



Fish and Wildlife Commission Presentation Summary Sheet

Meeting date:

2/19/2022

Agenda item:

Wolf Population Model – Briefing Only

Presenter(s):

University of Washington Staff: Sarah Converse, Beth Gardner, and Lisanne Petracca

Background summary:

Recolonizing species exhibit unique population dynamics, namely dispersal to and colonization of new areas, that are important to understand from a management perspective. The first resident pack of grey wolves was observed in Washington State in 2008, and the wolf population expanded to reach a minimum count of ~158 (not including dispersers) in 2020. Integrated population models (IPMs) have proven useful for making inference about population dynamics by integrating multiple data streams, including data relevant to population state and demographic rates. We will present our methodological approach to constructing a semi-spatial integrated model, a novel analytical approach that produces spatially-explicit predictions despite the lack of data on the spatial observation process. This model uses GPS collar and pack count data to estimate survival, reproduction, abundance, and movement rates via two components: [1] a population growth model that governs the population state process and estimation of vital rates, and [2] an individual-based component that permits movement of individuals and colonization of new areas. This model will inform state decisions about grey wolf status, incorporating multiple sources of uncertainty in estimating current and future population dynamics. Future population dynamics will include management scenarios (e.g., harvest, translocation, increased removals) and stochastic events (e.g., disease, a cessation of out-of-state immigration). We will discuss the application of this model to grey wolves in Washington State, providing insights into the population dynamics of this elusive carnivore.

Staff recommendation:

Briefing Only.

Policy issue(s) and expected outcome:

Briefing Only.

Fiscal impacts of agency implementation:

Briefing only

Public involvement process used and what you learned:

Briefing only

Action requested and/or proposed next steps:

N/A

Draft motion language:

N/a

Post decision communications plan:

N/A

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