Predator-Prey Basics as Relevant to Predator Control Programs

(highlights from the literature assembled by Dr. Tom Smith, Brigham Young University, Plant and Wildlife Science Dept)

- Predators play key roles in maintaining healthy ecosystems. Removing predators without data risks irreversible, ecosystem damage (Estes et al. 2011).
- Prey populations, in this case ungulates, are controlled by a number of factors, singly or in concert. These factors include a) predation, b) habitat condition, c) human-conflict (mortality due to hunting, vehicular collisions, habitat loss due to conversion to urban/agricultural developments), d) diseases, and e) genetics (particularly in small populations). For example, in Utah deer populations are heavily impacted by hunting, predation, and vehicular impacts. To put things in perspective, USU professor Dr. Patricia Cramer wrote that the decline in the statewide number of deer from the 1980s to present can be accounted for almost *entirely* by known losses to vehicular impacts. Predation can also impact deer but without research, it is difficult to establish cause-and-effect (that is other factors may be in play, not just predators).
- Specifically, with regard to ungulate predation in Utah, cougars and coyotes have the greatest impact, with bears being a distant third (marginal). Even then, to what degree these predators affect overall herd numbers is wholly unknown.
- History has shown that predator reduction programs have resulted in ecological damage due to 1) ungulate eruptions (unchecked, explosive growth in ungulate populations) which lead to, 2) habitat destruction, and 3) crashes in prey numbers by affecting predator population viability.
- History has also shown that there is no clear evidence that lethal control works to reduce human-predator conflict. In fact, it can even make the problem worse (Draheim 2017). For instance, when pack animals such as coyotes are killed, the social structure of their packs breaks down. Female coyotes become more likely to breed and their pups are more likely to survive, so their numbers often actually increase. Packs generally protect territories, so breaking up a pack allows new animals to come in, raising the population. In addition, some new arrivals may opportunistically prey on livestock, which can increase predation rates.
- In a recent study, researchers from several universities, USDA's National Wildlife Research Center and the nonprofit conservation group Defenders of Wildlife analyzed wolf predation rates for sheep producers on public grazing lands in Idaho. Predation was 3.5 times higher in zones where lethal control was used than in adjacent areas where nonlethal methods were used (Draheim 2017).
- In 1997, the National Research Council (NRC) conducted a review to provide standards to guide predator control programs in the US and concluded that any such program should be conducted as experiments and that adaptive management (i.e., management that incorporates research findings) should be used.
- An example of ongoing and extensive predator control is Alaska. Unfortunately, Alaska's programs fail to follow NRC recommendations: predator control in Alaska often lacks scientific justification for controls, lacks experimental controls, lacks sufficient monitoring, lacks clearly defined measures of success or failure, and are absent guidelines for terminating predator controls (Van Ballenberhe 2911).

- The NRC also concluded that for any predator control program to be effective a) science needs to play a greater role by providing a) reliable prey population estimates, b) sufficient field studies to assess limiting factors on prey numbers *before* control efforts, and that predator control programs should follow NRC guidelines
- The American Society of Mammalogists have made science-based challenges for the past 80 years to widespread lethal control of predators, particularly in the Western US (Bergstrom 2017).

Summary

- Predator control programs must be based on scientific data to be effective. To not do so risks wasting of money, damage to predator populations, a loss of vital ecosystem services, and agency credibility.
- In Utah, no one currently possesses data regarding the relative contribution of the various factors controlling ungulate populations. Removing predators is like adding air to car tires to make a car run better: without diagnostics such actions are wasteful and ineffective.
- Predator control can actually raise predator numbers, another undesirable result.

Literature Cited

Bergstrom, B. J. 2017. Carnivore conservation: shifting the paradigm from control to coexistence. Journal of Mammalogy 98: 1-6.

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Estes, J. A., J. Terborgh, J. S. Brashares, M. E. Power, J. Berger, W. J. Bond, S. R. Carpenter. 2011. Trophic downgrading of planet Earth. Science 333:301-306.

Van Ballenberghe, V. 2011. Intensive management – or mismanagement? Exploring Alaska's predator control programs. The Wildlife Professional, Winter Issue, pages 74-77.

UINTAH COUNTY

STATE OF UTAH

Our Past is The Nation's Future

February 4, 2020

Dear Chairman Stratton and honored members of the House Committee on Natural Resources,

The Uintah County Commission would like to offer this letter in support of the Amendment of Wildlife Resources, H.B. 125 proposed by Chief Sponsor: Representative Carl R. Albrecht.

We appreciate that Representative Albrecht identifies the need to immediately address ground management of predators when populations of wildlife are at risk. We also agree that such management needs to be balanced with the science provided by the Utah State Division of Wildlife Resources and local Government agencies.

The Mule Deer population and density has been in a state of decline on the Bookcliff Unit. Our residents and visitors including livestock producers and sportsmen and wildlife enthusiasts have observed and vocalized their concerns regarding the absence of historical deer herd numbers and the increase in sightings of cougar, bear and coyotes. We appreciate the actions taken by the Division of Wildlife to remedy these issues through better understanding and better control of predator numbers.

Sincerely,
Uintah County Commission

Brad G. Horrocks, Chairman

William C. Stringer

Bart N. Haslem

To whom it may concern,

I am writing this letter to show my support for HB 0125, regarding the management of predators in cases where big game populations are under objective within a management unit. My support for this bill should not be confused with a bias against predator species, or the desire that such species should be eradicated. It is simply a desire for sustainable big game populations, and the continuation of a way of life that has shaped who I am, and continues to provide food for my family.

When properly managed predators play a crucial role in the ecosystem and health of big game populations. However, when left unmanaged predators can, and often will, drive big game populations to a point where a huntable population no longer exists. Often the argument is made, that predator populations will decline with the decline of a prey species. However, what often happens is a temporary or partial shift to another species, while the original species is maintained at such a low level that recovery is never achievable with the current predator load. Such is the current case with mule deer. Without intervention, mule deer will continue to decline until they reach a level at which hunting is no longer a viable option. The associated loss of conservation funded by hunting will further compound the problem and Mule deer could very easily be a threatened species within my children's lifetime. Let's reverse this trend before it is too late.

Finally, I understand the concerns of Houndsmen. However, without big game hunting, and the support it generates in the larger community, their days will be numbered. The desire to increase predator numbers, at the expense of big game populations will have greater long-term impacts on hound hunting, than a short term predator reduction to bring big game populations back up to objectives.

Thank you for your time and consideration.

Mason LeFevre

BEAVER COUNTY COMMISSION

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Michael F. Dalton
Chairman
Mark S. Whitney
Member

Tammy T. Pearson
Member

February 3, 2020

Dear Chairman Stratton and honored members of the House Natural Resources Committee,

The Beaver County Commission would like to offer this letter in support of the Amendment of Wildlife Resources, H.B. 125 proposed by Chief Sponsor: Representative Carl R. Albrecht.

We appreciate that Representative Albrecht identifies the need to immediately address ground management of predators when populations of wildlife are at risk. We also agree that such management needs to be balanced with the science provided by the Utah State Division of Wildlife Resources and local Government agencies.

The Mule Deer population and density has been in a state of decline on the Beaver Unit. Our residents and visitors including livestock producers and sportsmen and wildlife enthusiasts have observed and vocalized their concerns regarding the absence of historical deer herd numbers and the increase in sightings of cougar, bear and coyotes. We appreciate the actions taken by the Division of Wildlife to remedy these issues through better understanding and better control of predator numbers.

Sincerely,

Commission Chair

Commissioner

Commissioner

02-04-2020

To Whom it May Concern,

My name is Lynn Kitchen and I live in Beaver, Utah. I have been associated with wildlife, habitat, ecology and natural resource issues for my whole career, better than 35 years now. I appreciate the opportunity to give comments and suggestions regarding wildlife issues within our state.

I am writing this letter to give my support for HB 0125. I believe this will give the Director of the Division of Wildlife Resources the ability to quickly react to field conditions concerning big game populations. I believe that in many cases a quick appropriate response in these matters is very beneficial in strengthening and sustaining healthy viable big game populations. I believe HB 0125 will help DWR in that ability. Thank you for the opportunity to comment and for your time and your efforts in this. Please call if you have questions or need clarification.

Lynn Kitchen

lkitchen03@msn.com

435-421-1035

Predator Kills Piute County
2020