



Utah's Predator Control Program Summary

Program activities and data from July 1, 2021 through June 30, 2022

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 2022, which runs from July 1, 2021 to June 30, 2022.

Participation, Payments and Coyotes Submitted for Payment

This is the tenth year of the General Predator Control Program, and a total of 3,492 coyotes were turned in for \$174,600 in compensation, a decrease of 29% compared with 4,931 coyotes in FY2021.

In FY2022, 414 individuals submitted coyotes through the General Predator Control Program. The number of participants went down 27% from the previous year (n=569). The number of coyotes submitted per hunter remained similar to FY2021 with 48% of the participants submitting more than five animals and 20% of participants submitting one animal. Less than 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 3,381 during 2021-2022. The total reported coyote harvest by the general public from July 1, 2021 to June 30, 2022 is 6,873.

In addition, the Division has a cooperative interagency agreement with USDA Wildlife Services (WS) to remove coyotes under this program. WS personnel reported removing 2,356 coyotes from July 1, 2021 to June 30, 2022. Of the coyotes removed from deer units, 597 coyotes were from targeted areas defined by DWR to enhance mule deer population growth.

Total estimated harvest of coyotes for FY2022 through the General Predator Control Program (3,492) and by Wildlife Services (2,356) is 9,229 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 FY2022 indicates that 1462 (46%) were female, 1685 (53%) were male, and the remainder 26 (1%) were unspecified. For the 3,165 coyotes for which hunting method information was available, most (2,327 or 74%) were taken by shooting, 670 (21%) were trapped, and 168 (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. To reduce costs associated with the program, tooth sampling was not conducted in FY2020-FY2022.

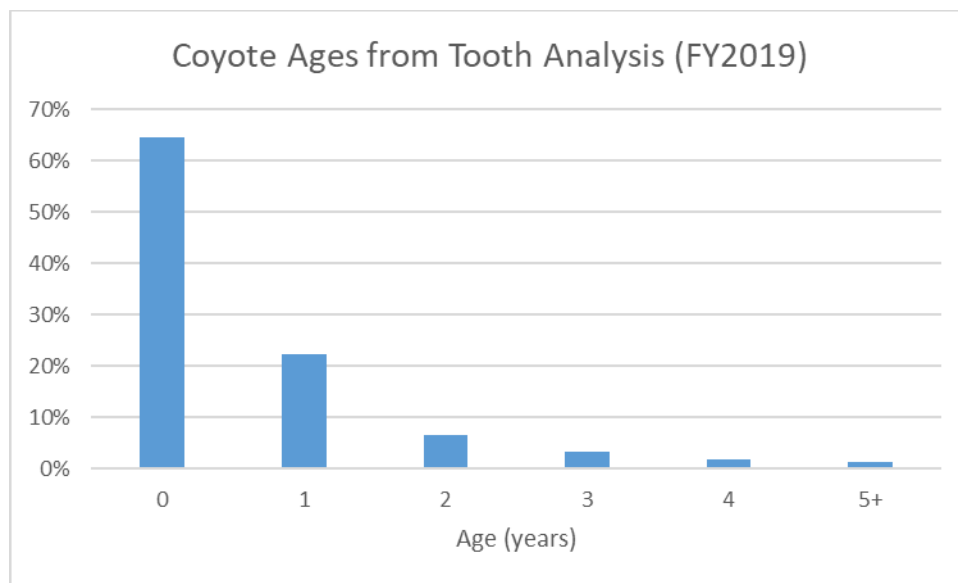


Figure 1. Age of coyotes determined by cementum annuli in FY2019 (n=318).

Temporal Distribution of Coyote Submissions and Harvest

Coyote submission in FY2022 peaked in January 2022 and harvest peaked in November 2021, followed by a marked decrease thereafter (Figure 2) (Figure 3). This follows the general pattern observed in previous years, reflecting a seasonal increase in hunters on the landscape and people harvesting coyotes through winter months.

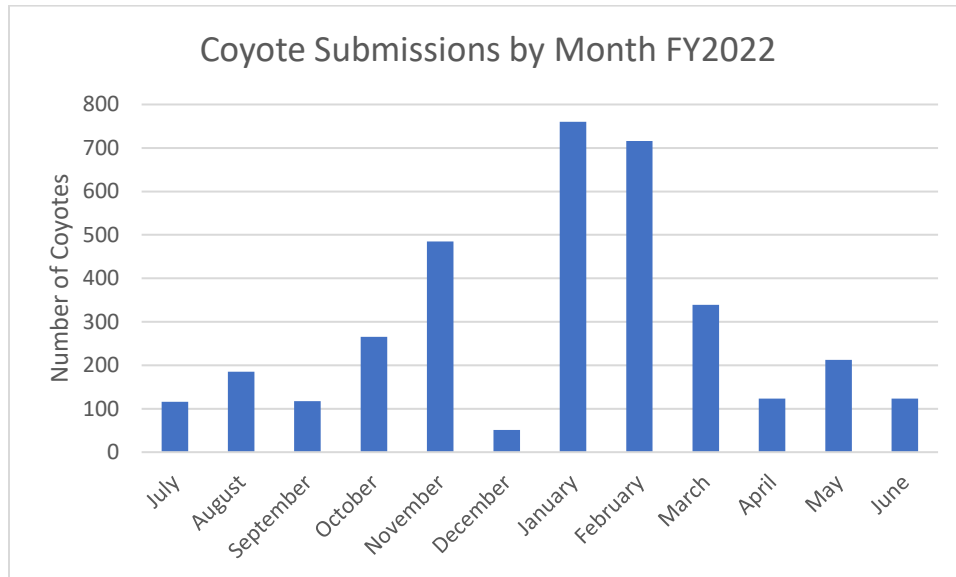


Figure 2. Number of coyotes turned in by month for FY2022

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 FY2022 were harvested from 2020-2022.

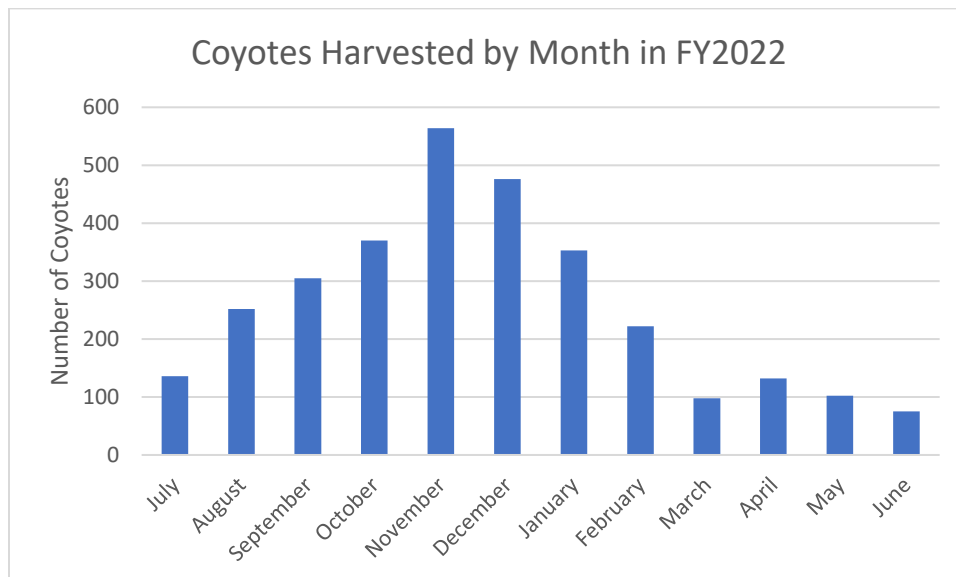


Figure 3. Number of coyotes harvested by month FY2022.

Spatial Distribution of Coyote Take

The total number of coyotes submitted in FY2022 with usable spatial data was 3,397. Coyote removal locations were plotted onto the state's deer management units (Table 1). Coyote removal success varied across the state with only 7 of the 39 units having more than 5% of removals. Coyote removal locations were additionally plotted onto counties (Table 2). Removals were more concentrated in the western portion of the state with the greatest number occurring in central and southern Utah.

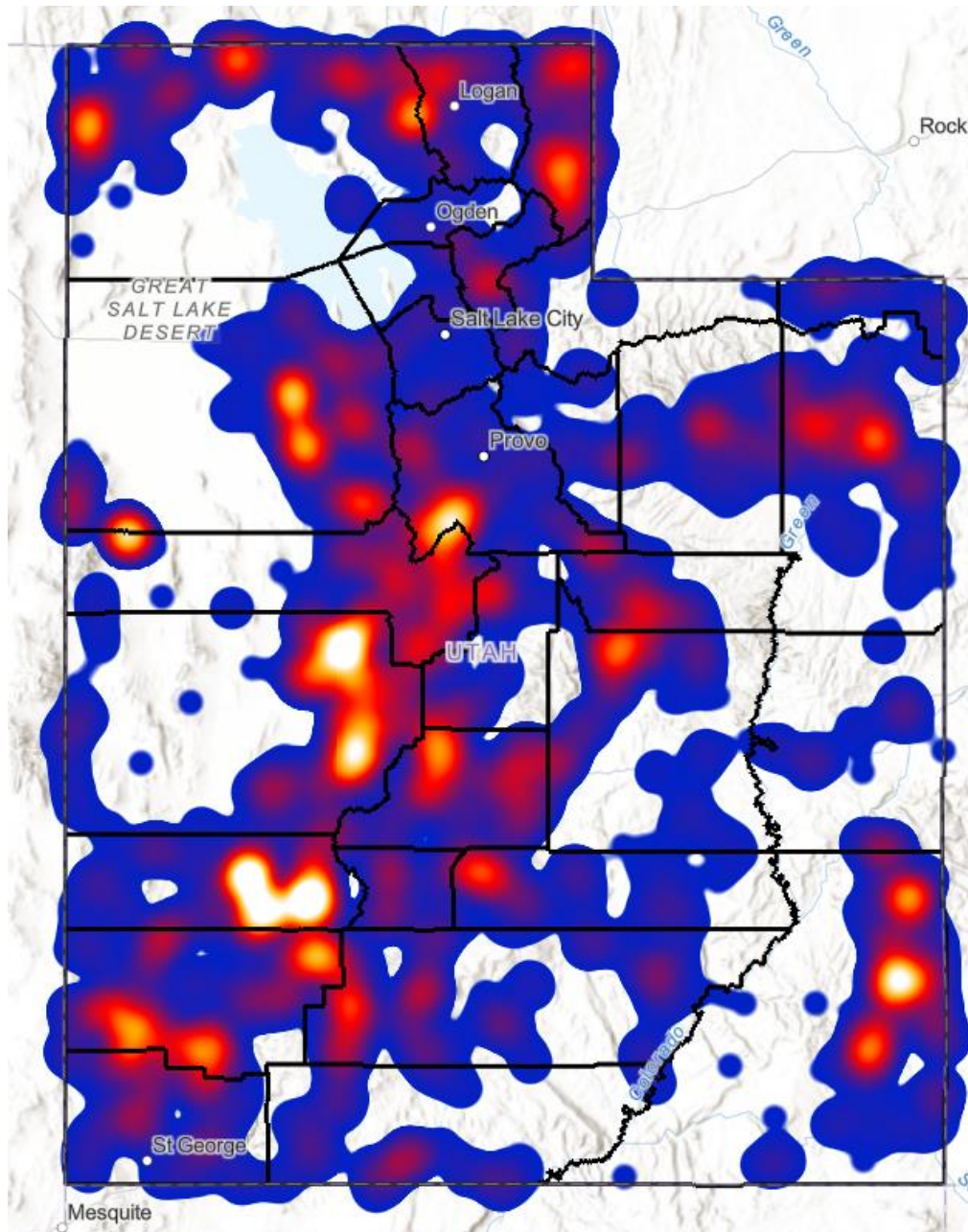


Figure 4. Map of coyote removal densities from coyotes submitted through the predator control program in FY2022

Unit	Coyotes Removed	% of Statewide Total
Antelope Island	0	0.00%
Beaver	194	5.94%
Book Cliffs	18	0.55%
Book Cliffs, South	13	0.40%
Box Elder	410	12.56%
Cache	170	5.21%
Central Mtns, Manti-San Rafael	183	5.60%
Central Mtns, Nebo	117	3.58%
Chalk Creek/East Canyon/Morgan-South Rich	87	2.66%
Fillmore	253	7.75%
Fillmore, Oak Creek	38	1.16%
Henry Mtns	27	0.83%
Kamas	8	0.25%
La Sal, Dolores Triangle	1	0.03%
La Sal, La Sal Mtns	61	1.87%
Monroe	42	1.29%
Mt Dutton	39	1.19%
Nine Mile	32	0.98%
North Slope	19	0.58%
Ogden	19	0.58%
Oquirrh-Stansbury	112	3.43%
Panguitch Lake	73	2.24%
Paunsaugunt	42	1.29%
Pine Valley	185	5.67%
Plateau, Bolder	94	2.88%
Plateau, Fishlake	52	1.59%
Plateau, Thousand Lakes	23	0.70%
San Juan, Abajo Mtns	152	4.66%
San Juan, Elk Ridge	13	0.40%
South Slope, Diamond	9	0.28%
South Slope, Yellowstone	62	1.90%
South Slope, Bonanza/Vernal	99	3.03%
Southwest Desert	176	5.39%
Wasatch Mtns, East	31	0.95%
Wasatch Mtns, West	26	0.80%
West Desert, Tintic	132	4.04%
West Desert, Vernon	65	1.99%
West Desert, West	145	4.44%
Zion	43	1.32%

Table 1. Number of coyotes submitted to the predator control program within each deer unit in FY2022.

County	Coyotes Removed	% of Statewide Total
Beaver	253	7.45%
Box Elder	228	6.71%
Cache	53	1.56%
Carbon	52	1.53%
Daggett	24	0.71%
Davis	7	0.21%
Duchesne	61	1.80%
Emery	98	2.88%
Garfield	132	3.89%
Grand	32	0.94%
Iron	240	7.07%
Juab	177	5.21%
Kane	52	1.53%
Millard	336	9.89%
Morgan	31	0.91%
Piute	367	10.80%
Rich	127	3.74%
Salt Lake	18	0.53%
San Juan	219	6.45%
Sanpete	54	1.59%
Sevier	134	3.94%
Summit	25	0.74%
Tooele	216	6.36%
Uintah	136	4.00%
Utah	136	4.00%
Wasatch	17	0.50%
Washington	90	2.65%
Wayne	73	2.15%
Weber	9	0.26%

Table 2. Number of coyotes submitted to the predator control program within each county in FY2022.

Conclusion

The Predator Incentive Program was efficiently and effectively implemented at a statewide scale during Fiscal Year 2022. The program demonstrated a decrease in the number of coyotes harvested in Utah during FY2022 compared to previous years. Based on ten years of data collected, we estimate that 111,025 coyotes have been harvested and submitted through the program. This is an average of 11,103 coyotes per year. Currently, we know that roughly 20% of coyote removals occur on summer range of mule deer. Fawn:doe ratios have fluctuated throughout the entirety of the program with a slight decrease from 2013-2020. However, ratios appear to be increasing based on 2021 and 2022 data. Mule deer population estimates increased between 2012-2015 and took a slight decrease in 2016, and another slight decrease between 2017-2020. Changes in population estimates since 2020 have varied by unit. 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 on a temporal scale for deer populations to receive the most benefit. In an effort to assess the effectiveness of the program and address some of the above mentioned details more closely, a study was initiated in 2017. Results from this study will become available within the near future.