

## **Lewis River Hydroelectric Projects Relicensing**

Merwin Hydroelectric Project (FERC No. 935)  
Yale Hydroelectric Project (FERC No. 2071)  
Swift No. 1 Hydroelectric Project (FERC No. 2111)  
Swift No. 2 Hydroelectric Project (FERC No. 2213)

USDA Forest Service  
Gifford Pinchot National Forest

## **EXISTING INFORMATION ANALYSIS**

### **12. Terrestrial Habitat Inundation**

Prepared by: Mitch Wainwright<sup>1</sup>, Wildlife Biologist  
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#### **I. Existing Situation**

An isolated parcel of National Forest System land, consisting of about 600 acres is located at the point where Drift Creek flowed into the south side of the Lewis River. Due to the filling of the reservoir, Drift Creek now forms an inlet consisting of about 160 acres that divides the National Forest parcel into two pieces consisting of about 180 acres on the west side of Drift Creek, and 260 acres on the east side. The upland habitat on the parcel is late-successional conifer stands. Inundation by the reservoir eliminated about 160 acres of late-successional wildlife habitat. The Forest Service system land parcel near Pine Creek on the north side of the Swift Reservoir consists of 323 acres, of which about 38 acres has been inundated by the reservoir.

The Drift Creek inlet fragments the late-successional habitat on the Drift Creek parcel into two pieces. In addition, clearcut timber harvest on private timber land south of this parcel has isolated it from the rest of the National Forest located three-fourths of a mile south. The National Forest system lands south of the parcel are part of the Wind Late-Successional Reserve (LSR). The LSRs were established in the Northwest Forest Plan to provide habitat for species that require large blocks of late-successional habitat, such as spotted owls. The habitat connection between the Drift Creek parcel and the Wind LSR for species that require late-successional habitat is broken due to clear-cut timber harvest on the intervening private land. It will take 40 to 50 years before the clear-cut area between the parcel and the LSR is suitable for these species as dispersal habitat, however this area is not being managed to provide future connectivity.

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(360) 449-7857

The affected National Forest system lands are low elevation, and as such are within biological winter range for elk and deer. In addition to these National Forest System lands, the filling of Swift Reservoir inundated about 4,488 acres of winter range on other ownerships.

Inundation of the reservoir also covered about 1.3 miles of Drift Creek, and about 25 acres of riparian habitat.

The loss of upland and riparian habitat on National Forest System Lands constitutes continuing effects of the reservoir.

## **II. Management Direction**

### **Forest Plan Direction**

The Gifford Pinchot National Forest Land and Resource Management Plan (1990), as amended by the Northwest Forest Plan (NFP) in 1994, provides the management direction for all National Forest System lands and their associated resources directly affected by or within the project vicinity of the four hydroelectric projects in the Lewis River system. This plan was developed and enacted consistent with the requirements of the Forest and Rangeland Renewable Planning Act, as amended by the National Forest Management Act.

The two National Forest system land parcels are within lands identified in the Forest Plan as biological winter range. The Forest Service parcel at Drift Creek and a small portion of the Pine Creek parcel are classified as the Wildlife Special management area category. In general, the goal of this management area category is to sustain or enhance a limited and significant habitat to support dependant wildlife. The desired future condition is that management activities are not evident over most of the area, there are few roads, and signs of other activities are minimal. Vegetation is intended to generally be the product of natural succession, although some enhancement of habitat may occur. Recreational activities, which entail high densities of users, are not to be encouraged; however some hunting and fishing may occur. (Gifford Pinchot Forest Plan, 1995, p.4-33)

The standards and guidelines for the Wildlife Special management area allow for opportunities for viewing, photographing, and interpreting wildlife features when it is determined that it would not result in harassment to wildlife. Other than trails, recreation facilities should not be built.

The remainder of the parcel at Pine Creek is primarily Matrix with an emphasis on maintaining visual quality along Forest Road 90. These areas accommodate a variety of activities which, to the observer, are either not evident or visually subordinate to the natural landscape. The Pine Creek parcel also includes a Forest Service administrative site.

The Aquatic Conservation Strategy (ACS), a core component of the Northwest Forest Plan, provides management direction aimed at maintaining or restoring the ecological

health and functioning of watersheds and the aquatic ecosystems contained within them. Nine key ACS objectives were stated to guide development of new projects and evaluation of existing projects. ACS objectives that most apply to continued inundation of stream and riparian habitat include:

- *2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include flood plains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependant species.*
- *8. Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.*
- *9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.*

#### **Forest Service Manual Direction**

Forest Service Manual (FSM) 2670.12 directs the Forest Service to:

- Manage habitats for all existing native and desired nonnative plants, fish, and wildlife species in order to maintain at least viable populations of such species,
- Conduct activities and programs to assist in the identification and recovery of threatened and endangered plant and animal species, and
- Avoid actions that may cause a species to become threatened or endangered.

Forest Service Manual (FSM) 2670.22 directs the Forest Service to:

Maintain viable populations of all native and desired nonnative wildlife, fish, and plant species in habitats distributed throughout their geographic range on National Forest System lands. A viable population is further defined by FSM 2670.5 as one that has the estimated numbers and distribution of reproductive individuals to ensure the continued existence of the species throughout its existing range (or range required to meet recovery for listed species) within the planning area.

### **Management Prescription**

The Gifford Pinchot Land and Resource Management Plan prescribed two Forest-wide goals for deer and elk habitat. The overall goal is to maintain habitat capable of supporting the potential population levels of elk that existed in 1990, and allowing for an increase of about 10 percent for deer. The goal for winter range is to maintain at least 44 percent of the biological winter range in optimal thermal cover in each fifth-field watershed.

### **III. Information Analysis**

**Late-Successional Habitat** - In 1991 an environmental analysis was begun to evaluate the impacts of exchanging the Drift Creek parcel to PacifiCorp for land within the legislated National Volcanic Monument. The decision was subsequently made to retain the parcel as National Forest, and to cooperatively manage the site with PacifiCorp under a Memorandum of Understanding. Formal and informal surveys were conducted in conjunction with this analysis. Informal surveys characterized the timbered habitat as one of the few remaining stands of old growth on the south side of the reservoir. Many trees are 54+ inches in diameter and over 100 feet tall. Tree ages were estimated by the MSHNVM silviculturist at 400 years or older. No plant surveys were conducted, however it was recognized that sensitive plant species may exist there. Privately owned parcels on this side of the reservoir have nearly all been clearcut logged.

The parcel is separated from the Wind Late-Successional Reserve (LSR) on the National Forest by three-quarters of a mile. As stated above, the land between the parcel and the LSR is private land and has been clear-cut. Drift Creek flows from the LSR, through this private land and then through the Drift Creek parcel. There was no riparian buffer left along Drift Creek when the private land was cut, so the National Forest parcel has no habitat connection with the LSR for late-successional species. Both the Drift Creek parcel and the habitat in the LSR south of the parcel are suitable for spotted owls.

A study of habitat quality for selected analysis species is being conducted as part of relicensing of the projects. The purpose of selecting analysis species was to focus relicensing studies on commonly occurring as well as rare and declining, taxa that represent guilds requiring specific habitats and/or features. One of the analysis species is the pileated woodpecker, which was selected to represent cavity nesting species requiring large snags and down wood in conifer forests.

Old-growth habitat surveyed at Swift Reservoir, including the Drift Creek parcel as part of relicensing indicates that the habitat is nearly optimum for pileated woodpeckers (mean HSI value = .89). This value is also an indication of the habitat quality for other late-successional species, including spotted owl.

**Winter Range** - According to the Lower Lewis River Watershed Analysis (USFS 1996) approximately 27 percent of the biological winter range in the Lower Lewis fifth-field watershed is optimal thermal cover. The habitat at Drift Creek contributes to this total. The timbered habitat at the Pine Creek parcel is thermal cover, but doesn't contain the qualities of optimal thermal cover, i.e. a multi-storied canopy.

**Survey and Manage** - The habitat on the National Forest parcel at Drift Creek is suitable for many plant and animal species that are listed as Sensitive or as Survey and Manage under the Northwest Forest Plan. Surveys conducted on the Drift Creek parcel as part of relicensing have found two mollusk species that are listed as Survey and Manage (*Cryptomastix devia* and *Hemphillia glandulosa*). This is one of only two known sites for *C. devia* on the Mount St. Helens NVM.

#### **IV. Preliminary Forest Service Objectives**

To offset the continued loss of upland late-successional and riparian/aquatic habitat on National Forest System Lands due to inundation of the Drift Creek and Pine Creek parcels, the licensees should acquire terrestrial habitat to be managed to attain late-successional conditions, and riparian habitat providing resource benefits equivalent to that which is inundated.

An emphasis could be to acquire private lands between the Drift Creek parcel and the Late-successional Reserve to the south to eventually restore connectivity between these habitats. The land acquired (either through direct purchase or conservation easement) should be managed to provide upland late-successional and riparian/aquatic habitats to restore connectivity of these habitats between parcels of NFSL along Drift Creek.

The Forest Service will also support the recommendations made by the Washington State Department of Fish and Wildlife to acquire and manage winter range habitat at Swift Reservoir to offset the continued loss of inundated National Forest System lands.

#### **V. Information Needs**

Progress update on terrestrial studies as reported in the Draft Technical Study Status Report, April 2002:

TER 1: Vegetation cover type mapping is completed. The National Forest System Land at Drift Creek is mapped as Old-Growth Conifer Forest with small inclusions of Riparian Deciduous Forest, and Upland Deciduous Forest.

The National Forest System Land at Pine Creek is mapped primarily as Old-Growth Conifer Forest, but also contains a small patch of Upland Mixed (conifer/deciduous), Mature Conifer Forest, and Palustrine Forested Wetland.

TER 2: The HEP study is completed through the fieldwork portion. Planned to be completed in 2002 are: develop management alternatives and assumptions, conduct HEP accounting, and prepare final report.

TER 3: Analysis Species Assessment – All work completed.

Surveys conducted on the Drift Creek parcel as part of relicensing have found two mollusk species that are listed as Survey and Manage (*Cryptomastix devia* and *Hemphillia glandulosa*). This is one of only two known sites for *C. devia* on the Mount

St. Helens NVM.

No S&M salamander species were detected.

TER 4: Botanical surveys completed. No TES species detected on USFS land. The Technical Study Status Report (April 2002) does not show results of Survey and Manage plant surveys at Drift Creek.