



Utah's Predator Control Program Summary

Program activities and data from July 1, 2019 through June 30, 2020

Utah's *Mule Deer Protection Act* has been in effect since July of 2012. The primary goal of the program is to remove coyotes from areas where they may prey on mule deer. Two bills were passed by the Utah Legislature, which provide funding to implement the program. SB245 set aside \$500,000 from the Utah General Fund to pay a bounty fee for coyotes that the public harvests, and SB87 added a \$5.00 fee increase to all big game hunting permits to help pay for predator removal efforts. The Utah Division of Wildlife Resources (Division) created the General Predator Control Program, which tracks harvest and participation, and provides payment to all participants in the program. The Division established locations throughout the state where people can check-in coyotes for payment. Each participant must submit the scalp of the animal with ears attached, the lower jaw, and a datasheet that documents where each coyote was killed.

This report summarizes details from the implementation of the Act in Fiscal Year 2020, which runs from July 1, 2019 to June 30, 2020.

Participation, Payments and Coyotes Submitted for Payment

This is the eighth year of the General Predator Control Program, and a total of 4109 coyotes were turned in for \$205,450 in compensation, a decrease of 50% compared with 8,232 coyotes in FY2019.

In FY2020, 541 individuals submitted coyotes through the General Predator Control Program. The number of participants went down 60% from the previous year (n=905). The number of coyotes submitted per hunter remained similar to FY2019 with 52% of the participants submitting more than five animals and 16% of participants submitting one animal. Only 1% of participants submitted more than 50 animals.

Impact of the Program: Estimates from Survey Data

The Division's yearly furbearer survey provided supplementary information about coyote harvest in the state. Up until implementation of the Mule Deer Protection Act and the General Predator Control Program the annual reported harvest of coyotes by hunters licensed to harvest furbearers averaged 6,048. The reported harvest of coyotes by licensed furbearers was 3,590 during 2018-2019. The total reported coyote harvest by the general public from July 1, 2018 to June 30, 2019 is 11,822.

In addition, the Division has a cooperative interagency agreement with USDA Wildlife Services (WS) to remove coyotes under this program. WS personnel reported removing 3,911 coyotes from July 1, 2018 to June 30, 2019.

Total estimated harvest of coyotes for FY2020 through the General Predator Control Program (4109) and by Wildlife Services (3,911) is 12,143 coyotes. Prior to the implementation of the Mule Deer Protection Act reported harvest of coyotes by licensed furbearer permits holders and Wildlife Services together averaged approximately 9,300 animals per year.

Biological Data

Samples and locations of all coyotes could not be collected due to errors in locations, incomplete data forms, or when conditions prevented gathering the additional data. For example, some coyotes were submitted with injuries which precluded sampling such as broken teeth and damaged hides. Additionally, when long lines or software problems at coyote check-in locations were encountered, biological data was not collected in order to provide quicker customer service to program participants.

Biological data collected for coyotes harvested in the predator control program in FY2020 indicates that 921 (48%) were female, 977 (51%) were male, and the remaining 20 (1%) were unspecified. For the 1,924 coyotes for which hunting method information was available, most (1,439 or 75%) were taken by shooting, 387 (20%) were trapped, and 98 (5%) were harvested by other means such as trained dogs, denning, vehicle collisions, etc.

Tooth data consisting of a random sub-sample of approximately 10% of all collected teeth from FY2019 indicate that 95% of the harvest was two-years old or younger, and 64% of the animals were less than one-year-old. The oldest animal taken in FY2019 was 11 years old. Results from tooth data were consistent from FY2013 through FY2019. In an effort to reduce costs associated with the program, tooth sampling is conducted every other year.

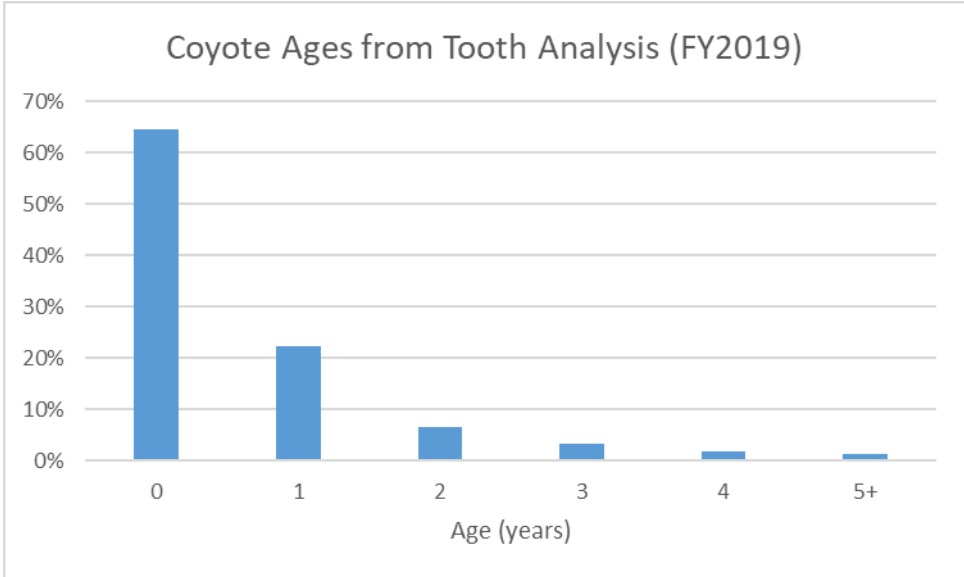


Figure 1. Age of coyotes determined by cementum annuli in FY2019 (n=318).

Temporal Distribution of Coyote Submissions and Harvest

Between FY2013 and FY2018, participants were able to store coyotes for an undetermined amount of time before submitting. Beginning in FY2019, participants must submit coyotes within one year of harvest. Coyotes submitted in FY2020 were harvested from 2018-2020.

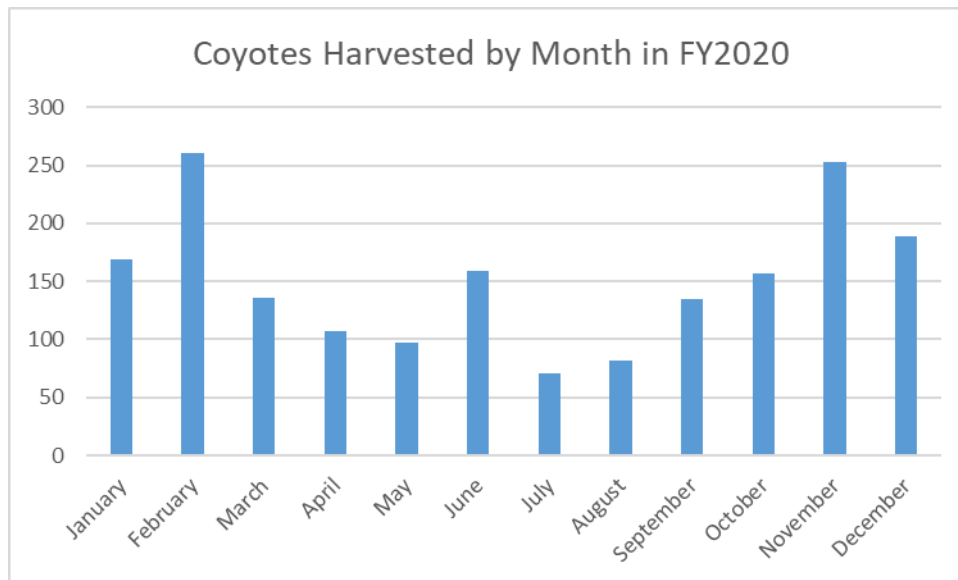


Figure 2. Number of coyotes harvested by month FY2020.

Spatial Distribution of Coyote Take

The total number of coyotes submitted in FY2020 with usable spatial data was 1,867. Coyote removal locations were plotted onto the state's deer management units (Table 1). Coyote removal success varied across the state with only 3 of the 39 units having more than 5% of removals. Of the 51,401 locations with usable spatial attributes submitted from September 2013 through June 2020, twenty percent (10,245) overlapped with summer (or yearlong) habitat for mule deer. The summer habitat data is the best useable data to estimate the overlap between mule deer fawning and coyote removals.

Utah Coyote Removal Efforts for FY2020

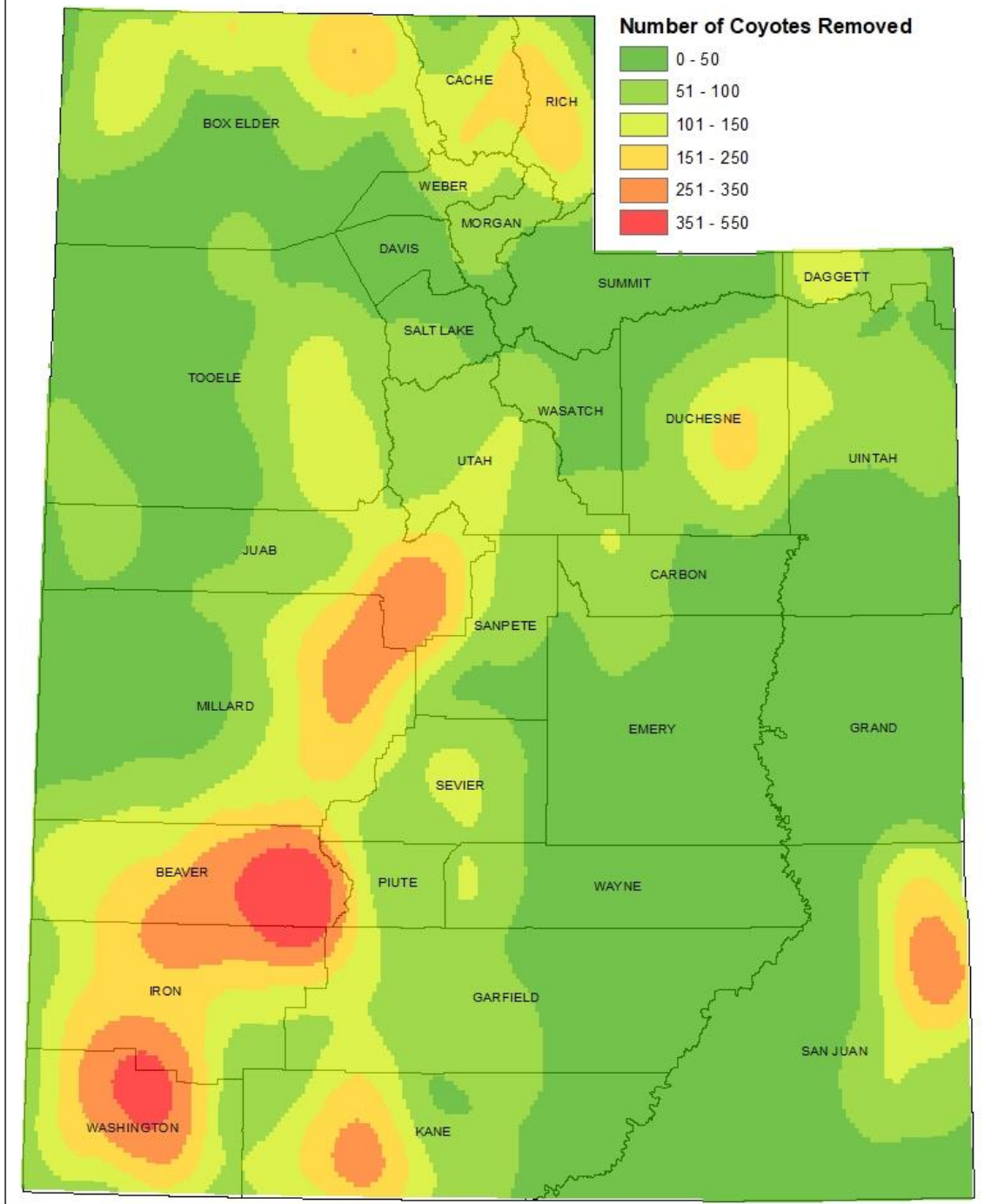


Figure 4. Map of coyote removal densities from coyotes submitted through the predator control program in FY2020.

Deer Unit	Coyotes Removed	% of Statewide Total
Antelope Island	0	0.00%
Beaver	159	8.52%
Bookcliffs	7	0.37%
Bookcliffs, South	3	0.16%
Box Elder	173	9.27%
Cache	63	3.37%
Central Mtns, Manti/San Rafael	55	2.95%
Central Mtns, Nebo	48	2.57%
Chalk Creek/East Canyon/Morgan-South Rich	42	2.25%
Fillmore	92	4.93%
Fillmore, Oak Creek LE	38	2.04%
Henry Mtns	8	0.43%
Kamas	0	0.00%
La Sal, Dolores Triangle	1	0.05%
La Sal, La Sal Mtns	34	1.82%
Monroe	11	0.59%
Mt. Dutton	16	0.86%
Nine Mile	28	1.50%
North Slope	33	1.77%
Ogden	28	1.50%
Oquirrh-Stansbury	47	2.52%
Panguitch Lake	19	1.02%
Paunsaugunt	87	4.66%
Pine Valley	163	8.73%
Plateau, Boulder/Kaiparowitz	62	3.32%
Plateau, Fishlake	25	1.34%
Plateau, Thousand Lakes	2	0.11%
San Juan, Abajo Mtns	89	4.77%
San Juan, Elk Ridge	8	0.43%
South Slope, Bonanza/Vernal	38	2.04%
South Slope, Diamond Mtn	3	0.16%
South Slope, Yellowstone	39	2.09%
Southwest Desert	192	10.28%
Wasatch Mtns, East	23	1.23%
Wasatch Mtns, West	24	1.29%
West Desert, Tintic	47	2.52%
West Desert, Vernon	35	1.87%
West Desert, West	60	3.21%
Zion	65	3.48%
Total	1867	100%

Table 1. Number of coyotes submitted to the predator control program within each deer unit.

County	Coyotes Removed	% of Statewide Total
Beaver	205	10.98%
Box Elder	168	9.00%
Cache	48	2.57%
Carbon	19	1.02%
Daggett	33	1.77%
Davis	0	0.00%
Duchesne	69	3.70%
Emery	23	1.23%
Garfield	66	3.54%
Grand	13	0.70%
Iron	178	9.53%
Juab	116	6.21%
Kane	123	6.59%
Millard	158	8.46%
Morgan	13	0.70%
Piute	15	0.80%
Rich	53	2.84%
Salt Lake	10	0.54%
San Juan	127	6.80%
Sanpete	19	1.02%
Sevier	38	2.04%
Summit	3	0.16%
Tooele	92	4.93%
Uintah	50	2.68%
Utah	38	2.04%
Wasatch	17	0.91%
Washington	144	7.71%
Wayne	25	1.34%
Weber	4	0.21%
Total	1867	100%

Table 2. Number of coyotes submitted to the predator control program within each county.

Conclusion

The Predator Incentive Program was efficiently and effectively implemented at a statewide scale during fiscal year 2020. The program demonstrated a decreased number of coyotes harvested in Utah compared to the previous based on eight years of data collected, we estimate that 107,533 coyotes have been harvested. This is an average of 13,441 coyotes per year. Currently, we know that roughly 20% of coyote removals occur on summer range of mule deer. Fawn:doe ratios have decreased slightly throughout the entirety of the program from 65 in FY2013 to 58 in FY2018. Mule deer population estimates increased between 2012-2015 and took a slight decrease in 2016, and another slight decrease in 2017. However, further assessment of removals and fawn recruitment will be necessary to understand whether the program is benefitting mule deer at a statewide scale. There are many factors that influence deer populations, such as weather, habitat conditions and alternative prey availability, all of which will need to be accounted for when assessing the impacts of the program. It is also unknown how much overlap between removals and fawning is necessary temporally for deer populations to receive the most benefit. A study began August 2017 in an effort to assess the effectiveness of the program and address some of the above mentioned details more closely.

