

Bear and Cougar 19.31.11 NMAC



August 25, 2023
State Game Commission Meeting

Stewart Liley, August 25, 2023

Rule Development Timeline

- **April, August, & October** – present at SGC meetings
- **April** – Rule opens, initial NMDGF ideas posted on the website
- **July** – Public meetings throughout the state
- **September** – Final NMDGF proposed rule posted on the website
- **October 20th** – Act on rule



Public Comment Summary

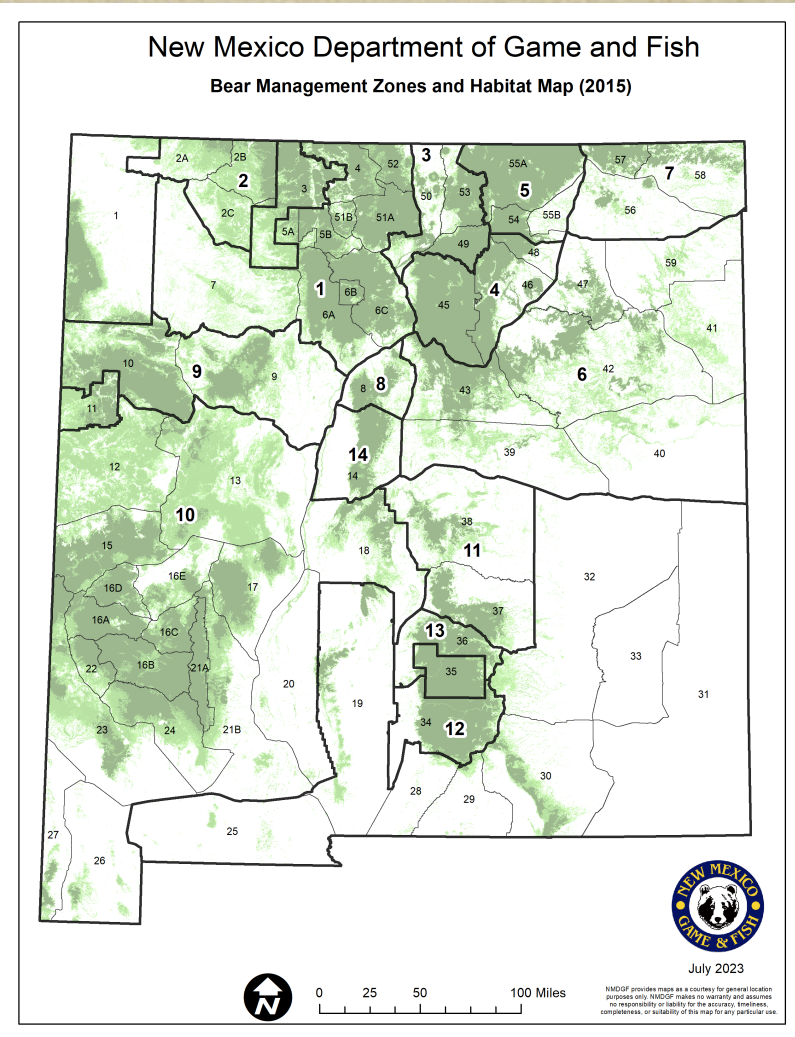
- Hosted 4 public meetings
 - Raton (11 attendees), Albuquerque (15), Las Cruces (12), Roswell (4)
- Received 2,235 emails

TOPIC	
Support	1,560
Oppose	771
	2,331



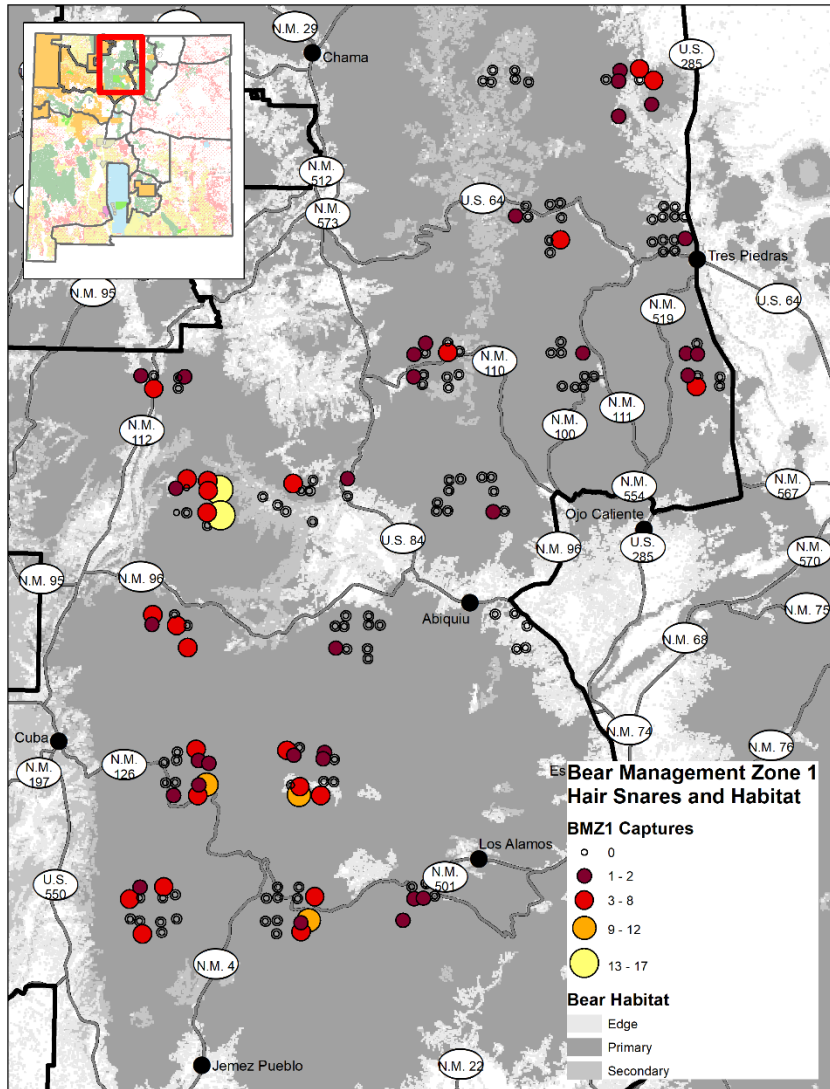
Black Bear Management Structure, Monitoring and Research

- Manage by zones
- Population estimate
- Conservative harvest limits

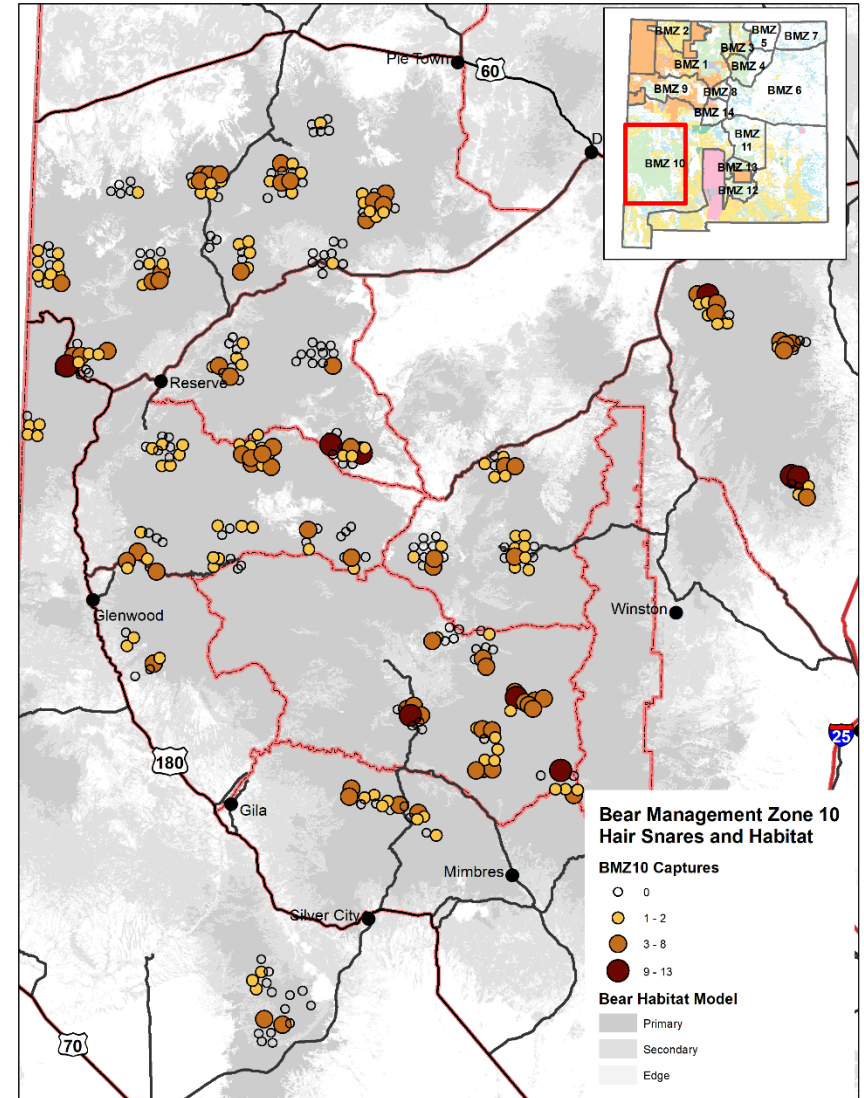


Map of Study Areas

BMZ 1 - 2019



BMZ 10 - 2020 & 2021



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NMDGF Bear Hair Snare Studies

- **BMZ 1, 2019:** 1,097 samples, 94 bears (49F:45M)
- **BMZ 10, 2020:** 1,241 samples, 152 bears (74F:78M)
- **BMZ 10, 2021:** 694 samples, 118 bears (63F:55M)

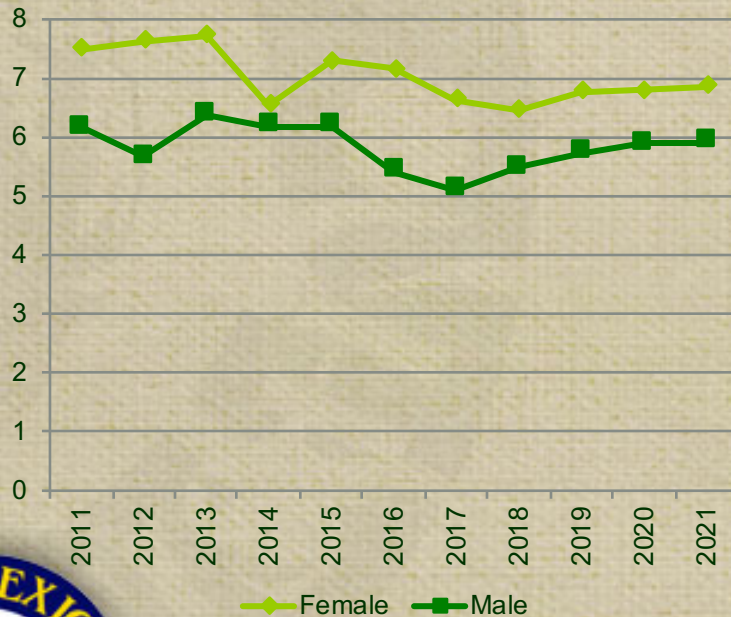
Population estimates

BMZ	Previous Population Estimate	New Population Estimate
1	1,580	1,681
10	1,456	2,461

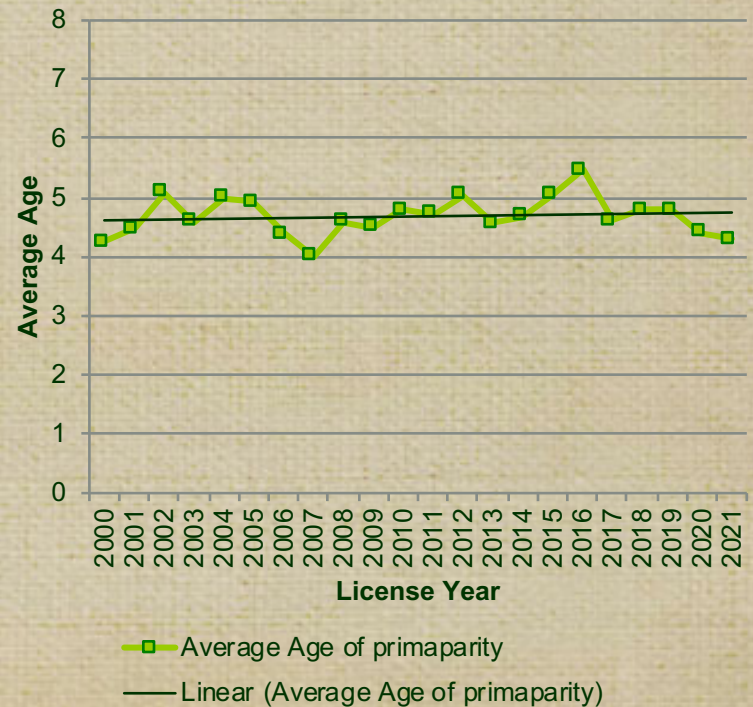


Bear Age at Mortality

Bear Average Age at Harvest Statewide 2011-2021



Average Age of first cub production in New Mexico



Bear Harvest

Year	Sport Harvest (females)	Max Allowable Harvest	Depredation	Other	Total	# of Zones Closed
2019	473 (172)	804	40	22	535	3
2020	603 (240)	804	100	41	745	6
2021	502 (192)	804	60	18	580	3
2022	523 (194)	804	83	31	637	4
AVG	525 (201)	804	71	28	624	4



Bear Proposals



- Increase harvest limits in BMZ 1 & 10
- Move GMU 57 to BMZ 5, and move GMUs 56 & 58 to BMZ 6
- Increase permit numbers for Marquez/Lbar and GMUs 54/55A draw hunts
- Move start date in BMZ 12 & 13 to August 16th



Bear Harvest Limits

BMZ	Current Total Limit (Female Sub-limit)	Proposed Total Limit (Female Sub-limit)
1	158 (63)	168 (67)*
2	15 (6)	15 (6)
3	65 (26)	65 (26)
4	109 (43)	109 (43)
5	92 (37)	108 (43)+
6	33 (13)	51 (20)+
7	35 (14)	---+
8	11 (4)	11 (4)
9	36 (14)	36 (14)
10	146 (58)	197 (79)*
11	36 (14)	36 (14)
12	33 (13)	33 (13)
13	16 (6)	16 (6)
14	19 (7)	19 (7)
STATEWIDE	804 (318)	864 (342)

*Change reflects the change in harvest limit as a result of added/subtracted GMU

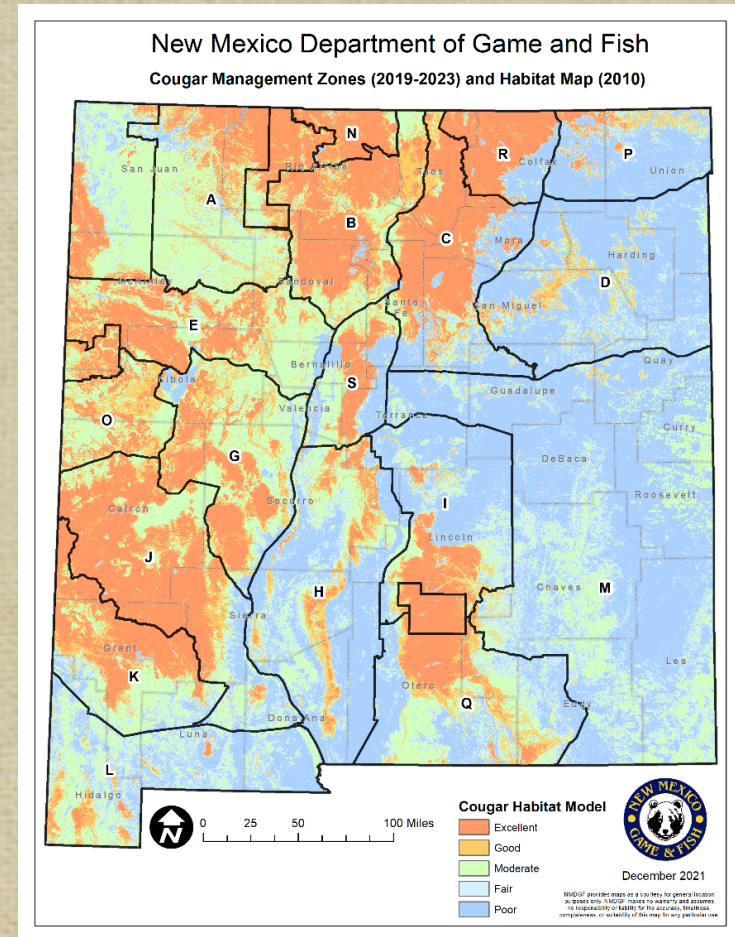
+Change reflects the change in harvest limit due to GMUs being added or removed from zone

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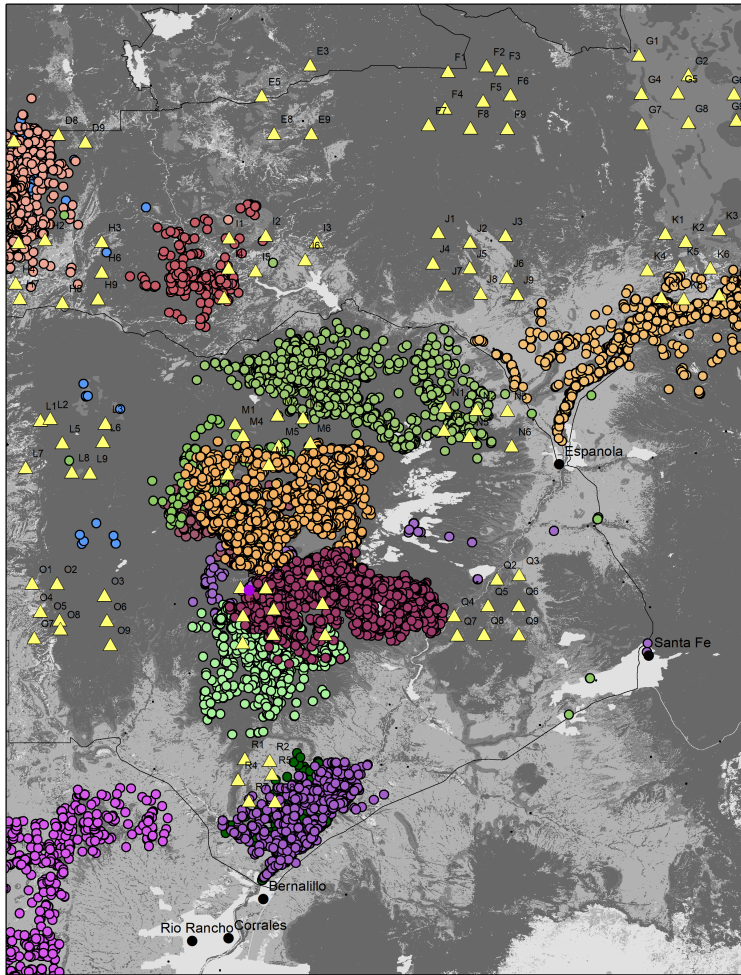
Cougar Management Structure, Monitoring and Research

- Cougar population size = density estimates applied to habitat map (different densities for different habitats)

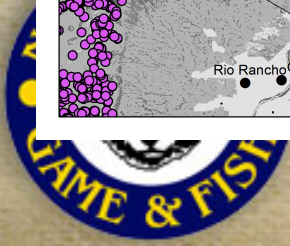
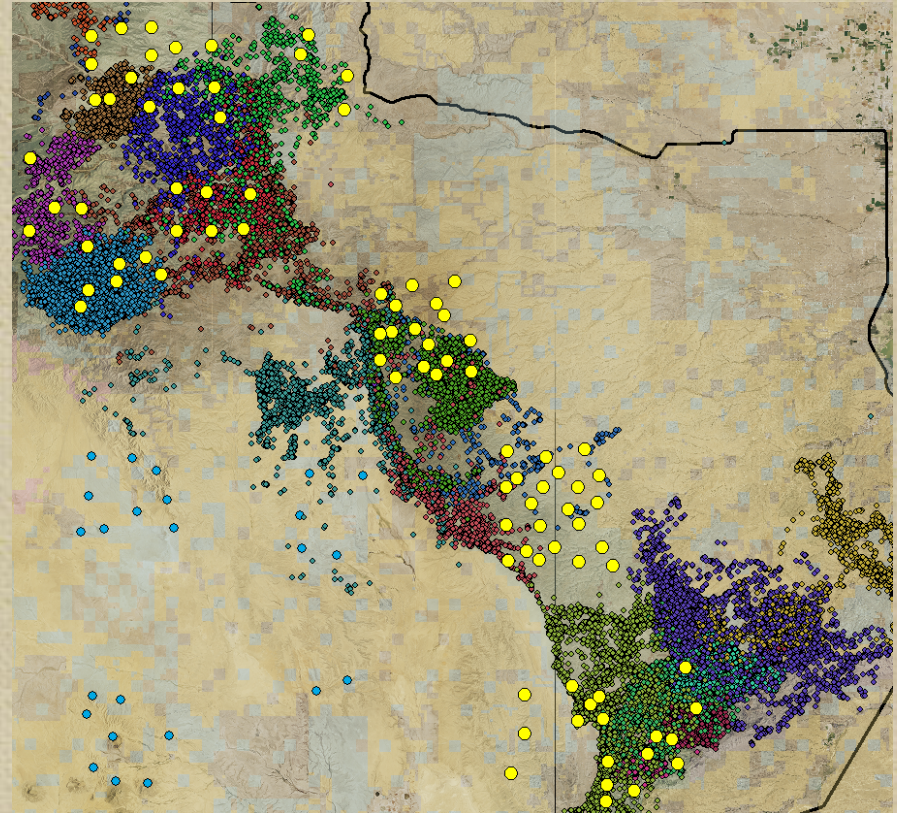


Map of Study Areas

CMZ BF – 2017-18



CMZ Q – 2019-21



Cougar Collar and Cameras

- **CMZs B & F, 2018:** 128 camera sites, 14 lions collared
 - Population estimate of 149 (~1 cougar/100km²)
- **CMZ Q, 2019-21:** 157 camera sites, 25 lions collared
 - Population estimate of 100 (~0.55 cougar/100km²)



Cougar Harvest

Year	Sport Harvest (females)	Max Allowable Harvest	Depredation	Other	Total	# of Zones Closed
2019	282 (112)	740	8	33	323	3
2020	272 (122)	580	17	42	331	9
2021	262 (91)	580	24	35	321	7
2022	304 (105)	580	21	48	373	6
AVG	280 (108)	---	18	40	337	8



Cougar Proposals

- Lower cougar harvest limit in CMZ Q



CMZ	2020-24 Total Limit (Female Sub-limit)	2024-28 Proposed Total Limit (Female Sub-limit)
A	42 (13)	42 (13)
B	25 (8)	25 (8)
C	57 (17)	57 (17)
D	15 (5)	15 (5)
E	42 (13)	42 (13)
G	50 (15)	50 (15)
H	29 (9)	29 (9)
I	24 (7)	24 (7)
J	84 (25)	84 (25)
K	45 (14)	45 (14)
L	19 (6)	19 (6)
M	25 (7)	25 (7)
N	15 (5)	15 (5)
O	17 (5)	17 (5)
P	14 (7)	14 (7)
Q	34 (11)	17 (6)
R	26 (8)	26 (8)
S	17 (5)	17 (5)

Bear and Cougar Proposals

- Change the requirements for closure on the female sub-limit such that the zone closes when that female sub-limit is reach.
- Allow deer or elk hunters who draw WMA hunts to harvest a bear or lion during their hunt on that WMA if the zone is open and they possess a Bear and/or Cougar license



QUESTIONS



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To provide comment:

- DGF-Bear-Cougar-Rules@state.nm.us
- <http://www.wildlife.state.nm.us/commission/proposals-under-consideration/>



Cougar Integrated Population Models (IPMs)

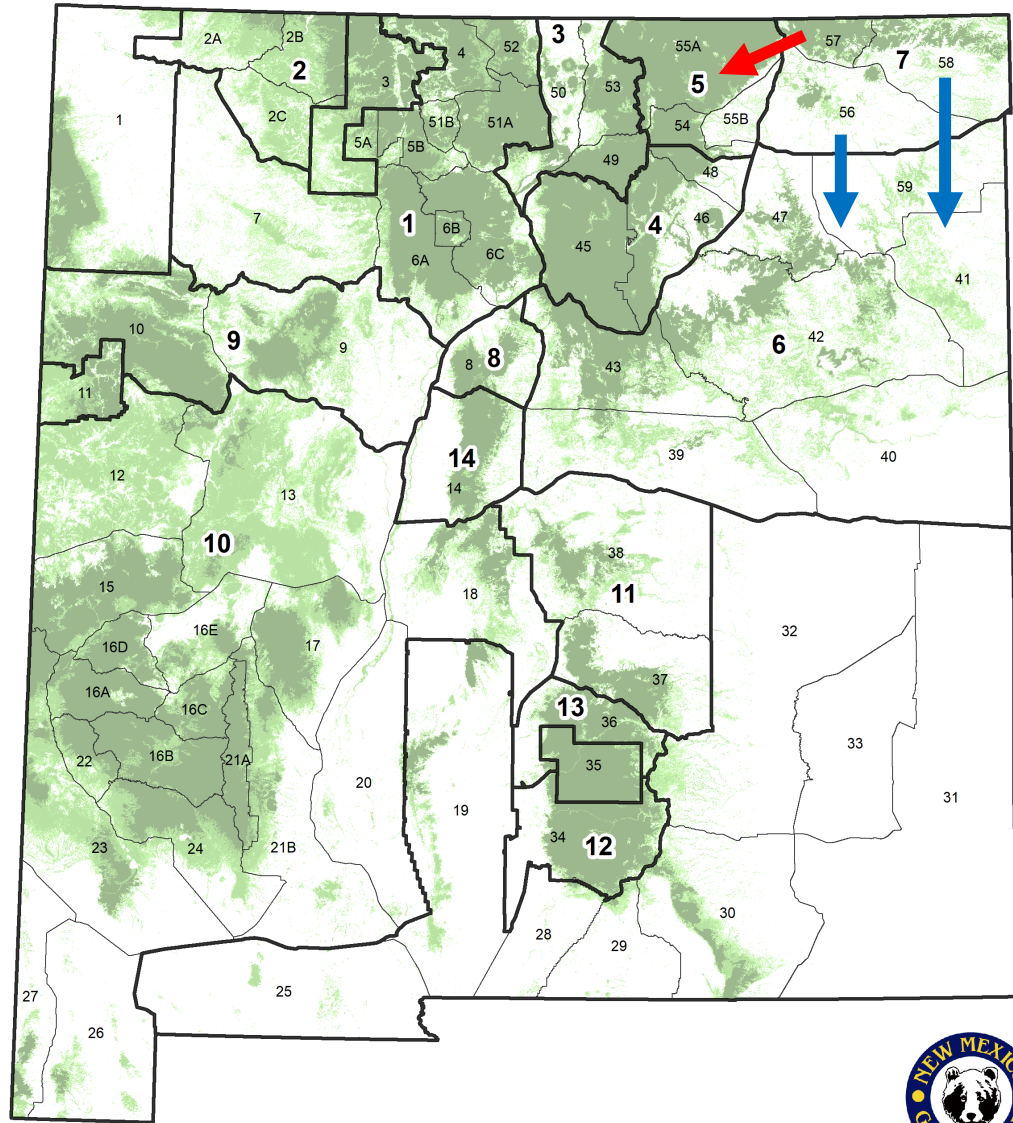
- Another advanced statistical approach to look at population dynamics
 - Uses all available data sources
- NMDGF access to long-term, extensive data sets:
 - 20+ years of data from harvest
 - Multiple university studies with collared lions
- Provides details on annual population metrics, as well as long-term trends



New Mexico Department of Game and Fish

Bear Management Zones and Habitat Map (2015)

Bear Proposals



July 2023

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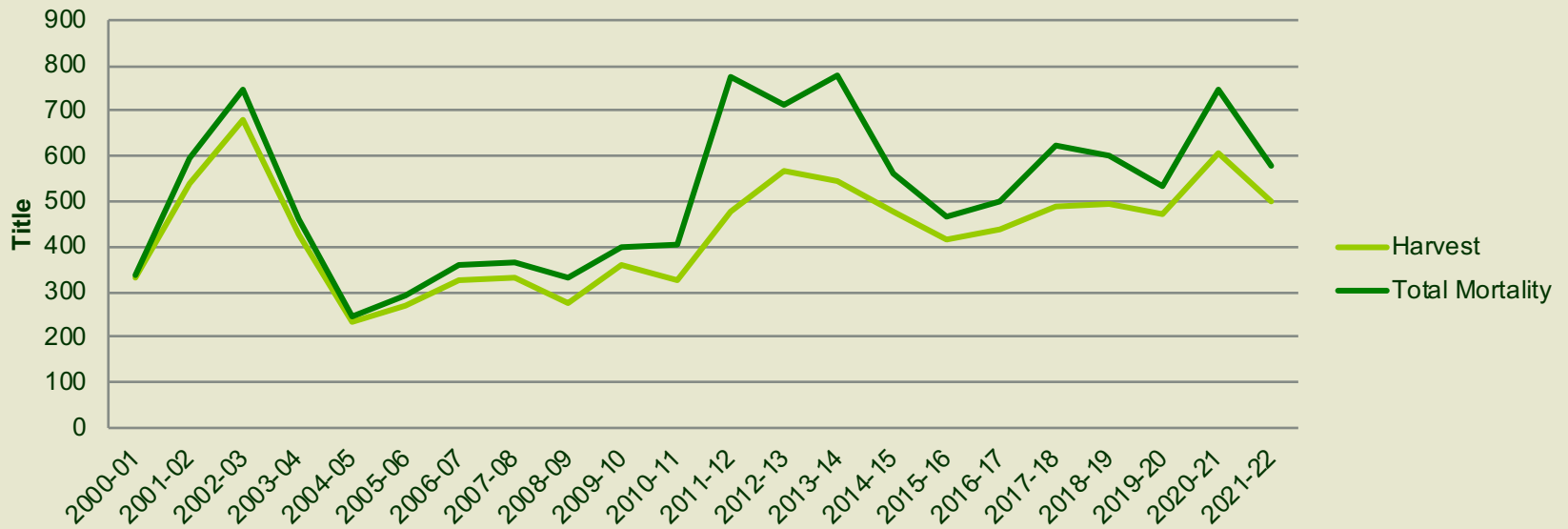
0 25 50 100 Miles

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New Mexico Department of Game & Fish

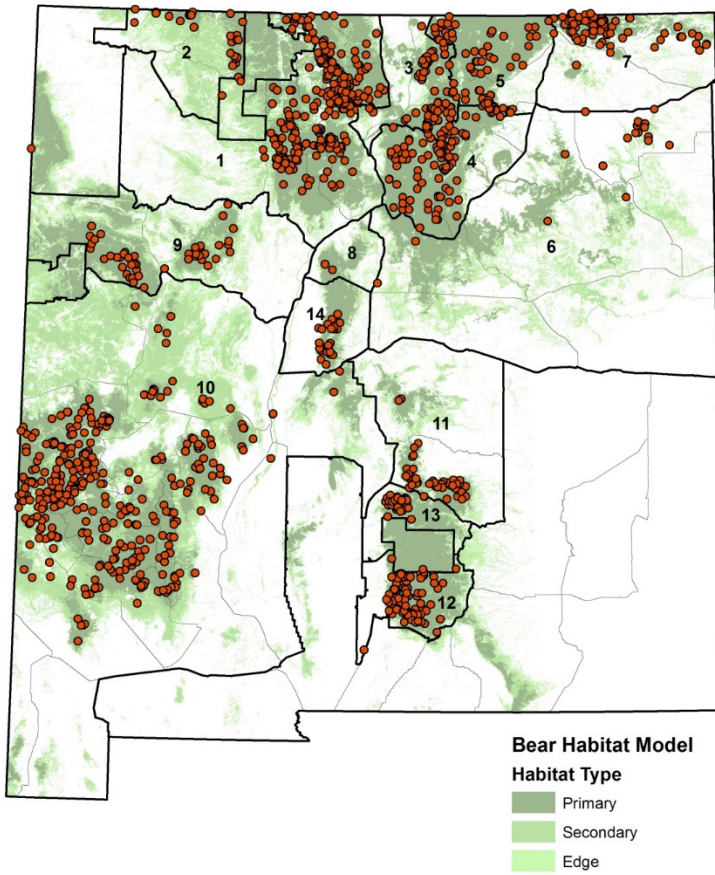
Bear Harvest

Statewide Black Bear Mortality 2000-2022

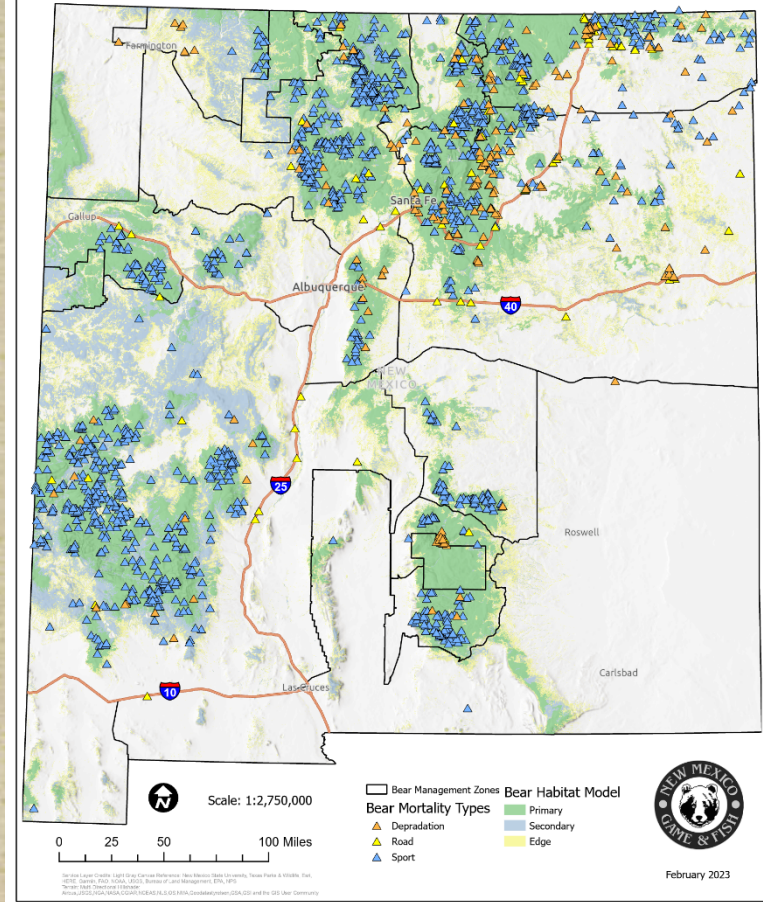


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Bear Harvest 2016 - 2019



New Mexico Bear Mortality 2020 - 2022



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Bear Population Information

Zone	Game Management Units	Bear Population Estimate 2012	Bear Population Estimate 2016	Bear Population Estimate 2023	Harvest Limit (Female Harvest Limit)
					2024 – 2028
1	4, 5, 6, 7, 51, 52	1,240	1,580	1,681	TBA
2	2	149	150	150	15 (6)
3	49, 50, 53	377	544	544	65 (26)
4	45, 46, 48	869	1,093	1,093	109 (43)
5	54, 55	703	919	919	92 (37)
6	39, 40, 41, 42, 43, 47, 59	182*	328	328	33 (13)
7	56, 57, 58	234	354	354	35 (14)
8	8	46	132	132	11 (4)
9	9, 10	251	356	356	36 (14)
10	12, 13, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27	1,094*	1,456	2,461	TBA
11	37, 38	155*	360	360	36 (14)
12	34	313	325	325	33 (13)
13	36	185	159	159	16 (6)
14	14	119	233	233	19 (7)
Totals		5,917	7,989	9,095	804 (318)

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Bear Harvest Limits

BMZ	Max	2016 Actual	2017 Actual	2018 Actual
1	158	138	70	121
2	15	7	16	5
3	65	27	42	26
4	109	21	39	50
5	92	21	30	21
6	33	4	11	5
7	35	31	31	30
8	11	0	0	2
9	36	18	16	20
10	146	98	154	143
11	36	17	22	21
12	33	30	30	32
13	16	16	13	13
14	19	10	12	7

BMZ	Max	2019 Actual	2020 Actual	2021 Actual	2022 Actual
1	158	109	126	126	137 ⁺
2	15	5	13 ⁺	1	4
3	65	26	42	28	39
4	109	47	70	58	45
5	92	29	17	32	37
6	33	6	25	14	15
7	35	32 [*]	40 [*]	25 ⁺	31 [*]
8	11	0	2	0	1
9	36	11	25	20 ⁺	33
10	146	143 [*]	160 [*]	137 [*]	135 [*]
11	36	19	35 ⁺	22	15
12	33	31 [*]	32 [*]	26	27 [*]
13	16	9	9	5	4
14	19	7	12 ⁺	6	0

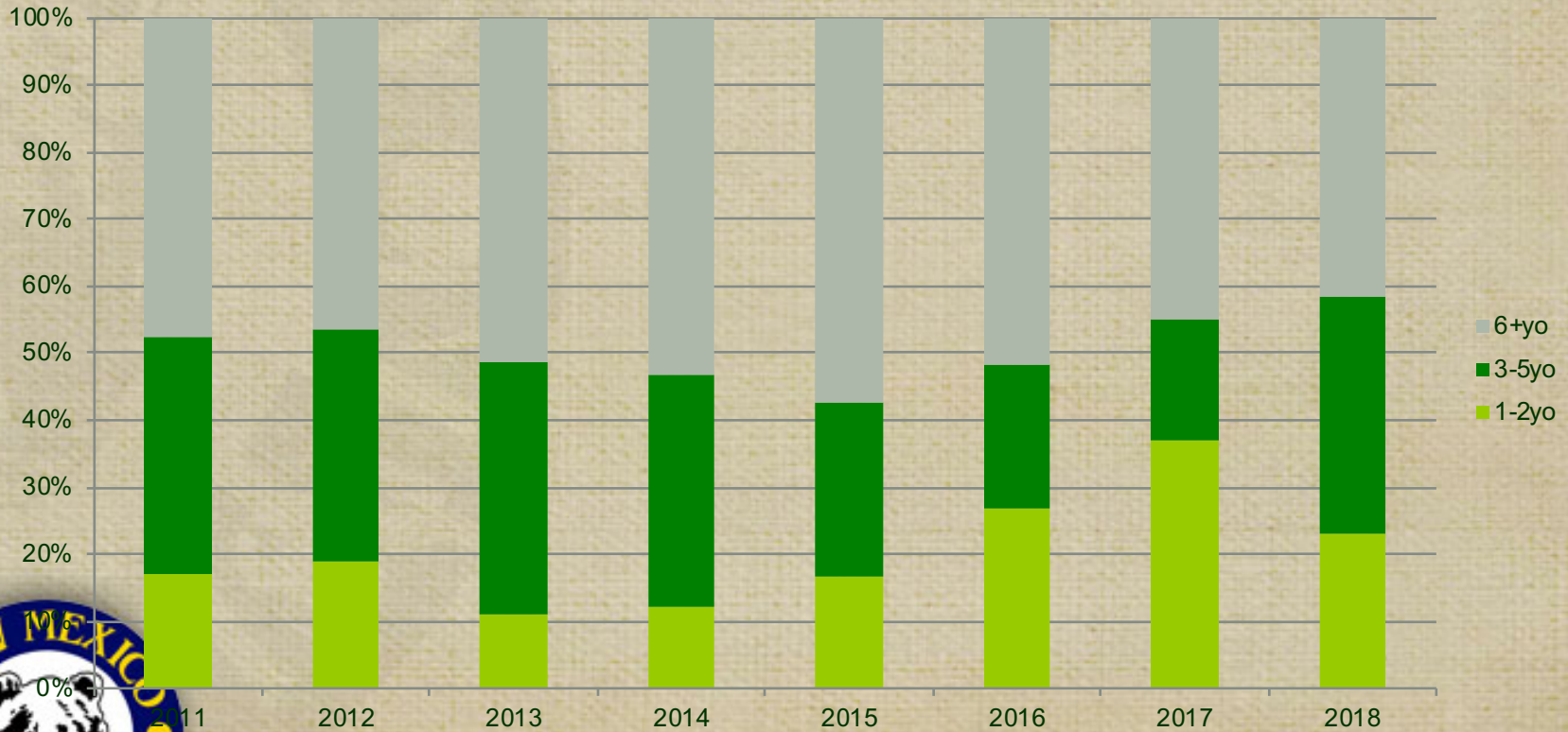
**/+ denotes closure on the total (*) or female (+) harvest limits*

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Bear Age at Mortality

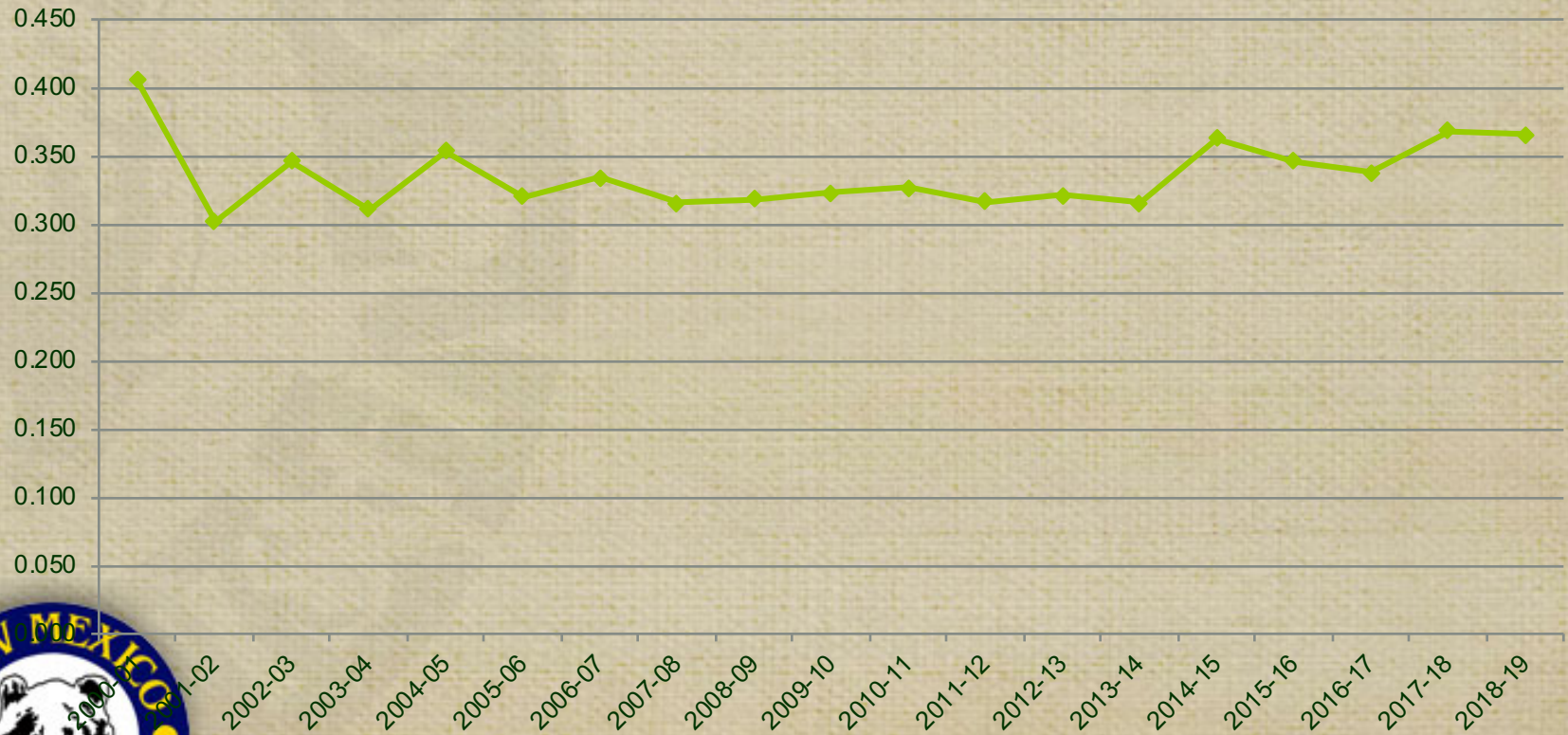
Age Structure of Statewide Mortalities



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Bear – Catch Per Unit Effort

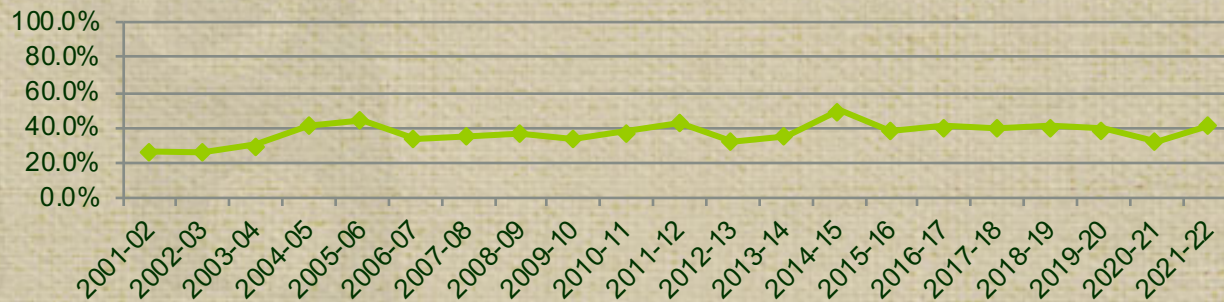
Catch Per Unit Effort for Black Bear Harvested 2000 - 2018



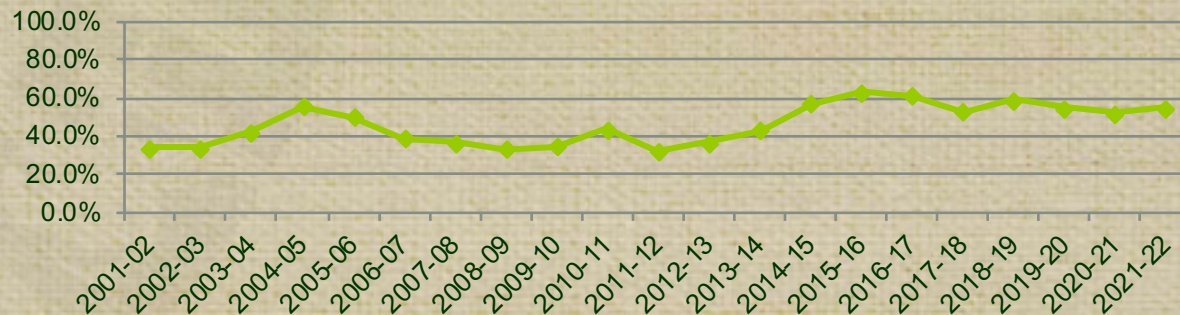
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Bear – Guided and/or with dogs

Statewide Harvest by Guided Hunters



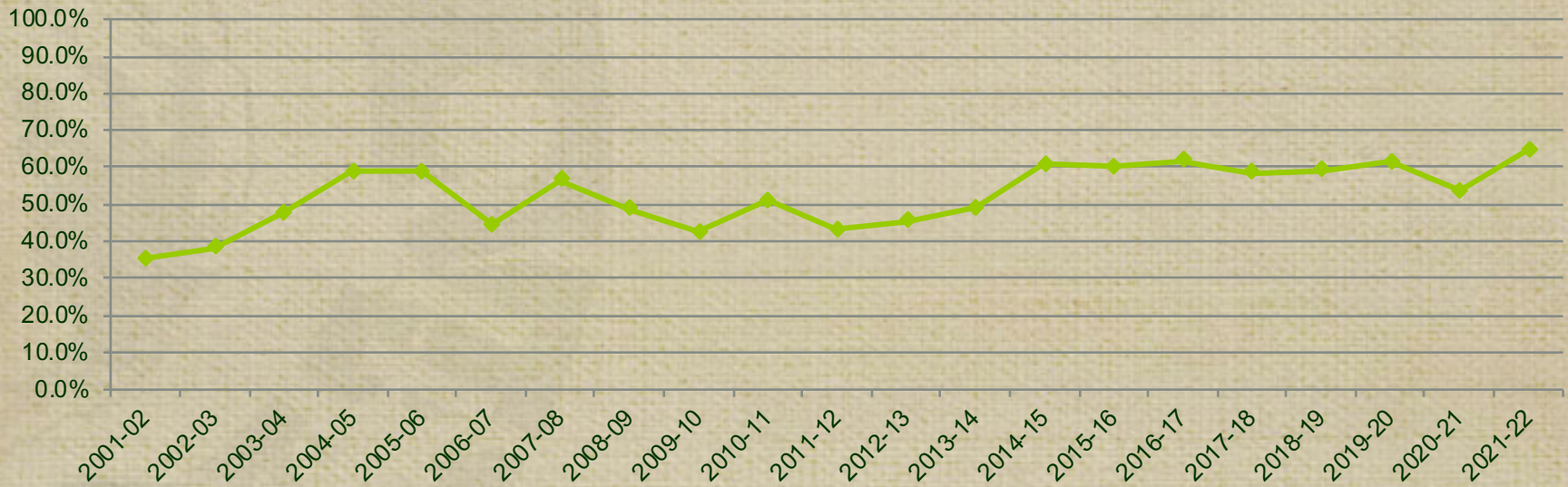
Statewide Harvest Using Hounds



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Bear – Non-resident Harvest

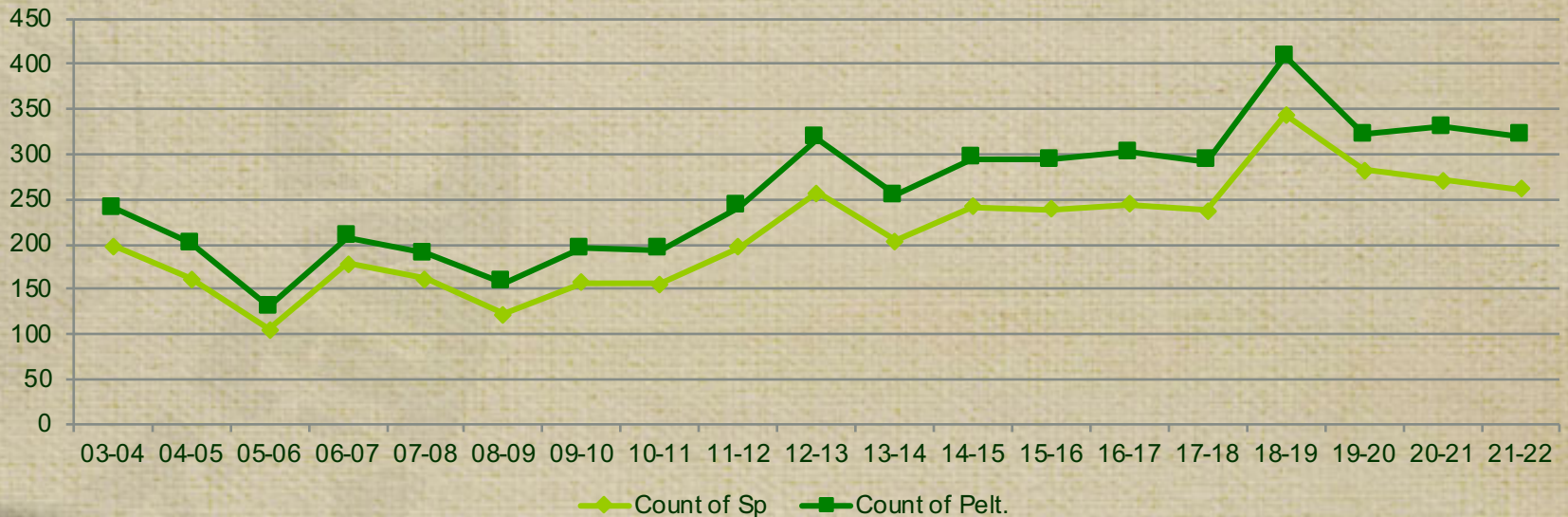
Statewide Harvest by Non-Residents



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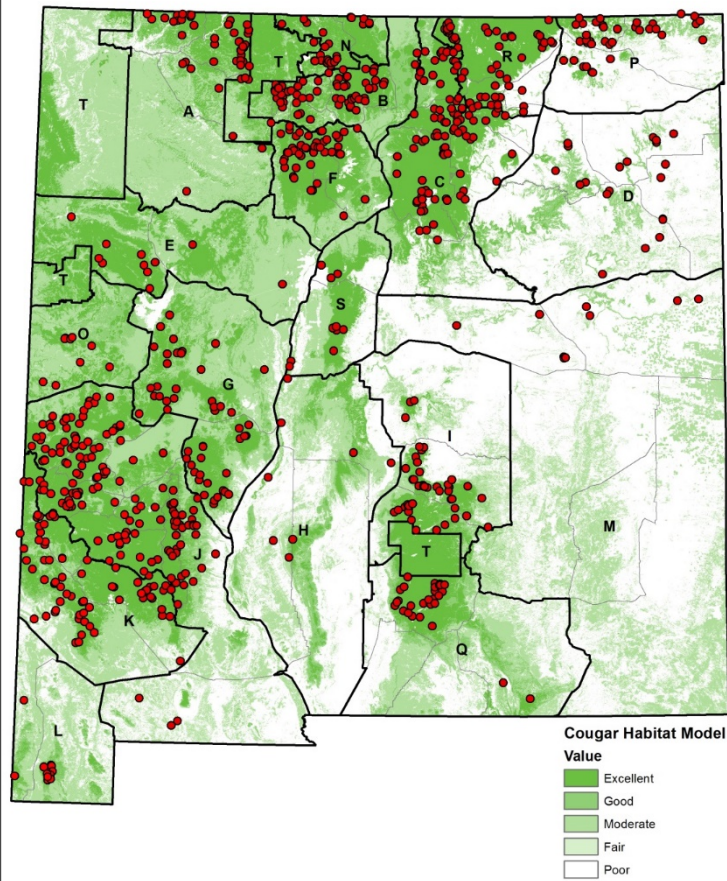
Cougar Harvest

Cougar Harvest and Total Mortality 2003-2022

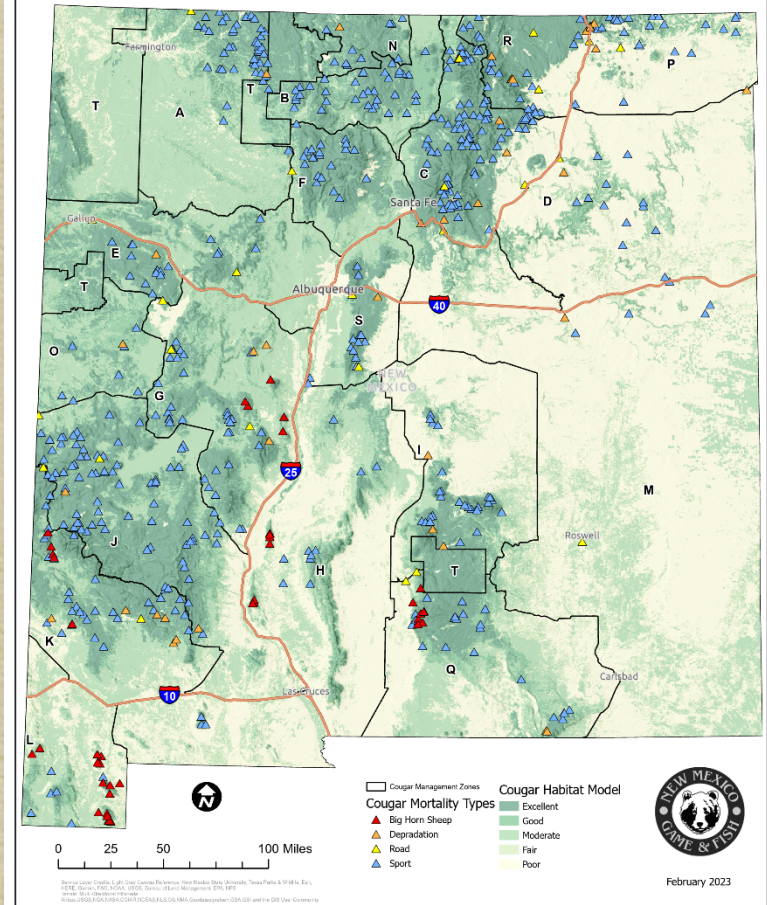


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Cougar Harvest 2016 - 2019



New Mexico Cougar Mortality 2020 - 2022



Cougar Harvest

CMZ	Max	2016	2017	2018	2019
A	42	12	14	21	17
B	28	22	20'	27*	22'
C	85	25	24	47	40
D	23	5	11	8	4
E	50	1	3	7	9
F	46	11	16	20*	13
G	73	13	11	27	23
H	37	0	4	3	1
I	24	14	11'	19'	16'
J	89	49	39	74	52
K	66	24	25	25	18
L	19	5	3	4	1
M	31	2	4	4	2
N	15	10'	10'	10'	13'
O	21	5	1	5	4
P	14	13*	15*	13*	13*
Q	35	13	7	9	12
R	26	16	17'	17	20
S	25	4	3	4	2

CMZ	Max	2020	2021	2022
A	42	26'	21	33
B	25	26*	30*	26*
C	57	45'	46'	39'
D	15	7'	7'	8
E	43	8	11	12
G	50	18	18	21
H	29	10	0	1
I	24	10'	17'	19
J	84	44'	38	60'
K	45	13	16	21
L	19	7	3	10
M	25	4	0	6
N	13	6	4'	7'
O	17	2	6	5
P	14	14*	14*	13*
Q	35	13	10	10
R	26	14'	11	6
S	17	4'	10'	7'

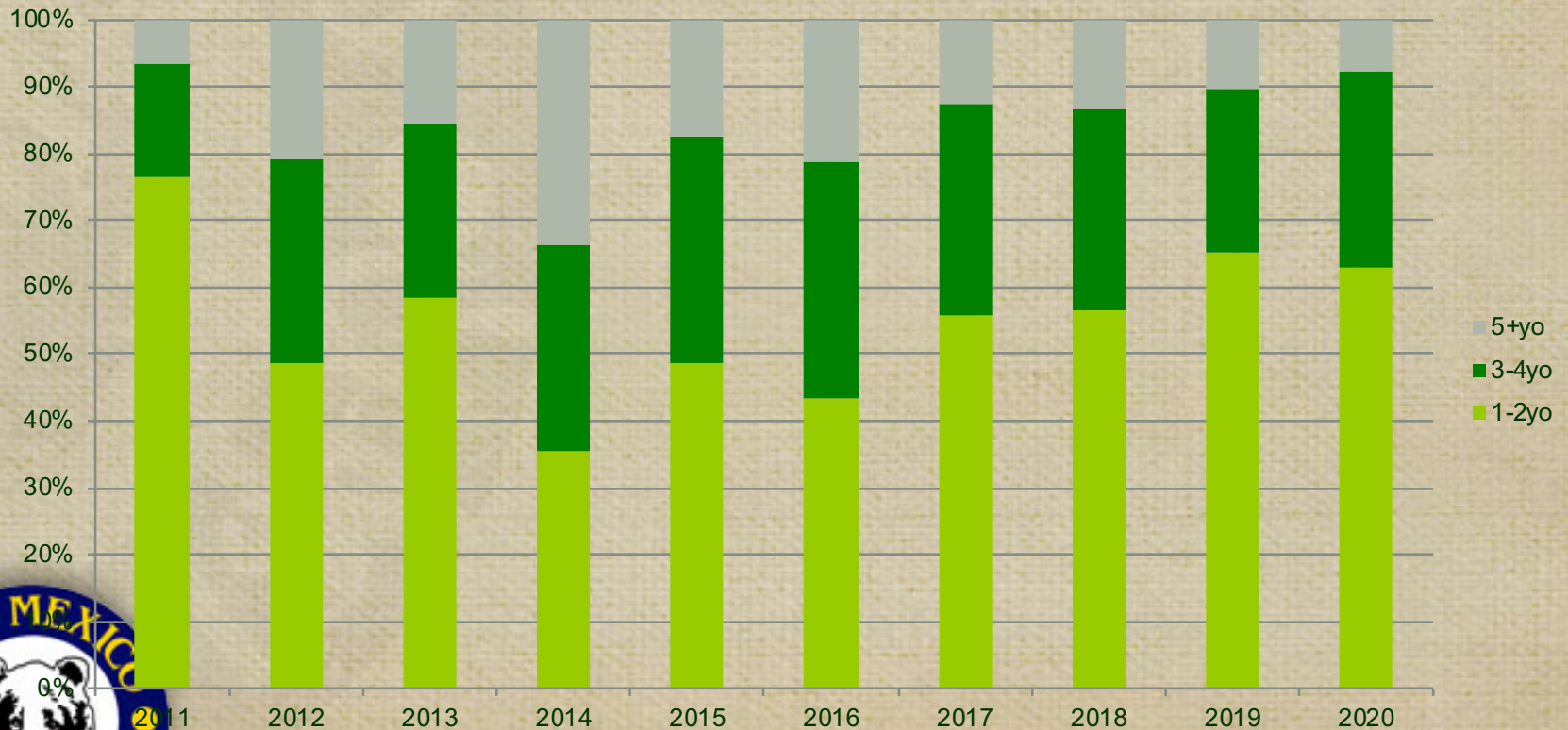
*closed on total limit; †closed on female sub-limit

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Cougar Population Age Structure

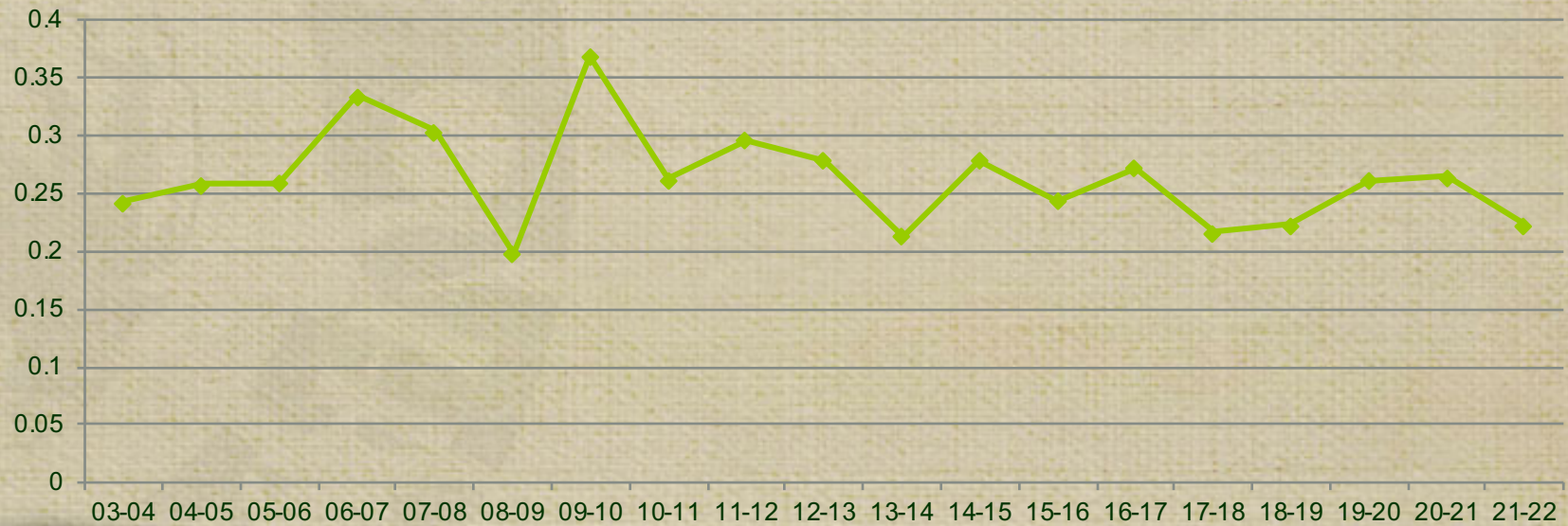
Statewide Age Structure of Harvest 2011-2020



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Cougar: Catch Per Unit Effort

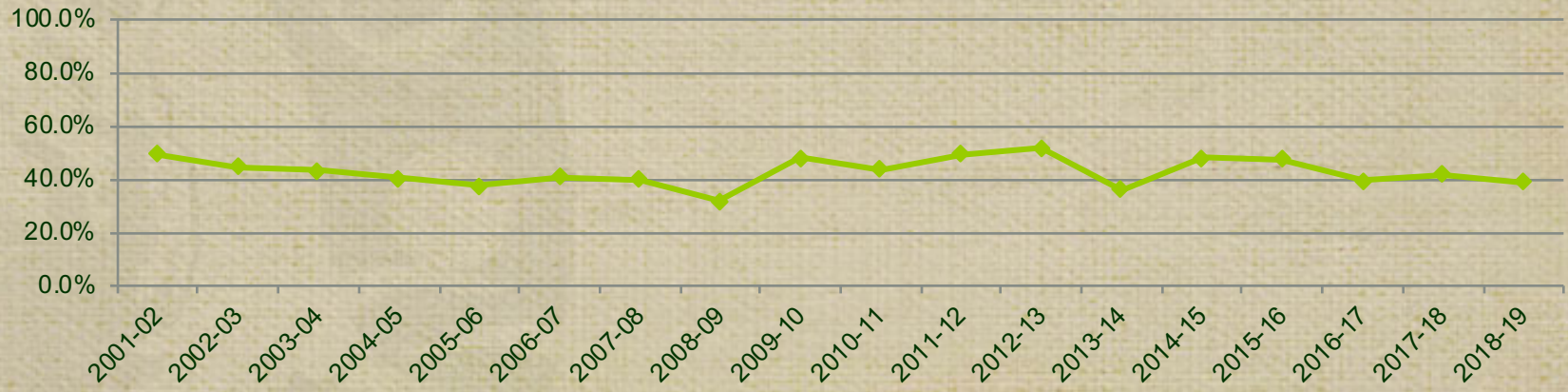
Statewide Cougar Harvest CPUE 2003-2022



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Cougar – Guided and/or with dogs

Proportion of Harvest by Guided Hunters 2001 - 2019



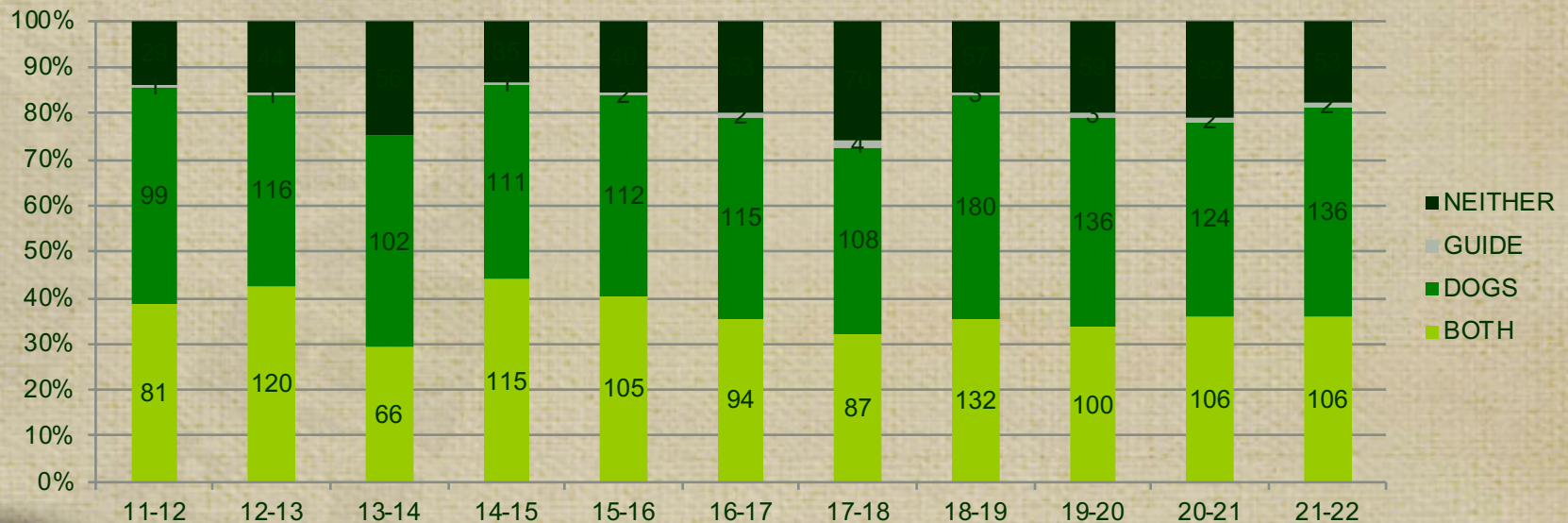
Proportion of Harvest through use of Hounds 2001 - 2019



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Cougar – Guided and/or with dogs

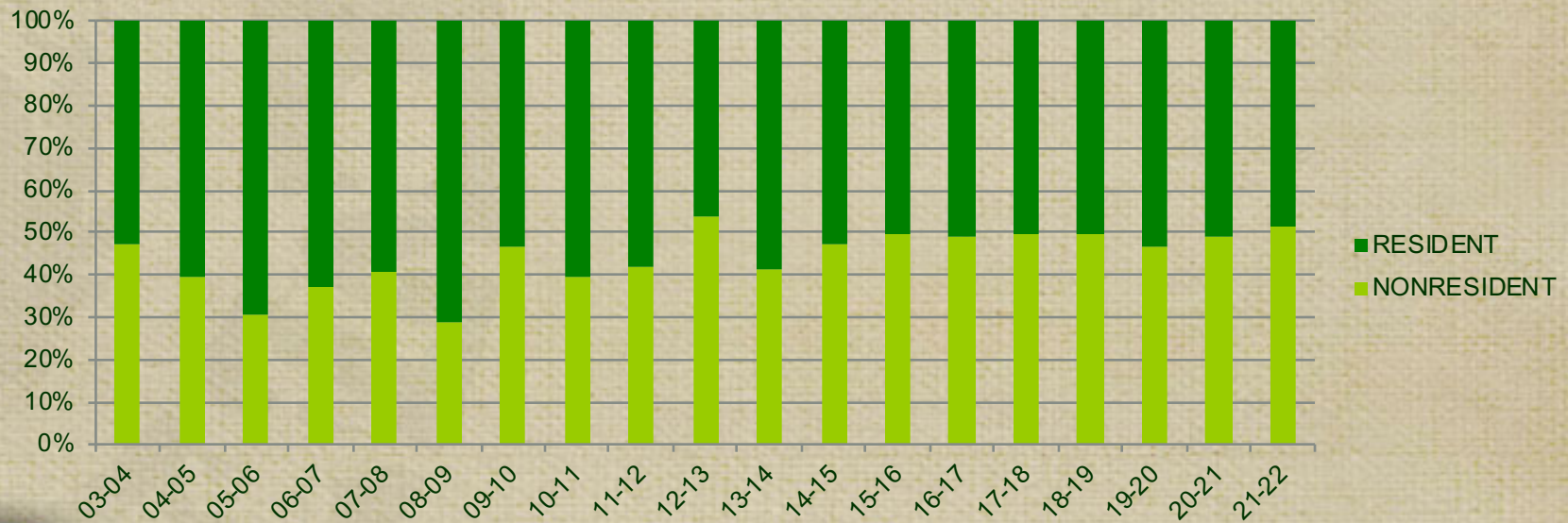
Statewide Harvest Using Guides and/or Hounds 2011-2022



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Cougar – Harvest by Non-Residents

Statewide Cougar Harvest by Residency 2003-2022



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Cougar Sport Harvest Limits

CMZ	2016-20 Total Limit (Female Sub-limit)	Harvest Limit Proposal	2020-24 Total Limit (Female Sub-limit)	Additional Proposals
A	42 (13)		42 (13)	
B	28 (9)		25 (8)	
C	84 (42)		57 (17)	
D	23 (11)		15 (5)	
E	50 (15)		42 (13)	
F	46 (23)		Combined with B	
G	73 (37)		50 (15)	
H	42 (21)		29 (9)	
I	24 (7)		24 (7)	
J	89 (27)		84 (25)	
K	66 (33)		45 (14)	
L	19 (10)		19 (6)	
M	31 (9)		25 (7)	
N	15 (5)		15 (5)	
O	21 (6)		17 (5)	
P	14 (7)		14 (7)	
Q	34 (11)		34 (11)	
R	26 (8)		26 (8)	
S	25 (13)			

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*Change reflects the change in harvest limit as a result of added/subtracted GMU

