

TABLE OF CONTENTS

8.0 Land Use	LND 1-1
8.1 LAND USE STUDY (LND 1)	LND 1-1
8.1.1 Study Objectives	LND 1-1
8.1.2 Study Area	LND 1-1
8.1.3 Methods	LND 1-1
8.1.4 Key Questions	LND 1-2
8.1.5 Results	LND 1-2
8.1.6 Schedule	LND 1-45
8.1.7 References	LND 1-45
8.1.8 Comments and Responses on Draft Report	LND 1-47

LIST OF TABLES

NONE

LIST OF FIGURES

Figure 8.1-1. Major Property Owners	LND 1-3
Figure 8.1-2. Land Management Designations	LND 1-11
Figure 8.1-3 Land Use in Project Area	LND 1-19

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8.0 LAND USE

8.1 LAND USE STUDY (LND 1)

8.1.1 Study Objectives

The objectives of the Land Use Study are to:

- Identify the existing land use and land ownership within the study area;
- Determine if existing project facilities and proposed operations are compatible with existing land uses;
- Evaluate the consistency of existing project facilities and proposed operations with the applicable federal, state, and local planning documents, policies, and land use regulations; and
- Assess the potential effects of increased residential development in the study area on project operations, wildlife management, and recreation management.

8.1.2 Study Area

This assessment examines land uses and ownership within and adjacent to the FERC project boundaries for the Swift No. 1, Swift No. 2, Yale, and Merwin Hydroelectric Projects. Information is also compiled on the surrounding basin, from above Swift Reservoir downstream to Eagle Island.

8.1.3 Methods

The methods of the Land Use Study include 3 tasks, as described below.

8.1.3.1 Task 1 - Identify the Existing Land Use and Land Ownership within the Study Area

PacifiCorp and Cowlitz PUD will collect appropriate land use plans, discuss land management issues, and retrieve pertinent maps that describe land use activities from local, state, and federal agencies with land management responsibilities in the study area and basin. The list of agencies that will be contacted includes, but is not limited to:

- Gifford Pinchot National Forest
- U.S. Bureau of Land Management
- Washington Department of Natural Resources
- Washington Department of Parks and Recreation
- Washington Department of Transportation
- Clark County Planning Department
- Cowlitz County Planning Department
- Skamania County Planning Department

Additionally, as part of the cultural resource studies, PacifiCorp and Cowlitz PUD will solicit comment regarding land use issues from Indian Tribes that may have an interest in the project including the YN and the CIT. Major timberland owners (e.g., Weyerhaeuser and Longview Fibre) will be also be consulted, to the extent possible, to characterize land use issues. Land ownership and land management maps will be developed from GIS coverages using the information gathered from the above-mentioned land management entities.

8.1.3.2 Task 2 - Determine if Existing Project Facilities and Proposed Operations are Compatible with Existing Land Uses and Federal, State, and Local Planning Documents, Policies, and Land Use Regulation

Under this task, each of the 4 hydroelectric projects and related facilities would be evaluated to determine compatibility with existing land uses and federal, state, and local planning documents, policies, and land use regulations. This will be based on the most recent list of comprehensive plans available from the FERC in addition to local land use guidelines.

8.1.3.3 Task 3 - Assess the Potential Effects of Increased Residential Development in the Study Area on Project Operations, Wildlife Management, and Recreation Management

For this task, existing records and interviews with local governmental bodies would be used to identify potential new residential development within the study area. PacifiCorp and Cowlitz PUD will gather information on: (1) projected increases in residential development; (2) location of new development; and (3) the timing of new development. Based on this information, the study will assess the potential effects of increased development on project operations, wildlife management, and recreation management.

8.1.4 Key Questions

The Land Use study plan did not include “key” watershed questions.

8.1.5 Results

8.1.5.1 Land Ownership and Management

A variety of published sources were examined for this evaluation, including the management plans of federal, state, and local government agencies. The 4 Lewis River Hydroelectric Projects are located in a 3-county area (Skamania, Clark, and Cowlitz), with land management split among multiple federal, state, and local agencies. Major land owners in the vicinity of the projects include the United States Forest Service (USFS), Washington State Department of Natural Resources (DNR), private timber companies, and PacifiCorp.

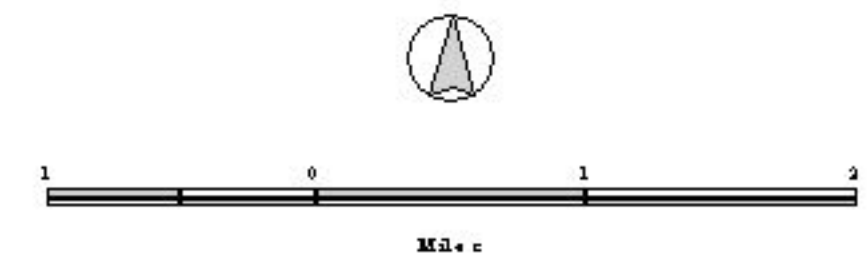
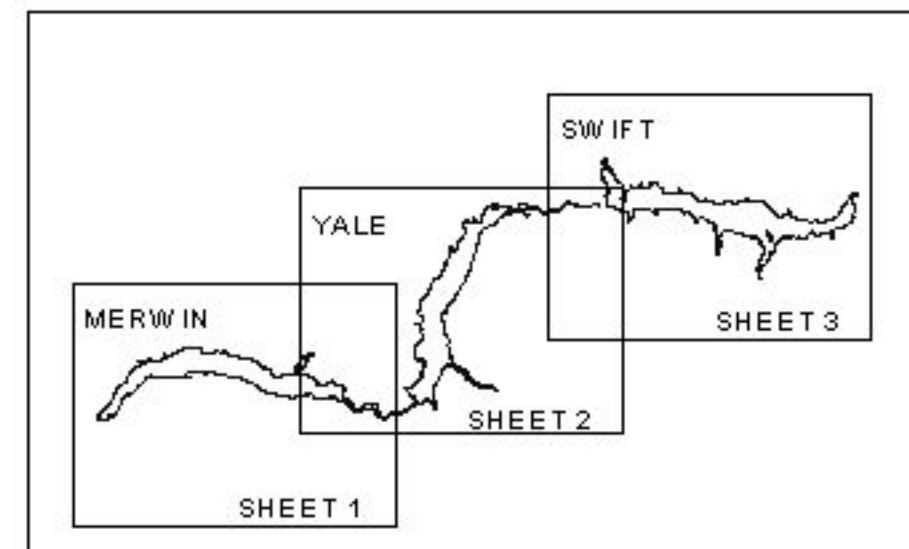
Federal Lands

The Gifford Pinchot National Forest (GPNF) is a major land manager in the basin surrounding Swift Reservoir. GPNF holdings are most extensive in areas north and south of Swift Reservoir and within Skamania County (Figure 8.1-1). USFS land within and adjacent to the FERC project boundary includes a parcel northeast of Swift Campground

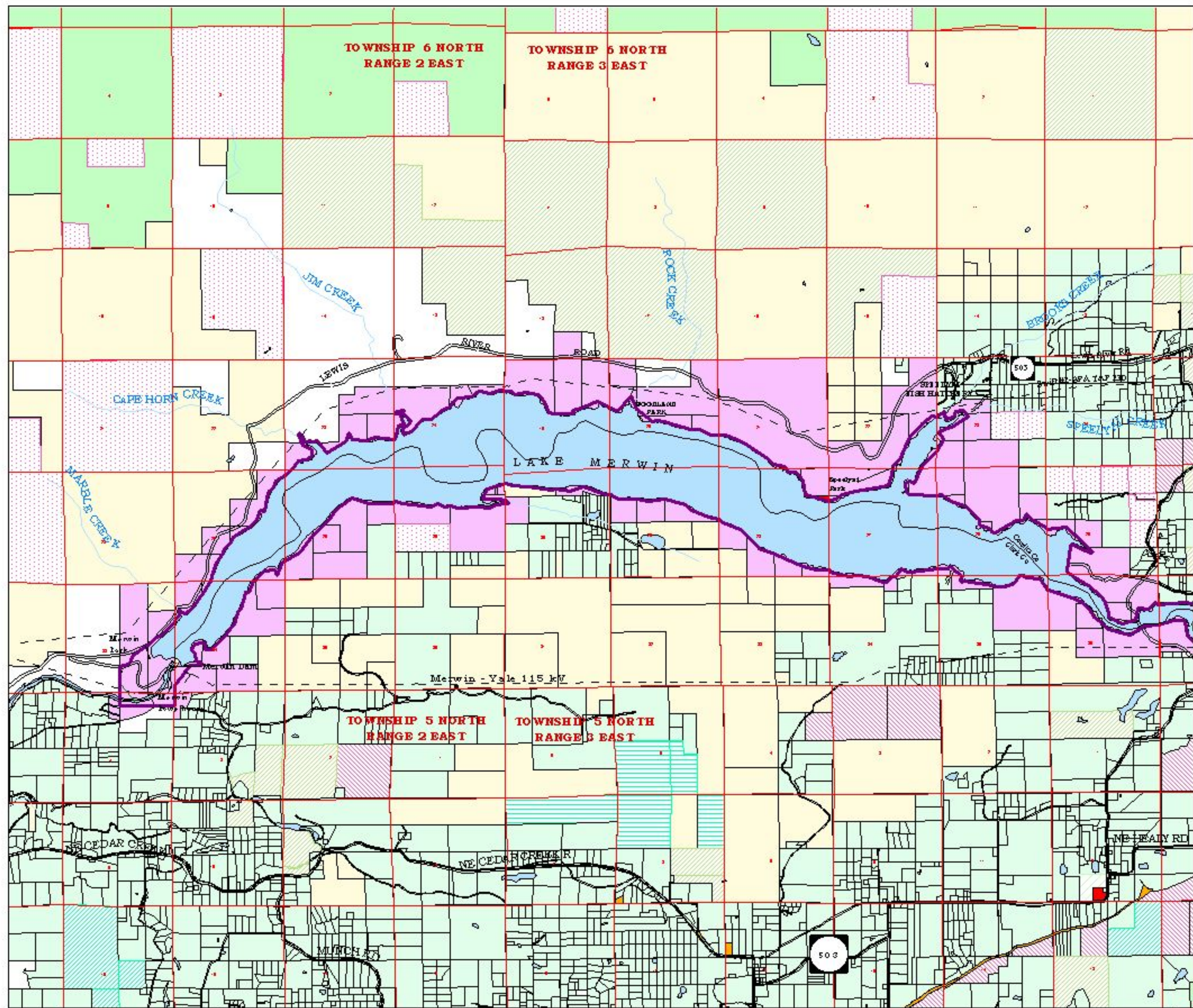
Major Property Owners

SHEET 1

- | | |
|--|----------------------|
| FERC Boundary | Cowlitz County PUD |
| Township | Weyerhaeuser |
| Section | KLL Corp. |
| PacifiCorp | International Paper |
| GP NF | Pope Industries |
| Mt St Helens | Stimson Lumber |
| Federal/BLM | ANE Forestry |
| State | WCFR Forestry |
| County | Hampton Tree Farms |
| Private | Hambleton Lumber |
| Unknown | Longview Fibre |
| | Mid Valley Resources |
| Gifford Pinchot National Forest Boundary | |
| Transmission Lines | |



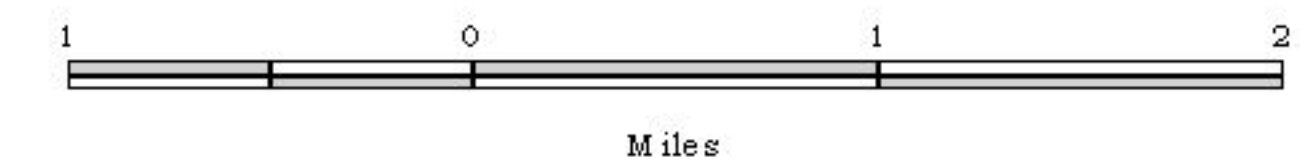
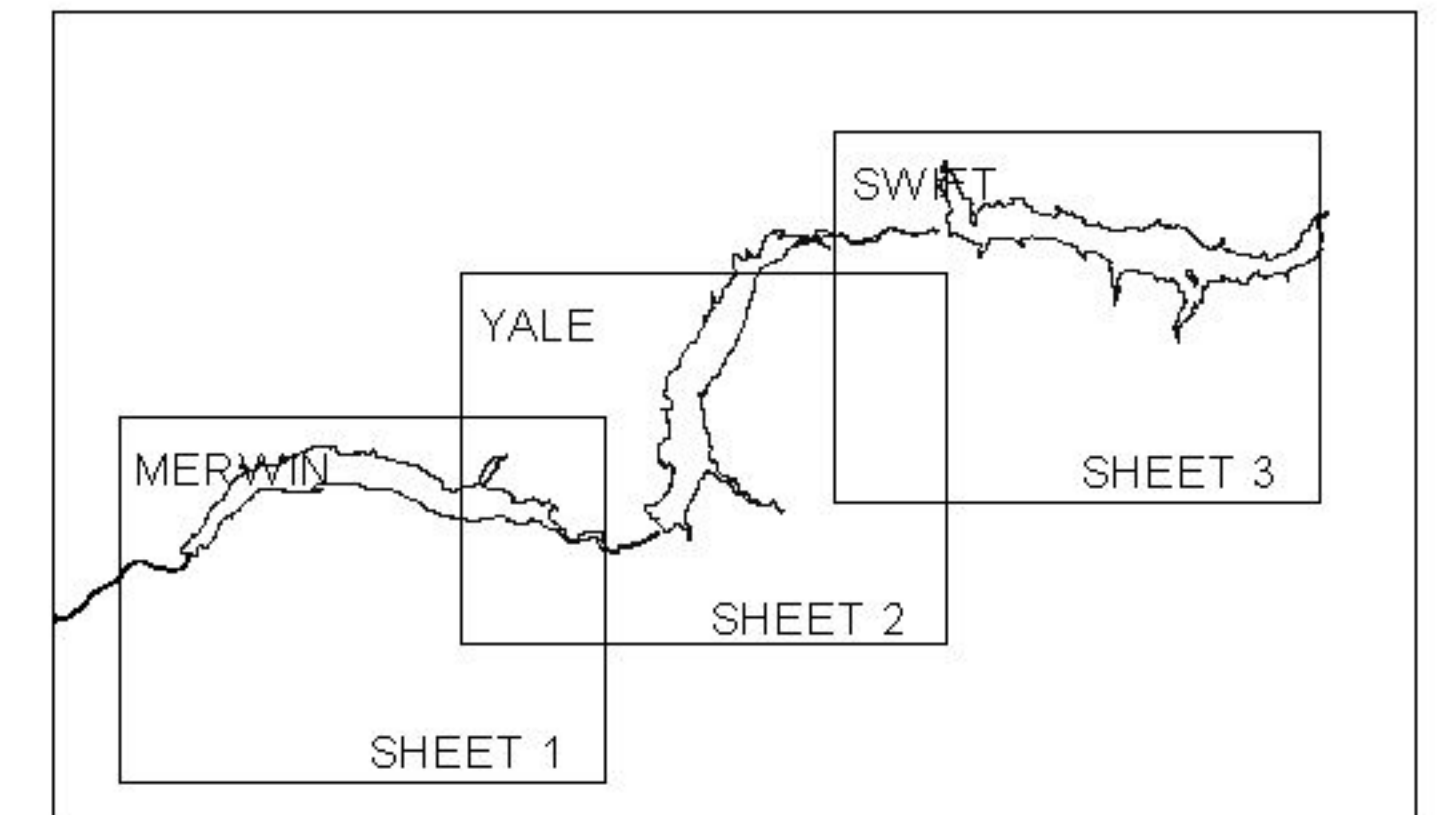
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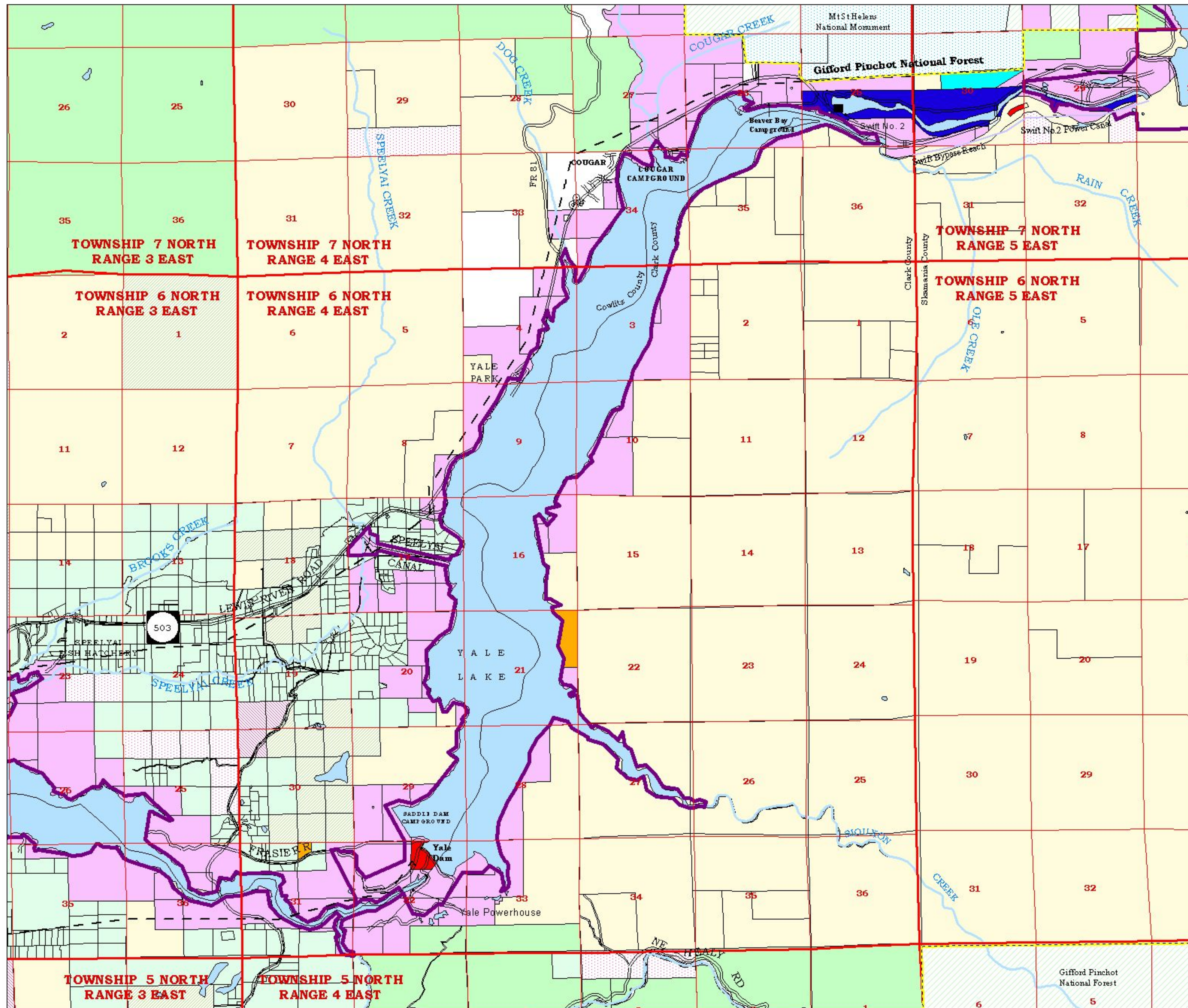
Major Property Owners

SHEET 2

- | | |
|--|----------------------|
| FERC Boundary | Cowlitz County PUD |
| Township | Weyerhaeuser |
| Section | KLL Corp. |
| PacifiCorp | International Paper |
| GP NF | Pope Industries |
| Mt St Helens | Stimson Lumber |
| Federal/BLM | ANE Forestry |
| State | WCFR Forestry |
| County | Hampton Tree Farms |
| Private | Hambleton Lumber |
| Unknown | Longview Fibre |
| Gifford Pinchot National Forest Boundary | Mid Valley Resources |
| Transmission Lines | |



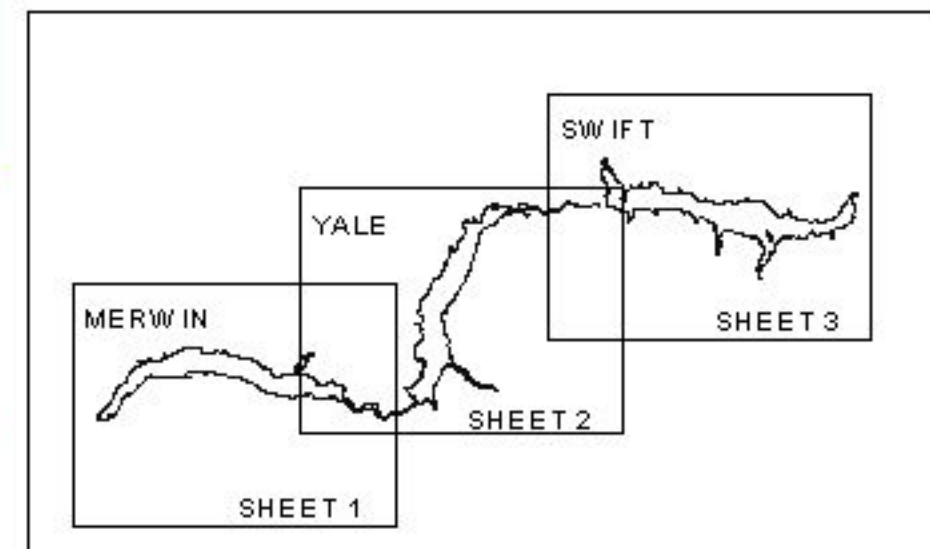
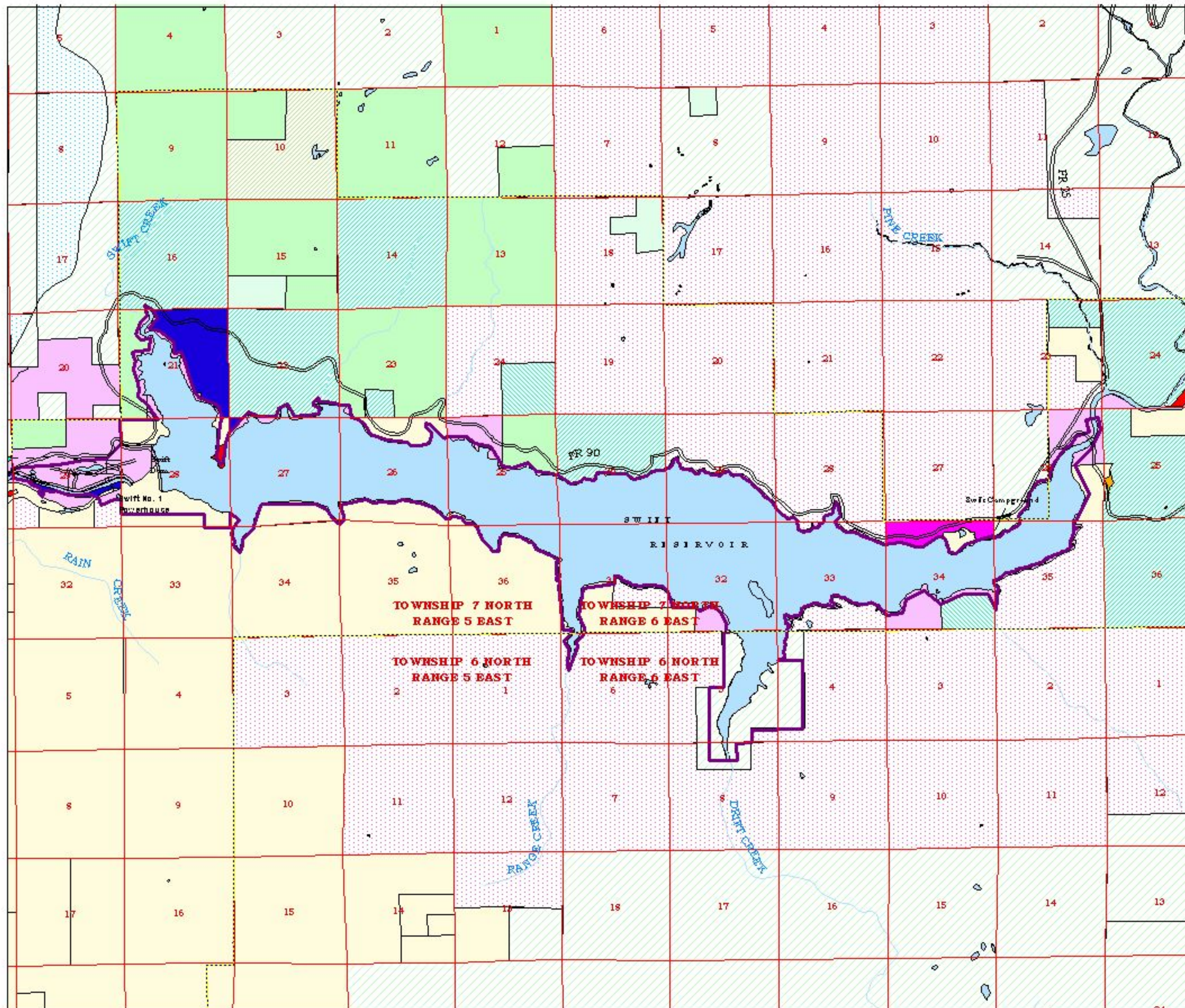
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Major Property Owners

SHEET 3

- | | |
|--|----------------------|
| FERC Boundary | Cowlitz County PUD |
| Township | Weyerhaeuser |
| Section | KLL Corp. |
| PacifiCorp | International Paper |
| GP NF | Pope Industries |
| Mt St Helens | Stimson Lumber |
| Federal | ANE Forestry |
| State | WCFR Forestry |
| County | Hampton Tree Farms |
| Private | Hambleton Lumber |
| Unknown | Longview Fibre |
| | Mid Valley Resources |
| Gifford Pinchot National Forest Boundary | |
| Transmission Lines | |



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that contains a section of Forest Road 90 (FR 90); parcels on either side of Drift Creek Cove; and 2 small parcels north of the Swift canal that are completely surrounded by PacifiCorp property. Management of these lands is directed by the Gifford Pinchot Land and Resource Management Plan (USFS 1990) and the Northwest Forest Plan (USFS and BLM 1994), with the principles of multiple use guiding management decisions regarding timber yield, water, forage, wildlife, and recreation.

The Mount St. Helens National Volcanic Monument (Monument) was created in August 1982, incorporating lands previously managed by the GPNF and additional surrounding parcels. Monument lands extend north of Yale Lake and the Swift No. 2 project, and have incorporated approximately 300 acres (121 ha) of former PacifiCorp land north of Beaver Bay Campground. PacifiCorp exchanged these lands for the purchase of parcels from Weyerhaeuser Corporation. Monument lands in the vicinity of the projects are managed to protect geological, ecological, and cultural resources for scientific study and research, while providing compatible recreation and interpretation opportunities.

The Bureau of Land Management (BLM) retains a 38-acre (15 ha) parcel within the FERC project boundary on which Yale Dam was constructed. Access roads to Yale and Saddle dams, the switchyard, and project support facilities also are within this parcel. The BLM relies on PacifiCorp to manage this parcel for maintenance of the hydropower facilities. PacifiCorp's right to occupancy is authorized under a long-term Federal Power Act (FPA) withdrawal. Similarly, 2 other BLM parcels, totaling 166 acres (67 ha), lie within the inundation zone of Yale Lake. PacifiCorp pays an annual fee for its right to occupy and use these parcels.

State Lands

The Washington State Department of Natural Resources (DNR) has extensive holdings within and adjacent to the project area. Several small parcels are located on the eastern side of Swift Reservoir. The Swift Campground parcel is a 20-acre (8 ha) area owned by DNR but leased to and managed by PacifiCorp; the second parcel is located along the eastern shore of Swift Reservoir and includes a segment of FR 90. Additional DNR parcels are scattered north of the project area, extending from Swift Reservoir west to Woodland. DNR also manages a small parcel on the south shore of Lake Merwin. A majority of these holdings are located outside the FERC project boundary. Management is guided by the Forest Resources Plan (DNR 1992), which the DNR uses in making decisions about all state-managed forestland. Additionally, DNR follows the guidelines of its Habitat Conservation Plan, developed to conserve threatened and endangered species on DNR lands within the range of the northern spotted owl (DNR 1997).

The most extensive DNR holdings are the approximately 32,000 acres (12,950 ha) of land east of Yale Lake and south of Swift Reservoir that make up the Siouxi Landscape Area. This portion of the basin is managed under the Siouxi Landscape Plan (DNR 1996), which guides the management objectives for both timber and non-timber resources following rules outlined in the state Forest Resources Plan (DNR 1992).

The Washington State Department of Transportation (WSDOT) is responsible for management of State Route 503 (SR 503), which bisects the study area on the northern

side of the reservoirs from I-5 until approximately 1.5 miles (2.4 km) west of Swift Dam, at which point it becomes FR 90. This road, also known as the Lewis River Road, is the main east-west transportation corridor in the vicinity of the projects. Use of SR 503 has increased substantially since the eruption of Mount St. Helens and as residents of the nearby metropolitan area of Portland/Vancouver have discovered the recreational opportunities available at the project reservoirs.

County Lands

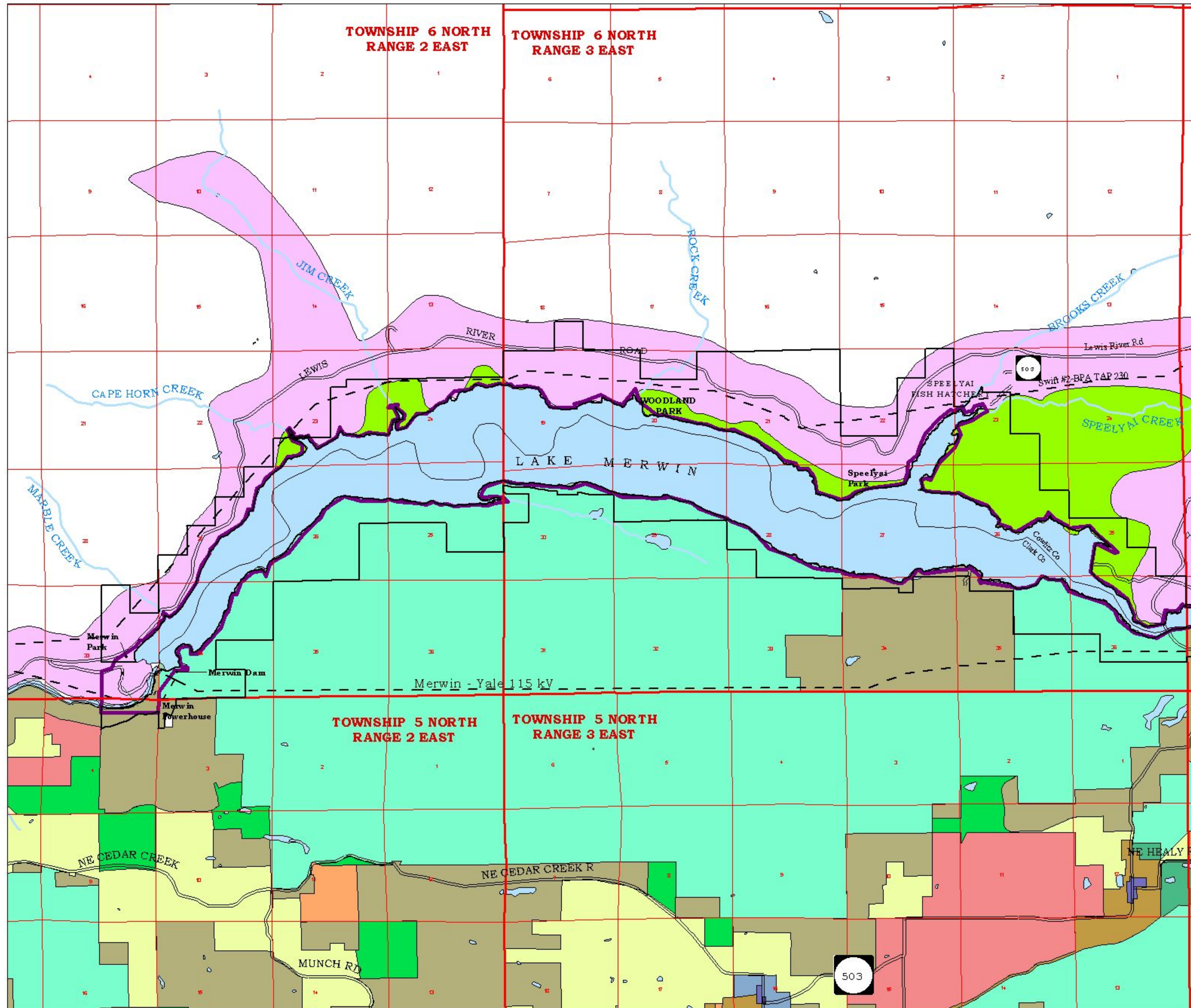
Skamania County encompasses all of the project area associated with Swift Reservoir, extending westward along about 2 miles (3.2 km) of the Swift canal. The comprehensive plan for this county (Skamania County 1977) concentrates on the approximately 20 percent of its land located outside of the GPNF boundaries, leaving county lands within the project area as unzoned. As such, Skamania County does not identify any land use designations in the project area.

Clark County encompasses an area from just upstream of the Swift No. 2 powerhouse downstream to the Columbia River, following the southern and eastern edges of the Yale and Merwin reservoirs. While certain portions of this county are among the faster growing areas in the state, county lands within the project area are relatively remote. Lands within and adjacent to the FERC project boundary are predominantly designated Forest Tier I, with 3 small areas designated Forest Tier II under the Clark County Comprehensive Growth Management Plan (Clark County 1994). Management of land within these designations focuses on the long-term production of commercially significant forest products and other natural resources. The Tier I designation primarily applies to larger parcels and major industrial forestry landowners. The Forest Tier II sections are located along SR 503 where it crosses the Lewis River, on the south shore of Lake Merwin across from Speelyai Bay, and at the southwest corner of Lake Merwin (Figure 8.1-2). These sections contain the denser development that Forest Tier II zoning allows, with a limitation of 1 principal dwelling per 40 acres (16 ha) versus the 1 dwelling per 80 acre (32 ha) minimum for Forest Tier I. The county owns an approximately 80-acre (32 ha) site along the east side of Yale Lake, with about 0.5 mile (0.8 km) of lake frontage. This parcel is designated as Parks / Open Space under the Clark County Comprehensive Growth Management Plan (Clark County 1994). As there is currently no recreation easement along the only access road (the International Paper road), the site has remained undeveloped.

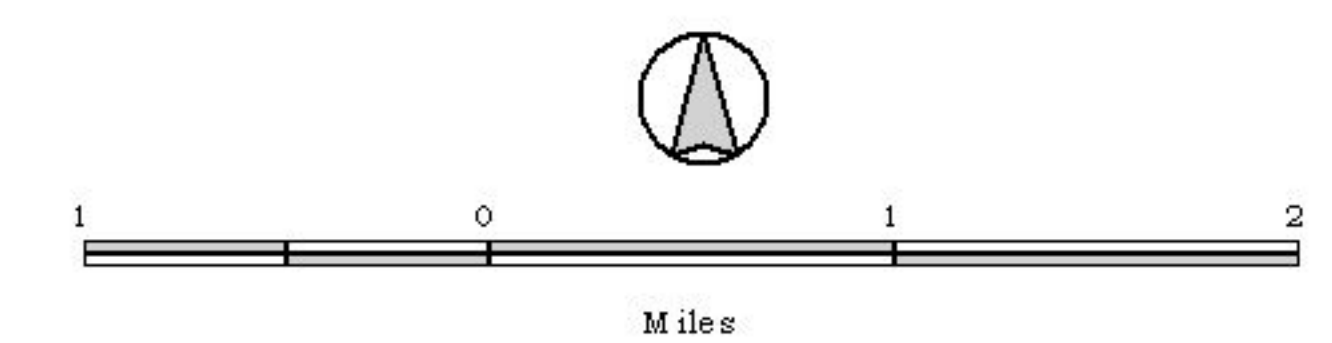
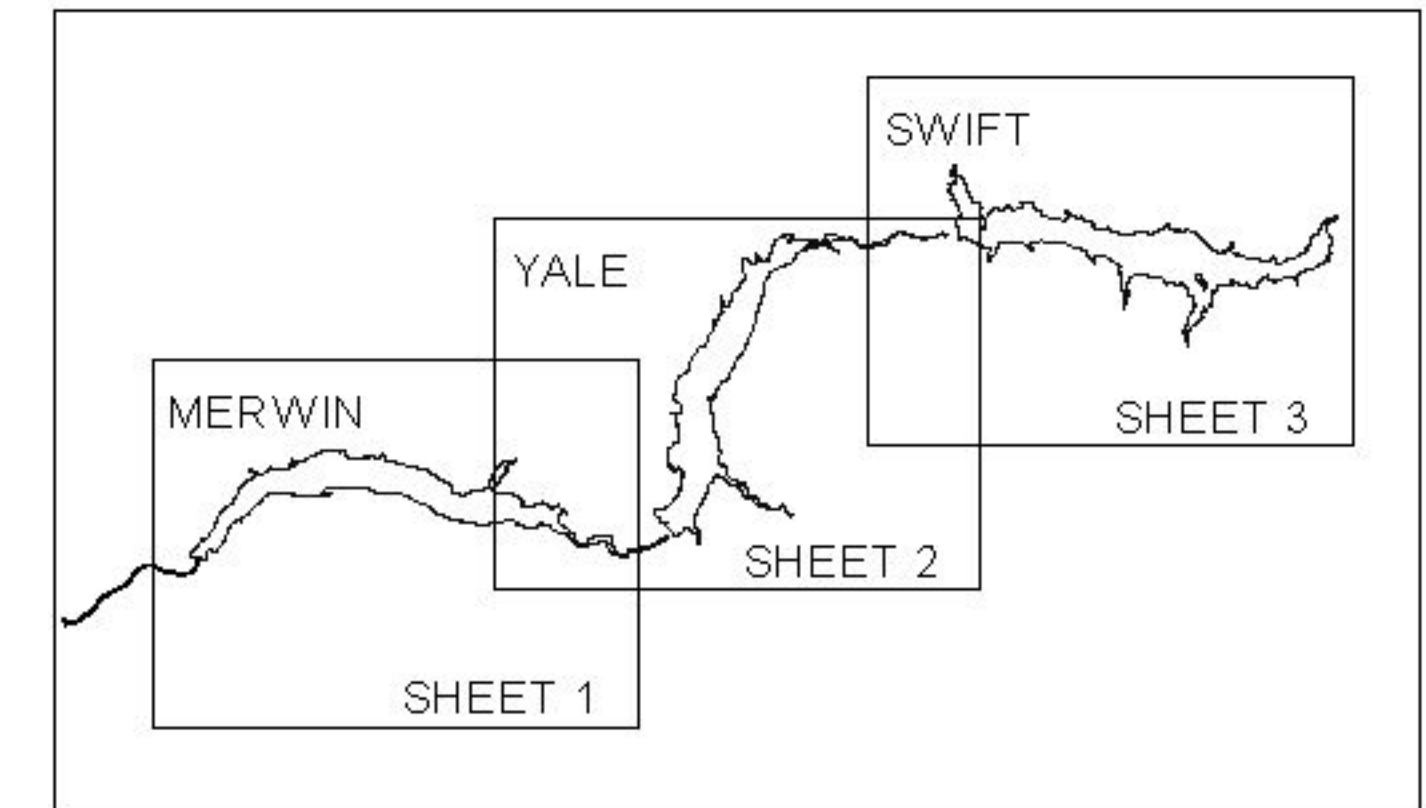
Cowlitz County boundaries include project area lands west and north of Yale Lake, extending along the north and west edges of the Yale and Merwin reservoirs from the Skamania County line near the Swift No. 2 powerhouse to the Columbia River. Cowlitz County contains the largest town in the immediate project area, Cougar, which consists of a few commercial enterprises and a small residential community. Northeast of Cougar, Cowlitz PUD owns the Swift No. 2 Project and land adjacent to the canal that carries water from the outfall of the Swift No. 1 powerhouse. The canal and adjacent lands extend into Skamania County. A majority of the land within and adjacent to the project boundaries in Cowlitz County (Figure 8.1-2) is designated as Rural Residential-2 under the county's Comprehensive Plan, providing a buffer between higher intensity uses and low density agricultural and forestry uses (Cowlitz County 1977). Recommended density in this classification is 1 family dwelling per 2 acres (0.8 ha). Several large sections of

Land Management Designations

SHEET 1

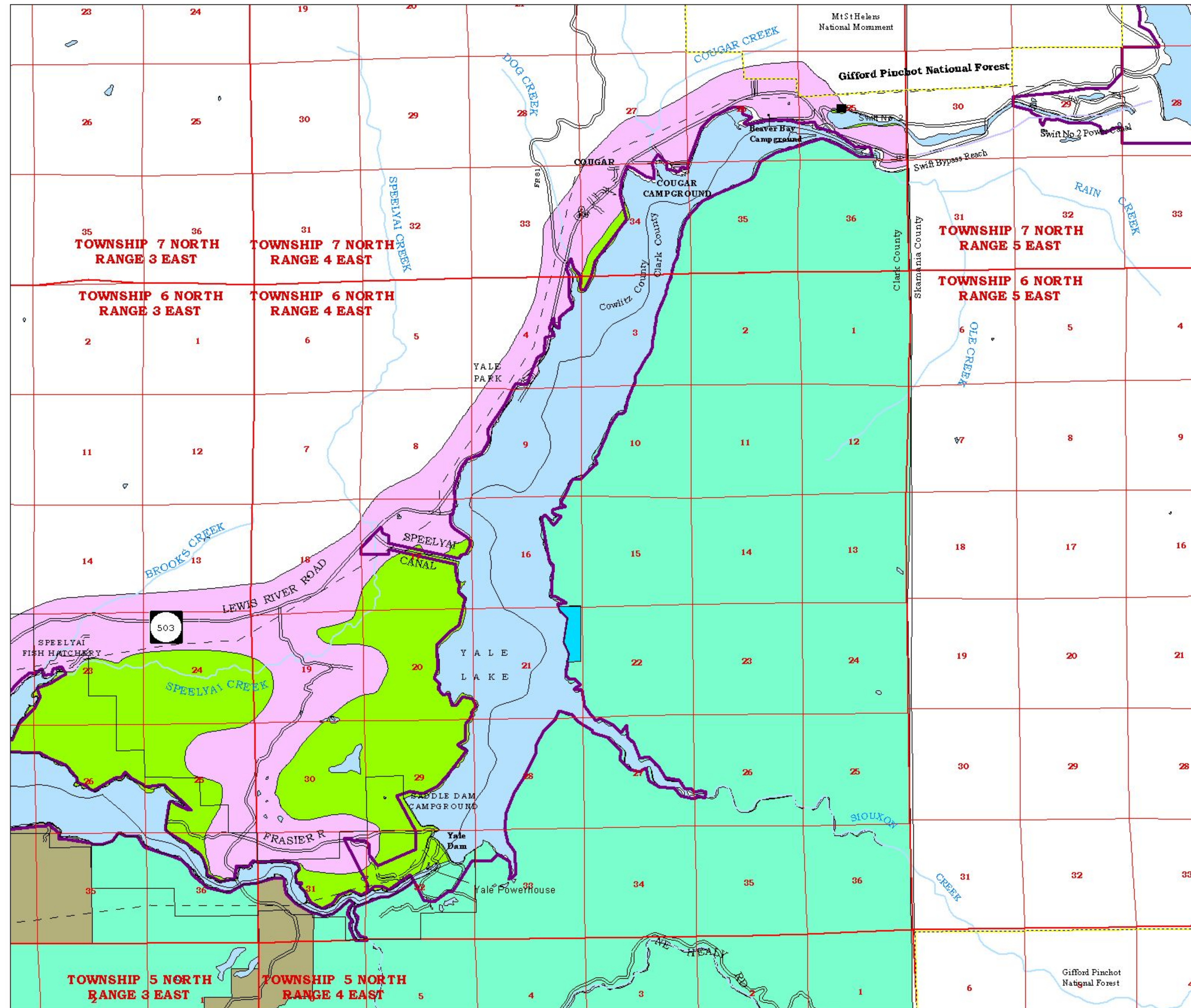


- FERC Boundary
- Township
- Section
- Merwin Wildlife Habitat Area
- Cowlitz Land Zoning**
 - Forestry - Open Space
 - Rural Residential - 2
- Clark Land Zoning**
 - Agriculture-20
 - Forest Tier I-80
 - Forest Tier II-40
 - Heavy Industrial (MH)
 - Highway Commercial (CH)
 - Parks/Open Space
 - Parks/Wildlife Refuge
 - R1-7.5
 - Road
 - Rural Centers - 1 AC Minimum
 - Rural Centers - 2.5 AC Minimum
 - Rural Comm.-inside Rur.Centers
 - Rural Comm.-outside Rur.Center
 - Rural-10
 - Rural-20
 - Rural-5
 - Schools/Public Facilities
 - Water
 - General Commercial
 - Parks
 - Residential/Professional
 - Urban Residential
- Transmission Lines

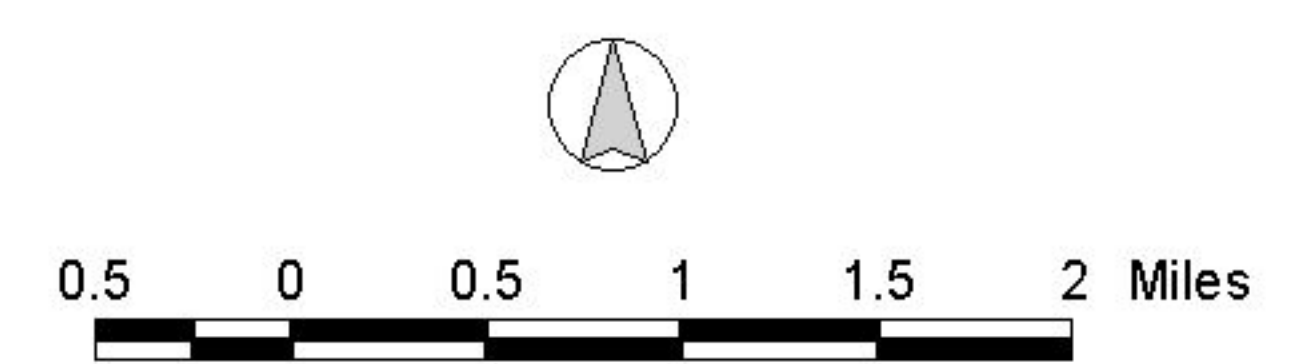
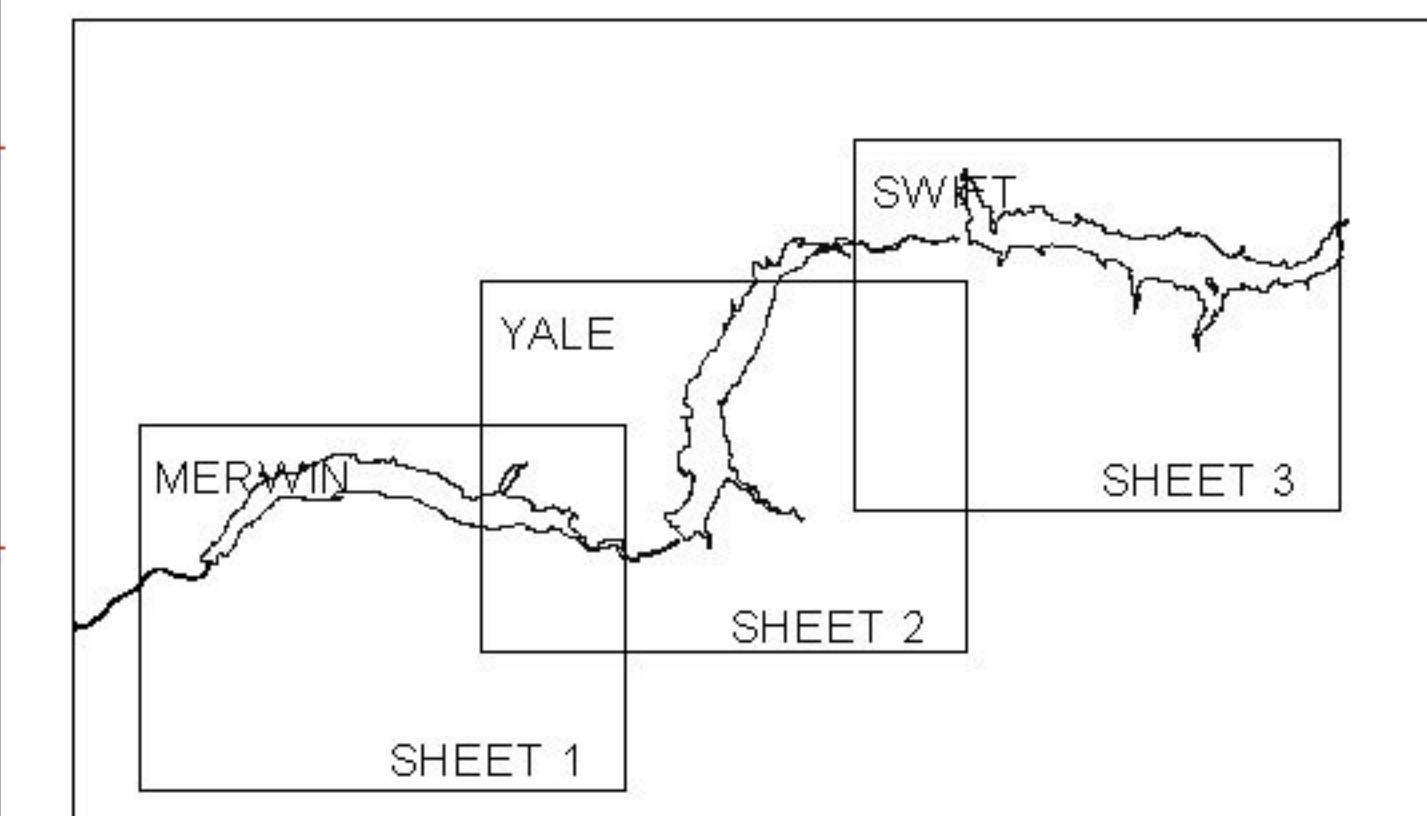


Lewis River
Hydroelectric Projects
Figure 8.1-2

Land Management Designations
SHEET 2







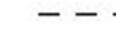
- FERC Boundary
- Township
- Section
- Forestry - Open Space
- Rural Residential - 2
- Skamania County Un-designated
- Merwin Wildlife Habitat Area
- Cowlitz Land Zoning**
- Forest Tier I-80
- Forest Tier II-40
- Heavy Industrial (MH)
- Highway Commercial (CH)
- Parks/Open Space
- Parks/Wildlife Refuge
- R1-7.5
- Road
- Rural Centers - 1 AC Minimum
- Rural Centers - 2.5 AC Minimum
- Rural Comm.-inside Rur.Center
- Rural Comm.-outside Rur.Center
- Rural-10
- Rural-20
- Rural-5
- Transmission Lines
- Schools/Public Facilities
- Water
- General Commercial
- Parks
- Residential/Professional
- Urban Residential

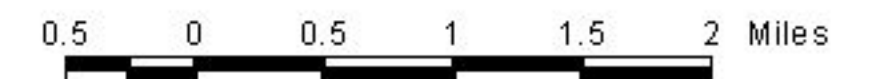
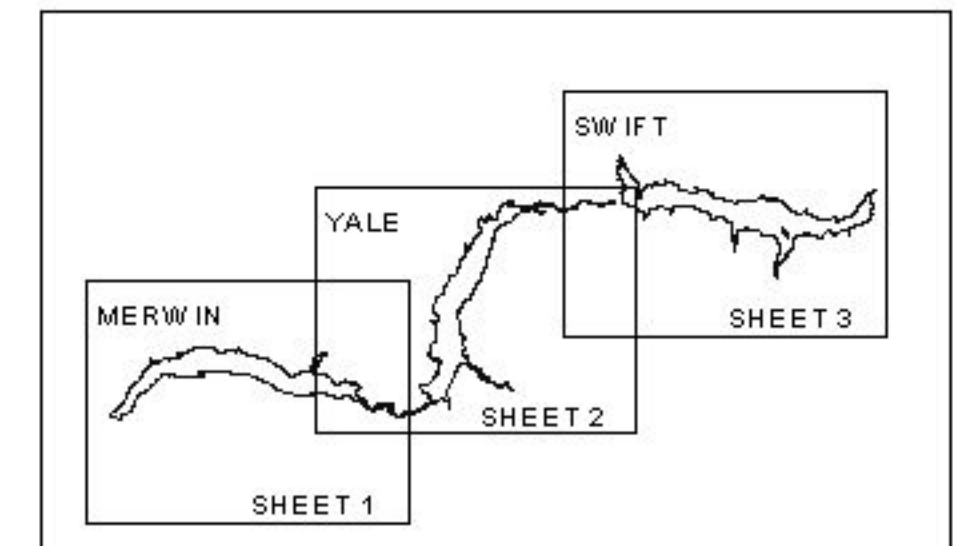
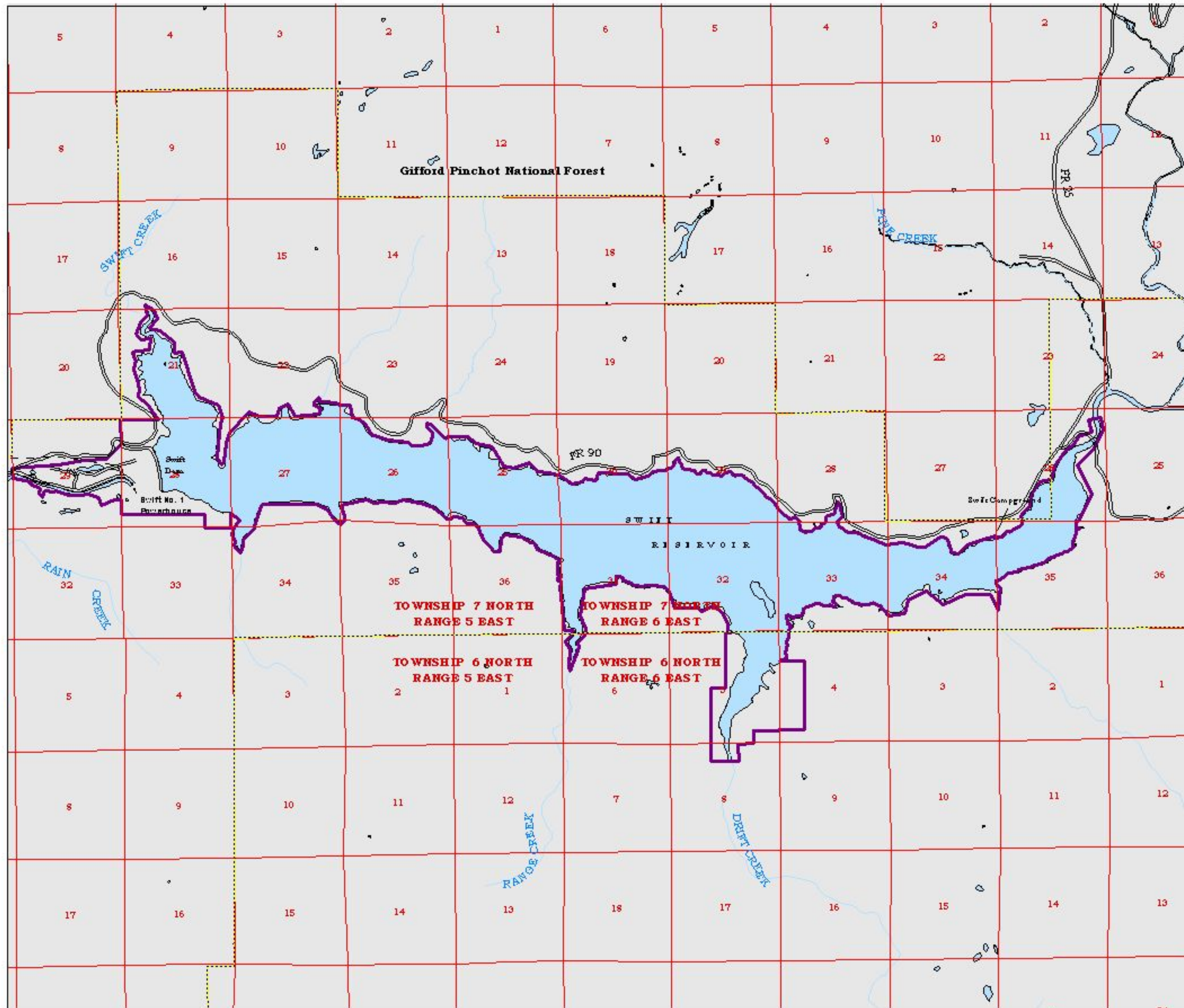


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Land Management Designations

SHEET 3

-  FERC Boundary
-  Township
-  Section
-  Skamania County
Un-designated
-  Transmission Lines



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land located south of SR 503 between Speelyai Bay and Yale Park are designated as Forestry–Open Space, as are a few smaller parcels along Lake Merwin and Yale Lake (Figure 8.1-2). Cowlitz County has developed a Shorelines Management Master Program (Cowlitz County 1981) that stringently protects the shoreline environment in conjunction with its Comprehensive Plan.

Private Lands

Private land ownership immediately adjacent to the FERC project boundary is predominantly that of PacifiCorp, with several parcels held by various timber companies and residential/ recreational communities. The majority of the non-PacifiCorp private land is located around Swift Reservoir, especially the eastern half. These lands are primarily owned by Pope Resources, with some smaller timber companies owning scattered parcels. Non-timber company private ownership is scattered around the 3 project reservoirs. There are 3 private communities located around Swift Reservoir. The largest of these is the 206-home Northwoods community on the eastern shore. Yale Lake has private development clustered primarily around the Beaver Bay area, the Town of Cougar, and near Speelyai Canal. Private land ownership is more common around Lake Merwin than around Yale or Swift reservoirs. There are several large communities along the lakeshore, including a 1,600-lot home/trailer development along the south shore. Scattered private lands are found along the Lewis River and SR 503, increasing in number as one heads west to the City of Woodland.

For privately owned reservoir frontage, PacifiCorp holds flowage easements from the private owners. PacifiCorp does not grant private easements to the reservoir, as its land management objective is to minimize operational conflicts and provide a balanced use of the resources for public benefit.

8.1.5.2 Land Uses in the Project Vicinity

Current land uses in the immediate project area are described in this section. Descriptions are organized by predominant use types: recreation, industrial, residential, forestry, and agriculture. Maps showing land use in the project area are presented on Figure 8.1-3.

Recreation

Recreational facilities and access areas are located around all 3 project reservoirs. Swift Reservoir has the least amount of developed recreational opportunities with only 2 developed sites, both operated by PacifiCorp. Swift Campground is a 40-acre (16 ha) site on the northeast shoreline of Swift Reservoir which consists of 93 campsites, a boat launch, day use area, and a swimming beach. In proximity is Eagle Cliff Park, located along the far eastern tip of the reservoir where FR 90 crosses the Lewis River. This site is about 1 acre (0.4 ha) in size and contains a picnic area and restroom. These facilities are located in Skamania County on lands with no specific use designation. There are numerous undeveloped, dispersed recreation sites around Swift Reservoir. Most of these are used by the public for fishing and can be found around the Swift canal, Marble Creek, Drift Creek, Diamond Creek, and Camp Creek. The most popular is the area around Drift Creek on GPNF lands, where at least 10 documented campsites exist.

Yale Lake offers a variety of heavily used water- and land-based recreation opportunities. There are 4 PacifiCorp-owned and developed recreation facilities along the north and western sides of Yale Lake. Cougar Camp is a 30-acre (12 ha) site offering 45 tent-only campsites. There are an additional 15 spaces available at the Cougar Camp Group Campsite, approximately 0.25 mile (0.4 km) from the main campground. Beaver Bay is the largest of PacifiCorp's Yale Lake campgrounds. The 40-acre (16 ha) site is located approximately 2 miles (3.2 km) east of the Town of Cougar and contains 63 individual campsites and a 15-space group campsite.

The 2 Yale Lake campgrounds have associated day use areas. The Cougar Camp boat launch and day use area is a 40-acre (16 ha) park with a swim beach, boat dock, picnic area, forested trail, and open space. The Beaver Bay day use area consists of a boat launch, swimming beach, and a picnic area. In addition, at the Saddle Dam, there is a day use area that offers a boat launch, swim area, picnic sites, and an RV tank disposal facility. This facility is popular with jetski / personal watercraft users and power boaters, as well as equestrians that ride to the Speelyai Canal area. Yale Park is an additional day use area operated by PacifiCorp. This park covers 10 acres (4 ha) and consists of a large open space, a swim beach, and a 4-lane boat launch. These sites are located on lands designated as Forestry – Open Space under the Cowlitz County Comprehensive Plan (Cowlitz County 1977) and as a Conservancy Zone under the Cowlitz County Shorelines Management Master Program (Cowlitz County 1981). The sites are compatible with requirements of both designations. As previously described, there is an additional recreational site located in Clark County on the eastern side of Yale Lake. This site is owned by Clark County and designated as Parks / Open Space land, but is currently undeveloped due to road access issues, yet is used primarily by boaters.

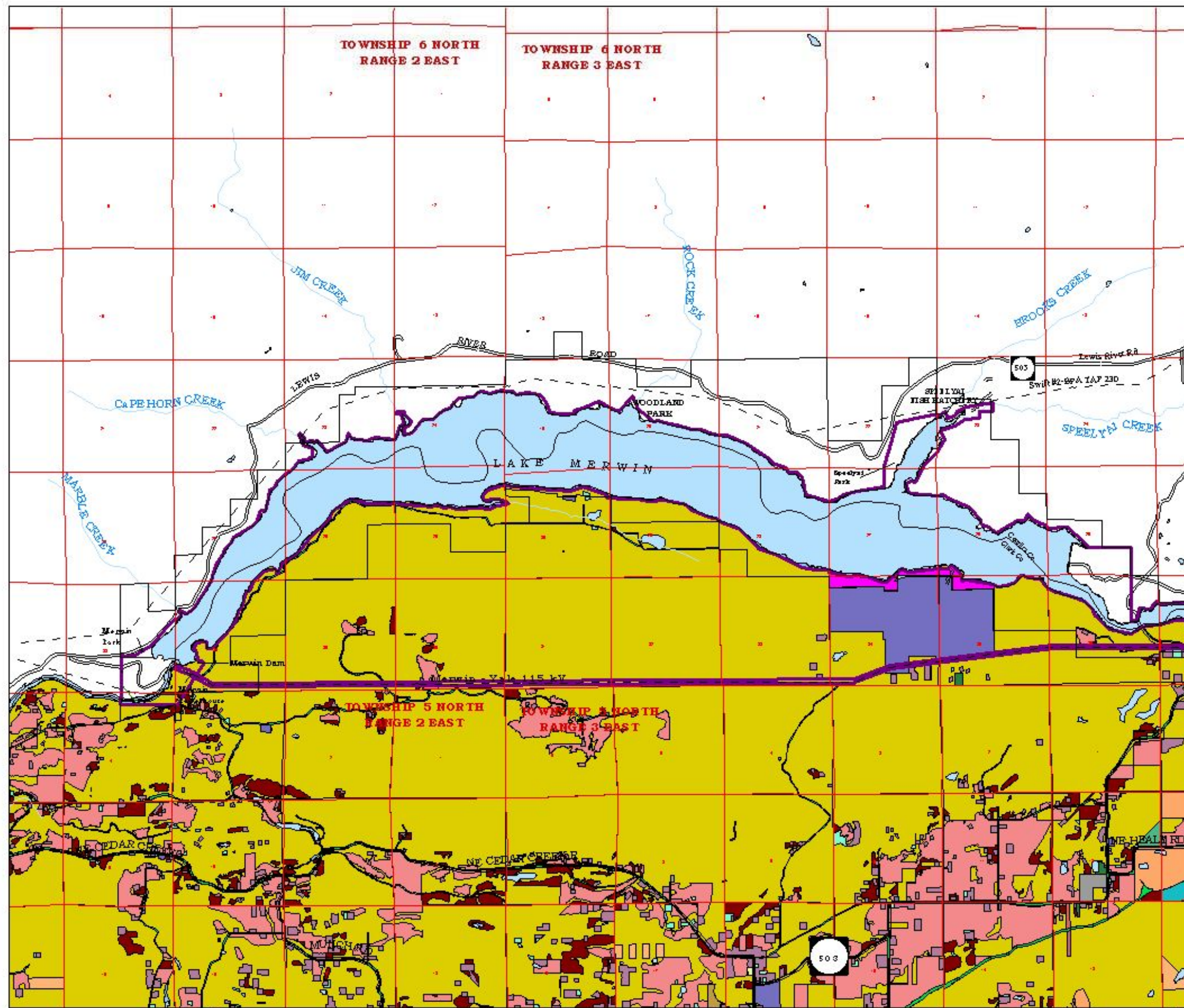
Many dispersed recreation opportunities are available around Yale Lake. Most are water-based activities, but picnicking and camping, horseback riding, hiking, hunting, and fishing are popular pursuits along the shoreline and in adjacent areas. PacifiCorp has identified areas in the vicinity of Siouxon Creek and Siouxon Flats as heavily used picnic and dispersed camping sites (see Section 7.3). Most of the shoreline sites are accessed by boat, with limited and generally unauthorized access available via the International Paper Road along the southern/eastern shore.

PacifiCorp operates 3 developed recreational facilities along the northern shoreline of Lake Merwin. These include the Cresap Bay Campground and 2 day use areas– Speelyai Bay and Merwin Park. Cresap Bay is a 120-acre (48 ha) campground located near the eastern end of Lake Merwin. It is the only developed campground on Lake Merwin that is open to the general public. Facilities include a 58-site campground, a 15-site group camping area, a day use area, a 2-lane boat launch, and a boat slip area. A 1.5-mile (2.5 km) trail will eventually be developed. This campground is designated as Parks/ Open Space by the Cowlitz County Comprehensive Plan (CCCP), and as a Rural District shoreline by the Cowlitz County Shorelines Management Master Program (CCSCP). Current uses are compatible with this designation.

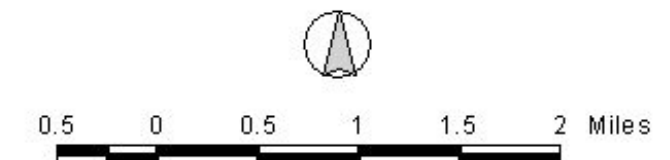
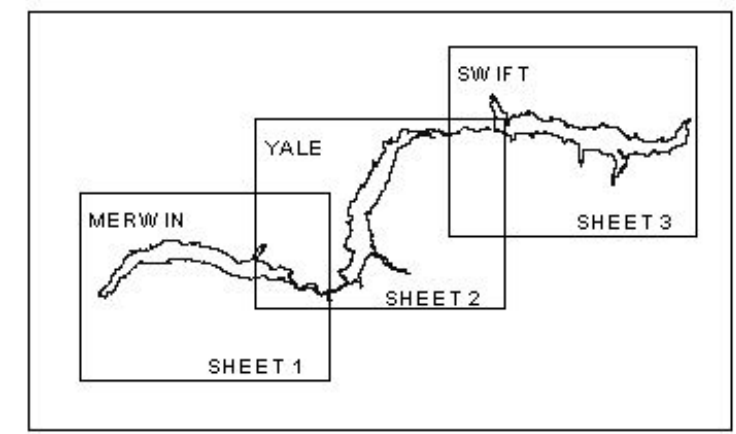
The 4-acre (1.6 ha) Speelyai Bay day use area on Lake Merwin consists primarily of a 2-lane boat launch. Additional facilities include a picnic area and a swimming beach. This day use area is on land designated as Rural Residential–2 by the CCCP and as a

Land Use Designations

SHEET 1



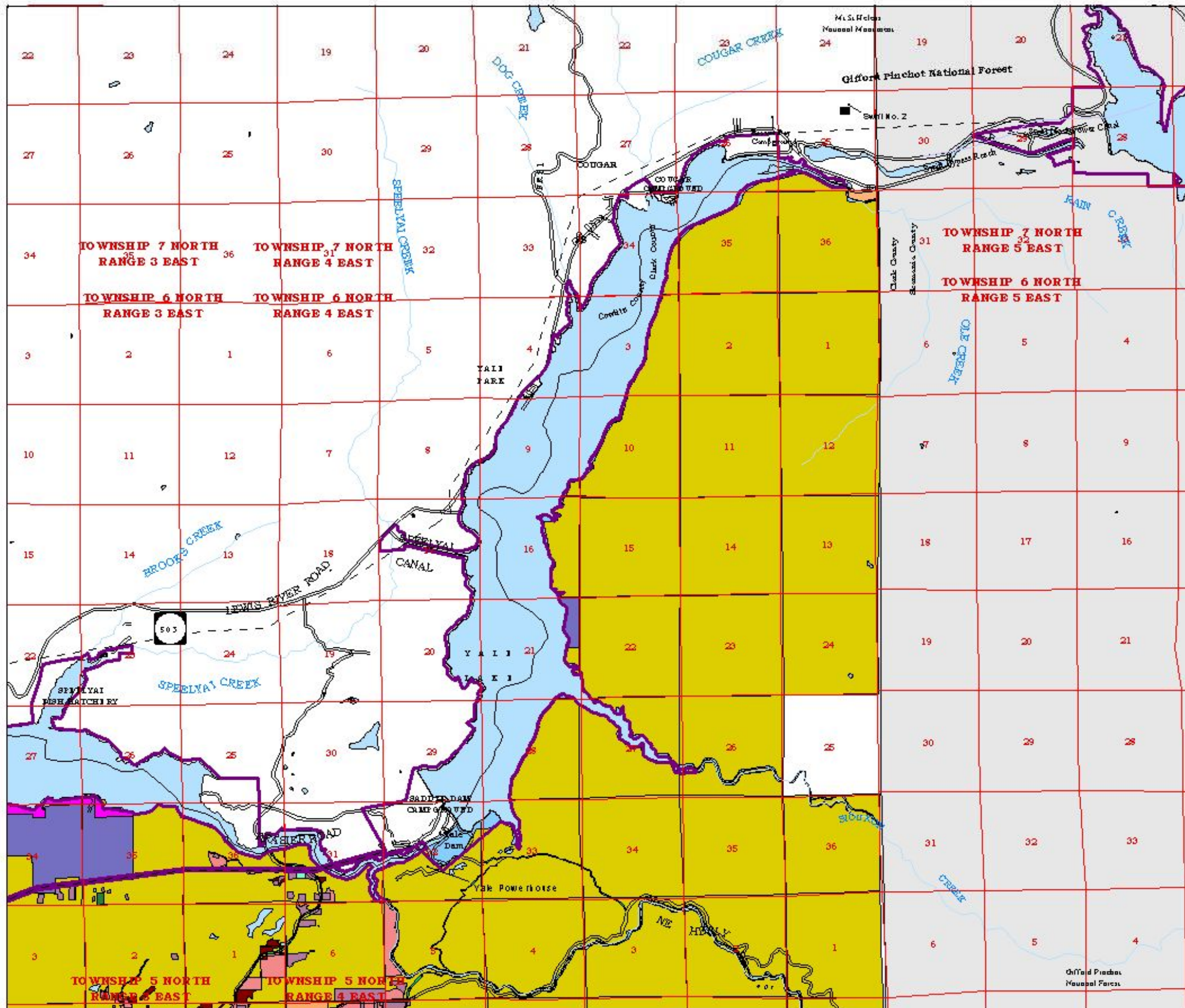
- FERC Boundary
- Township
- Section
- Skamania County Un-designated
- Cowlitz County (GIS Land Use Information will be available in March 2003)
- Clark Land Use**
 - Agriculture
 - Single Family
 - Assessed as Unused
 - State/ County Property
 - Brush
 - Unknown
 - Duplex
 - Vacant
 - Forest
 - Water
 - Freeway
 - Heavy Industry
 - Highway
 - Light Industry
 - Multi
 - Park/ School
 - Parks/ Schools/ Institutional/ Rec
 - Public Facilities
 - Retail
 - Roads & Basements
 - Service
- Transmission Lines



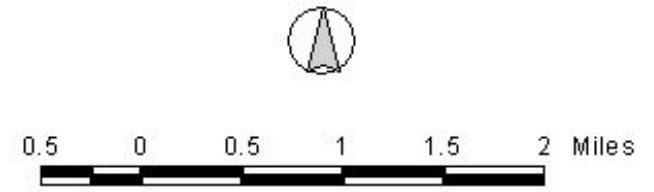
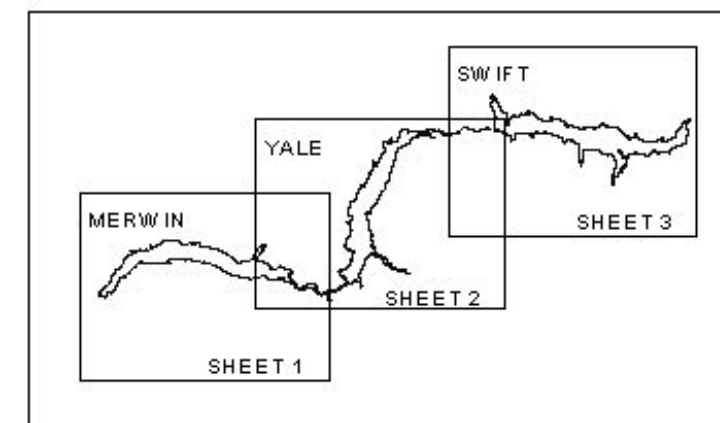
Lewis River
Hydroelectric Projects
Figure 8.1-3

Land Use Designations

SHEET 2








- FERC Boundary
 - Township
 - Section
 - Cowlitz County (GIS Land Use Information will be available in March 2003)
 - Skamania County Un-designated
- Cowlitz Land Use**
- Cowlitz County (GIS Land Use Information will be available in March 2003)
- Clark Land Use**
- Agriculture
 - Assessed as Unused
 - Brush
 - Duplex
 - Forest
 - Freeway
 - Heavy Industry
 - Highway
 - Light Industry
 - Multi
 - Park/ School
 - Parks/ Schools/ Institutional/ Rec
 - Public Facilities
 - Retail
 - Roads & Basements
 - Service
 - Single Family
 - State/ County Property
 - Unknown
 - Vacant
 - Water
- Transmission Lines

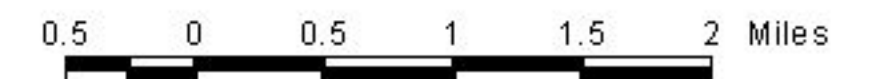
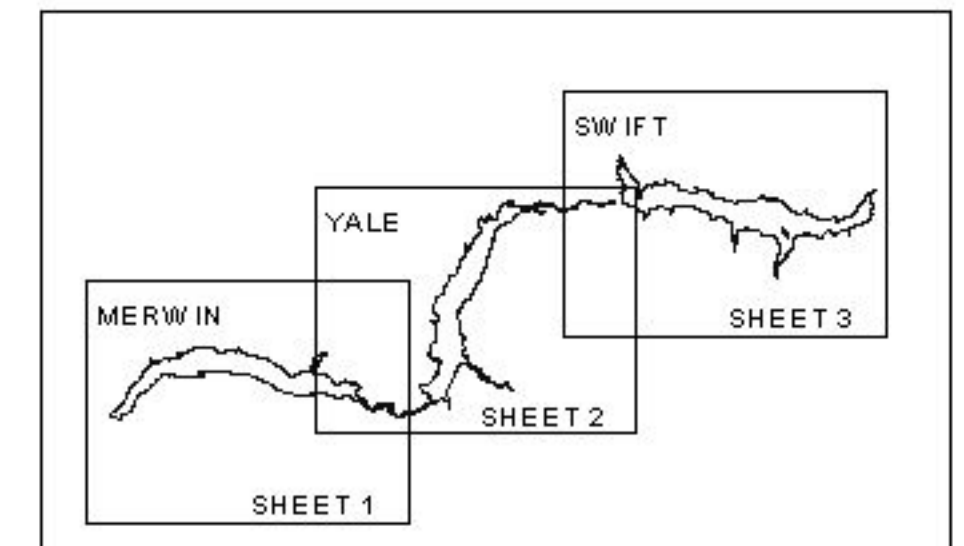
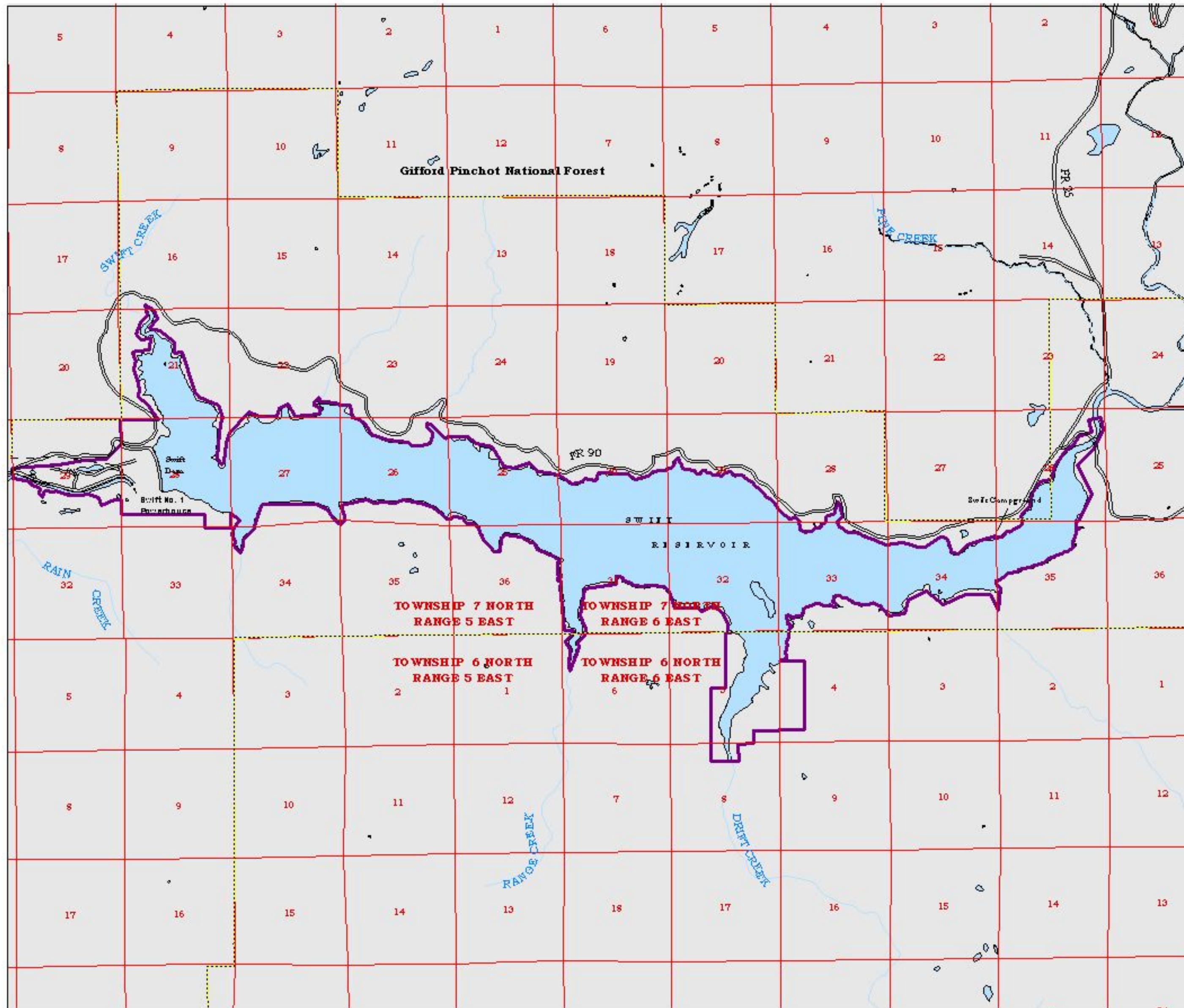


PACIFICORP
Geographic Information System

Land Use Designations

SHEET 3

-  FERC Boundary
-  Township
-  Section
-  Skamania County
Un-designated
-  Transmission Lines



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Rural District shoreline by the CCSCP and is a compatible use for the goals and regulations of these designations.

Merwin Park covers 16 acres (1.6 ha) adjacent to Merwin Dam. It is a frequently used site with a large picnic area, grassy open space, swim beach and floating dock, a playground, and a restroom facility. The Merwin Park site is designated as Rural Residential-2 by the CCCP and as a Conservancy District by the CCSCP. The Conservancy District goals and objectives allow for non-intensive recreation uses and limited intensive public access, which is compatible with the current operation of this facility.

Additional developed recreation sites managed by public and private entities are found throughout the surrounding area. PacifiCorp has identified and mapped approximately 24 separate dispersed shoreline sites used primarily for dispersed day-use picnicking. About 10 of the sites are possibly used for camping since they are larger and flatter than the other sites. The majority of these sites are on the northern shoreline, particularly in the vicinity of Cresap Bay Park and Speelyai Bay.

Industrial Uses

Industrial uses within the study area are predominantly related to the hydropower generating facilities operated by PacifiCorp and Cowlitz PUD. Facilities include Swift Dam, Swift Reservoir, Swift No. 1 tunnels/penstocks and powerhouse, Swift No. 1 transmission line; Swift No. 2 powerhouse, canal, penstocks, powerhouse, and transmission line; the Yale Project dams, reservoir, tunnels, penstocks, powerhouse, and transmission lines; and the Merwin Dam, reservoir, penstock, powerhouse, and transmission lines. Each of these facilities is described in greater detail below, beginning with the upstream-most development.

Swift No. 1 Project – Swift Dam is a 512-foot-high (156 m) earthfill embankment-type dam with a crest length of 2,100 feet (640 m). Swift Reservoir is approximately 11.5 miles (18.5 m) long with a surface area of approximately 4,680 acres (1,894 ha) at full pool.

Water is delivered from Swift Reservoir to the powerhouse through a surge tank and 3 penstocks. An overhead transmission line extending to the Swift No. 2 switchyard, a total distance of 3.5 miles (5.6 km), transmits electricity generated at the powerhouse. Additionally, there are some support facilities associated with PacifiCorp's Swift No. 1 Project. These facilities are located on the north side of both the Lewis River bypass reach and the canal linking Swift No. 1 with Swift No. 2. A cleared service area includes storage buildings and an outdoor storage yard. A gravel road extending from SR 503 to the Swift No. 1 powerhouse bisects this service yard. This road forms part of the southern perimeter of an approximately 10.5-acre (4.2 ha) wetland complex. An overflow outlet maintains the water level in the wetland, draining through a culvert beneath the service road and discharging to Swift canal, approximately 800 feet (243 m) downslope. A paved road also links SR 503 with Swift No. 1. This road is built on the north embankment of the canal.

Swift Dam, reservoir, and associated generating and support facilities are located entirely within Skamania County, which has not assigned any management designation to this portion of the county.

Swift No. 2 Project – The Swift No. 2 facilities are owned by Cowlitz PUD and include an embankment canal, powerhouse and switchyard, and service yard. The 3.2-mile-long (5.1 km) canal between Swift No. 1 and No. 2 is approximately 100 feet wide (30 m) throughout most of its length, widening at the downstream end to form the Swift No. 2 intake pool. It roughly parallels the remnant channel of the North Fork Lewis River. The 8,500-square-foot (790 m²) Swift No. 2 powerhouse is situated adjacent to SR 503. It is constructed on the canal embankment and discharges flow into an outlet bay at the head of Yale Lake. An approximately 33,300-square-foot (3,094 m²) fenced switchyard is located on the west side of the outlet bay, accessed by a short paved road. The Swift No. 2 overhead transmission lines extend 1,000 feet (305 m) northward to a point of inter-connection with the lines running westward from Swift No. 1.

Swift No. 2 project features are within 2 counties and span several land management categories. In Skamania County, the embankment canal is located in an unzoned area. In Cowlitz County, the canal is within 2 management categories: Forestry-Open Space and the Shoreline Conservancy environment. Industrial uses generally are discouraged within areas managed as Forestry-Open Space. The powerhouse itself falls within the boundaries of the Cowlitz County Shorelines Management Master Program. The Economic Development component of this program reflects the water-dependent nature of some industrial activities, and presents a policy for utilities that produce and carry electricity.

Swift Transmission Line Corridor – An approximately 100-foot-wide (30 m) transmission corridor extends from the Swift No. 1 and No. 2 projects, heading westward from the Swift No. 1 switchyard, along the north side of the Swift canal and Yale Lake to the vicinity of Speelyai Canal, where it proceeds in a westerly direction outside of the project area. While this cleared corridor crosses SR 503 at 3 locations in the project area, it is otherwise not highly visible due to forest cover or its distance from the main transportation corridor. Within the transmission line right-of-way, vegetation is managed to prevent potential interference with the overhead line. Very limited use is made of herbicides; when required to contain vegetation, low toxicity applications are performed in accordance with state agricultural standards. Much of the habitat in the cleared corridor is open meadow.

Vegetation management of this corridor is consistent with sound environmental practices emphasized in the Utility Corridor element of the Cowlitz County Comprehensive Plan. Within Skamania County, no land management designations have been applied to project lands. In Cowlitz County, the transmission line is located primarily in areas designated as Rural Residential-2. In addition, an approximately 700-foot-long (213 m) segment adjacent to Swift canal is in the Forestry-Open Space environment, and a very short segment spanning Speelyai Creek and canal is within the Shoreline Conservancy environment. While industrial uses are largely incompatible with residential uses, the presence of an overhead utility corridor is a less intrusive use than a typical industrial site. Further, while this is an acknowledged use of forestry lands under the Utility Corridor element of the Cowlitz Comprehensive Plan, careful planning and control are encouraged. Utility

systems are a permitted use within the Shoreline Conservancy environment, indicating that the segment spanning the creek and canal is appropriately located.

Speelyai Canal – This 3,200-foot-long (975 m) channel was excavated to direct flow from Speelyai Creek into Yale Lake. A diversion structure is located approximately 600 feet (183 m) downstream of the intersection of the creek and SR 503. This structure was heavily damaged by bedload material in the 1996-97 floods and remains inoperable under current conditions.

A gated road provides access to the entire length of the canal along its southern bank. Despite restricted access, there is evidence of informal camping on PacifiCorp property at the end of this road. The northern side of the canal is heavily vegetated, creating a dense buffer between the canal and adjacent residential and agricultural uses. The canal banks are sharply undercut near its mouth.

Cowlitz County Shoreline Conservancy and Forestry-Open Space guidelines apply to the canal. Its presence appears compatible with these designations.

Yale and Saddle Dams – Yale and Saddle dams are among the most significant industrial features in the upper Lewis River valley, yet are probably the least visible. These embankment structures are accessible by boat or via an unpaved secondary road extending from Highway 503. Dense forest remains at both abutments of Saddle Dam, while immediately downstream are farmed fields and a public campground. Approximately 500 feet (152 m) to the southeast is the overflow spillway for Yale Dam, which adjoins the zoned embankment structure. Forests dominate the southeastern side of Yale Dam as well. Both powerhouse and switchyard are located in a narrow canyon at the base of Yale Dam.

Saddle Dam and half of Yale Dam are within Cowlitz County; the other half of Yale Dam, the powerhouse, and switchyard are within Clark County. These industrial facilities are within the Shoreline Conservancy environment of both counties (Clark County 1974 and Cowlitz County 1977). As such, Cowlitz and Clark counties permit power-generating facilities where they create minimal visual impact and when shoreline restoration is performed.

Yale Transmission Line – The overhead transmission line extends from the powerhouse north across the canyon below Yale Dam, over the spillway to a cleared area between the dams, from where it is redirected westerly for a distance of 4,900 feet (1,494 m) downstream. At this point, the line crosses the Lewis River into Clark County and then continues westward to an interconnection point near Merwin Dam. This 10.5-mile-long (16.9 km) corridor is maintained at a width of approximately 100 feet (30 m).

Most of this route is managed under right-of-way easements from a variety of landowners. Active management of the corridor by PacifiCorp is limited to vegetation containment, with the objective of keeping a low vegetative cover that does not interfere with the transmission structures. Very limited use is made of herbicides; when required to contain vegetation, low toxicity applications are performed in accordance with state agricultural standards. A track suitable for 4-wheel drive vehicles provides access along much of the

corridor, while a number of segments are accessible by foot from local roads that bisect the corridor.

Land uses along this corridor are predominantly forestry, interspersed with remote residences, typically associated with farming or grazing operations. Most residences are at least 500 feet (150 m) from this corridor, although a few are noted within and adjacent to the corridor.

All but the initial 6,000 feet (1,828 m) of this corridor is located within Clark County. The Clark County portion passes through lands designated mostly as Forest Tier I. Two segments of line, totaling 1 mile (1.6 km) in length, are within the Forest Tier II designation. While the management objective for forestlands is to sustain the forest product production capability, the County 20-Year Comprehensive Growth Management Act (Clark County 1994) recognizes that other land uses will occur on forestlands. One of the stated goals of the 20-year plan is to ensure that utility and other capital facilities are protected from conflicting development. It appears that the existing transmission line corridor is compatible with this limited mixed-use objective. The line segment located within Cowlitz County is almost entirely within the Shoreline Conservancy environment, where utility systems are a permitted use.

Merwin Dam and Reservoir – The Merwin Project is the farthest downstream of the 4 projects on the Lewis River, located approximately 20 miles (32 km) upstream from the confluence with the Columbia River. Merwin Dam is a concrete arch structure 1,300 feet (396 m) long and 314 feet (96 m) high. Lake Merwin is about 14.5 miles (23 km) long with a surface area of approximately 4,000 acres (1,618 ha) at full pool. The dam and reservoir are split between Cowlitz and Clark counties, much like the Yale facilities.

Operational facilities associated specifically with the Merwin Project include Merwin powerhouse and the 115 kV Merwin transmission line. A steel truss bridge crosses the Lewis River downstream from the powerhouse and provides access to the powerhouse, which sits directly in front of the dam. The Merwin Project also includes the Hydro North Headquarters facilities, where operations of the Lewis River projects and other small PacifiCorp hydro projects are coordinated. Associated with the headquarters compound is a shop, maintenance yard, employee housing, and Merwin Park. Two large shop buildings and a maintenance yard are west of the headquarters building. Employee housing is adjacent to the headquarters building and Merwin Park.

Residential Uses

Swift Reservoir currently has 3 private shoreline developments with approximately 253 home sites. The Northwoods development is located on the far eastern shore of the reservoir and has approximately 206 homes, a large boat slip, and a day use facility with swimming beach and picnic area. The Northwoods is on land owned by the DNR and leased to the homeowners. There are 47 home sites within Swift Creek Estates adjacent to PacifiCorp's Swift Campground. This development includes approximately 15 private docks, a community dock facility, and a small picnic area and boat launch. Currently in development, Swift View will have 12 to 21 home sites. The development will include 16 boat slips, a boat launch, and a day use area that includes a swimming beach and a

gazebo with nearby picnic tables. At present, only one house has been constructed at Swift View (pers. comm., K. Pearson, Planning Technician, Skamania County, January 14, 2002).

The Yale Lake area has multiple groupings of residential land use. There is a small cluster of private homes in an area due north of Beaver Bay. There are about 7 homes in this cluster, surrounded on 3 sides by dense forest. This area is designated Rural Residential-2 by the Cowlitz County Comprehensive Plan, permitting a density of 1 dwelling per 2 acres (0.8 ha). Heading farther west, the next residential grouping is located in and around Cougar on both sides of SR 503. This area is also designated as Rural Residential-2. The next residential clusters are found near Speelyai Creek where low-density rural residences have been built along the highway. There are several farms in the vicinity also. These clusters are located on land designated Rural Residential-2. There are a few isolated houses south of Speelyai Canal on a forested peninsula that is designated Forestry-Open Space by the Cowlitz County Comprehensive Plan. Yale Lake currently has 1 private residential development located near Speelyai Canal that includes approximately 10 permanent residential lots sharing lakefront access. Downstream of Yale Dam along the north shore of the Lewis River, 6 homes, a large storage building, and a work area are used by PacifiCorp employees. Cowlitz County designates this area as Forestry-Open Space. The cluster development is within a large PacifiCorp holding and is intended to support the nearby industrial hydropower facilities.

At Lake Merwin, there are 3 private developments along its shoreline (King's Lakeside, Woodland Park, and Camper's Hideaway) with approximately 1,550 total home/trailer sites. King's Lakeside includes approximately 20 permanent residential homes and trailers on the north shore, some with docks. All of these are on private land owned by the homeowners association, while PacifiCorp leases shoreline areas to the association. Also on the north shore, 40 acres of PacifiCorp-owned land is leased for residential use at a development called Woodland Park. Woodland Park contains 32 units, some with private permitted docks. There is also a small boat launch facility and a day use area with a picnic shelter and 15 tables. On the south shore and hillside of Lake Merwin, Campers' Hideaway includes 1,500 permanent trailers on private property owned by the membership. The waterfront area is leased to Camper's Hideaway by PacifiCorp. The waterfront area provides a boat launch with a 2-lane boat ramp, a 56-boat marina, and a day use area. Residential use increases along the SR 503 corridor from the western end of Lake Merwin to the City of Woodland.

Forest Management

Forestlands dominate the project area, with agricultural, residential, recreational, and industrial uses located primarily in the lower reaches of the watershed. Most land adjacent to the southern border of the Lewis River Projects is either designated for forestry uses by Clark County, or left as undesignated by Skamania County. The northern project boundary abuts mostly Rural Residential property in Cowlitz County and undesignated Skamania County lands. Ownership of these adjacent lands is a patchwork of entities including PacifiCorp, DNR, USFS, private timber companies, and other private owners. Each entity manages their forestland differently with some common guiding principles.

PacifiCorp owns the greatest amount of forestland along the project shorelines. Their primary management consideration is not timber production, but the protection of the terrestrial and aquatic resources on these lands. PacifiCorp has implemented management guidelines for their forest lands around Lake Merwin and up to Yale Dam. These guidelines, the Merwin Wildlife Habitat Management Plan, were developed in cooperation with the WDFW. PacifiCorp prepared Standard Operating Procedures for implementing the Merwin Wildlife Habitat Management Program (PacifiCorp 1990). Principal values of this plan include forest health and wildlife habitat, old-growth retention, shrubland management, wetland management, orchard management at old homestead sites, and farmland management to provide winter forage for big game. Management plans for PacifiCorp's other forestlands have not yet been developed.

Forestland owned by the DNR is managed to provide income for the benefit of schools and other state trusts. There are 3 main documents that provide direction for management of these lands in the Lewis River watershed. The state Forest Resource Plan (DNR 1992) provides guidance for policy decisions about state-managed forestlands. A Habitat Conservation Plan, developed to help conserve threatened and endangered species found within the range of the northern spotted owl, provides more specific guidance for applicable DNR lands (DNR 1997). The third document applies to the approximately 32,000 acres (12,950 ha) of DNR lands within the Siouxon drainage. This drainage is bounded on the north by Swift Reservoir and the west by Yale Lake. The Siouxon Landscape Plan (DNR 1996) provides direction for annual timber harvests and management objectives for aquatic systems, cultural and historic sites, wildlife habitat, transportation systems, and recreation.

State-owned forestlands are also managed by the rules outlined in the State Forest Practices Act (DNR 2000). These rules guide compliance with the Endangered Species Act for aquatic and riparian dependent species; restoring and maintaining riparian habitat to support a harvestable supply of fish; meeting the requirements of the Clean Water Act; and keeping the Washington State timber industry economically viable. The forest practice rules are minimum standards that apply to protection of public resources and are applicable on all private and state-owned forestlands.

The DNR's management practices generally reflect a slightly less intensive approach to managing forest lands than private industrial forest land owners, yet a more intensive approach than used by the USFS. The rotation age for forest lands managed by the DNR is approximately 60 years. Forests within the Siouxon Creek drainage originated after the Yacolt burn in 1902 (and subsequent re-burns) and show a narrow range of stand ages and structural diversity. In order to protect other resources within this area when these stands reach management maturity, more flexibility has been provided in harvest scheduling to prevent the harvest of all mature stands within a relatively short time period. This scheduling will help to maintain an even flow of harvest volume throughout the rotation.

Many of the stands in the Siouxon Creek drainage are mature, overstocked stands that have achieved and maintained 100 percent canopy closure for approximately 20 to 40 years. This successional path has created habitat with very little understory shrub or conifer development and provides limited value for wildlife. Recent silvicultural practices have focused on the creation of diverse stand structure attributes that will benefit wildlife habitat, with the greatest emphasis placed on northern spotted owl nesting, roosting, and

foraging habitat. Greater protection has also been placed on aquatic resources resulting from the implementation of riparian management guidelines and road management planning. Current road management practices in the Siouxon Creek drainage target a “no net gain” road mileage policy, while implementing an extensive road abandonment program.

Within the Lewis River watershed, the USFS manages land classified as non-wilderness, wilderness and national monument. This includes approximately 321,000 acres of non-wilderness forest lands that are managed following the principles of multiple use to provide a sustained yield of wood, water, forage, wildlife, and recreation. Management is directed by two planning documents: the Gifford Pinchot Land and Resource Management Plan and the Northwest Forest Plan. The Gifford Pinchot Land and Resource Management Plan (USDA Forest Service 1990) identifies land allocations and describes the standards and guidelines for conducting management actions within each allocation. This planning document was amended upon completion of a programmatic Environmental Impact Statement (EIS) describing the standards and guidelines for the management of habitat for late-successional and old-growth related species within the range of the northern spotted owl (USDA Forest Service 1994). This EIS and associated standards and guidelines are commonly referred to as the Northwest Forest Plan. Watershed analyses have also been completed for portions of the Lewis River watershed containing USFS lands (USDA Forest Service 1996). These documents describe the ecological functions within the Lewis River watershed and identify management opportunities, although they are not decision documents for a specific management action.

Opportunities for harvest on Federal forest lands are limited to areas designated for timber production in the Forest Plan. However, analysis of conditions within the Lewis River watershed has identified additional constraints on harvest for the protection of fish habitat, vegetation stages to support wildlife habitat, and soils resources. These constraints limit harvest on Federal forest lands in designated sub-basins to protect these resources, and move the area toward historical reference conditions (USDA Forest Service 1996). Where timber is harvested, the USFS generally uses a rotation age of 120 years, depending on site conditions.

The USFS has recently evaluated roadless areas within the National Forest System lands across the United States to identify areas where it would be appropriate to restrict future road development to protect ecological and social values. Several roadless areas have been identified within the Lewis River watershed and are included in the nation-wide assessment. Areas outside of established wilderness and national monument lands were the primary focus of this assessment for potential protection of natural resources or unique resource values. Decisions regarding the future management of roadless areas are currently on hold while the new federal administration evaluates the applicability of the decisions made by the previous administration.

The USFS also manages wilderness and national monument lands within the Lewis River watershed. The 3 individual parcels within this category are the Mount St. Helens National Volcanic Monument, the Mt. Adams Wilderness Area, and the Indian Heaven Wilderness Area. The National Volcanic Monument occupies approximately 32,700 acres and

17,100 acres are within the 2 Wilderness Areas. These areas include forested and non-forested lands that are managed for the protection of natural resources and unique resource values. Commercial forest management activities are prohibited and wildlife habitat management activities are restricted. Forest lands will follow a natural successional pathway towards development of a climax plant community, barring significant landscape-scale disturbances such as fire.

Approximately 98,000 acres of forest land are managed by private industrial timber companies in the Lewis River watershed. The private timberlands closest to the project belong primarily to Pope Resources, with Weyerhaeuser and ANE Forestry having additional large holdings (Figure 8.1-1). Swift Reservoir is close to these large, private timber holdings. Private timberlands decrease as one travels west down the basin. Most private timber companies seek to provide products to consumers and maximize their returns to owners or shareholders. While specific harvest practices are left to the individual companies, minimum requirements are established by the State of Washington Forest Practices Regulations (DNR 2000) to protect public resources.

Forest lands within the Lewis River watershed that were previously owned and managed by Plum Creek Timber Company were covered under a Habitat Conservation Plan (HCP) and Incidental Take Permit agreement with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) signed in September 2000. These lands were sold to Pope Resources on March 29, 2001 and are managed by Olympic Resource Management, a division of Pope Resources. In the event of any change in land ownership, the HCP agreement provided the new land owner the option of continuing to manage the lands pursuant to the HCP and its regulatory conditions. Pope Resources has not notified the USFWS that it would continue to manage the land following the guidelines established in the HCP, therefore the USFWS treats these lands as if they no longer are covered under an HCP.

Non-industrial private forest lands are owned by a variety of individuals not associated with commercial timber companies. It is estimated that there are approximately 74,000 acres of forest land within this ownership classification, occurring predominately in the lower third of the watershed. The forest management objectives for these lands depend upon the biological, social, and economic values of the individual land owners. As a group, the management style of these owners is considered episodic; they tend to harvest when timber prices are high, or when a personal need for cash arises. Other than harvesting and the required reforestation, active management of these lands is generally limited, especially on a landscape scale.

Agricultural Uses

Vegetation mapping was completed for all areas within 0.5 mile (0.8 km) of the project facilities and reservoirs, and for the Swift to Merwin transmission line ROW (see Section 5.1). The total acreage for agricultural lands within these study areas is 257.9 acres (104 ha), with 171.4 acres (69 ha) of these located around Lake Merwin (Table 5.1-1). Agricultural lands are restricted to areas west of Yale Lake due to physical geography and land ownership patterns. Along the western side of Yale Lake, there are clusters of farms around the Speelyai Canal. Immediately downstream of Saddle Dam, land is

farmed as part of the Merwin Wildlife Habitat Management Program. The northern shore of Lake Merwin has 2 main areas where agricultural lands are present. The first area is about 1.5 miles (2.4 km) east of Speelyai Bay and consists of a few small parcels. The second major area is located east of Jim Creek. This area has some larger scale agricultural operations. Within the transmission line ROW, both large and small scale agricultural operations are present. These uses are compatible with the Cowlitz and Clark county comprehensive plans, which define agriculture as a recommended use within their respective forestry designations. Agricultural lands along SR 503 are consistent with the recommended uses of the Cowlitz County Rural Residential-2 use designation.

8.1.5.3 Existing Wetlands and Floodplains

Existing Wetlands

As discussed in Section 5.5.5.1, wetlands cover 272 acres (110 ha), or less than 1 percent of the 54,599-acre study area and are represented by 212 individual wetland polygons – 3 on Eagle Island; 10 along the Lewis River between Merwin Dam and Eagle Island; 35, 87, and 40 on Merwin, Yale, and Swift lands, respectively; 18 in the Swift bypass reach; 18 associated with the Swift canal; and 1 along the transmission line ROW. Table 5.5.1 list total acreage of each wetland type by study area segment. Table 5.5-2 summarizes the characteristics of selected wetlands in the study area including sources of potential habitat disturbances/degradation due to project operations and land use. Included in Section 5.5.6 are recommendations for protecting wetlands from project operations and land use activities.

Floodplains

The federal government, through the Federal Emergency Management Agency (FEMA), oversees management of floodplains. FEMA has published maps (Federal Insurance Rate Maps (FIRM)) for insurance and regulatory purposes that allow insurance companies and local governments to identify areas within the 100-year floodplain. A review of FIRM data for the vicinity of Swift Reservoir dated 1986 and DFIRM (digital FIRM) data for the vicinity of Yale Lake and Lake Merwin dated 1996 indicate that the reservoirs, some land within 125 feet of the reservoir boundaries, and the Lewis River between Swift and Yale reservoirs are within Zone A (100-year floodplain). The lands outside of Zone A are classified as Zone C or Zone X, with minimal potential for flooding.

The Lewis River from Lake Merwin to about river mile 15 flows through a valley flanked by moderately steep slopes. The 100-year floodplain through this valley is narrow and is also constrained by the steep slopes. Downstream from river mile 15 to the County Bridge, the Lewis River flows through a moderately broad shallow-gradient alluvial valley. The 100-year floodplain in this section covers the majority of the valley floor.

8.1.5.4 Consistency with Comprehensive Plans

Section 10 (a)(2)(A) of the Federal Power Act requires the FERC to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing or conserving waterways affected by a project. The Applicants reviewed the

list of 73 Section 10(2)(A) comprehensive plans for the State of Washington. Of these, the plans listed below are relevant to the Project area and were reviewed to determine whether the continued operation of the Lewis River projects would be consistent with their provisions.

FERC Recognized Plans Relevant to the Lewis River Projects

- Northwest Conservation and Electric Power Plan
- Columbia River Basin Fish and Wildlife Program, 1984, 1987, 1994, and 2000
- State Scenic Rivers System Statute
- 1987 Strategies for Washington's Wildlife
- Hydroelectric Project Assessment Guidelines
- A Resource Projection Planning Process Identification of Prehistoric Archaeological Resources in the Lower Columbia Study Unit
- Resource Protection Planning Process – PaleoIndian Study Unit
- Resource Protection Planning Process
- State of Washington Natural Heritage Plan: April 2001 Update.
- Washington Outdoors: Assessment and Policy Plan, 1995-2001.
- Washington State Trails Plan: Policy and Action Document.
- Application of Shoreline Management to Hydroelectric Developments

Northwest Conservation and Electric Power Plan. 1991. Northwest Power Planning Council. Portland, Oregon.

This plan outlines a strategy to ensure that the Pacific Northwest will have an adequate, efficient, economical and reliable supply of electricity well into the 21st century. With regard to hydropower, the plan concentrates on making better use of existing resources so future energy demand can be met more inexpensively and the need to build new generating resources can be delayed. Continued operation of the Lewis River projects is consistent with this plan and issuance of a new license will contribute to the power supply goals described in the plan. Denial of a license will diminish the available power in the region and increase the need to develop new generating resources.

Columbia River Basin Fish and Wildlife Program. Northwest Power Planning Council. Portland, Oregon. Editions issued in 1984, 1987, 1994, and 2000 were reviewed.

In accordance with the Northwest Power Act of 1980, this program is designed to “project, mitigate and enhance fish and wildlife affected by ...[Columbia River Basin hydroelectric facilities] while assuring the Pacific Northwest an adequate, efficient, economical and reliable power supply.” The program has set goals for salmon and steelhead, resident fish and wildlife. The program’s recommendations for achieving these goals are numerous and involve implementation of policies as well as actions and plans. Some of the policies, actions, and plans address specific fish or wildlife species, and some address specific subbasins.

Thirty-one subbasin plans were prepared to identify actions to help specific salmon populations. The Lewis River Subbasin Plan (NPPC 1990) describes individual production plans for spring Chinook, fall Chinook, coho, and chum salmon, and for summer and winter steelhead. The projection plans include continuing use of hatcheries, enhancing flows, revegetation, protection and enhancement of habitat, and trap and haul operations. The program is designed to complement the policies and plans of the fisheries agencies and tribes. To ensure the Lewis River projects' consistency with the Columbia River Basin Fish and Wildlife Program, fish and wildlife agencies and tribes are being consulted throughout the relicensing process.

State Scenic Rivers System Statute, Chapter 79.72 RCW. State of Washington. 1977. Washington State Scenic Rivers Assessment. Washington State Parks and Recreation Commission. 1988b. Olympia, Washington. Scenic Rivers Program-Report. Washington State Parks and Recreation Commission. 1988a. Olympia, Washington.

No segments of the North Fork of the Lewis River are listed as part of the State Scenic River System. Although the statute (RCW 79.72) does not preclude listing additional river segments, it establishes certain criteria that must first be met. The first criterion is that a river be "free-flowing without diversions that hinder recreational use." If this remains a criterion for "scenic" classification, the reaches affected by the Lewis River projects will remain ineligible. This statute therefore is not applicable to the projects at this time.

The Washington State Scenic Rivers Assessment (September 1988) identifies 18 rivers which the Washington State Parks and Recreation Commission (WSPRC) believes have outstanding characteristics that make them worthy of consideration as additions to the Scenic Rivers System. The Lewis River is included as one of the 18, from a point upstream of the backwater of Swift Reservoir to the headwaters. The Lewis River projects will have no effect on this portion of the river.

The Scenic River Program Report (January 1988) is an explanation of the State Scenic River program to the State Parks Commissioners. It also includes an explanation of the program's authority and a list of rivers determined to be eligible for submission to the program. That list is the same as the 18 rivers identified in the Washington State Scenic Rivers Assessment, discussed in the previous paragraph.

1987 Strategies for Washington's Wildlife. Washington State Department of Game. 1986. Olympia, Washington.

This strategic plan sets goals, identifies problems, recommends solutions, and establishes priorities for wildlife and fish in the State of Washington. Individual wildlife programs describe goals and objectives for big game species, upland game species, waterfowl, furbearers, and nongame wildlife. Individual fisheries programs describe goals and objectives for steelhead, cutthroat and Dolly Varden; lowland lakes trout, alpine lakes, warmwater fisheries; and resident streams and beaver ponds. The goal statements in this plan were written in 1986 and are intended to apply to the following 12 to 15 years, or until roughly 1998-2001.

Some of the species addressed in this plan are present in the project vicinity. Current protection measures for the fish resources are addressed by compliance with Article 39 of the Merwin license, and Articles 32 of Yale and Swift No. 1 licenses. With regard to terrestrial resources, PacifiCorp has been working with WDFW since 1989 to develop a Wildlife Habitat Management Plan. This is described below under Merwin Wildlife Habitat Agreement. The relicensing process includes continued and thorough consultation with the fish and wildlife agencies.

Hydroelectric Project Assessment Guidelines. Washington State Department of Fisheries. 1987. Olympia, Washington.

The 1987 guidelines were developed to present the policies and explain the management goals of the WDFW regarding hydropower development. It provides instructions for conducting studies to gather information necessary to assess the potential impacts of a proposed project on salmon and their habitat. The guidelines call for cooperation with all involved agencies to identify anadromous and resident fish and wildlife issues related to a specific project and steps needed to protect and enhance species of concern. Consultation with WDFW will continue throughout the relicensing process for the Lewis River projects.

A Resource Protection Planning Process Identification of Prehistoric Archaeological Resources in the Lower Columbia Study Unit. Washington State Department of Community Development, Office of Archaeology and Historic Preservation, 1987a. Olympia, Washington.

This document is a Resource Protection Planning Process study. It reflects current knowledge of the archaeological resources of the study unit. It is one of a series of studies designed to organize the available archaeological data into a consistent thematic account to support development of resource-based planning in the State of Washington. The North Fork Lewis River is in the center of the Lower Columbia Study Unit. The document provides general and somewhat specific cultural resource information about the project vicinity. Section 6.0 of this document summarizes cultural resource information known about the vicinity.

Consultation with the Yakama Indian Nation, Cowlitz Indian Tribe, and the State Historic Preservation Officer (SHPO) has been undertaken during the relicensing process to define the means by which known cultural sites will be handled, and to ensure compliance with the Resource Protection Planning Process.

Resource Protection Planning Process – PaleoIndian Study Unit. Washington State Department of Community Development, Office of Archaeology and Historic Preservation. 1987b. Olympia, Washington.

The PaleoIndian Study Unit is 1 of 14 prehistoric resource study units established to identify, evaluate and protect archaeological resource throughout the state. This document summarizes current knowledge of the archaeological resources of the PaleoIndian Period (extending from initial human occupation of Washington to an arbitrary terminus of 7,500 years before present). Archaeological finds attributed to the PaleoIndian Period have been found throughout Washington State. Consequently, the Study Unit encompasses

the entire state. No PaleoIndian sites are documented in the vicinity of the North Fork Lewis River. The nearest documented site, an “Old Cordillearan Site,” is located on the Cispus River in the Cowlitz River basin.

Consultation with the Yakama Indian Nation, the Cowlitz Indian Tribe, and the SHPO has been undertaken during the relicensing process to define the means by which known and later-discovered cultural sites will be handled, and to ensure compliance with the Resource Protection Planning Process.

Resource Protection Planning Process – Study Unit Transportation. Washington State Department of Community Development, Office of Archaeology and Historic Preservation. 1989.

The Transportation Study Unit is 1 of 18 historic resource study units established to better identify, evaluate, and protect heritage resources throughout the state. This plan identifies transportation resources that are eligible for listing or have been listed on either the State or National Register of Historic Places. The Yale Bridge, approximately 2 miles downstream of Yale Dam, is included on the National Register. Inclusion on the National Register does not place restrictions on property owners, although Section 106 of the NHPA of 1966 requires federal agencies to consider the impact of their actions upon the National Register listed properties. The continued operation of the Lewis River Project is not expected to affect the Yale Bridge.

Washington Outdoors: Assessment and Policy Plan, 1995-2001. Washington State Interagency Committee for Outdoor Recreation. 1995. Tumwater, Washington.

The plan is currently being updated and will be released to the public in February of 2002 (pers. comm. Jim Eychaner, IAC, 1/16/02). This plan is a component of the SCORP program. It provides an inventory of lands and facilities operated for public recreational use, and it analyzes how well recreation providers are keeping up with demands for recreation resources and opportunities. The plan is used by public land managers in their attempts to supply outdoor recreation diversity in the state. In the 1995 update, the IAC conducted no new surveys because it was determined that “data from 1990, in all probability, remains fresh,” and “1990 participation projections, to the year 2000, remain accurate.”

The 1990-1995 Assessment and Policy Plan forecasts regional demand for specific recreation opportunities between the years 1987 and 2000. The state is divided into 4 geographic regions for the purpose of assessing recreation demand and need, and into 13 planning districts for the purpose of describing recreation supply. The Lewis River projects lie within Region 2, Planning District 6.

Region 2, which is comprised of Clark, Cowlitz, Klickitat, Skamania, Wahkiakum, Lewis, Mason, Thurston, King, Kitsap, Pierce, and Snohomish counties, is the origin for the majority of the state’s recreation demand for all recreation activity categories. With the exception of camping activities, Region 2 also is used as the destination for more recreation demand than any other regions to satisfy their demand. Between the years

1987 and 2000, Region 2 expected to experience significant growth in demand for most types of recreation activities, as illustrated by the following projections:

Activity	Percent Growth
freshwater fishing from a boat	28
freshwater fishing from a dock	24
swimming/wading at beaches	33
lake powerboating	30
lake non-motorized boating	36
visiting interpretive displays	49
day hiking	42
car camping	37
RV camping	38
picnicking	46

A description of existing recreational resources and management in the project vicinity is provided in Section 7.0. This section also describes proposed enhancement measures associated with the projects.

Washington State Trails Plan: Policy and Action Document. Washington State Interagency Committee for Outdoor Recreation. 1991. Tumwater, Washington.

This plan is an element of the SCORP that seeks to identify issues surrounding trail-based recreation and proposes solutions in the form of action plans. These action plans are presented as management objectives rather than specific development scenarios. The State Trails Plan does not show any existing trails in the project vicinity, nor does it propose any new trails in this area. The Siouxon Landscape Plan (DNR 1996) states that the DNR maintains the 11-mile Mitchell Peak hiking trail, completed in 1988, in the forested area immediately east of the Yale Reservoir. The Siouxon Plan also states that there are also many non-maintained, “unofficial trails” in that area. According to the IAC, proposals have been made by the USFS and Clark County for trail construction in the Lewis River Valley area (pers. comm. Jim Eychaner, IAC, 1/16/02).

State of Washington Natural Heritage Plan. Washington Department of Natural Resources. 2001. Olympia, Washington.

This plan identifies special plants, special animals, terrestrial ecosystems, wetland and aquatic ecosystems, and unique geologic features throughout the state. Each element is given a priority number used by the resource agencies to determine the level of protection the specific element should receive. The plan also contains lists and a map of all existing “natural areas” in Washington. A natural area is defined as “any tract of land or water which supports high quality examples of terrestrial or aquatic ecosystems, habitats and unique geologic features, and is managed specifically to protect those examples.”

No portion of the Lewis River projects are located within a designated natural area. In addition, the WNHP has no records of rare, threatened or endangered (RTE) plant species occurring in the project vicinity. There are 17 RTE animal species either known to occur

or which potentially could occur in the project vicinity. Section 5.1.1 of this document describes these species.

It is not anticipated that the continued operation of the Lewis River projects will have an adverse effect on any RTE species. However, throughout the relicensing process, consultation with DNR, WDFW, and USFWS will be maintained to ensure compliance with the comprehensive plan.

Application of Shoreline Management to Hydroelectric Developments. Washington State Department of Ecology, Shorelands and Coastal Zone Management Program. 1986. Olympia, Washington. September 1986.

While this document is no longer available from WDOE, the Applicants are aware of Washington state coastal zone program requirements. These apply to all activities conducted by federal agencies or by holders of federal permits and licenses if those activities occur in, or may directly affect, land or waters in Washington's 15 coastal counties. The Lewis River projects are not located in a "coastal zone" county, but are located west of the crest of the Cascade Mountains. Therefore, although it is not anticipated that the projects will have an effect on the coastal zone, they must be reviewed by WDOE to determine consistency with this federal program.

Washington's Coastal Zone Management Program includes the Shoreline Management Act, local government shoreline master programs approved under the Shoreline Management Act, the Washington State Environmental Policy Act (SEPA), the CWA, the Clean Air Act, and the Washington State Energy Facility Site Evaluation Council Act. Should any land disturbing activities occur within 200 feet of a project shoreline during the term of the FERC license, the Licensees will apply to Clark, Cowlitz, or Skamania County for a Shoreline Substantial Development Permit.

Other Relevant Resource Plans

In addition to the comprehensive plans from FERC's list, the following resource plans have been identified as pertinent to the Lewis River projects. These are the land management plans of the various entities which own and/or manage land in the project vicinity.

Merwin Wildlife Habitat Agreement. Developed by PacifiCorp pursuant to Article 48 of the Merwin Hydroelectric Project FERC License. FERC Project No. 935. PacifiCorp 1990.

The Merwin Wildlife Habitat Management Area (MWHMA), as shown on Figure 8.1-2, encompasses 5,600 acres of project land downstream of Yale Dam. The MWHMA fulfills a condition of the Merwin Project license for the mitigation and management of wildlife. Project lands within the MWHMA boundary have been managed for the protection and enhancement of natural resource values since 1984. Pockets of land are managed for the following values:

- Forest health and wildlife habitat (clear-cut and commercial thinning);

- Old-growth retention;
- Shrubland management;
- Wetland management areas;
- Orchard management at old homestead sites; and
- Farmland management to provide winter forage for big game.

Clark County 20 Year Comprehensive Growth Management Plan. Clark County Planning Department. December 1994.

Lands east of Yale Lake and south of Lake Merwin are predominantly designated Forest Tier I, with 3 small areas designated Forest Tier II under the Clark County 20 Comprehensive Growth Management Plan. Management of land within these designations focuses on the long-term production of commercially significant forest products and other natural resources. The Tier I designation primarily applies to larger parcels and major industrial forestry landowners. The Forest Tier II sections are located along SR 503 where it crosses the Lewis River, on the south shore of Lake Merwin across from Speelyai Bay, and at the southwest corner of Lake Merwin (Figure 8.1-2). These sections contain the denser development that Forest Tier II zoning allows, with a limitation of 1 principal dwelling per 40 acres (16 ha) versus the 1 dwelling per 80 acre (32 ha) minimum for Forest Tier I. The county owns an approximately 80-acre (32 ha) site along the east side of Yale Lake, with about 0.5 mile (0.8 km) of lake frontage. This parcel is designated as Parks / Open Space under the Clark County Comprehensive Growth Management Plan. Continued operation of the Lewis River projects is not expected to affect these lands.

Cowlitz County Comprehensive Plan. Cowlitz County Planning Department. May 1981.

A majority of the land within and adjacent to the project boundary in Cowlitz County (Figure 8.1-2) is designated as Rural Residential – 2 under the county’s Comprehensive Plan, providing a buffer between higher intensity uses and low density agricultural and forestry uses (Cowlitz County 1977). Recommended density in this classification is 1 family dwelling per 2 acres (0.8 ha). Several large sections of land located south of SR 503 between Speelyai Bay and Yale Park are designated as Forestry – Open Space, as are a few smaller parcels along Lake Merwin and Yale Lake (Figure 8.1-2).

Skamania County Comprehensive Plan “A”. Skamania County Department of Planning and Community Development. July 1977.

Skamania County encompasses all of the project area associated with Swift Reservoir, extending westward along about 2 miles (3.2 km) of the Swift canal. The comprehensive plan for this county concentrates its guidance on the approximately 20 percent of its land located outside of the GPNF boundaries, leaving county lands within the project area as unzoned.

Continued operation of the Lewis River projects will be consistent with the aforementioned comprehensive plans. Currently, no changes are proposed for project operation, and no additional facilities are proposed. In the event any further development is proposed as a

result of the agency consultation process, coordination with Clark, Cowlitz, and Skamania counties will be maintained to ensure consistency with their respective plans.

Shoreline Management Act

Under the state Shoreline Management Act, local governments are required to develop master programs for the regulation of shoreline uses. Program jurisdiction applies to lands within 200 feet of the ordinary high water mark as well as to swamp areas and floodplains. Each of the 3 project reservoir shorelines are designated as “Shorelines of Statewide Significance” under this program. The 3 counties in the study area designate the shores of the reservoirs and the Lewis River as Conservancy Environments or Elements.

Cowlitz County defines Conservancy Environment as shoreline areas endowed with resources which may be harvested and naturally replenished, and other areas which are not suitable for high density human use because of natural parameters such as flooding or unstable soils (Cowlitz County 1977). The objective for conservancy areas is to manage those lands with a sustained yield philosophy, and establish suitable areas for non-intensive recreation uses, non-intensive agricultural, and limited intensive public access.

Clark County’s definition of the Conservancy Environment is “shoreline area of sparse, scattered settlements, existing relatively free of urban activity. It is an area that, because of biophysical characteristics, is intolerant of intensive land uses and used primarily for diffuse recreation, timber harvesting in a sustained yield basis, and passive agricultural practices” (Clark County 1974). The Clark County Shoreline Management Plan states that large concentrations of intensive use recreational activities should be discouraged in conservancy areas.

Skamania County’s policy for activities within the Conservancy Element is to preserve the aesthetic qualities of the shoreline, to protect wildlife habitat, and to restore damaged features (Skamania County 1986). Management actions should have minimal adverse effect upon the environment.

Gifford Pinchot National Forest Land and Resource Management Plan. U.S. Department of Agriculture. 1990. Olympia, Washington. 186 pp. and appendices and amendments.
Final Environmental Impact Statement for the Comprehensive Management Plan for Mount St. Helens National Volcanic Monument. U.S. Department of Agriculture. 1985. Olympia, Washington.

The Monument was created in 1982, is managed by the U.S. Forest Service, and encompasses approximately 110,000 acres of land north of the Swift No. 2 powerhouse. The Comprehensive Management Plan for the Monument (Alternative D of the Final Environmental Impact Statement) describes management practices for the area near the Lewis River projects. This area has been titled the “Cave Basalt/Goat Marsh Management Concept Area.” The management prescription is Protection Class 3, which has a goal of allowing natural processes and features to proceed substantially unimpeded by relying on the relative natural resiliency of the landscape. Continued operation of the

Lewis River projects is not expected to affect the ability of the Forest Service to manage the Monument in accordance with the Comprehensive Management Plan.

Siouxon Landscape Plan Summary. Washington State Department of Natural Resources, Southwest Region. 1996. Also Habitat Conservation Plan. Washington State Department of Natural Resources. September 1997.

DNR's Habitat Conservation Plan (HCP) is a long-term land management plan authorized under the ESA to conserve threatened and endangered species. This draft plan is a multi-species HCP which covers approximately 1.6 million acres of state trust lands managed by DNR within the range of the northern spotted owl. It allows timber harvesting and other management activities to continue while providing for species conservation. The HCP offsets any harm caused to individual listed animals with a plan that promotes conservation of the species as a whole. The HCP stipulates that the Siouxon Landscape Area is to be managed for protection of northern spotted owl nesting, roosting, and foraging (NRF) habitat. The plan includes guidelines for management activities allowed in NRF habitat areas.

The Siouxon Landscape Area is a 32,000-acre block of state trust land managed by DNR. It is bounded on the west by Yale Lake and on the north by Swift Reservoir. The majority of forest is a mixture of 60- to 90-year-old stands of Douglas-fir and western hemlock, with some true fir at higher elevations. The Landscape Plan states that an annual timber harvest, not to exceed 600 acres, has been estimated for this area during the next 10 years, but adds that habitat projection for northern spotted owls will cause changes in harvest scheduling. The plan also prescribes management objectives for aquatic systems, and recreation. For example, the plan states that special protective measures will be provided for the habitat needs of raptors within 0.25 mile of both Swift Reservoir and Yale Lake. DNR will manage the land within 200 feet of the shoreline by selective partial cutting and salvage operations over an extended time period as provided within the Shoreline Management Act. The land between 200 and 1,300 feet from the shoreline will feature dominant trees among the required Forest Practices reserve trees.

In February, 1998, DNR issued a management directive for the Siouxon Landscape Area stating that because land in the vicinity of Yale Lake is within nesting and roosting areas for the spotted owl, management is to be targeted for the conservation of this habitat. Late successional forest management practices will be applied, which are expected to be consistent with those already implemented by PacifiCorp on its adjacent lands. PacifiCorp objectives on the east side of Yale Lake are to maintain a mosaic of forage and cover, retaining older forest to promote growth of larger trees. In summary, continued operation of the Lewis River projects is not expected to affect DNR's ability to manage the Siouxon area in accordance with the Siouxon Landscape Plan or the HCP.

Integrated Landscape Management for Fish and Wildlife in the Lewis-Kalama River Watershed, WRIA#27, A Pilot Project. Washington Department of Fish and Wildlife. July, 1998.

This integrated plan for managing fish and wildlife in the Lewis-Kalama River watershed was developed as a cooperative plan between landowners, the public, and fish and

wildlife managers. WDFW's intent in preparing this plan was to change its management approach from a species by species approach to a broader, landscape (ecosystem) approach.

The Lewis-Kalama River watershed includes 839,010 acres. The North Fork Lewis River is located approximately in the center of this watershed which is bounded on the north by the Cowlitz, Toutle, and Coweeman rivers and Mount St. Helens; on the east by the White Salmon and Klickitat rivers and Mount Adams; on the south by the Wind and Washougal rivers; and on the west by the Columbia River.

The plan identifies priority areas in the watershed where land use changes are needed to achieve the desired future condition for fish and wildlife over the next 20 years. Specific actions are described that will achieve multiple species objectives. Habitat plans were developed which differ from individual species and habitat plans by addressing the needs of the other species, habitats, and recreation. In summary, the plan provides management objectives for spotted owls, Larch Mountain salamanders, bald eagles, elk winter range, elk forage-cover, elk road density, bull trout, kokanee salmon, Chinook salmon, steelhead, caves, riparian habitat, and snags.

It is not expected that continued operation of the Lewis River projects will be out of compliance with this management plan.

Lower Lewis River Watershed Analysis. 1996. Gifford Pinchot National Forest, Mount St. Helens National Monument Ranger District, July 1996.

This watershed analysis describes current and desired future conditions in a 164,145 acre area encompassing 37 subbasins. Subbasins within this plan surround Swift Reservoir and the northern half of Yale Lake. Existing conditions are compared to historic, or reference conditions (100 to 200 years ago). Management recommendations emphasize restoration and monitoring activities. Recommended actions include cooperative restoration among landowners; verifying ecological inventory data; and combining the watershed analyses for the entire Lewis River drainage.

It is not expected that continued operation of the Lewis River projects will be out of compliance with this management plan, rather the projects will contribute significantly to the scientific and management data for the basin.

Wetland and Floodplain Policies

Wetlands and floodplains in the study area are subject to the regulations of federal, state, and local jurisdictions. Federal and state guidelines pertain to all project area wetlands, while local jurisdiction applies to floodplains and wetlands within boundary of each county. The following policies and laws apply to the project area:

- Clean Water Act, Sections 404 and 401
- River and Harbors Act of 1899: Section 10
- Hydraulic Project Approval (RCW 75.20) for Projects Constructed in State Waters
- County-administered plans

Clean Water Act - Protection of wetlands is an objective of the Clean Water Act and is administered by the Army Corps of Engineers. Under Section 404 of this act, the Corps regulates dredging, filling, excavation, draining, removing vegetation from, or otherwise degrading a wetland or stream in most waters of the U.S. If instream work is proposed as part of the project enhancements, it is likely that a 404 permit would be required. If the proposed action is minor, it may qualify for a more streamlined approval process known as Nationwide process. Responsibilities for Section 401 of the Clean Water Act are delegated to the Department of Ecology in Washington, which regulates the quality, and in some situations, the quantity of water in reaches affected by an action.

River and Harbors Act of 1899 - Section 10 of the River and Harbors Act regulates activities that would obstruct or alter navigation in the nation's waters. The Corps of Engineers implements Section 10 through the process and criteria applied to individual permits under Section 404.

Hydraulic Project Approval - The State of Washington regulates activities within the ordinary high water mark of freshwater streams. The objective is to protect fish habitat and fish life. To assure that projects do not adversely affect fish or their habitat (including wetlands adjacent to flowing waters), the WDFW will apply timing and construction restrictions as conditions to this development permit.

Cowlitz, Clark, and Skamania Counties - Cowlitz County reviews activities within the floodplain based on federal guidelines outlined in Cowlitz County's Floodplain Management Ordinance, Chapter 16.25 of the Cowlitz County Code. Clark County reviews activities within the floodplain as a component of Shoreline Management Act compliance, and follows ordinances put forth in Chapter 18.327 of Title 18, Zoning. Skamania County was contacted to identify any floodplain management programs that it administers. It is reported that there is not program currently in effect (pers. comm., K. Pearson, Planning Technician, Skamania County, Washington, January 15, 2002).

8.1.5.5 Effects of Increased Residential Development in the Study Area on Project Operations, Wildlife Management, and Recreation Management

Daily project operations will not be impacted by an increase in residential development because all development is expected to occur outside of the project boundary.

Project operations related to control of flood flows should not be affected by an increase in residential development in the vicinity of the project reservoirs or in the Lewis River valley below Merwin Dam. As discussed in Section 11, Flood Management, "urban and suburban development in the Lewis River is expected to be negligible for several reasons. Firstly, the great majority of the storm runoff originates in the headwaters of the system upstream from Merwin Dam, in areas that are not expected to develop. Secondly, runoff from areas downstream of Merwin Dam which are available for development can be expected to produce their peak discharges before releases from Merwin Dam have peaked. This difference in timing means the runoff from urban and suburban areas should not appreciably increase overall peak flows on the main stem Lewis River. Finally, storm water management regulations for new developments are intended to restrict post-development peak runoff rates to their pre-development amounts."

Any residential development in previously undeveloped forested lands, such as the lands surrounding the project reservoirs, has the potential to affect wildlife or recreation resources. Forest land conversion to residential use will fragment and reduce wildlife habitat. The quality of the recreational experience could be degraded if residential developments are visible from recreational points of interest.

8.1.6 Schedule

This study is complete.

8.1.7 References

- Clark County. 1974. Shoreline Management Master Program. Vancouver, WA. August 1974.
- Clark County. 1994. Clark County Comprehensive Growth Management Plan, 1997 revision.
- Cowlitz County. 1977. Shoreline Management Master Program. Kelso, Washington.
- Cowlitz County. 1981. Cowlitz County Comprehensive Plan. Kelso, Washington. May 1981.
- DNR (Washington State Department of Natural Resources). 1992. Forest Resource Plan: Policy Plan, Final. DNR, Forest Land Management Division, Olympia.
- DNR. 1996. Siouxon Landscape Plan. Objectives and Summary. Southwest Region. Olympia, WA. September 1996.
- DNR. 1997. Final Habitat Conservation Plan. Washington Department of Natural Resources. Olympia, WA. 400 p.
- DNR. 2000. Washington Forest Practices; Rules, Board Manual, and Forest Practices Act. Washington Department of Natural Resources. Olympia, WA. April 2000.
- Northwest Power Planning Council. 2000. Columbia River Basin Fish and Wildlife Program. Portland, Oregon.
- PacifiCorp. 1990. Merwin Wildlife Habitat Management Program. Standard Operating Procedures. Portland, Oregon.
- Skamania County Department of Planning and Community Development. 1977. Skamania County Comprehensive Plan "A". July 1977.
- USFS (U.S. Forest Service). 1990. Gifford Pinchot National Forest Land and Resource Management Plan. U.S. Department of Agriculture. Olympia, WA.

PacifiCorp / Cowlitz PUD
Lewis River Hydroelectric Projects
FERC Project Nos. 935, 2071, 2111, 2213

USFS. 1996. Lower Lewis River watershed analysis report. Mount St. Helens National Volcanic Monument, Gifford Pinchot National Forest, Pacific Northwest Region, USDA Forest Service, Vancouver, WA.

USFS and BLM. 1994. Record of decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl.

8.1.8 Comments and Responses on Draft Report

This section presents stakeholder comments provided on the draft report, followed by the Licensees' responses. The final column presents any follow-up comment offered by the stakeholder and in some cases, in italics, a response from the Licensees.

Commenter	Volume	Page/ Paragraph	Statement	Comment	Response	Response to Responses
USDA Forest Service: John Kinney	3	LND 01-2	Federal Lands	Identification of BLM and USFS lands. I suggest carrying the Federal ownership designation through on each map to ensure the public knows where there land is at all times.	While we don't disagree with the value of this information, it is portrayed only on one set of maps, Figure 8.1-1. We felt that adding ownership resulted in too much information on other maps to clearly convey their intended material.	We feel it important for the reader (audience and admin record) to see a common thread throughout the maps that depicts where Federally managed public lands are located relative to the projects.

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