchor all traps solidly, including small bodygrip traps. A wolverine may be able to pull out or bend or break a small trap if it is anchored securely.
- Select habitat less likely to have lynx or wolverines (open fields or semi-open country near rocks, ridges, and trees).
- Avoid using rabbit parts as bait.
- If you observe wolverine or lynx tracks, it is best not to make a set in the area.
- If using a staked set, stake the trap so that a wolverine cannot get entangled around a solid object after being captured. Trap chains should be sturdy and equipped with at least two swivels. J-hooks should be spot-welded closed.
- Carry a catchpole to release non-target animals alive.

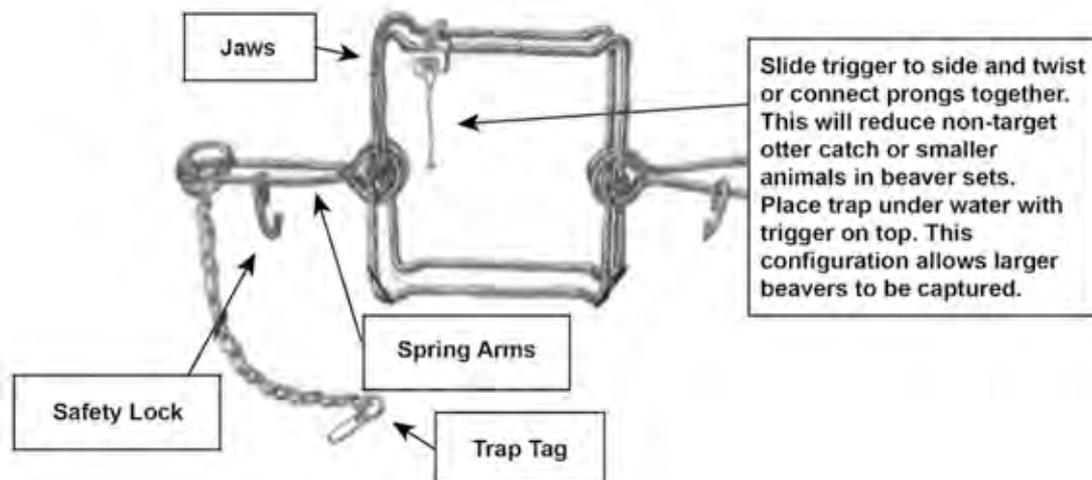
IF YOU CATCH A LYNX OR WOLVERINE...



Immediately contact Fish and Game or your local sheriff's office to assist with the safe release of the animal.

Guidelines to Minimize Non-target Catch

HOW TO AVOID NON-TARGET OTTERS SETTING #330 CONIBEAR TRAPS



TRAPPER RESPONSIBILITIES

Ethics and Responsibility

Demonstrating ethics and responsibility while trapping sends many positive messages that nontrappers understand and appreciate more than any explanation. These ethics relay the message that we are proud to be trappers, we care about our activities, and we care about the resource we're using.

Key ingredients for trappers:

- Maintain good landowner relations
- Respect other outdoor enthusiasts
- Avoid using traps near heavily used recreational trails. Trail users may have dogs which could be attracted to traps
- Keep familiar with improvements in trapping equipment and techniques
- Appreciate perceptions of nontrappers
- Respect the resource

Some Methods for Improving Efficiency, Selectivity, and Humaneness

- Use pan tension devices to avoid non-target catches.
- Use extra swivels and center-mounted chains to hold more animals and reduce the chance of injuries.
- Use modern positioning techniques at dirt hole sets to increase selectivity.
- Use short trap chains for most land sets, especially those targeted for fox and coyote.
- Use “stop-loss” traps for muskrats in shallow water or dry land sets.
- Use dispatching methods that are quick and humane.
- Use trap sizes that are appropriate for the target species – pad catches are desirable for fox, coyote, raccoon and many other animals because they cause fewer injuries.
- Use baits and lures that attract target species but not other animals.
- Use cage, box or species-specific traps near barns, outbuildings and other locations where domestic animals may be present.
- Use common sense in choosing set locations that maximize opportunities to catch target species and minimize opportunities to catch other animals.
- Use secure methods of attaching traps – tailor methods to hold the largest species you may catch.
- Use traps with padded or laminated jaws where the risk of non-target catches is high.
- Use caution when setting body-gripping traps or snares.
- Do not set more traps than you can check in 72 hours even in bad weather.

Three Key Messages to Use When Educating the Public About Traps, Trapping, and Furbearer Management

- Furbearing animals are a sustainable, renewable resource. Some people have the notion that furbearing animals are rare or endangered. We need to reassure them that legally trapped animals are numerous and their populations secure.
- Trapping is controlled through strict regulations that are enforced by conservation officers. People may fear that trapping is a “free-for-all,” with no sort of control or regulation. To overcome this fear, we must reinforce the message that trapping is a highly regulated activity in Idaho and nationwide.
- Trapping provides a wide range of benefits to society. People often ask, “Is trapping really necessary?” We need to tell them about the wildlife management, economic (to the trapper and for damage control), and lifestyle benefits of trapping.

Be a **Proud Trapper** by being a **Good Representative** of trapping.

Trappers are encouraged to use warning signs to inform recreational users that traps or snares are in the area. Trappers may print off copies of the signs from idfg.idaho.gov and post them near their trap lines. Using warning signs is voluntary.



The sign is a courtesy of Idaho Fish and Game in cooperation with the Idaho Trapper's Association.



Photo ©Ed Glazar & ©Times-News

IDAHO'S MANDATORY TRAPPER EDUCATION COURSE

— New law takes effect July 1, 2018 —

Idaho trappers who purchase their first trapping license after June 30, 2011 are required to attend a mandatory trapper education course before they can purchase an Idaho trapping license. Course is a mixture of classroom instruction and field experience.

- Learn the best tools, techniques, and locations for safe and responsible trapping to avoid catching non-target animals, as well as how to minimize impacts on others.
- Furbearer behavior and management, trapping regulations, equipment selection and maintenance, and care of pelts will be covered.
- **Cost at regional office: \$8.00**
Online Cost: \$9.75

Please note that the wolf trapping education course is not a substitute for this class. Those who present proof of equivalent certification obtained in Idaho or from an authorized agency or association in another state or country are exempt.

For more information please visit: <https://idfg.idaho.gov/trap> or contact your nearest Fish and Game office.





ATTENTION GROUND SQUIRREL HUNTERS



Northern Idaho Ground Squirrel
*federally protected under the
Endangered Species Act*

KNOW YOUR TARGET

Hunting of ground squirrels is **not allowed for some species** with limited abundance and distribution. These species include: Northern Idaho Ground Squirrel, Southern Idaho Ground Squirrel, Rock Squirrel, Piute Ground Squirrel (eastern Idaho subspecies), Merriam's Ground Squirrel, Golden-mantled Ground Squirrel, and a subspecies of Wyoming Ground Squirrel in southwest Idaho.

Ground squirrel hunting is **legal for the following species:** Yellow-bellied Marmot, White-tailed Antelope Squirrel, Uinta Ground Squirrel, Belding's Ground Squirrel, Columbian Ground Squirrel, Piute Ground Squirrel (western Idaho subspecies) and two subspecies of Wyoming Ground Squirrel in eastern Idaho.

Please check with an Idaho Fish and Game regional office in the area you wish to hunt for more detailed information on the distribution of ground squirrels or visit idfg.idaho.gov/hunt/ground-squirrel for more information and range maps for all Idaho ground squirrels.



Golden-mantled
Ground Squirrel

© Mike Demick

TIPS ON TRAP AVOIDANCE

See our Videos:

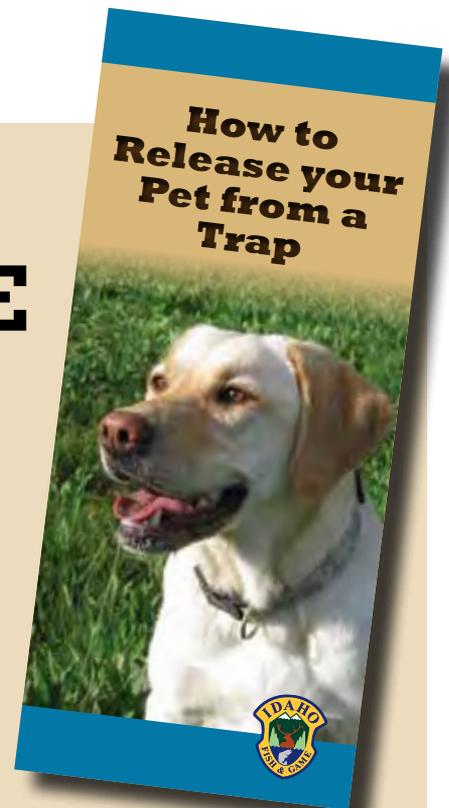
How To Recognize and Avoid Wildlife Traps while Walking your Dog

How To Release Your Dog From A Trap

And our Brochure:

How to Release your Pet from a Trap

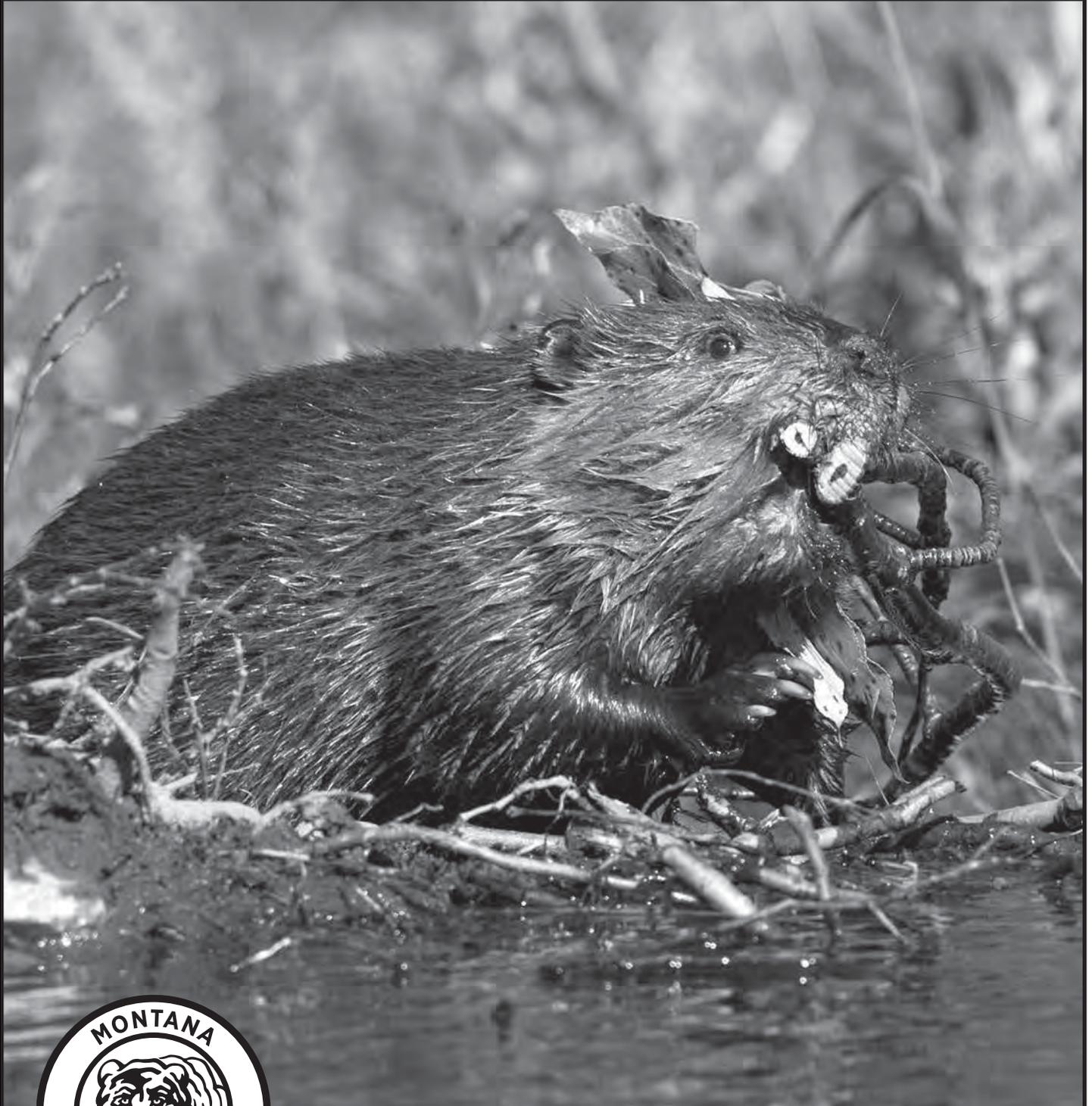
<https://idfg.idaho.gov/media/release-pet>



2018

FURBEARERS AND TRAPPING

FWP | Montana Trapping and Hunting Regulations



North American beaver | *Castor canadensis* | Photo by Donald M. Jones

Apply for General Licenses, Special Licenses, and SuperTags Online: fwp.mt.gov

TURN IN POACHERS: 1-800-TIP-MONT

These regulations are adopted under the authority granted to the Fish & Wildlife Commission (F&W Commission) per MCA 87-1-301 and are valid July 1, 2018 through June 30, 2019. The 2018 seasons, regulations and quotas were adopted by the Montana F&W Commission on August 9, 2018. Martha Williams, FWP Director.

What's New and Reminders

What's New -

- Otter per-person take and possession limit in R1 and R2 increased from 2 to 3.
- Beginning with the 2019 license year, two swivels, including a center swivel on the base of the trap, will be required for all ground set foothold traps. For details visit: <http://fwp.mt.gov/hunting/trapping/>

Reminders -

- Trapping on Fish, Wildlife & Parks lands which includes Wildlife Management Areas, Fishing Access Sites, and State Parks requires written authorization.
- Trappers are required to obtain a free Special Recreational Use License (SRUL) from the Montana Department of Natural Resources and Conservation (DNRC) prior to trapping or snaring on State School Trust lands.
- **Setbacks** now apply to all public federal and state lands for the trapping of **predators and non-game wildlife** as well as **furbearers at any time**.
- Hunters or trappers harvesting a bobcat, otter or swift fox are required to **turn in the complete lower jaw of bobcats, otter and swift fox** for aging. You are no longer required to turn in the skulls of bobcat, otter or swift fox. **Pelt tags will not be issued until** hunters or trappers harvesting a bobcat, otter or swift fox provide a **cleaned and air dried complete** (both sides) lower jaw for aging.
- Special trapping regulations in **Lynx Protection Zones** – see page 4.
- To trap bobcats, the general trapping license must be purchased by Nov 30, 2018.
- Even though the 2018 furbearer season extends into the 2019 license year, the deadline to purchase 2018 licenses is February 28, 2019.
- See the 2018 Wolf Hunting and Trapping Regulations for all wolf trapping regulations and license requirements.

Definitions

Center Swivel – A swivel located on the underside of the trap as near the center of the base plate as reasonably possible. The swivel can be attached directly to the base plate at the center, attached to a D-ring centered on the base plate, or can be included in the chain at a point no more than 5 normal chain links from the D-ring or base plate.

Fur Dealer – Any person or persons, firm, company or corporation engaging in or conducting wholly or in part the business of buying or selling, trading or dealing within the State of Montana, in the skins or pelts of any animal or animals, designated by the laws of Montana as furbearing or predatory animals. If such fur dealer resides in or the principal place of business is within the State of Montana, shall be deemed a resident fur dealer. All other fur dealers should be deemed nonresident fur dealers.

Furbearers – Furbearing animals are legally defined as beaver, otter, muskrat, mink, marten, fisher, wolverine, bobcat, swift fox and lynx . There is currently no season for lynx or for wolverine. ONLY MONTANA RESIDENTS MAY HUNT OR TRAP FURBEARERS – LICENSE REQUIRED.

Ground Set – Any trap originally set in or on the land (soil, rock, etc.). This includes any traps elevated less than 48 inches above the natural ground or current snow level.

Nongame Wildlife – Any wild animal not otherwise legally classified by statute or regulation in Montana. Examples of nongame wildlife are badger, raccoon and red fox. LICENSE REQUIRED FOR NONRESIDENT TRAPPERS ONLY.

Other Sets – Includes any set not defined as a ground or water set, including without limitation, elevated sets originally set 48 inches or more above natural ground or current snow level.

Predators – Predatory animals are legally defined as coyote, weasel, striped skunk and civet cat (spotted skunk). LICENSE REQUIRED FOR NONRESIDENT TRAPPERS ONLY.

Protected Animals – Protected Animals are those defined in Montana statute as 'Game Animals,' 'Furbearers,' or 'Migratory Birds.' Game animals are: deer, elk, antelope, moose, bighorn sheep, mountain goat, bison, bears, mountain lions, waterfowl, turkey, upland birds, sandhill crane, mourning dove, and snipe. Wolves are protected and classified as a Species in Need of Management. There are 10 Furbearers: wolverine, fisher, marten, otter, mink, lynx, bobcat, swift fox, beaver, and muskrat. There are many Migratory Birds that are protected species; all birds except house sparrows, crows, starlings, pigeons, and magpies. Unprotected animals that do not require reporting if incidentally trapped are 'Predators' and 'Non-Game.' There are 6 Predators: coyote, striped skunk, spotted skunk, long-tailed weasel, short-tailed weasel, and least weasel. There are many Non-Game species such as raccoon, badger, fox, ground squirrels and rabbits.

Relaxing snare – A relaxing snare has a snare lock that allows the snare loop to release constriction pressure on the captured animal when the cable is not taut (e.g., when the animal stops pulling it will loosen). This means that the locking device on the snare cable operates both ways allowing the snare cable to move back and forth to some degree. Locks that only close or that use springs or other powering devices to hold them closed are not considered relaxing snares. See page (15) for examples of relaxing snares.

Trap – Trapping means to take or participate in the taking of any wildlife protected by the laws of the state by setting or placing any mechanical device, snare, deadfall, pit or device intended to take wildlife or to remove wildlife from any of these devices.

Water Set – Any trap originally set in or on any body of water. This shall include traps on floats in the water and those that are set with a minimum of one-third of the trap submerged. The term water set applies to traps set on beaver dams, in bank holes and in the water at bank slides. This shall not apply to temporarily standing water resulting from any cause, such as rainfall, snow, runoff or flooding.

License – General Information and Procedures

The following licenses, with the exceptions noted under "Requirements", are available at Fish, Wildlife & Parks offices and most FWP license providers throughout the state. Mail-in applications are available online at the FWP website <http://fwp.mt.gov>. The current years' trapper license is valid July 1 through June 30 of the following year.

Bobcat License Requirements – Bobcat may be taken only by resident trappers or hunters that purchase a trapper license no later than November 30.

License Requirement Exemptions – No license is required for resident trappers/hunters or nonresident hunters to take predatory animals and nongame wildlife. Non-resident trappers of predatory animals or non-game wildlife must purchase a non-resident trapping license.

Resident Hound Training License (RHTL) – Entitles license holder to use a dog or dogs to aid in pursuing mountain lions and bobcats during the hound training season from December 2 - April 14 of the following year per MCA 87-2-521. A person may not kill a mountain lion or bobcat with a RHTL.

License Chart

License	Requirements	Cost
Conservation	Required Prerequisite	\$ 8 Resident \$10 Nonresident
General Trapper, Resident	Available to resident conservation license holders 12 years of age or older. Purchase by Feb 28, 2019. Allows license holder to trap furbearers, hunt or chase bobcat. Deadline for bobcat validation is November 30, 2018.	\$20
Youth Trapper, Resident	Available to resident conservation license holders 6 through 11 years of age. Valid only for two furbearers – mink and muskrat. Purchase by Feb 28, 2019.	Free
Landowner Trapper, Resident	Applicant must give description of owned or leased land, name, address and resident ALS number. License holder restricted to trapping and hunting only on their owned property and leased lands. Issued only through FWP offices. Deadline for bobcat validation is November 30, 2018. Purchase by Feb 28, 2019.	\$1
Nonresident Trapper	Available only to nonresident conservation license holders 12 years of age or older, whose state of residence has nonresident trapper licenses available to Montana trappers. Issued only through FWP offices. Season Dates: October 16-April 15. Valid only for predatory animals, nongame wildlife, and wolves. Purchase by Feb 28, 2019.	\$250
Special DNRC Recreational Use License	Required to trap on State School Trust Lands. Contact Montana Department of Natural Resources and Conservation to apply for this license (406-444-9726). Apply by Sept 30, 2018.	Free
Hound Training, Resident (RHTL)	Available to resident conservation license holders 12 years of age or older. Purchase by Feb 28, 2019.	\$5
Fur Dealer	Issued only through FWP Helena Headquarters, Law Enforcement Division. First time purchase any time but renewal must be by May 1.	\$10 Resident \$10 Agent * Nonresident

*Montana Nonresident fur dealer license cost is the same cost as a Nonresident fur dealer license in the home state of the applicant.

Youth Hunting Opportunities

A resident or nonresident youth 12 years of age or older may hunt any game species for which their license is valid. Those who will reach 12 years of age by January 16, 2019 may hunt any game species, for which their license is valid, after August 15 of the 2018 license year. Proof of hunter education must be presented at the time of purchase.

An **Apprentice Hunter** is a resident or nonresident certified at an FWP office. This allows the apprentice to hunt some species, while accompanied by a mentor, without first completing a hunter education course. The Apprentice Hunter may not purchase a mountain lion, black bear or wolf license or apply for a bighorn sheep license or a hunting license or permit with a limited quota. The Apprentice Hunter may not purchase an elk license if he/she is under 15 years of age. Other restrictions apply. See our website for details at:

<http://fwp.mt.gov/hunting/licenses/all/apprenticeHunter/default.html>

LAWS AND REGULATIONS

License and Permit Possession

- Licenses and permits must be carried on your person at all times while in the field hunting and/or trapping.
- Licenses and permits must be produced if requested by FWP Enforcement personnel.

General Trapping Regulations

These regulations apply to trapping of furbearers, predators and nongame wildlife.

Checking and Removing Traps – Traps should be checked at least once every 48 hours. It is the trapper’s responsibility to check his/her traps regularly. Failure to pick up traps or snares at the end of the trapping season or attending them in a manner that waste furbearing animals constitutes a misdemeanor per Montana law.

Closures – All National Parks, National Wildlife Refuges and Indian Trust or Tribal Trust lands are closed to trapping except as otherwise specified. For information or permits to trap on National Wildlife Refuges contact the local refuge manager.

Disturbing Traps or Trapped Animals – A person may not destroy, disturb, or remove any trap or snare belonging to another person or remove wildlife from a trap or snare belonging to another person without permission of the owner of the trap or snare, except that from March 1 to October 1 of each year a person may remove any snare from land owned or leased by the person if the snare would endanger livestock. This requirement does not apply to a law enforcement officer acting within the scope of the officer’s duty.

Export – When transporting game, furbearers or fish between Montana and Canada, whether for commercial or noncommercial purposes, you must complete a USFWS declaration form and inspection. Contact the Wildlife Inspector, U.S. Fish & Wildlife Service, Office of Law Enforcement, P.O. Box 165, 39825 Interstate 15, Sweetgrass, MT 59484 or call (406) 335-4350 or FAX (406) 335-4351.

Exposed Carcass or Bait – No trap or snare may be set within 30 feet of an exposed carcass or bait which is visible from above. Exposed carcass or bait is defined as the meat or viscera of a mammal, bird or fish, or any part thereof that is more than one pound in weight. Bleached bones are excluded.

Game Animals – It is unlawful to hunt any game animal with the aid of a trap or snare.

Ground Sets Along Roads and Highways – Ground sets using 7 x 7 inches and larger body-gripping traps, and all snares, are prohibited within the right of way of county roads, state and federal highways, and interstates. Along county roads with no defined right of way then these ground sets are prohibited within thirty (30) feet from the road center line.

Jaw spread sizes of common conibear traps:

110 - 4.5 inches	220 - 7 inches
120 - 4.5 inches	280 - 8 inches
160 - 6 inches	330 - 10 inches

Hunter Education – All persons born after January 1, 1985, are required to provide proof of completion of a Montana Hunter Safety and Education Course or a hunter safety course in any other state or province prior to applying for or purchasing a hunting license.

Indian Reservations – Contact Tribal Governments for information regarding trapping on Indian Land within the exterior boundary of Indian Reservations.

Fish, Wildlife & Parks will not provide CITES or state pelt tags for furbearers taken from Tribal or Indian Trust lands on reservations. Furbearers lawfully taken under state regulations with a Montana

trapping license, during an open season, from deeded “fee” lands within the exterior boundary of a reservation may be tagged by a designated Fish, Wildlife & Parks employee.

Landowner Permission – Resident trappers and hunters must obtain permission of the landowner, lessee or their agent before trapping or hunting on private land. It is unlawful to set snares on private property without landowner permission per Montana law.

Nonresidents must obtain written permission from the landowner, lessee or their agent before trapping or snaring predatory animals and nongame wildlife on private property as per Montana law.

Littering – A person convicted of littering while hunting, trapping, fishing or camping shall forfeit their license or privileges to hunt, trap, fish or camp within Montana for a period of one year.

Lynx Protection Zones – As part of a 2015 settlement special regulations are required in areas identified as “Lynx Protection Zones” to protect lynx and help trappers avoid accidentally taking lynx in Montana. The special regulations for areas within the Lynx Protection Zones are:

- Rabbit or hare parts, whether for flagging purposes or for bait, may not be used within 30 feet of a set trap.
- The use of natural flagging such as bird wings, feathers, or pieces of fur may not be used within 30 feet of a set trap.
- The use of fresh meat baits is not allowed – only tainted meat bait allowed (exposed to temperatures above freezing for >24 hours)
- The use of Conibear or “body-gripping” traps are not allowed unless:
 - ▶ they are placed as part of a water set; or
 - ▶ they are placed as part of an elevated set that does not include a leaning pole; or
 - ▶ they have a jaw spread of less than or equal to 5 inches (a Conibear #120 or smaller); or
 - ▶ they are placed in a leaning pole set with a pole diameter of no larger than 4 inches and with trap and bait set at least 48 inches above the surface; or
 - ▶ if they have a jaw spread of >5 inches, they are placed with the trigger recessed a minimum of seven inches and contained in a wood, plastic, or metal enclosure or cubby with an opening no larger than 52 square inches.
- For trappers targeting bobcat, the use of foothold traps are not allowed unless they:
 - ▶ have an inside jaw spread of less than or equal to 5 3/8 inches; or
 - ▶ are placed in a leaning pole set with a pole diameter of no larger than 4 inches and with trap and bait set at least 48 inches above the surface; or
 - ▶ are equipped and set with a minimum 10 pound pan tension device.
- The use of snares are not allowed unless they:
 - ▶ have a cable diameter greater than or equal to 5/64 inches; and
 - ▶ have loops that are larger than 8 inches measured from side to side; and
 - ▶ are equipped with a breakaway lock device designed to release when more than 350 pounds of force is applied; and
 - ▶ are equipped with a relaxing snare lock.
 - ▶ all snares in Lynx Protection Zones must be equipped with a relaxing device.
- All leaning pole sets must use poles that are no larger than 4 inches in diameter and with trap and bait sets at least 48 inches above the surface.
- “Take” of lynx is not allowed due to their federal status as

a threatened species. Incidental captures, whether the lynx is released uninjured, is injured, or killed are all considered “take” according to the definition set by federal law and used by the U.S. Fish and Wildlife Service.

- Any incidentally caught lynx that is uninjured must be immediately released, if possible. Any trapper who accidentally takes a lynx is required to notify a designated FWP employee or an FWP Regional Office as soon as possible or within 24 hours. Persons who know about the taking of a lynx shall report it by calling 1-800-TIP-MONT (800-847-6668).
- Trappers targeting bobcat are required to visually check their traps at least once every 48 hours.
- Trappers are strongly encouraged to not set traps if lynx are observed in an area or if lynx tracks are identified. Trappers are also strongly encouraged to use live traps (e.g. box trap) and carry catchpoles to aid in the safe release of non-target species.

Lynx Season Closed – Incidentally trapped lynx that are uninjured must be released immediately and the incident must be reported to a designated FWP employee within 24 hours of release. If a lynx is injured, trappers must immediately notify a designated FWP employee or an FWP Regional Office, to determine disposition and/or collection of the animal.

Montana Stream Access Law – This law does not allow access for trapping or snaring. Trappers are required to obtain permission from the landowner to trap or snare on navigable streams and rivers between the low and high water marks. Permission is required on private land for all non-navigable streams.

Non-Target Species – Trapping or snaring of non-target species could constitute a violation of state law as per Montana law. Protected birds or mammals found in traps, uninjured shall be released on site. Trappers that accidentally trap or snare protected animals that cannot be released uninjured must immediately notify a designated Fish, Wildlife & Parks employee for assistance to determine disposition and/or collection of the animal.

Occupied Dwellings – Ground sets, including all snares, are prohibited within 1000 feet of an occupied dwelling without written notification of the occupant(s).

Recorded Animal Sounds – It is unlawful to use any recorded or electrically amplified bird or animal calls or sounds or imitations of bird or animal calls or sounds to assist in the hunting, taking, killing or capturing of any wildlife except predatory animals, wolves, and those birds not protected by State or Federal law.

Snares – All snares are required to be equipped with a breakaway lock device designed to release when more than 350 pounds of force is applied. Breakaway snares must be fastened to an immovable object solidly secured to the ground. The use of drags is prohibited on snares. All snares in Lynx Protection Zones must be equipped with a relaxing device. All bobcat snares in Trapping Districts 1, 2, and portions of 3, 4, and 5 (see map on page 8) must be equipped with a relaxing device.

Snares must be set in a manner and at a time so as not to duly endanger livestock. A trapper who injures livestock in a snare is liable for damage and this constitutes a misdemeanor.

Appropriate breakaway snares and relaxing devices for snares are listed on page 15.

State Game Preserves, FWP Wildlife Management Areas (WMA), FWP Fishing Access Sites (FAS) and Parks – All state game preserves are open to furbearer trapping. Wildlife Management Areas with big game winter range, unless otherwise posted, are closed to public entry from the day following the end of the general deer/elk season or December 1, whichever is later, to noon on May 15 each year, as posted (the Blackfoot-Clearwater WMA closes November 10). Trapping on Fish, Wildlife & Parks lands which includes WMA, FAS, and State Parks requires written authorization of the area manager or a department employee for land not having a resident manager. Conditions for permission to

trap on FWP lands may require special regulations or restrictions that differ from standard regulations or dates in this booklet. Beaver Creek Park is open to trapping only by permission obtained from the Hill County Park Board.

State School Trust Land – A resident Conservation License allows hunters, anglers and trappers access to all lawfully accessible State School Trust lands. However, licensed trappers are required to obtain a free Special Recreational Use License (SRUL) from the Montana Department of Natural Resources and Conservation (DNRC) prior to trapping or snaring on State School Trust lands. Trapping may be restricted to those State School Trust lands as approved in the SRUL. For further information on how to obtain a SRUL, contact one of the following DNRC offices. The deadline to apply for a SRUL is September 30.

DNRC Headquarters

Trust Land Management Division

PO Box 201601
Helena, MT 59620
406-444-1868

Northwestern Land Office

655 Timberwolf Parkway, Suite 1
Kalispell MT 59901
406-751-2240

Southwestern Land Office

1401 27th Avenue
Missoula MT 59801
406-542-4200

Central Land Office

8001 N Montana Avenue
Helena MT 59601
406-458-3500

Northeastern Land Office

USDA Building, 613 NE. Main
Lewistown, MT 59457
406-538-7789

Southern Land Office

Airport Industrial Park
Billings MT 59101
406-247-4400

Eastern Land Office

321 Main Street
Miles City MT 59301
406-232-2034

Glasgow Unit Office

224 Sixth Street South
Glasgow MT 59230
406-228-2430

Setbacks and Trapping on Public Land with Ground Sets - The following regulations and setbacks apply to all public federal and state lands for the trapping of furbearers, predators and non-game wildlife at any time. See the 2018 Wolf Regulations for wolf setbacks.

- **Recessing Large Body Grip Traps on Land** - Ground sets using 7 x 7 inches and larger body-gripping traps must have the trigger recessed a minimum of seven (7) inches in a wood, plastic or metal enclosure or cubby that provides a maximum opening of 52 square inches or less.
- **Campgrounds and Recreational Sites** - ground sets including snares are prohibited within 1000 feet of a designated campground or recreation site that is accessible by a highway vehicle at any time of the year. This includes areas such as but not limited to boat ramps or fishing access sites that have construction improvements or are accessible by a highway vehicle at any time of the year.

- **Expanded Setbacks Along High Recreational Use Trails and Roads** - A 500-foot setback from both edges of the trails and roads listed below is required for all ground set traps in Trapping Districts 1 and 3.

- ▶ These setback rules do not apply to state or federal agency management or research efforts.

- **Lake Como Ski Area** – Ground sets are prohibited from December 1 to March 31. The area is defined as that portion of the Bitterroot National Forest, and Ravalli County, lying within the following described boundary: Beginning at the junction of U.S. Forest Service Roads (FS) 550 and 550A, then south and west on FS 550A to its junction with FS 13201, then north on said road to its junction with FS 550, then east on said road to its junction with FS 550A, the point of beginning.

- **Roads and Trails** – ground sets including snares require a 50-foot setback from along the edge of open roads and hiking trails that are designated by administrative signs or numbers.

- **Trailheads** – ground sets are prohibited within 300 feet and lethal ground sets and snares are prohibited within 1000 feet of a designated or marked trailhead that is accessible by a highway vehicle at any time of year.

Trap Identification – Metal identification tags must be fastened to all traps and snares as per Montana law. Metal tags must bear the name and address of the trapper or a personal identification number, which is the trappers date of birth and ALS number.

Tags should be attached to the end of the snare, chain or other anchoring material at the end farthest from the portion of the device which holds the animal.

Landowners who trap on their own lands and irrigation right-of-way contiguous to their land do not need to tag traps or snares.

Furbearer Regulations

Taking of furbearers during the open season by any means other than trapping or snaring is prohibited, unless otherwise stated.

Captures of Domestic Dogs– To improve understanding of accidental dog captures in traps or snares, trappers must report such captures, excluding trappers’ dogs, to an FWP regional office within **24 hours** of identifying the capture.

Closures – In Trapping District 2 the Blue Mountain and Pattee Canyon Recreation Areas, the Rattlesnake National Recreation Area (that portion lying outside and excluding the Rattlesnake Wilderness Area) and the Bass Creek Recreation Area are closed to furbearer trapping. For information or maps of these Special Recreation Areas, contact the local US Forest Service Office.

Destroying Muskrat or Beaver Houses – It is unlawful for any person to willfully destroy, open or leave open, a muskrat or beaver house. This shall not prohibit trapping in muskrat houses when authorized by the Commission as per Montana law.

Region/Trapping District (TD)					
TD1	TD 3				
	Hyalite Area	Bozeman Face Trails	West Bridger Mountains	Gallatin Canyon	Paradise Valley
<ul style="list-style-type: none"> •Blacktail Nordic Trail •Big Fork Nordic Trail •Round Meadow Nordic Trail •Whitefish Legacy Trail •Eureka Rails to Trails 	<ul style="list-style-type: none"> •Lick Creek/Wildhorse trail #452 •History Rock loops trail #424 •Blackmore loops trail #423 •Crescent Lake trail #213 •West Shore trail #431 •E. Fork Road/Pallisade trail #433 •Grotto Falls trail #432 •Moser/Buckskin Road Loop •Maxy Loop trail #62 	<ul style="list-style-type: none"> •Bozeman Creek/Moser winter trail #850 & #851 •South Cottonwood winter trail #852 •Bear Canyon winter trail #848 	<ul style="list-style-type: none"> •“M” trails #538, #511, #512 and #513 in Sec 27 T1S, R6E •Sypes trail #531 •Middle Cottonwood trail #586 •Truman Gulch trail #535 	<ul style="list-style-type: none"> •Porcupine trail #34 •Beehive Basin winter trail #861 	<ul style="list-style-type: none"> •Mill Creek trail #945 •Suce Creek trail #44

Dogs – Dogs may be used to hunt bobcat as per Montana law, but no other animals defined by law as furbearing animals. Dogs may be used to hunt or chase bobcats within prescribed hunting hours and seasons.

Harvest Data Reporting – Trappers and hunters are required to personally provide harvest registration data for bobcat, otter, marten, fisher, and swift fox at the time the pelt is presented to a designated Fish, Wildlife & Parks employee for tagging.

Hunting – Bobcat is the only animal defined by law as a furbearing animal that may be taken by hunting per MCA 87-2-601. Hunting hours are one-half hour before sunrise to one-half hour after sunset.

Incidental Take – Trappers who accidentally capture a furbearer when the season is closed or trapper limit is met must notify a designated Fish, Wildlife & Parks employee residing in the trapping district where the animal was taken within **24 hours** to arrange collection of the animal if the animal cannot be released uninjured. It is unlawful for any person to retain possession of an incidentally taken furbearer as per Montana law.

Inspection – Furbearers taken must be shown to FWP enforcement for inspection when requested per MCA 87-1-502.

Live Furbearers – Wild furbearers captured alive must be immediately killed or released. It is unlawful for a person to possess or transport wild furbearers alive as per Montana law. Live furbearing animals may not be possessed or transported except under the provisions of the fur farm or roadside zoo permits. It is unlawful to capture wild furbearers for fur farm stock as per Montana law.

Marked or Radio-Collared Animals – It is lawful to harvest game animals or furbearers that have radio collars, neck bands, ear tags and/or other markers, but markers and radio collars must be returned to FWP. Please report the killing of a marked animal to the local FWP office.

Pelt Possession – It shall be unlawful for any fur dealer or fur dealer agent to purchase or possess any untagged bobcat, otter, marten, fisher or wolverine, except those untagged furs originating outside Montana which are accompanied by an export permit or other documentation of lawful acquisition.

Pelt Tags – The pelt tag is required to remain attached to the pelt until tanned or after being exported.

Penalties – Persons convicted of knowingly taking, possessing or transporting furbearers or pelts in violation of the rules or laws, shall be fined not less than \$50 or more than \$1,000, imprisoned in the county jail for not more than 6 months, or both. In addition, such person shall forfeit his privilege to hunt, fish or trap for not less than 24 months. Civil restitution from \$100 to \$500 may be assessed for each unlawful animal or pelt.

Quotas and Season Closures – Furbearer seasons will close in 48 hours when a species quota is reached or approached prior to the end of the regular season. The F&W Commission has authorized the department to initiate a closure prior to reaching a quota or subquota when conditions or circumstances indicate the quota may be reached within the 48-hour closure notice period.

Return to Kill Site – As a condition of hunting and trapping in Montana, persons may be required to return to the kill site or trap site if requested to do so by a FWP employee.

Two-way Communication – Two-way electronic communication (radios, cell phones, text messages, etc.) may not be used to:

- hunt game animals or upland game birds, migratory birds or furbearers as defined in Montana law (“Hunt” means to “pursue, shoot, wound, kill, chase, lure, possess or capture.”), OR
- avoid game checking stations, FWP enforcement personnel, or to facilitate unlawful activity.
- When hunting mountain lions or bobcats with dogs, this rule applies when dogs are placed or physically released on tracks or a scent trail.

The rule shall not be interpreted to prohibit the possession or use of two-way radios for safety or other legitimate purposes, nor does it prohibit the use of radio tracking equipment to locate hounds when hunting mountain lions or bobcats.

Waste of Furbearers – Failure to pick up traps or snares at the end of the trapping season or attending them in a manner that waste furbearing animals constitutes a misdemeanor per Montana law.

Areas with Special Regulations

Fish, Wildlife & Parks owned Wildlife Management Areas (WMAs) are generally open to trapping, although special regulations apply to most WMAs. Contact the local WMA manager or the FWP Regional Office for information on how to obtain permission to trap on WMAs in the state. The following WMAs have special regulations in effect that require trappers to apply for a permit by September 15 to trap all or a portion of the area.

Beckman Wildlife Management Area – The Beckman Wildlife Management Area, Fergus County, is open to one trapper per trapping season. One trapper will be selected by a random drawing and permitted to trap furbearers and predators. Applicants should be aware that only limited populations of most furbearers exist on the WMA and that most access is by foot. No trapping will be allowed on the WMA until the end of the upland game bird season. Applicants must possess a valid trapper’s license to apply for this permit. Applicants must submit their name, address, phone number and ALS number by September 15 to:

Sonja Andersen, Beckman WMA
Montana Fish, Wildlife and Parks
Lewistown Area Resource Office
PO Box 938
Lewistown, MT 59457

Blackfoot-Clearwater Wildlife Management Area – The Blackfoot-Clearwater Area is divided into two (2) trapping units (Clearwater River and Cottonwood Creek), and trapping is permitted during two (2) periods (November 1 – January 31; February 1 – April 15); with one trapper per unit and time period (4 trappers total). Trappers will be selected by random drawing. The first trapper will be asked to choose a unit and period, the second trapper drawn will be offered the remaining choices and so on. Each of the selected trappers shall be permitted to trap one limit of furbearers, including ten (10) beaver. Applicants must possess a valid trapper’s license to apply for this permit. Applicants must submit their name, address, phone number and ALS number by September 15 to:

Scott Eggeman, Blackfoot-Clearwater WMA
Montana Fish, Wildlife & Parks
3201 Spurgin Road,
Missoula, MT 59801

Canyon Ferry Wildlife Management Area – The Canyon Ferry Wildlife Management Area is divided into two (2) trapping units with only one unit open to trapping in a given year. One trapper will be selected by a random drawing and will be notified which unit is open for trapping. Applicants should be aware that only limited populations of most furbearers exist on the WMA and that most access is by foot. No trapping will be allowed on the WMA until the end of the pheasant season. Applicants must possess a valid trapper’s license to apply for this permit. Applicants must submit their name, address, phone number and ALS number by September 15 to:

Adam Grove, Canyon Ferry WMA
Montana Fish, Wildlife & Parks
POB 998,
Townsend, MT 59644

Fish Creek Wildlife Management Area – The Fish Creek Wildlife Management Area is divided into seven (7) trapping units. Permitted trappers will be selected by random drawing. Trappers will be able to select a unit to trap in the order that names are drawn. Each selected trapper shall be permitted to trap a limit of furbearers and wolves, excluding beaver (the entire Fish Creek drainage is closed to beaver trapping). Trappers may also take predatory species within their permitted unit. Note: Because Trapping Unit #5 is within the WMA's winter closure area, trapping activity within Trapping Unit #5 will be limited to non-motorized travel-only after December 1. In addition, because Trapping Units #1 - #7 include State School Trust Land, trappers are reminded to obtain a Special Recreational Use License (application deadline September 30) from the Montana Department of Natural Resources and Conservation (DNRC) prior to trapping on School Trust Lands. All applicants must possess a valid trapper license and, if they wish to trap wolves, a valid wolf trapping certification # to apply for this permit. Applicants must submit their name, address, phone number and ALS number by September 15 to:

Liz Bradley, Fish Creek WMA
Montana Fish, Wildlife & Parks
3201 Spurgin Road,
Missoula, MT 59804

Freezout Lake Wildlife Management Area – The Freezout Lake WMA is divided into two (2) different trapping units for furbearers. One of these units consists of Pond 3 and is available for trapping to interested trappers by drawing only. Two trapping seasons are designated: fall (November 1 to December 31) and spring (January 1 to April 15). After March 15 no traps will be allowed in/on muskrat houses or hay bale nesting structures. Trappers and trapping units will be selected/assigned by random drawing. Unless supply exceeds demand, any one trapper may trap only one unit and/or season per year. The second trapping unit consists of the main lake, Priest Lake and Ponds 1, 2, 4, 5 and 6. This second unit will be open to any/all interested trappers except those persons already holding drawn permission to trap Pond 3. Trapping, hunting and access within the waterfowl closure on the south end of the main lake is prohibited until November 20. Any part of the WMA that is open to public access is open to interested parties for the hunting and/or trapping of predators and nongame wildlife. Applicants must possess a valid trapper's license to apply. Applicants must submit their name, address, telephone number, ALS number and indicate the season for which they wish to be considered by September 15 to:

Brent Lonner, Freezout Lake WMA
Montana Fish, Wildlife & Parks
POB 488,
Fairfield, MT 59436

Lake Helena Wildlife Management Area – The Lake Helena Wildlife Management Area consists of one (1) trapping unit. A spring trapping season is designated: January 1 to April 15. No trapping will be allowed on the area until after the waterfowl hunting season. One trapper will be permitted to trap furbearers and predators. The trapper will be selected by a random drawing. Applicants must possess a valid trapper's license to apply for this permit. Applicants must submit their name, address, phone number and ALS number by September 15 to:

Jenny Sika, Lake Helena WMA
Montana Fish, Wildlife & Parks
930 Custer Avenue West,
Helena, MT 59601

Mt. Haggin Wildlife Management Area – The Mt. Haggin WMA consists of four (4) trapping units where a quota of four (4) licensed trappers shall be permitted to trap a limit of furbearers and wolves, including ten (10) beaver. Trappers will be selected by a random drawing. Trappers will be able to select an area to trap in the order that names are drawn. The last trapper selected will be assigned the remaining trapping area. Permission to trap wolves on Mt. Haggin WMA is extended only to those trappers that were successful in the drawing. Note: Because Trapping Unit

#4 is within the winter closure area of the WMA (closed to all motorized travel December 2 – May 15), trapping activity in this unit will be limited to non-motorized travel only after December 1. In addition, because Trapping Units #3 and #4 include State School Trust Land, trappers are reminded to obtain a Special Recreational Use License (application deadline September 30) from the Montana Department of Natural Resources and Conservation (DNRC) prior to trapping on School Trust Lands. All applicants must possess a valid trapper license and, if they wish to trap wolves, a valid wolf trapping certification # to apply for this permit. Trappers wishing to take predators must contact Vanna Boccadori for a predator permit. The predator permit is valid only for animals classified as predators (i.e. coyotes) - it does NOT apply to wolves. Applicants must submit their name, address, phone number and ALS number by September 15 to:

Vanna Boccadori, Mt. Haggin WMA
Montana Fish, Wildlife & Parks
1820 Meadowlark Lane
Butte, MT 59701

Trail Creek Beaver Management Area – The Trail Creek trapping area is described as Joseph Creek from Chief Joseph Pass to the confluence with Trail Creek and Trail Creek downstream of this confluence to the National Forest boundary. The Trail Creek trapping areas consists of one (1) unit for beaver and otter. One (1) trapper will be selected by random drawing to trap this unit. The selected trapper shall be permitted to trap five (5) beaver. Applicants must possess a valid trapper's license to apply for this permit. Applicants must submit their name, address, phone number and ALS number by September 15 to:

Vanna Boccadori,
Trail Creek Beaver Management Area
Montana Fish, Wildlife & Parks
1820 Meadowlark Lane,
Butte, MT 59701

Upper Madison Beaver Management Area (refer to description)

– The Upper Madison trapping area consists of seven (7) units for beaver and otter with quotas for each species. Trapping season is November 1 through April 15 by permit only. Trapping units will be allocated based upon a random drawing of written trapper applications. Trappers may select a trapping area in the order their names are drawn. Each of the selected trappers shall be permitted to trap five (5), or ten (10) beaver depending on the trapping area assigned. The last trapper selected will be assigned the remaining trapping area. Applicants must possess a valid trapper's license to apply for this permit. Applicants must submit their name, address, phone number and ALS number by September 15 to:

Julie Cunningham,
Upper Madison Beaver Management Area
Montana Fish, Wildlife & Parks
1400 South 19th Avenue,
Bozeman, MT 59715

Warm Springs Wildlife Management Area – The Warm Springs Wildlife Management Area consists of three (3) trapping units for furbearers: Warm Springs Ponds Unit, Warm Springs Hospital Ponds Unit and the Job Corps Ponds Unit. Applicants should be aware that most of the access is by foot or in some areas, non-motorized boat. Selected trappers shall be permitted to trap one limit of furbearers each, including not more than five (5) beaver per trapping unit. Trappers may select a trapping unit in the order their names are drawn. The last trapper selected will be assigned the remaining trapping unit. Trappers wishing to take predators must contact the FWP Area Manager for a predator trapping permit. All trapping permits are valid through April 15. Applicants must possess a valid trapper's license to apply for this permit. Applicants must submit their name, address, phone number and valid trappers license number by September 15 to:

Brady Shortman, Warm Springs WMA
Montana Fish, Wildlife & Parks
PO Box A,
Warm Springs, MT 59756