



## State Trust Lands Habitat Conservation Plan NORTHERN SPOTTED OWL HABITAT EFFECTIVENESS MONITORING

The goal of spotted owl effectiveness monitoring, as defined by the Habitat Conservation Plan, is to determine whether applied management activities result in anticipated habitat conditions. To meet this goal, we have set up a number of effectiveness monitoring sites throughout the range of the northern spotted owl. The data we collect will help us determine how well our conservation strategies are working, and to adjust them as needed.

### What is the purpose of the current monitoring?

- Documenting short-term (1-3 years after silvicultural treatment) and long-term changes in habitat conditions in order to assess habitat development.
- Evaluating the effects of different silvicultural treatments for habitat enhancement and/or maintenance.
- Currently the emphasis is on monitoring biodiversity-type thinning (variable density thinning).

### When are the stands sampled?

- Pre-harvest
- Post-harvest: immediately after harvest; 5; and 10 years later

### What are the monitoring methods?

- Passive monitoring (following existing silvicultural prescriptions)
- Four sample areas per timber sale - three replicas of the treatment and one unmanaged control
- Systematic random sampling - 13 permanent 0.1 acre plots per sample area
- 11 stand characteristics sampled per plot (e.g. down woody debris; live trees; snags; canopy closure)

**What sites are being monitored?** Five timber sales are currently being monitored. The goal for all of them is to assess the role of variable density thinning in maintaining and enhancing spotted owl habitat.

**Lyon's Share**—Nesting, Roosting, and Foraging (NRF) Management Area in Western Washington (Siouxon block)

- Second year post-harvest data collected in 2006.
- Analyses of the short-term changes in habitat conditions are being conducted.
- Preliminary results on stand development two years post-harvest are being processed.

**Cougarilla**—Dispersal Management Area in Western Washington (Tahoma block)

- First year post-harvest measurements were collected.
- Comparisons of pre- and post-harvest conditions being conducted.

**Loop**—NRF Management Area in Eastern Washington (Husum sub-landscape)

- The project started in 2006; all pre-harvest measurements were collected.
- First year post-harvest measurements were collected in 2007.
- Data are being formatted for future analyses.

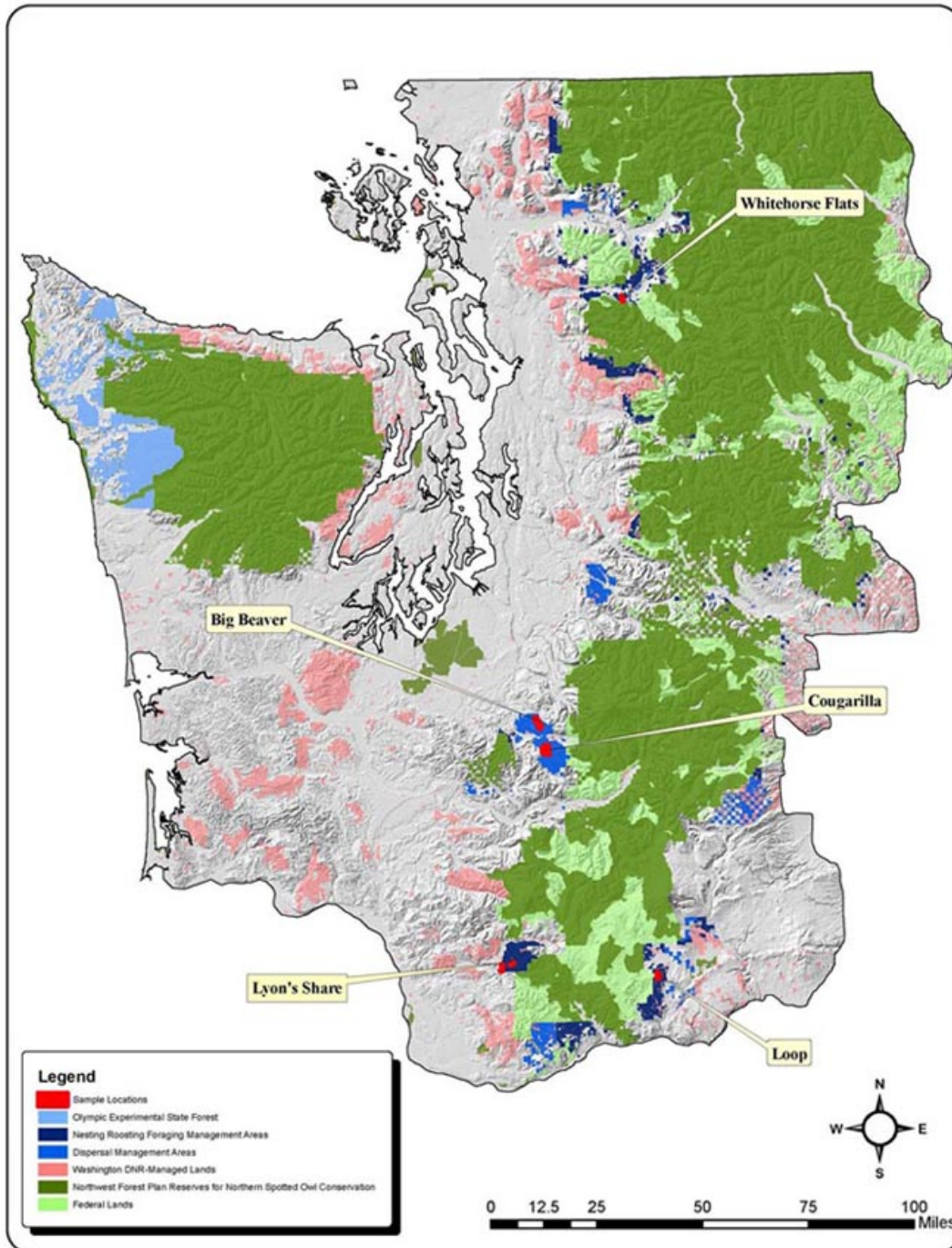
**Big Beaver**—Dispersal Management Area in the South Puget Planning Unit (Elbe block)

- All pre-harvest data were collected in 2007.
- Data are being formatted for future analyses.

**Whitehorse Flats**—NRF Management Area in the North Puget Planning Unit (Northwest Region)

- All pre-harvest data were collected in 2007.
- First year post-harvest measurements were collected in 2008.
- Data are being formatted for future analyses.

**Where are the study sites?**



## How is forest canopy closure measured?

Forest canopy closure is an important component of owl habitat. Our Habitat Conservation Plan requires minimum canopy closure, but does not specify how to measure this stand characteristic. We compared two ground-based techniques, both of which are used at DNR: a convex spherical densitometer and digital hemispherical photography. Our study has since expanded to look at LiDAR as another method of estimating canopy closure.

- [Poster explaining comparison methods and findings](#) (853KB PDF)