Conservation Northwest
Keeping the Northwest Wild

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Washington Department of Fish and Wildlife
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November 15th, 2019

Subject: SEPA Scoping Comments for a Post-Recovery Wolf Management Plan

Dear Ms. Smith,

Conservation Northwest respectfully submits the following comments for scoping a post-recovery management plan for wolves in Washington State. We appreciate the opportunity to provide input to this important planning process.

Pack-based Management

"Wolves maintain a complex social structure and therefore measures of abundance do not capture all impacts of harvest or the interactions between effects at the population, pack, and individual levels (Mech and Boitani 2010)."

First and foremost, we think a post-recovery management plan needs to be based on maintaining the integrity of wolf pack social structure. Wolves are highly social animals that have evolved to meet their life history needs in family units. In systems with little intentional human-caused mortality, wolf pack size and structure adjusts to its environment and prey type. Wolf populations that are intentionally managed for smaller pack sizes or that are randomly affected by general hunting and trapping, resulting in smaller pack sizes have been shown to have multiple differences from packs that are allowed to freely adjust to their environments:

- Pack size has been related to hunting success with both elk and bison (McNulty et al., 2011, McNulty et al., 2014) and that pack size adjusts to prey size (deer versus moose)(Barber-Meyer et al., 2016).

- Pack size is related to body mass and successful pup recruitment with larger packs being positively correlated to both factors (Stahler et al., 2013).

- Pack size and composition affect success in defending against territorial attacks from other wolves (Cassidy et al., 2017).

- Larger packs were found to confer more successful recovery from sarcoptic mange and those larger numbers did not have an effect on disease spread within the pack (Almberg et al., 2015).

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- Smaller packs subject to hunting or lethal population-level control were found in two research projects to have higher prey kill rates than larger (Hayes and Harestad, 2000; Zimmerman et al., 2015).

- Long-term observations of packs in and around Denali National Park lead a researcher to conclude that un-hunted packs had stable territory occupancy and hunting habits, and that once hunting and trapping starting, packs de-stabilized and prey use changed, with smaller disrupted packs actually having higher kill rates, and switching to smaller prey (Haber 1996).

Recent research from Idaho has demonstrated that general season hunting has reduced pup survival and pack size (Ausband et al., 2015, 2017a). Pack composition and behavior have also been affected (Ausband 2017b).

Given that pack size and composition appear to have significant affects on life history needs and behavioral adaptations, and that larger packs or optimal pack size based on environment, are better for these life history needs than smaller packs, and that hunting reduces pack size, we think that a management plan/strategy that allows for packs to be as free from systematic human mortality (i.e., a general season hunts) would be preferable for long-term resilience and adaptive capacity of wolves in Washington state. While discussion of alternative management strategies for packs engaged in conflict with livestock, pets or people may be appropriate, we think that with human population growth and climate change, wolves will need to retain their evolutionary capacity to adapt and we think that their natural social structure is one key mechanism for doing that.

We therefore recommend that the Draft Environmental Impact Statement include a review of the science relating to the importance of pack size and composition to wolves, and the impacts of pack disruption on other measures of wolf population health other than just total numbers. We further recommend that alternatives are developed that do not use a general sport hunt (ex. a state or region-wide General Season wolf hunt) as a management tool at the population-level.

Maintaining Healthy Ungulate Populations

Conservation Northwest recognizes the need to maintain healthy ungulate populations to support wolves and other native carnivores in Washington, in addition to supporting recreational and subsistence hunting of ungulates, and for general wildlife viewing and our shared natural heritage. We appreciate the valid concerns of both tribal and non-tribal hunting communities regarding ongoing loss of hunting opportunity and quality in Washington state, especially when compared to other Western states. And we support efforts to reverse declines in key ungulate populations, most notably recent decreases in mule deer and elk herds on the eastern slopes of the Cascade Mountains and in Okanogan and Ferry counties.

Based on our review of the scientific literature on the effects of predation in multi-predator multi-prey systems, and research on drivers of ungulate populations in general, we think that

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WDFW and partners will need a robust and on-going research and monitoring program to assess the particular drivers of ungulate population change in Washington.

Relatedly, any management recommendations designed to support ungulate populations in relation to wolf populations need to be based on a holistic approach that takes into account the multiple drivers of ungulate population dynamics, including habitat loss and fragmentation, nutritional value of forage, changes in weather and climates, human impacts from year-round recreation and other human disturbance, in addition to predation from wolves and other carnivores.

There is a large literature on predator-prey dynamics, which we recommend that the Department summarize and synthesize as part of the Draft EIS. A few examples of recent research that point to the need for understanding the multiple drivers of ungulate population trends are Lukacs et al., 2018 who found that nutritional quality of forage accounted for the three times the impact of elk calf recruitment as wolf predation and that throughout a 9 state study area, recruitment was declining in areas with and without wolves; Johnson et al., (2019) found that elk calf recruitment appeared to be limited by cougar predation in Northeastern Oregon but not in Southwest Oregon where cougar densities were lower, but in both portions of the state, nutritional limitations affected calf survival and may contribute to cougar depredation being at least partially compensatory rather than fully additive; Monteith et al., (2014) found that habitat quality was a large driver of mule deer recruitment and that nutritional condition of adult females the prior fall was the best predictor of population growth; Johnson et al., (2017) found that habitat loss to residential development was the largest driver of mule deer population decline in Colorado.

While the presence of healthy predator assemblages can limit ungulate populations in some systems, especially drier, less productive systems (Hatton et al., 2015), the use of lethal control of predator populations, especially wolves, in order to enhance ungulate populations tends to only have a measurable effect when the control programs take large numbers of predators (40-50% of the animals in a target area) on a sustained basis, with predator-prey ratios re-establishing themselves to prior levels within a few years after control efforts ceased. Authors of studies that looked at the effectiveness of deliberate control efforts concluded that when they were successful, they tended to be expensive and socially controversial so recommended that habitat management would be more effective (Potvin et al., 1992a, b; Hayes and Harestad 2000a,b; Hayes 2003, Boertje et al., 2010). One study of control efforts in the 40 Mile caribou herd in Alaska found that wolf control did not impact the population (Boertje et al., 2017).

Another drawback of lethal population control efforts is that their impact reaches beyond the target area. Schmidt et al., (2017) found that control efforts outside of protected areas affected wolf population dynamics within a protected area, therefore demonstrating that killing wolves in one area affected a broader segment of the population and ecosystem, with unintended consequences for protected area management.

We believe this and other relevant literature must be closely analyzed to develop management strategies that effectively support ungulate population health, including recovery in areas where herds have declined, while also respecting the need to maintain healthy wolf populations and

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intact pack structure. While a component of the existing recovery plan, and a likely major topic of consideration in the post-recovery plan, we think lethal control to limit wolf populations for the sake of recovering or increasing ungulate populations is not a step to be taken lightly, especially given social controversy around wolves in Washington state.

We support robust efforts to improve ungulate habitat quality through forest management (thinning, prescribed fire and road removal), prevent loss of habitat to development, building wildlife crossing structures to decrease loss of ungulates to vehicle collisions, evaluation of the role of herbicide use in suppressing vegetation that provides ungulate forage, and improving hunter access and hunting season design as ways to address both ungulate population health and loss of hunting opportunity and quality. If cases of localized ungulate decline reach severe levels with wolf predation confirmed as a contributing factor or impediment to recovery, there must be a high level of evidence that killing wolves is a scientifically-backed means by which to improve ungulate populations in such scenarios before this tactic can be considered, either alone or within a suite of recovery methods.

Livestock Conflict and Post-recovery Management

As wolves spread throughout suitable habitat in Washington, the need for continued support to livestock producers and small farmers for proactive non-lethal deterrence is crucial for continued co-existence and social acceptance in rural areas. We therefore recommend that WDFW continue to work after de-listing with the agricultural community, the Legislature, the Department of Agriculture, and non-profit entities to secure funding, conduct research on effectiveness of available and new methods, and provide outreach and education. Creating local entities that take ownership of proactive deterrence methods is likely to be the most effective means of keeping livestock losses and human conflict to a minimum. This is consistent with the directives in HB 2097 (2019).

While we prefer proactive deterrence and non-lethal methods in general, we support the limited use of targeted lethal control in the post-recovery period when deterrence methods fail. Research from Montana indicates that an adaptive approach to using both non-lethal and targeted lethal control is the most effective means of limiting livestock loss, and that general sport hunting there was not effective at reducing livestock depredations (DeCesare et al., 2018). Use of state or federal agents for lethal control is likely the most effective means when lethal control is needed. We are uncertain about the effectiveness of citizen –based (e.g., through Master Hunters) lethal control for ending livestock depredation but this option should be thoroughly examined as local control is an important component of successful conservation in general (DeCaro and Stokes 2008; DeCaro et al., 2015).

Given that lethal control only temporarily ends livestock depredations (Bradley et al., 2015) and may displace problem animals (Santiago Avila et al., 2018), our overriding recommendation is that the post-recovery plan provide direction and support for a substantial and on-going program of proactive deterrence as the preferred approach, and that research and adaptive management be conducted so society continues to learn the most effective means of limiting both livestock loss and the need for lethal removal.

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<u>Increased Capacity to Deal with Social Conflict Regarding Wolves and other Wildlife</u>

As wolf populations grow, social conflict around these animals will undoubtedly persist. We have been encouraged by the kinds of conversations that have been possible through the Wolf Advisory Group and efforts of others to maintain respectful dialogue. We recommend that the Department look for ways to create more forums around the state for citizens to learn about Conservation Conflict Transformation (Madden and McQuinn 2014) and to discuss among themselves and with you the issues that come up around wolf presence in Washington.

The WAG is a good model but is too small to serve as the locus of problem-solving for the entire state. We recommend exploring trainings in CCT for more interested stakeholders and setting up regional or local WAG-like groups to serve as an on-going means of addressing conflict around wildlife management and using that conflict to foster civil dialogue and improve quality of your decision-making processes.

Thanks again for the chance to provide comments.

Sincerely,

Paula Swedeen, Ph.D.
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Conservation Northwest
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