

Wild Turkeys Rock!
Lesson Plan / Instructor Guide

Wild Turkeys Rock!

COURSE TITLE: Wild Turkeys Rock!

INSTRUCTIONAL GOAL: Students will learn wild turkey facts and draw a wild turkey.

INSTRUCTIONAL OBJECTIVES: Upon completion of this block of instruction the participant(s) will be able to:

1. Correctly name the three subspecies of wild turkeys found in New Mexico.
2. Identify at least three examples of wild turkey sign.
3. Identify at least three predators of wild turkeys.
3. Draw a wild turkey.

INSTRUCTIONAL METHODS: Power point lecture and drawing.

HANDOUTS: None, but have paper and crayons, colored pencils or pencils.

COURSE DURATION: Approximately 30-40 minutes for presentation. Drawing will be extra time.

CURRICULUM REFERENCES:

New Mexico Wild Turkey Management Plan 2013-2018. New Mexico Department of Game and Fish, Santa Fe, New Mexico

<http://www.wildlife.state.nm.us/download/conservation/species/birds/management-recovery-plans/Turkey-Management-Plan.pdf>

Wild Turkeys, All About Turkeys: National Wild Turkey Federation. Retrieved March 17, 2020

<https://www.nwtf.org/hunt/category/all-about-wild-turkeys> .

Instructables website. <http://www.instructables.com/id/Make-a-Hand-Turkey/>. Retrieved March 14, 2020.

ADDITIONAL READING MATERIAL:

Wild Turkeys Rock!

New Mexico Department of Game and Fish, Wildlife Notes, Wild Turkey.

<http://www.wildlife.state.nm.us/download/education/conservation/wildlife-notes/birds/wild-turkey.pdf>

Wild Turkeys of New Mexico. <http://www.wildlife.state.nm.us/download/publications/wildlife/Wild-Turkeys-of-New-Mexico.pdf>

SAFETY CONSIDERATION: Know fire exits in the building you are in.

EQUIPMENT, PERSONNEL, AND SUPPLIES NEEDED: Laptop (with presentation uploaded), projector or screen, jump drive with presentation or uploaded to computer, power cords (if needed), extension cords (if needed), paper for drawing, crayons or colored pencils or pencils, pictures of wild turkeys.

NOTE: Please check out additional reading material and check out references for more material to look over before presentation.

TARGET AUDIENCE: Varied.

COURSE PREREQUISITES: None.

EVALUATION STRATEGY: Orally quiz students or participants at the end of the presentation (if needed).

AUTHOR & ORIGINATION DATE: Storm Usrey, December 24, 2020.

REVISION / REVIEW DATE(S): N/A.

REVISED / REVIEWED BY: N/A.

CRITERION TEST:

1. Three examples of wild turkey sign to look for can be _____, _____ and _____. (Have students explain difference, if possible, between a gobbler and hen).
2. The three subspecies of wild turkeys found in New Mexico are _____, _____ and _____.

3. Are wild turkeys a _____. A) Carnivore, B) Herbivore or C) Omnivore.
4. What predators of wild turkeys can be found in New Mexico?

CRITERION TEST ANSWERS:

1. Feathers, tracks, scratching, strut marks, dusting bowls, turkey sounds and feces. (Turkey body feathers, tracks & feces you can differentiate between a gobbler and a hen).
2. Rio Grande, Merriam's and Gould's.
3. C. Omnivore. (Wild turkeys will eat a lot of different food sources from green grass, pinons, acorns, juniper berries, insects and grass seeds).
4. Predators of wild turkeys can include and not limited to bobcats, mountain lions, coyotes, Mexican gray wolves, bears, foxes, raccoons, coatimundis, various raptors to include great horned owls and even various snakes. (Smaller predators such as snakes, raccoons and coatimundis will eat turkey eggs).

COURSE OUTLINE:

- I. Introduction
 - A. Give name and Title.
- II. Mention the subspecies of wild turkeys. Three are found in New Mexico: Merriam's, Rio Grande and Gould's.
- III. Show pictures of five species (Ocellated will be shown later).
 - A. Look at coloration of tail tips in the subspecies.
 1. Eastern – brown in color tail tips.
 2. Rio Grande – tan in color tail tips.
 3. Merriam's – buff or white in tail tips.
 4. Gould's – very white tail tips.
 5. Osceola – dark brown tail tips.
- IV. Show picture of Ocellated wild turkey which is 6th wild turkey.

- V. Show map of where all of the subspecies are found, which includes Hawaii and parts of Mexico. Not shown on map is New Zealand and Canada.
- VI. Wild turkey numbers today.
 - A. From approximately 30,000 wild turkeys to almost seven million today.
 - B. Huge success story because of Conservation efforts to include: habitat management, research, transplant efforts, hard work from organizations/agencies/volunteers.
 - C. Funded by monies from hunters from license sales and Pittman-Robertson Act.
- VII. Difference from gobbler (male) and hens (females) by looking at head, tracks, droppings, body feathers, sounds, spurs and sometimes presence of a beard (5-10% of a hen population in an area can have visible beards).
- VIII. Show picture of gobbler and talk about beard, head coloration (lack of feathering on head) and show spurs on legs. Gobblers are also larger bodied than hens.
- IX. Show picture of black tipped breast feather.
- X. Show pictures of strutting gobbler (behavior which is common in the spring during the breeding season), visible beard on gobbler crossing road and spurs on leg.
- XI. Show pictures showing jake (young male less than year old) tail fan with higher feathers in middle and mature gobbler/tom with full even fan or tail feathers.
- XII. Talk about spur length and how it can be used to guess or judge a gobbler's age. Purely a guess as some subspecies such as Merriam's and Gould's may not have large spurs and habitat type (rocky terrain) can wear down length of spurs.
 - A. Used in intraspecies competition for dominance (fighting).
- XIII. Talk about coloration of primary tips and how to determine if older bird versus bird of the year (a young one).
- XIV. Show picture of hen and talk about feathering on head and lack of coloration. No spurs visible. Smaller body than mature gobbler.
- XV. Show picture of buff tipped breast feather (found on hen).
- XVI. Show multiple pictures of hens in the field. One of the pictures shows a bearded hen (blue arrow).

- A. Point out that heads are very drab color. Need to be more cryptically colored to hide from predators when nesting.
- XVII. Show tracks of gobbler versus a hen. Three toes for each, but hen is smaller in size.
- XVIII. Show pictures of turkey droppings. Gobbler is j-shaped and hen is globular.
- XIX. Show picture of strut marks a gobbler will make in the spring as they strut.
 - A. Strut for attracting hens.
- XX. Show picture of turkey dusting bowl and turkey scratching.
 - A. They dust to keep off mites.
 - B. Scratch to find food sources.
- XXI. Show pictures of what turkeys eat which can include green grass, insects, seeds, nuts and berries. Turkeys are an omnivore and can eat a large variety of foods.
- XXII. Turkeys are also very vocal and have a wide variety of sounds they make to include: yelps, clucks, purrs, putts, cutting, cackling, tree yelp, cluck, kee kee (kee kee run) and gobble.
 - A. Turkeys are very gregarious and love to be in flocks.
- XXIII. Talk about predators of wild turkeys in New Mexico. Some of these are just nest predators and will eat the eggs.
 - A. Bobcats
 - B. Coyotes
 - C. Mountain lions
 - D. Bears
 - E. Foxes
 - F. Mexican gray wolves
 - G. Raptors
 - H. Snakes
 - I. Raccoons
 - J. Coatis
- XXIV. Talk about and/or show how to draw a wild turkey using your hand if any kids in the audience. If presenting to kids have them break out by themselves or in groups and draw a picture of a wild turkey and have them color it too. Tell them to include the habitat which includes food, water, cover & space (trees, water, insects, predators, and grass).

- A. Check out <http://www.instructables.com/id/Make-a-Hand-Turkey/>
- XXV. If presenting to an older aged audience encourage them to take up photography or to attempt their artistic skills by painting or drawing a wild turkey or it's habitat in the future.
- XXVI. Thank the audience for their time and see if there are any questions.

COURSE CONTENT:

Course Introduction and Overview

Wild turkeys are found throughout the Land of Enchantment and can be found in most of our mountain ranges and along some river/stream systems. They play an important role in the ecosystem as they eat insects, are a food source for other animals (food web) and bring economic value to landowners and communities when hunting season arrives.

Body

Subspecies

When we look at the lower 48, Canada and northern Mexico in North America there are five recognized wild turkey subspecies which are the Eastern, Osceola, Rio Grande, Merriam's and Gould's. There is a sixth, actually its own species and not a subspecies, and we will talk about it later. In New Mexico we have three of the wild turkey subspecies and they are the Merriam's, Rio Grande and Gould's. The Merriam's is the most widely dispersed and found in most of our ponderosa pine forests, among other habitat types. The Rio Grande is found in pockets around the state to include the Santa Rosa and Tucumcari areas, Rio Grande river near Belen/Socorro/San Antonio, Hondo Valley and areas near Clayton. The Gould's is only found in and around the Peloncillo Mountain Range in the southwestern part of the state. Since the subspecies can reproduce with each other it is important to keep them separate to protect the genetics of the subspecies.

When looking at pictures of the various subspecies there are some differences. The main difference would be the coloration in the tail fan feather tips. Eastern tend to have brown tipped tail feathers, Osceola will also be brown or dark brown tipped, Rio Grande are tan colored on their tail fan tips, Merriam's will be buffed to white colored and Gould's will be very white tipped. The iridescent colors in their body feathers can be a little different as well, but we will focus more on the coloration of the tail fan tips.

Ocellated wild turkey

Ocellated wild turkeys are actually their own species and not considered a subspecies. They are extremely colorful (much like a peacock) and live in the jungles of southern Mexico and into Guatemala. Ocellated turkeys do not have beards and have the largest spurs of any turkey. This jungle bird is the smallest bodied of all wild turkeys.

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Wild Turkey Distribution Map

Gould's are the largest bodied of the subspecies (longer legs, wing span, and weight) and do not follow Bergmann's rule which states animals that live in colder climates tend to be larger bodied than those in warmer climates. Gould's wild turkey are only found in areas of Arizona, New Mexico and Mexico. Gould's will not grow large spurs on their legs.

Eastern turkeys are found mainly from forested areas in the eastern United States westward towards the eastern range of the Midwest. There are pockets of Eastern turkeys in some of the western states due to relocation efforts, which would be out of their historic range. The Eastern turkey can be heavy bodied especially in areas with agriculture.

Osceola are only found in the bottom three quarters of the state of Florida. They are not large bodied and they grow tremendous spurs because of the sandy soils and swamps they live in. They tend to be the most aggressive of the wild turkey subspecies during the breeding season. The barring on their wing feathers has more prominent black than white while the other subspecies is closer to even with the barring pattern.

Rio Grande subspecies are found mainly in the Midwest part of the United States. They tend to form larger flocks in these areas than other subspecies based on my observations (Usrey).

Merriam's wild turkeys can be found throughout the Rocky Mountain West and other mountain ranges out west too. They are not known for growing large spurs. Rio Grande and Merriam's wild turkeys are very similar in body size.

By looking at the map you can see wild turkey distribution in Mexico and into Central America. This is where the Ocellated wild turkey lives. Hawaii is shown on the map too and yes, there are Rio Grande wild turkeys on the island and state of Hawaii. These Rios were transplanted there and are not native to Hawaii. Not included on the map would be wild turkey numbers in Canada and New Zealand. Yes, wild turkeys have been transplanted in New Zealand and are doing extremely well there. Wild turkeys can now be found in 49 of the 50 states; they are not found in Alaska.

Wild turkey numbers today

Wild turkey numbers declined to approximately 30,000 at the beginning of the 20th century in the United States because of unregulated market hunting and were extirpated from much of their range. Now turkeys have rebounded in their numbers to approximately seven million. The reason for their success is because of efforts from state and federal wildlife agencies (habitat management and research) and volunteer efforts from folks like the National Wild Turkey Federation (NWTF). Wild turkeys are one of the greatest stories of conservation in the history of Wildlife Management (conservation is the wise use of our natural resources). Monies from legal and regulated hunting have funded the conservation efforts for the wild turkeys. License and stamp fees plus Pittman-Robertson dollars have been instrumental in the success story of wild turkeys today (a federal excise tax placed on hunting gear which includes firearms and ammunition is encumbered by the federal government and distributed to state wildlife agencies).

Gobblers (males) versus hens (females)

There are several characteristics one can look for on wild turkeys to help them determine the difference between a gobbler (male) or a hen (female). You can start at the top of a wild turkey and work your way down to see some of the differences. Gobblers will have less feathering on their colorful skin on their heads of red, white and blue. Hens will be drabber in color and they have more feathering on their head and neck region. Breast feathers on a gobbler will be black tipped and those on a hen will be buff in color. Gobblers will be larger bodied than hens. Typically, in New Mexico, gobblers will weigh between 18-20 pounds and hens will weigh between 8-10 pounds. Gobblers will grow modified feathers in the breast region called a beard. Some hens can grow beards, but most hens will not have a beard. Gobbler's will have spurs on their legs which are used for intraspecies competition and they will use them for fighting for dominance. Hens, who will have a pecking order, do not have spurs on their legs. One can also look at track size, the shape of turkey droppings and the sounds turkeys make to help them determine the difference between gobblers and hens and we will cover these later in the presentation.

Gobbler (male)

In the picture of this gobbler you can see the colorful head of this beautiful tom turkey. The beard is very visible on the breast region and you can see how the black tipped breast feathers make gobblers very dark in coloration. This gobbler has extremely large spurs on his legs that appear to be very sharp.

Gobbler breast feather (black tipped)

In this close-up picture of a breast feather from a gobbler you can see how the tip is black in color.

Gobblers

In this series of three pictures you can see the strutting behavior of a New Mexico gobbler, the visible beard and colorful head of a second NM gobbler and the good-sized spurs from a NM Merriam's tom.

Jake versus mature tom

A young gobbler that is not a year old is called a jake and will have longer feathers in the middle of his tail fan. A mature gobbler will have tail fan feathers that are equal in length and form a full and even tail fan. A wild turkey will have approximately 18 main tail feathers in their fan.

Spurs for age classification

A hunter or biologist might be able to look at the spurs of a gobbler to help in age classification. The longer the spur, the older the bird. Merriam's and Gould's do not grow very large spurs. Genetics and the environment, such as lots of rocks in an area, could impact spur size. Osceola have the longest spurs out of the subspecies found in the United States. You can view the charts as a guide to help in aging wild turkeys, but this is not a hard or fast rule.

Aging by looking at primary feathers on wing tips (9 and 10)

You can classify a bird as an adult or a bird of the year by looking at the coloration of the primary wing tips (specifically #9 and #10). If the tips are still darkened and lack barring (alternating color pattern between black and white) then the turkey is a juvenile. If the tips have barring then they are adults. Wild turkeys have approximately 10 primary feathers on their wings and 12 secondary feathers.

Hen (female)

The female or hen wild turkey is smaller bodied than a gobbler. Again, their heads are drabber in color and they have more feathering on their head and neck. Most hens will not have beards, but up to 5-20% of hens in a wild turkey population could have a visible beard.

Hen breast feather (buff tipped)

The breast feathers on hens will be buff tipped in coloration which will aid in making them more cryptically colored (natural camo to blend into their environment). All wild turkeys roost in trees at night, but in the spring time when a hen has laid her clutch of eggs (usually 8-10 eggs) she will continually set them until they hatch and she will stay with the hatchlings until they develop their flight feathers which makes her more susceptible to predators. She needs to blend into her environment.

Hens

As you can see in this series of three photographs hens are indeed drabber in color, especially their head and neck region. The photograph on the far right does show a visible beard on a hen. When a hen begins laying her eggs she will typically have one egg a day until her clutch is laid. If she loses her eggs due to predation or the weather she will or can lay another clutch of eggs. It takes approximately 28 days for a clutch of eggs to develop and hatch. Young turkeys are called poults.

Tracks

Turkeys have three toes and gobbler tracks will be approximately 4" and larger. Hens will be around 3 ½" and smaller. Sandhill crane tracks can be similar in size and shape, but cranes will have narrower toes and their toes tend to be splayed out more. We have some areas in New Mexico where both wild turkeys and sandhill cranes can be found.

Droppings

Droppings from a gobbler will be elongated and typically have a classic "J" shape to them. Hens will be spiraled or globular in shape. Wild turkeys have a cloaca, a cavity at the end of the digestive tract for the release of excretory and genital products.

<p><u>Instructor notes:</u> If presentation is with a younger audience you don't have to go over the definition of a cloaca if not needed.</p>

Strut marks

In the springtime if you see turkey tracks with thin lines on either side of them you have found where a gobbler has strutted and this may be a strut zone or a place where a gobbler may like to visit to try to attract hens. Gobblers will strut in an effort to attract hens. Gobblers will still hang out together in the breeding season, but the dominant tom will be the one strutting and doing most of the breeding.

Other turkey sign

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In sandy areas, especially on edges of roads, you may find small divots with lots of turkey tracks. This is a dusting bowl where turkeys will dust themselves, throwing dirt over their feathers by laying down and flapping their wings, to help rid themselves of mites. As turkeys feed they will scratch up debris on the ground looking for food items. These are called turkey scratching.

What's on the menu

Turkeys can eat a wide variety of food items (they are omnivores) and the season of the year can dictate where they are located and what they are eating. Turkeys will eat seeds, nuts, berries, green grass and insects. When wild turkeys eat a food item it will move to the crop which is an organ that stores extra food.

Language

Turkeys love to be with each other and will form flocks. Being they are so gregarious they have a complexity of calls they will make to communicate and find each other. Turkeys will make sounds that are called yelps, putts, purrs, cutting, cackle, tree yelp, kee kee (or kee kee run) and gobbles.

Instructor Notes: If you have turkey calls and can use them, feel free to make some turkey calls or if you have access to some turkey sounds on a website feel free to play for the audience.

Predators

Wild turkeys have many predators here in the Land of Enchantment to include bobcats, coyotes, mountain lions (or cougars), foxes, bears, Mexican gray wolves, raptors, snakes, racoons and coatis. Some of these would strictly be nest predators such as snakes, racoons and coatis.

Turkey drawing with the kiddos

If presenting to kids have them take sometime to draw a wild turkey by free hand or simply by tracing their hand. Their thumb will be the head and the four fingers will be the tail feathers. Have them get creative and color their wild turkeys and have them make the habitat a wild turkey lives in to include tree, grass, water and even predators.

Instructor Notes: Have paper, crayons, colored pencils for students to use. Also have pictures on a screen for them to look at as they color their pieces of art for inspiration.

Older audience

If presenting material to an older audience encourage them to try their artistic skills in the future by photographing, drawing or painting wild turkeys and the beautiful landscape they live in.

Conclusion Summary

Thank the class for their time and ask if there are any questions. Encourage them to go outdoors and explore nature in the future.