

# **EXECUTIVE SUMMARY**

## Feasibility Study on the Reintroduction of Gray Wolves to the Olympic Peninsula

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### **Introduction**

Historical records indicate that gray wolves were native to Washington's Olympic Peninsula, and inhabited the area into this century. However, they were heavily hunted and trapped by early settlers and no verified photographs or specimens have been documented since 1920. Since 1935, several parties and individuals have suggested the possibility of the reintroduction of gray wolves to the Olympic Peninsula of Washington.

In Fiscal Year 1998, Congress appropriated \$300,000 to the Department of Interior, U.S. Fish and Wildlife Service (USFWS) to begin feasibility studies. The USFWS awarded a grant of \$125,000 to researchers at the University of Idaho to conduct a Reintroduction Feasibility Study. The researchers were asked to provide information on the current and historic status of wolves on the Olympic Peninsula; the availability and suitability of potential wolf habitat; demographic data on black-tailed deer and elk, the expected primary prey species; adequacy of habitat and prey base for supporting a viable, self-sustaining wolf population; future projections for an established wolf population; and, the projected socio-economic impacts of wolf restoration. They were also asked to identify any gaps in existing information that might affect wolf restoration efforts. Results of that effort are summarized in this document.

Contracts were also established with the Washington Department of Fish and Wildlife and the Biological Resources Division of the U.S. Geological Survey for \$75,000 each to begin prey base studies on lands both within and outside of Olympic National Park (Park). Results of those investigations will be reported in separate documents.

### **Cultural and Spiritual Considerations**

Existing literature and interviews with tribal spokespersons, indicate that wolves played an important role in the spiritual lives of many Peninsula tribes. Some tribes view the return of wolves as essential for restoring harmony and unity in a world which is Aout of balance.@ However, deer and elk - principal wolf prey species - have also been historically important to many Tribal Americans. Currently, the potential reintroduction of wolves and potential impacts on declining elk populations are a concern with the four Point No Point Treaty Tribes, and the Hoh and Quinault Tribes.

### **Habitat Suitability for Supporting a Viable Self-Sustaining Wolf Population**

All public, private and tribal lands within Grays Harbor, Clallam, Jefferson, and Mason counties were examined for their ability to support wolves. Lands were considered capable of supporting wolves year-round if road density was less than 0.60 kilometer per square kilometer (.96 miles per square mile); human density was less than 5 humans per square kilometer (12.9 humans per square mile); and elevation was less than 500 meters 1600 feet). Lands meeting these three criteria were limited to the Park and adjacent Olympic National Forest wilderness areas, as well as a few isolated fragments, mostly northwest and southwest of the Park. The isolated portions were removed from further analysis because of their fragmentation. Consequently, a single block of land consisting primarily of the Park was identified as being suitable wolf habitat and was designated as the Primary Analysis Area. Within the Primary Analysis Area, more than 98 percent of the lands are publicly owned and are within areas currently managed as wilderness. The remaining area (less than 2 percent) is on tribal and private lands.

### **Demography and Distribution of Potential Prey Species**

It is likely that gray wolves would consume a variety of foods on the Olympic Peninsula, including raccoon, snowshoe hare, marmots and other small mammals, some mountain goats, various birds, and perhaps salmon. However, it is expected that black-tailed deer and elk will be

the primary prey species.

Black-tailed deer are common on the Olympic Peninsula, and populations were estimated at approximately 2,484 animals within the Primary Analysis Area, the majority of which occur within the Park. Deer densities are higher in the drier river drainages found on the east side of the Olympic mountains. Deer harvest on the Olympic Peninsula has remained fairly stable for the past 10 years, with a relatively low level of exploitation.

Roosevelt elk are also found on the Olympic Peninsula and their numbers were estimated at 4,409 animals within the Primary Analysis Area. The majority of which reside year-round within the Park and are primarily concentrated in drainages on the northern and western sides of the Olympic mountains. Elk populations have remained stable within the Park, however populations outside of the Park have been declining in the last decade. The Washington Department of Fish and Wildlife implemented significant changes in harvest strategy in the 1997-1999 hunting seasons to protect and increase elk populations.

Mark-resight and ground count data, in addition to population reconstructions were used to estimate elk populations outside of the Park. Population estimates calculated using population reconstructions are based on the assumption that harvest accounted for all mortality (for instance other sources of mortality such as poaching and natural mortality). Therefore, these estimates should be regarded with caution.

### **Adequacy of Habitat and Prey Base for Supporting a Viable Self-Sustaining Wolf Population**

Data on wolf consumption rates and deer and elk densities were used to predict how many wolves would be supported in the Primary Analysis Area, both inside and outside of the Park. The analysis was done on a drainage by drainage basis. Areas that were predicted to support less than 2 wolves (due to too few prey available in the winter) were excluded from further analysis.

From that exercise, they predicted that the Park could support 56 wolves (6 to 7 breeding pairs assuming a pack size of 7.5). Wolves were not expected to solely occupy areas outside the Park boundary or in any drainage on the east-side of the Peninsula.

It is expected that threats from unforeseen catastrophic events may be small on the Olympic Peninsula due to the high reproductive capacity of wolves and the relatively stable environmental conditions of the lands within the Primary Analysis Area.. However, it is recommended that wildlife managers monitor any such population to ensure adequate genetic diversity. Should genetic diversity fall below acceptable levels, supplemental stocking may be needed.

### **Future Projections for an Established Wolf Population on the Olympic Peninsula**

A wolf-prey model was developed specific to the Olympic Peninsula. Due to a lack of available data pertaining to potential wolf predation on the Olympic Peninsula (i.e. prey demography, competition among carnivores, human influences, snow dynamics, etc), only the dynamics of wolf, deer and elk populations were represented in the model. Because the Park was predicted to support almost all the wolves, quantitative analysis of wolf impacts on ungulate populations was limited to the Park. Within the Park deer populations were predicted to decline by 13-16 percent and elk populations by 16-17 percent if wolves were to be reintroduced and rise to the predicted number animals (approximately 56 wolves). It should be noted that cougar predation is likely significant on the Olympic Peninsula and was not included in the model. However, it is unclear to what extent wolves will inhibit cougar populations and predation. Consequently, the effect of wolves on cougar populations and on cougar predation are unknown.

### **Socio-Economic Factors Associated With Wolf Restoration**

Numerous studies indicate that public attitude towards wolves and wolf reintroduction varies among age groups, educational level and occupation, but is generally positive within the United

States. Older persons, those with lower education, and those with occupations that perceive predators as an economic threat tend to have a more negative view of predators. Positive attitudes towards predators increase with knowledge of the species and values associated with wilderness. The four counties of the Olympic Peninsula had a high proportion of older residents. However, the population has a high level of high school and college graduates.

Human populations of the four counties were projected to increase substantially between 1990 to 2010, primarily due to immigration. Such an increase may not directly affect potential wolf-reintroduction habitat availability, but may increase human disturbance and pressure on available resources.

Private lands on the Olympic Peninsula are mostly devoted to timber production (57 percent). Timber companies and other private landowners may perceive potential for land use restrictions following wolf reintroduction. However, under an Endangered Species Act Section 10(j) experimental population designation, restrictions for a reintroduced population of gray wolves would only be placed on the Park (and these would be minimal - most likely temporary closures around active den sites), with potential limited operation timing restrictions on Olympic National Forest lands, and none on private lands.

Only 5 percent of the privately owned lands on the Olympic Peninsula are considered agricultural. Few farms with livestock exist in close proximity to the Primary Analysis Area. Livestock depredation was predicted to be insignificant; however, the potential for depredation exists. A demonstrated commitment to active wolf management would be essential to establish landowner trust and local support.

Human safety has been a contentious issue with regard to wolf reintroduction, particularly during the Yellowstone National Park reintroduction effort. Despite reports of attacks by wolves, no serious injury or death from a non-rabid wolf has been recorded in North America since 1890. Given the rarity and nature of documented attacks, it is assumed that reintroduced wolves would not represent a significant danger to humans.

High-road densities on lands surrounding the Park may inhibit permanent occupancy by wolves, however seasonal movements, occasional range expansion, and individual wolves dispersing are expected to impact ungulates outside of the Park. However, seasonal movements, occasional range expansion and dispersing wolves may impact deer and elk outside of the Park. As a result recreational big game hunters may show opposition to reintroduction due to fears that wolves will deplete big game populations. Annual elk harvest rates have been declining for more than a decade and several Game Management Units have been closed to recreational hunting in response to these declining harvest rates. However, impacts from dispersing wolves are likely to be small-scale events but may be significant to small isolated herds.

Tourism on the Olympic Peninsula and visitation to the Park and the Olympic National Forest have increased during the past 10 years. This trend is expected to continue as a result of human population increases expected in the Seattle-Tacoma-Bremerton region. It is expected that wolf visibility will be low due to the density of the forests on the Olympic Peninsula and existing data did not provide evidence that wolf reintroduction to the Park would affect tourism significantly over the long term.

### **Data Limitations and Needs**

For the entire Olympic Peninsula, data on ungulate populations and life histories are scant. Basic data on the black-tailed deer and Roosevelt elk populations inside and outside of the park are needed.

The available road density data for the Peninsula posed particular problems in the development of the models used in the study. In addition, it was beyond the scope of the feasibility study to do an analysis on current and predicted road closures both on private and public lands, and the effect road closures would have on wolf presence. It is probable that many industrial forest lands and some public lands will support wolves, despite high road densities, because of limited

access. A more complete analysis of wolf/road relationships, especially a determination of road access through the Peninsula is needed.

Further analysis of the impacts of wolf dispersal from the re-introduction area is needed. It is possible that dispersing wolves may cause reductions to small isolated elk herds and/or contribute to negative public attitudes due to livestock or pet depredation.

## **Conclusions**

The feasibility study has concluded that the reintroduction of gray wolves to the Olympic Peninsula is biologically feasible. Analysis has indicated that adequate habitat and prey base exists to support a marginally viable population of wolves over the long term. However, there are a number of factors that demand careful consideration prior to moving forward. Isolated elk populations were projected to be potentially vulnerable to predation by dispersing wolves, which is a concern to tribal and non-tribal hunters. In addition, there is concern for declining public hunting success for deer and elk on Game Management Units. Livestock and pet losses are not predicted to be significant. However, occasional losses are likely and they probably will be a constant source of concern by some residents, presenting a continuing management challenge.

The feasibility study has identified and reviewed the existing data; identified scientific data needs for black-tailed deer, Roosevelt elk, and gray wolves; and identified the social, cultural and management challenges related to the reintroduction of gray wolves to the Olympic Peninsula of Washington.