Wildlife Management

Mount Rainier National Park

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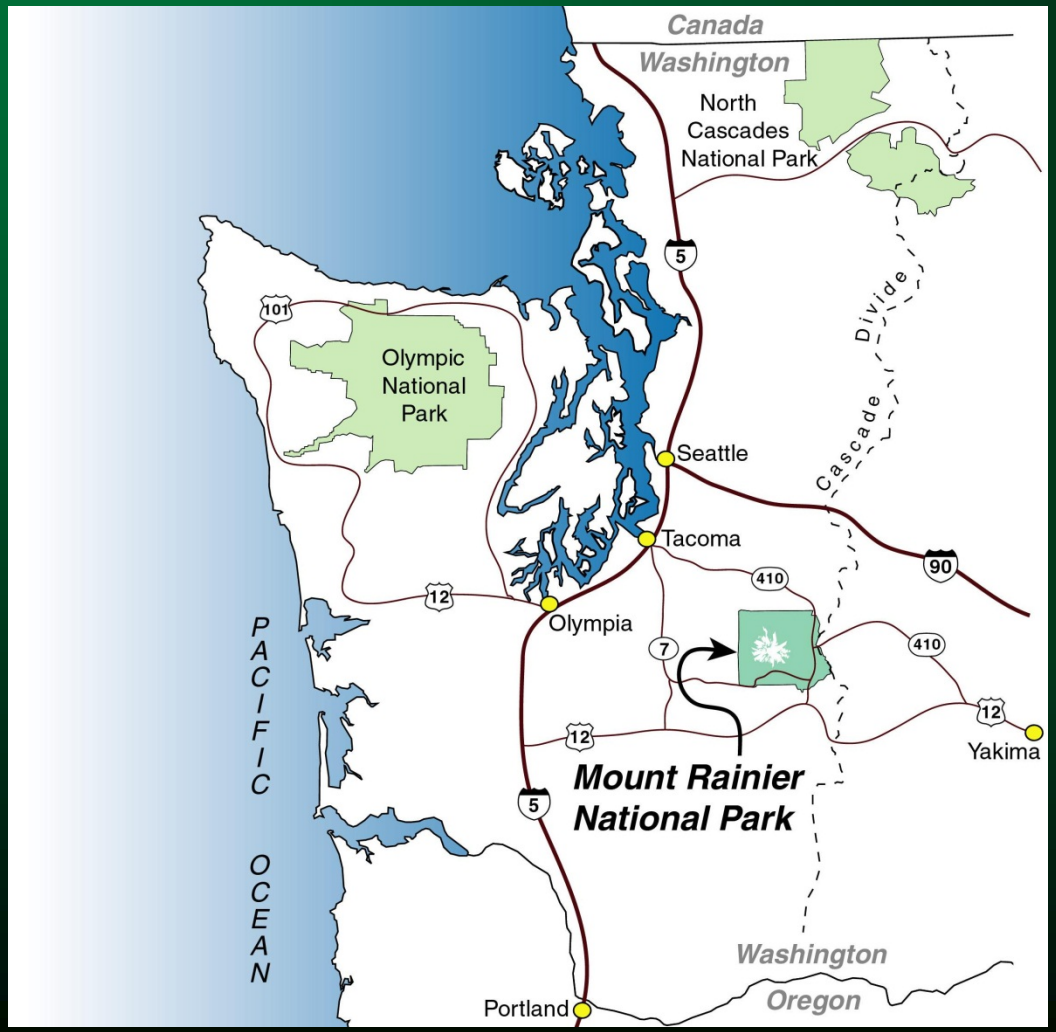
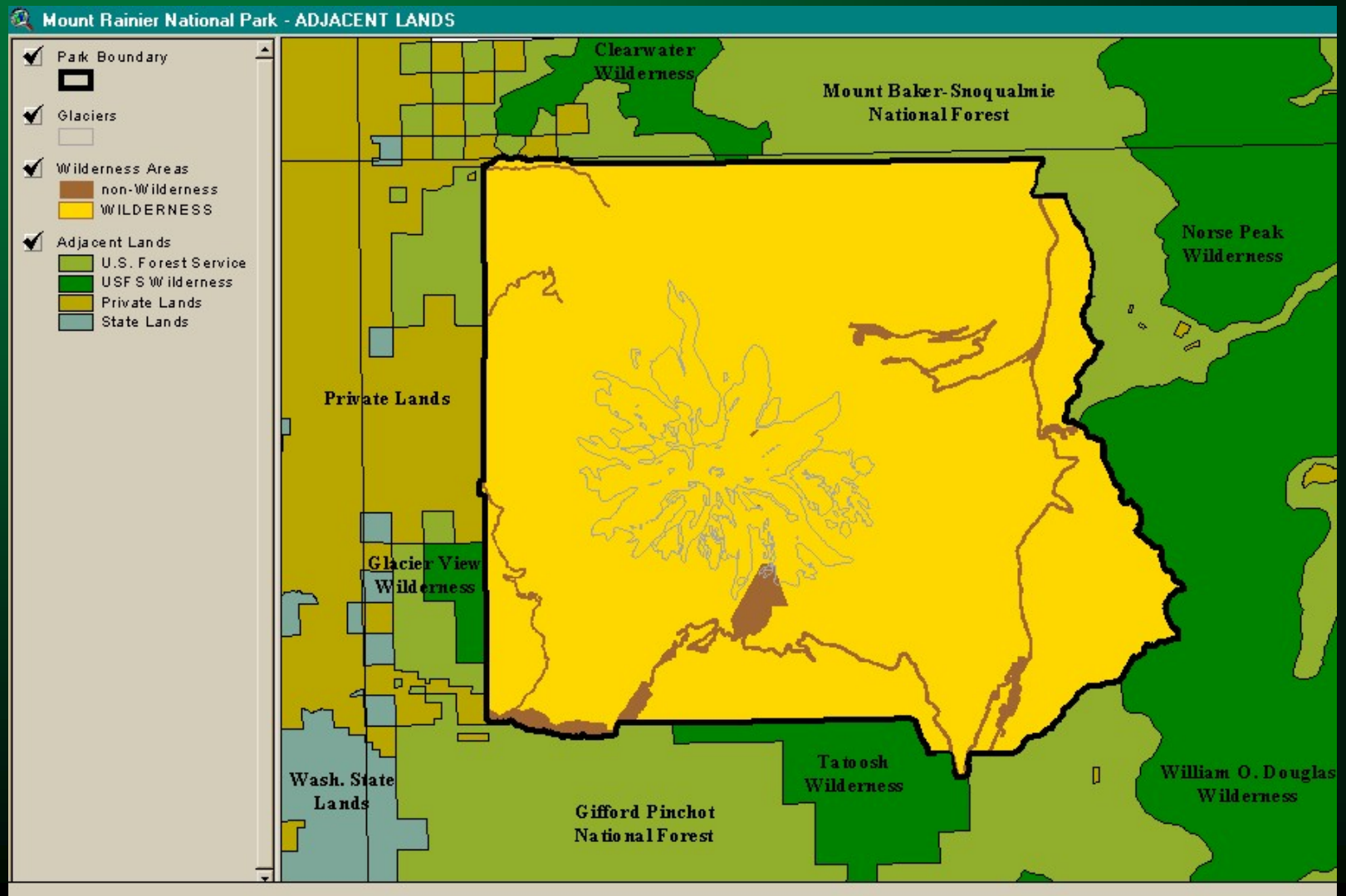


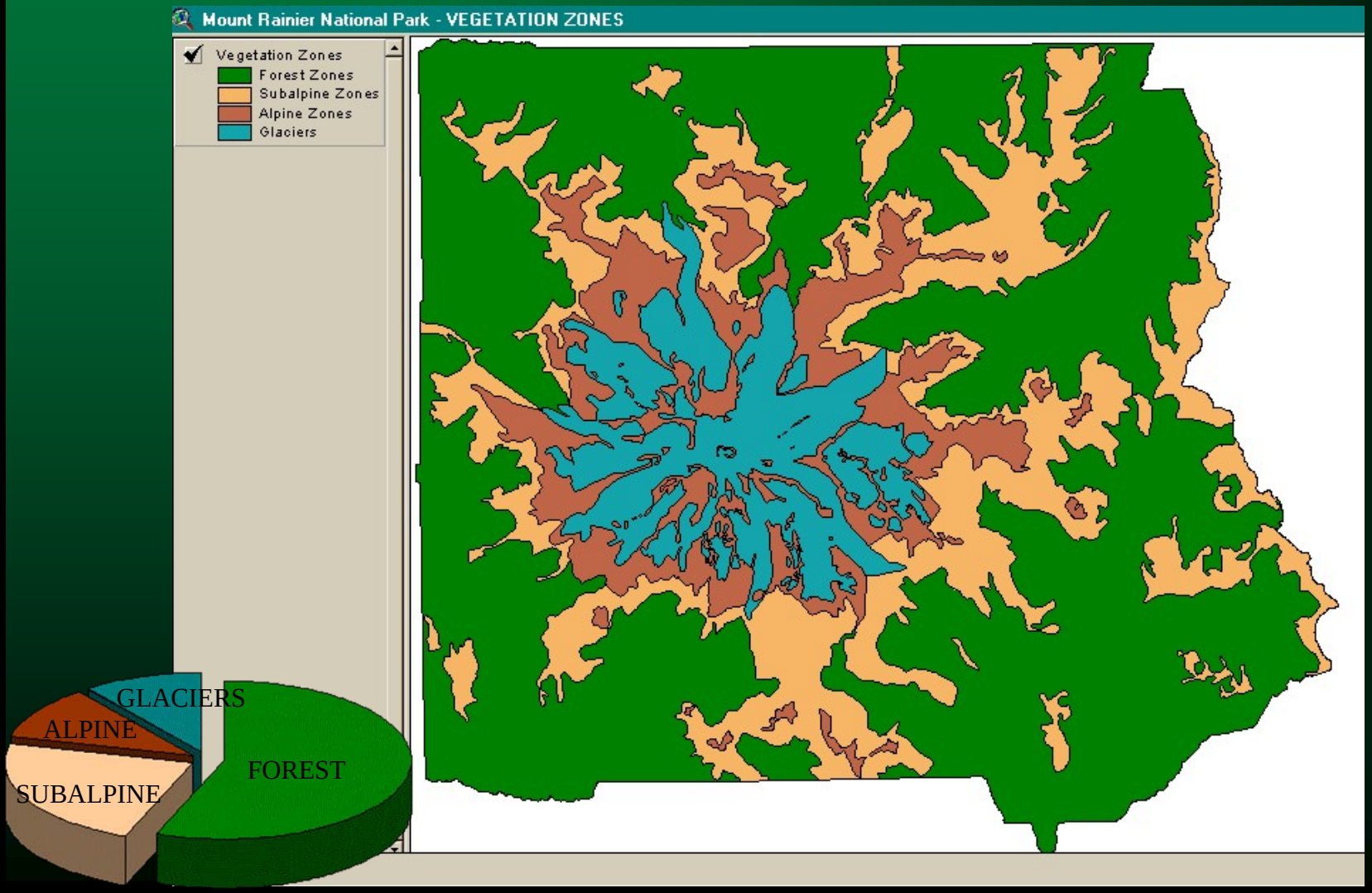
Mount Rainier National Park

- 235,625 acres (98,177 ha)
- 1.5 – 2 hours from Seattle-Tacoma-Olympia metropolitan area (3.3 – 4M people)
- 1.7-2M visitors annually
- >600K vehicles annually
- Paradise (1636m) and Sunrise (1940m) major destinations

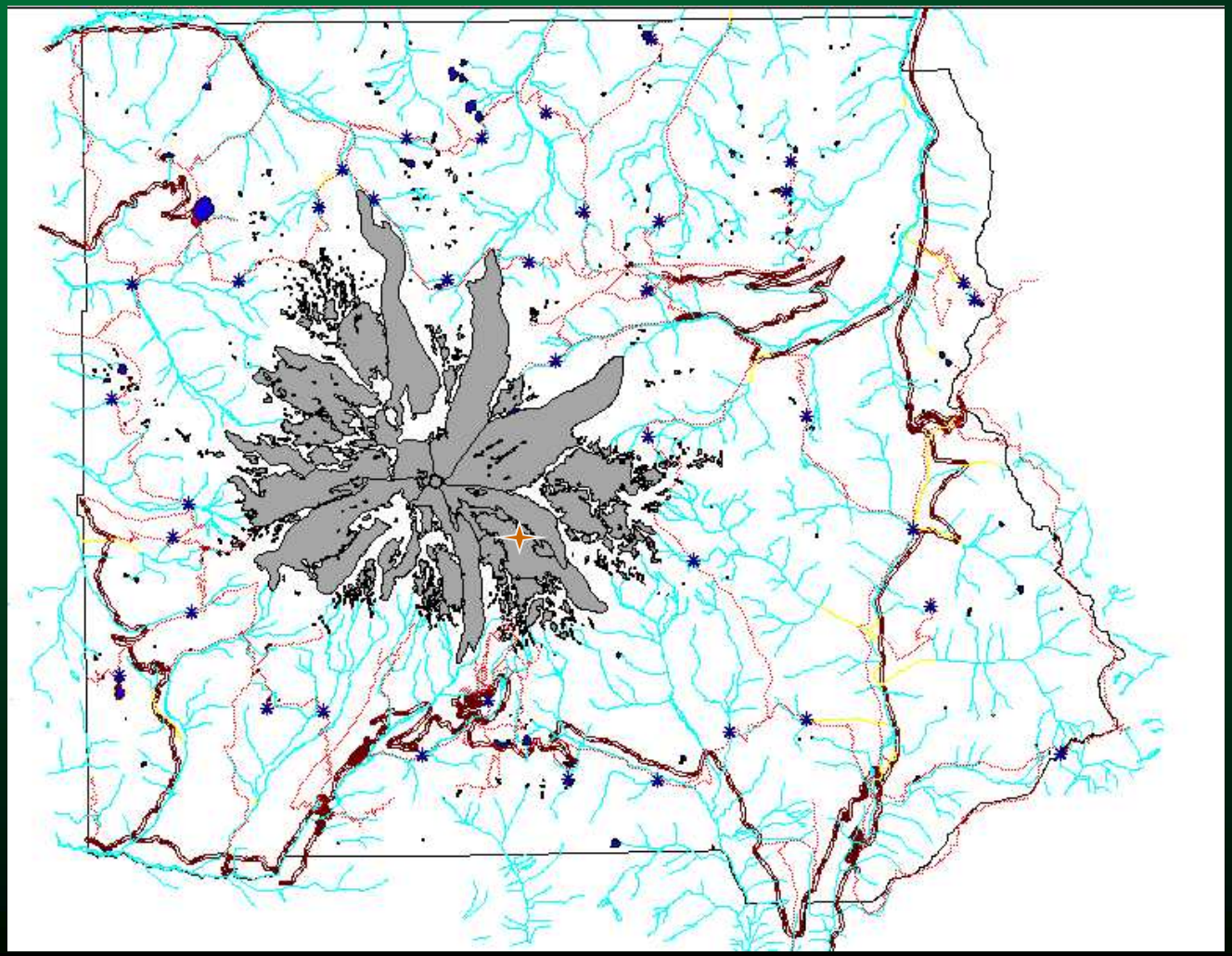
Adjacent Lands



Vegetation Zones



Roads, Trails, Wilderness Camps



- 147 miles of roads
- over 300 miles of trails
- 40 backcountry camps

80% of the park is within 1 mile of a road or trail.

33% of the park is within 1 mile of roads.

NPS Mission and Policies

Organic Act (1916)

"to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same ***in such manner and by such means as will leave them unimpaired for the enjoyment of future generations***. "

NPS Mission and Policies

2006 Management Policies

- "preserving park resources and values unimpaired is the core or primary responsibility of NPS managers."
- "try to maintain all the components and processes of naturally evolving park ecosystems, including the natural abundance, diversity, and genetic and ecological integrity of the plant and animal species native to those ecosystems."

Endangered Species Act of 1973

All Federal agencies are required to undertake programs for the conservation of endangered and threatened species, and are prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its critical habitat [section 7]

Wildlife Resources

- 56 mammal species
- 14 amphibians
- 3 reptiles
- 229 birds
- 8 native fish
- ?? invertebrates

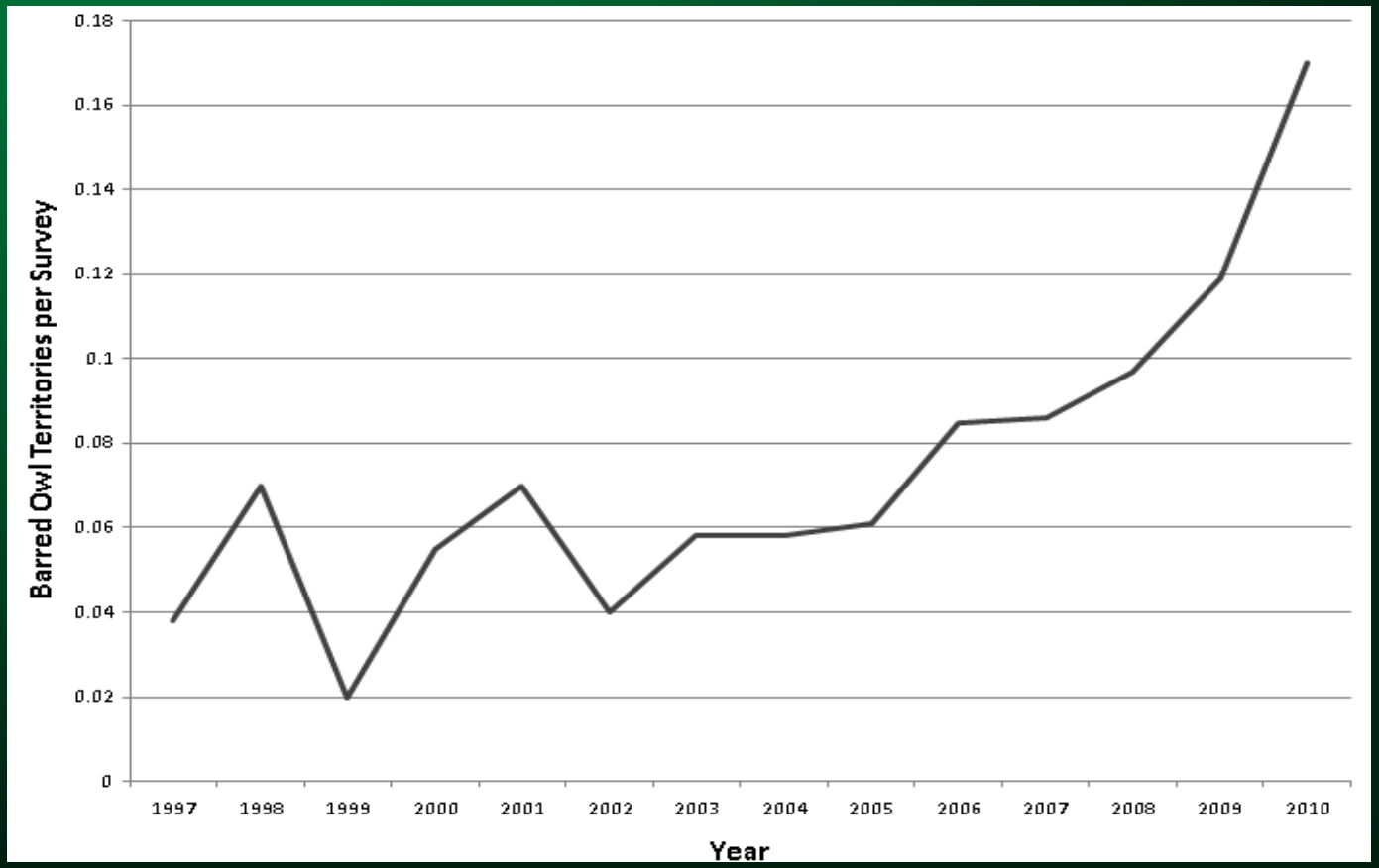
Wildlife projects

- Northern spotted owl demography
- Pika distribution (roadways)
- Cascade fox/human impacts
- Elk population monitoring (NCCN)
- Landbird community monitoring (NCCN)
- Butterfly distribution (WWU)
- Harlequin duck distribution
- Amphibian inventory/distribution
- Bat inventory (structures)

Environmental compliance

- Inventory and distribution of species/habitats for protection of sensitive species associated with park activities under NEPA
- ROADS and trail activities
  - NEPA/ESA responsibilities
  - Funding

MORA Barred Owls



Number of occupied barred owl territories per spotted owl survey

Barred Owl removal experiment

US Fish and Wildlife Service EIS

- Experimental
- Evaluate linkage between barred and spotted owls
- Investigate feasibility as conservation tool
- NPS units are being considered
  - DSAs-MORA, OLYM

Issue Brief

National Park Service
Department of the Interior
Pacific West Region
Natural Resource Programs

Experimental Barred Owl Removal

Photo: Josh Chenoweth, NPS

The 2010 Draft Northern Spotted Owl (NSO) Recovery Plan cites competition with barred owls as the greatest threat to NSO within habitat reserves. Due to uncertainty over the effects of barred owls on NSO and the feasibility of actions to address these effects, the plan calls for additional research prior to making management recommendations. This includes experimental removals of barred owls as well as analysis of existing data and observational studies of interactions between barred owls and NSO. The recovery plan does not detail study methods or recommend locations, but recognizes that the distribution of study sites would affect the range of inference.

Experimental Barred Owl removals could be conducted on National Park Service (NPS) lands, but only with a clear rationale for doing so. Any study conducted on an NPS site would need to represent the best science, and be conducted or peer reviewed by USGS. The relative lack of confounding habitat loss in the parks makes them attractive sites for the experiments, but concerns have been raised about both access difficulties and the potential for public controversy.

Key Points

- The goal of the removal experiments would be to clearly establish a cause and effect relationship between barred owl presence and declining spotted owl populations and to investigate the feasibility of barred owl removal as a management tool.
- Partitioning one or more existing NSO study areas into treatment and control blocks provides a number of efficiencies, including existing pre-treatment data.
- Several NPS units are included in NSO mark-recapture demography studies (OLYM, MORA), occupancy studies (REDW, PORE/MUWO), or have historic NSO data (NOCA) that would make them candidates for barred owl removal experiments.

Current Status

- A 2008 NSO Recovery Plan was rejected due to legal challenges over habitat protection, but elements addressing barred owls continue to move forward in the 2010 Recovery Plan.
- The USFWS is developing an Experimental Barred Owl Removal EIS with seven action alternatives for release later this year. Site selection will be part of this process. Most suitable areas would be considered under at least one alternative, but affected agencies will be consulted prior to the release of a final draft to the public.
- The EIS team has been provided with general information about NPS units that might be appropriate for conducting the experiments and NPS contacts to evaluate the suitability of each site.
- Because the majority of existing spotted owl demography studies occur on Forest Service or BLM lands, it is likely that most experiments would be conducted on these ownerships, with NPS lands making up a smaller portion of the final study area.
- Differences in the alternatives include study type (occupancy vs. mark-recapture demographics), the need for pre-treatment data, removal methods, and the number and size of study sites.

For more information, please contact:
Scott Gremel, Wildlife Biologist, OLYM
(360) 565-3067; scott_gremel@nps.gov
Ray Sauvajot, Natural Resource Program Chief
510-817-1437; ray_sauvajot@nps.gov

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Marbled Murrelet

Brachyramphus marmoratus

- Listed as a threatened species by both the U.S. Fish and Wildlife Service and the state of Washington. Still declining despite habitat protections.

- Nesting habitat in the Park is forests older than 100 years and below 3,800 feet.
- Approximately 10,000 ha (25,000 acres) of suitable nesting habitat in the Park.
- Carbon River area is best MORA habitat
- Radar surveys

Elk Monitoring – NCCN

Cervus elaphus

- Monitored in MORA, OLYM and LEWI
- Elk have important ecological role and are highly bio-political species (tribes, state, others)
- Long history of elk issues
  - Native/non-native
  - Meadow impacts
  - Trailing

NCCN Landbird Monitoring

- MORA, North Cascades, Olympics
- Point counts to determine trends and bird density in selected areas of the park
- Sample design with transects that start off roads and trails parkwide

Human Dimensions

- Park development projects (esp. roads)
- Visitor impacts
  - Wildlife feeding/habituation
  - Attractant management
- External impacts
  - Harvest
  - Predator control
- Roadkill
  - 614,000 vehicles annually

Julie Lewis / Oneonta Daily Star

Habituated and Food-Conditioned Wildlife

Terrestrial Species

- High elevation species vulnerable
- Limited range

MORA's Foxes

- Cascade subspecies (*Vulpes vulpes cascadensis*)
- Most evolutionarily distinct of the montane red fox lineages
- Three known populations: MORA, Mt. Adams, Goat Rocks Wilderness
- State candidate species
- Habitat specialist?

Amphibians

- Aquatic species--streams, ponds and wetlands
- Terrestrial species--springs and seeps

Amphibians

-Northwestern salamander (*Ambystoma gracile*)
-Long-toed salamander (*Ambystoma macrodactylum*)
-Coastal giant salamander (*Dicamptodon tenebrosus*)\
-Cope's giant salamander (*Dicamptodon copei*)
-Rough-skinned newt (*Taricha granulosa*)
-Ensatina (*Ensatina eschscholtzii*)
-Larch mountain salamander (*Plethodon larselli*)
-Western redbacked salamander (*Plethodon vehiculum*)
-Van Dyke's salamander (*Plethodon vandykei*)
-Tailed frog (*Ascaphus truei*)
-Pacific treefrog (*Pseudacris regilla*)
-Red-legged frog (*Rana aurora*)
-Cascades frog (*Rana cascadae*)
-Western toad (*Anaxyrus boreas*)

Amphibians

Species of Concern (federal and state listed)

- Larch Mountain Salamander
- Van Dyke's Salamander
- Cascades Frog
- Tailed Frog
- Western Toad