tendered for filing an executed Service Agreement for Firm Point-to-Point Transmission Services between ASC and Ameren Energy Marketing Company. ASC asserts that the purpose of the Agreement is to permit ASC to provide transmission service to Ameren Energy Marketing Company pursuant to Ameren's Open Access Transmission Tariff.

Comment Date: May 27, 2003.

12. Commonwealth Edison Company

[Docket No. ER03–824–000]

Take notice that on May 6, 2003, Commonwealth Edison Company (ComEd) tendered for filing with the Federal Energy Regulatory Commission (Commission) a Notice of Cancellation of FERC Rate Schedule No. 16, Amendment No. 7 to an Interconnection Agreement between ComEd and Wisconsin Power and Light Company (Wisconsin Power) dated February 21, 1992. ComEd requests a cancellation effective date of May 31, 2003.

Comment Date: May 27, 2003.

13. Maxim Energy Partners, LLC

[Docket No. ER03–827–000]

Take notice that on May 6, 2003, Maxim Energy Partners, LLC (Maxim Energy Partners) tendered for filing with the Federal Energy Regulatory Commission (Commission) a petition for acceptance of Maxim Energy Partners' Rate Schedule FERC No. 1; the granting of certain blanket approvals, including the authority to sell electricity at market-based rates; and the waiver of certain Commission regulations.

Maxim Energy Partners states that it intends to engage in wholesale electric power and energy purchases and sales as a marketer; that it is not in the business of generating or transmitting electric power; and that it is a Kansas limited liability company and is not affiliated with any other organization.

Comment Date: May 27, 2003.

14. California Power Exchange Corporation

[Docket No. ER03–830–000]

Take notice that on May 6, 2003, the California Power Exchange Corporation (CalPX) tendered for filing with the Federal Energy Regulatory Commission (Commission) its proposed Amendment No. 23 to the CalPX FERC Electric Service Tariff No. 2. CalPX states that it files this Tariff Amendment No. 23 to align CalPX's Tariff procedures with those proposed by the California Independent System Operator (ISO) in its April 15, 2003 filing of Amendment No. 51 to the ISO Tariff, which concerns preparatory market adjustments and reruns. CalPX states that by its Tariff Amendment No. 23, CalPX also requests that the time period for filing disputes on the ISO Settlement Statements for the preparatory adjustments/reruns be extended to 15 business days, which period shall begin on the date that CalPX provides the statements to its Participants.

CalPX states that it has served copies of the filing on its participants, on the ISO, and on the California Public Utilities Commission. CalPX requests that the amendment be made effective concurrently with the effective date of the ISO's Amendment No. 51.

Comment Date: May 27, 2003.

15. Global Common Greenport, LLC

[Docket No. ER03–833–000]

Take notice that on May 8, 2003, Global Common Greenport, LLC (GCG) petitioned the Commission for acceptance of GCG's Rate Schedule FERC No. 1; the granting of certain blanket approvals, including the authority to sell electricity at market-based rates; and the waiver of certain Commission regulations.

GCG, states that it is an exempt wholesale generator, and will sell the entire output of its 54 MW generating facility located in Greenport, New York under long-term contract to the Long Island Power Authority (LIPA). GCG also states that it is is a limited liability company formed under the laws of New York principal place of business is New York, New York. GCG asserts that in transactions where GCG sells electric power it proposes to make such sales on rates, terms, and conditions to be mutually agreed to with the purchasing party.

Comment Date: May 21, 2003.

Standard Paragraph

Any person desiring to intervene or to protest this filing should file with the Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. All such motions or protests should be filed on or before the comment date, and, to the extent applicable, must be served on the applicant and on any other person designated on the official service list. This filing is available for review at the Commission or may be viewed on the Commission's Web site at *http://www.ferc.gov* , using the ''FERRIS'' link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, contact FERC Online Support at *FERCOnlineSupport@ferc.gov* or toll-free at (866) 208–3676, or for TTY, contact (202) 502–8659. Protests and interventions may be filed electronically via the Internet in lieu of paper; *see* 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the ''e-Filing'' link. The Commission strongly encourages electronic filings.

Magalie R. Salas,

Secretary.

[FR Doc. 03–12439 Filed 5–16–03; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Project Nos. 935–037, 2071–015, 2111–011, and 2213–002]

PacifiCorp, Cowlitz PUD, Washington; Notice of Availability

May 13, 2003.

In accordance with the National Environmental Policy Act of 1969 and the Federal Energy Regulatory Commission's (Commission) regulations, 18 CFR part 380 (Order No. 486, 52 FR 47897), the Office of Energy Projects has reviewed the application for amendment to licenses for the Lewis River Hydroelectric Projects (Merwin P–935, Yale P–2071, Swift No. 1 P–2111, and Swift No. 2 P–2213), located on the North Fork Lewis River in Cowlitz, Clark, and Skamania counties, Washington and has prepared a Final Environmental Assessment (FEA) for the projects. No Federal lands are involved.

The FEA contains the staff's analysis of the potential environmental impacts of the projects and concludes that approving the amendments to the licenses, with appropriate environmental protective measures, would not constitute a major federal action that would significantly affect the quality of the human environment.

A copy of the FEA is available for public inspection in the Public Reference Room of the Commission's offices at 888 First Street, NE., Washington, DC 20426. The FEA may also be viewed on the Internet at *http://www.ferc.gov* using the ''FERRIS'' link—select ''Docket #'' and follow the instructions. For assistance, please

contact FERC online support at *FERCOnlineSupport@ferc.gov* or call toll-free 866–208–3676 or (202) 502–8659 (for TTY). Attachments A and C of the FEA are currently available on FERRIS.

Register online at *http://www.ferc.gov/esubscribenow.htm* to be notified via email of new filings and issuances related to this or other pending projects. For assistance, contact FERC Online Support.

For further information, contact Allison Arnold at (202) 502–6346 or *allison.arnold@ferc.gov*.

Magalie R. Salas,

Secretary.

Environmental Assessment

Project Name: Lewis River Hydroelectric Projects.

FERC Project Numbers: P–935, P–2071, P–2111, P–2213.

May 12, 2003

1.0 Application

1.1 *Application type:* Amendment of License.

1.2 *Date filed:* July 6, 2000.

1.3 *Applicant:* PacifiCorp (Portland, Oregon), Cowlitz PUD (Cowlitz County, Washington).

1.4 *Water body:* North Fork Lewis River.

1.5 *Nearest city or town:* Woodland, Washington.

1.6 *County and State:* Cowlitz, Clark and Skamania Counties, Washington.

2.0 Purpose and Need for Action

On July 6, 2000, PacifiCorp filed an application to amend its licenses for the North Fork Lewis River Hydroelectric Projects (Lewis River Projects) (Merwin P–935, Yale P–2071, and Swift No. 1 P–2111) and supplemented that filing on August 17, 2000. On August 17, 2000, Cowlitz PUD No. 1 (PUD) filed an application to amend its license for the Swift No. 2 Project (P–2213) also located on the Lewis River. The Swift No. 2 Project is operated by PacifiCorp. PacifiCorp and PUD request approval from the Federal Energy Regulatory Commission (Commission) to include within its licenses measures for protecting, enhancing, or mitigating impacts to endangered and threatened and proposed and candidate fish species under the Endangered Species Act of 1973, as amended (ESA). These measures are intended to provide PacifiCorp and PUD with ESA compliance for the Merwin, Yale, and Swift No. 1 and Swift No. 2 hydroelectric projects until collaborative relicensing is completed. By amending its licenses, PacifiCorp and PUD hope to incidental take of listed and proposed species occurring as a result of current facility operations.

3.0 Summary

In this Environmental Assessment (EA), Commission staff review the proposed amendments to the Merwin, Yale, Swift No. 1 and Swift No. 2 licenses to determine if the measures for protecting, enhancing, and mitigating impacts to fish species listed under the ESA will likely reduce incidental take of those species resulting from the operation of the four projects.

The recommended alternative is approving the amendment of PacifiCorp's and PUD's licenses to adopt and implement the proposed conservation strategy. Incorporating the terms of the conservation strategy into PacifiCorp's and PUD's licenses will significantly reduce incidental take of listed species resulting from operation of the Lewis River Projects. Such conservation measures likewise represent important near-term conservation opportunities that may be lost if not secured while the parties collaboratively devise long-term conservation strategies.

4.0 Background

PacifiCorp and PUD (Licensees) have initiated a collaborative ALP for four hydroelectric projects on the North Fork Lewis River in Cowlitz, Clark, and Skamania counties in southwest Washington. PacifiCorp owns and operates the Merwin, Yale, and Swift No. 1 projects. PacifiCorp operates Swift No. 2 under a 1957 contract with Cowlitz PUD. Under that contract, PacifiCorp has sole charge and responsibility for generation and delivery of the power and energy from Swift No. 2.[1] Each of these projects has a different FERC license number, original license expiration date, and production capacity. *See* (Table 4.0–1).

TABLE 4.0–1.—FERC LICENSE NUMBER, ORIGINAL LICENSE EXPIRATION DATE, AND PRODUCTION CAPACITY

Project name	Project owner	FERC license No.	License expiration	Capacity (MW)
Yale	PacifiCorp	2071	May 1, 2001	134
Swift No. 1	PacifiCorp	2111	May 1, 2006	240
Swift No. 2	Cowlitz PUD	2213	May 1, 2006	70
Merwin	PacifiCorp	935	May 1, 2006[1]	136

[1] Original license expiration date was 2009.

The current license for the Yale Project expired on May 1, 2001, five years prior to the expiration of the licenses for Swift Nos. 1 and 2 projects (May 1, 2006) and about eight years before the original expiration date of the current license for the Merwin Project (December 11, 2009). On April 1, 1999, the Commission approved PacifiCorp

[1] The operating agreement provides, in relevant parts: Whereas, the District and Pacific entered into a contract on June 4, 1957, which provides for the delivery to Pacific of all the power and energy to which the District may be entitled under the terms of said contract and for the withdrawal of all or any part of such power and energy by the District in accordance with the conditions stated in said contract and also provides for the coordinated operation of the said Swift Plants Nos. 1 and 2 so as to produce the optimum project output and such coordinated operation will be facilitated by the operation of both plants under one direction and control and to accomplish such purpose and to achieve economy of operation Pacific should be authorized to operate Swift Plant No. 2 under the terms and conditions hereinafter set forth.

* * * * *

''Section 3. Manner of Operation of Swift Plant No. 2

(a) Pacific will operate and maintain Swift Plant No. 2 in an efficient manner, consistent with established electric utility practices for the operation and maintenance of hydroelectric projects of similar type and size and in accordance with any applicable provisions of the Federal Power Commission License for Swift Plant No. 2, as the same may be amended from time to time.

(b) Pacific shall perform the work hereunder as an independent contractor and shall not be subject to the control or supervision of the District except as to the results of the work.''

Cowlitz PUD, as licensee, has the right to notice of PacifiCorp's actions and such notice has been given. Cowlitz PUD also may wish to be involved in PacifiCorp's discussions with the Commission staff, USFWS and NMFS (and has been to date). However, as contract operator, PacifiCorp has full discretion to take necessary steps to obtain ESA compliance for its operation of Swift No. 2.

and PUD's request to use the Commission's ALP and for the simultaneous and coordinated processing of the applications for all four projects.

Section 7(a)(2) of the ESA requires that federal agencies ensure that their actions do not jeopardize federally-listed species. The Commission has recognized PacifiCorp as a non-federal designee under Section 7 in a letter dated October 20, 1999. PacifiCorp has developed a multi-species Biological Assessment (BA) (Attachment A) that includes a number of measures to protect, enhance and mitigate project impacts to proposed and listed species under the ESA for the Commission's review and adoption. In the BA, PacifiCorp requests the Commission to amend its licenses, which constitutes a federal action triggering a Section 7 consultation. Specifically, PacifiCorp's application for amendment of its licenses to provide ESA compliance for its ownership of three of the facilities (Merwin, Yale and Swift No. 1) and operation of all four projects (Merwin, Yale and Swift Nos. 1 and 2).

5.0 Proposed Action and Alternatives

The Proposed Action is Commission approval of the Application for Amendment of PacifiCorp's (Merwin, Yale, and Swift No. 1) and PUD's (Swift No. 2) Licenses.

5.1 Proposed Measures

The following section describes proposed measures to reduce the effects of the Lewis River Projects on certain fish species that are listed, proposed for listing, or candidates for listing under the ESA. PacifiCorp proposes to implement pertinent measures upon issuance of license article amendments by the Commission after consultation with the National Marine Fisheries Service (NMFS) and (USFWS) under section 7(a)(2) of the ESA, and subsequent issuance of a Biological Opinion (BO)(Attachment C), and its associated incidental take statement, as it pertains to the proposed operation of the Lewis River Projects. Table 5.1–1 summarizes PacifiCorp's proposed measures. The BO, filed June 28, 2002 by NMFS and USFWS, is consistent with and supports the proposed amendments to the license.

TABLE 5.1–1.—SUMMARY OF PACIFICORP'S PROPOSED MEASURES

Species	Project	Effects	ESA alternatives
Steelhead, Chinook, Chum, Coho and Cutthroat.	Merwin	Instream Flows altered hydrograph ramping.	Change existing ramping rates downstream of Merwin.
Steelhead, Chinook, Chum, Coho and Cutthroat.	Merwin	Upstream Migration Block/reduced habitat.	Provide funds for Clark County to purchase Eagle Island for the protection of anadromous fish rearing habitat.
Steelhead, Chinook, Chum, Coho and Cutthroat.	Merwin	Dewatering/stranding incidents	Implement Merwin redundancy equipment to prevent potential dewatering of riverbed, fish trap and hatcheries. Work with Washington Department of Fish and Wildlife (WDFW) to provide for habitat enhancement measures in the Lewis River and tributaries to benefit salmon populations.
Steelhead, Chinook, Chum, Coho and Cutthroat.	Merwin	Hatchery Program	Continue to fund WDFW Section 10 annual evaluation.
Bull Trout	Yale	Upstream Passage block	Continue net and haul process Enhance/protect habitat upstream at Yale and Swift.
Bull Trout	Yale	Entrainment ..... —turbines —spill	Addressed in the ALP discussions Study strobe effectiveness. Develop a preliminary engineering design study to modify the Yale spillway. Purchase Cougar Cr. Area C to protect and enhance spawning/rearing habitat and create a conservation easement.
Bull Trout	Swift	Limited spawning/rearing	Purchase Swift Cr. Area A (Devil's Backbone) to protect bull trout sub-adult.
Bull Trout	Swift	Population Status	Continue PacifiCorp, WDFW and USFWS monitoring program on Swift.

5.1.1 Steelhead, Chinook, Chum and Coho (Downstream From Merwin Dam)

The Lewis River anadromous salmonids, with the exception of the fall chinook, are currently of hatchery origin from other basins and have been supplemented or introduced since the early 1930's. In addition, current management is aimed at maintaining hatchery stocks in the North Fork Lewis River for the purposes of sport harvest (essentially a terminal fishery) (WDFW and Western Washington Treaty Tribes 1997).

Given this background, PacifiCorp proposes to assist with acquisition of lands to protect and enhance fall chinook habitat downstream of Merwin dam. Chum will benefit from this action as well. The primary purpose is to provide juvenile wild fall chinook rearing to protect the remaining indigenous stock. Coho and steelhead are also known to utilize extensive rearing areas downstream of Merwin dam. PacifiCorp proposes to modify its existing ramping rates and also review the existing license flows downstream of Merwin dam to determine if the current flow regime is suitable for all anadromous species and life stages. In addition, PacifiCorp currently funds WDFW to evaluate hatchery affects on listed salmon and steelhead under a Section 10 permit held by the state and proposes to continue that funding.

Related to the unplanned outage and interruption of flow that occurred on June 6, 1999, PacifiCorp has been working with WDFW to identify measures that would provide for the potential adult salmon and steelhead production that was lost. Elements of the discussion include possible gravel enhancements downstream of Merwin, rehabilitation of a chum spawning site that was inundated by a landslide, habitat improvements on Cedar, Johnson, and Colvin creeks, or purchase of riparian habitat on Cedar Creek. WDFW and PacifiCorp are currently evaluating which of these options to pursue but any one of these will result in benefits to the listed species.

Habitat Enhancement and Protection

Anadromous salmonids utilize several areas downstream of Merwin dam for spawning and rearing. The majority of the spawning occurs upstream of the Lewis River Salmon Hatchery. Juvenile rearing occurs in many areas between the uppermost spawning sites and the lower river adjacent to the city of Woodland. The primary rearing site downstream of Merwin dam is Eagle Island, which is approximately seven miles downstream of Merwin dam and is considered to be prime fall chinook juvenile rearing habitat.

Eagle Island is a 259-acre parcel with an associated 20-acre mainland piece. Over 75 percent of the present day wild fall chinook rearing habitat is associated with the island. The island also provides critical habitat for adult and juvenile steelhead, coho, chum and cutthroat (WDFW 1998). Until this year, a developer owned the island with plans for residential development. The WDFW has made many attempts to purchase the island for protection of the habitat. In June 1999, Clark County obtained monies to match State funding for purchase of the island. PacifiCorp, through agreement with Clark County, has paid the county's portion of the funding to purchase the island and deed the property to the State. The funding obtained by Clark County will be used to protect and restore salmon and steelhead rearing areas through their Conservation Futures program to improve the habitat on the island for wildlife and set up a fund for continued preservation of Eagle Island.

Ramping Rates—Evaluation/Review/Modify

PacifiCorp proposes to modify the current Merwin down-ramping rates to meet a new standard of 0.5 feet per three-hour period (with the intent to meet 2 inch/hour as best as possible). This down-ramping rate protects juveniles and fry using shallow stream margin habitat. Up-ramping will be increased from 1 ft/hr to 1.5 ft/hr. The up-ramping limitations focus on safety for those using the river below the project. A Standard Operating Procedure (SOP) will be developed that describes how ramping requirements will be accomplished. The SOP will be subject to NMFS and USFWS approval.

Hatchery Evaluation

PacifiCorp currently funds WDFW to evaluate effects of hatchery outplanting from Merwin and North Fork Lewis River hatcheries on Columbia and Snake river listed species. With the addition of listed species within the basin, PacifiCorp proposes to expand efforts to evaluate hatchery effects on in-basin species.

5.1.2 Bull Trout and Cutthroat Trout (Upstream From Merwin Dam)

Continue Yale Net and Haul

The USFWS commented on the Yale application for a new license and suggested that PacifiCorp begin engineering studies concerning fish passage facilities at the projects. However, since the ALP will address basin-wide fish passage issues, PacifiCorp believes it is premature to propose specific passage measures at this time. PacifiCorp proposes to continue net and haul activities in cooperation with WDFW as directed by USFWS (letter from N. Gloman—USFWS, dated Nov. 12, 1998) and to expand efforts to the Swift No. 2 tailrace if needed. PacifiCorp initiated a pilot net and haul program at Swift No. 2 tailrace in 1999. According to the bull trout monitoring report (Lesko 2000 page 4), two bull trout were captured at the Swift 2 tailrace on October 2, 1999. However, PacifiCorp will continue its involvement in monitoring the presence of bull trout at the Swift No. 2 tailrace if USFWS and WDFW determine it to be necessary.

Entrainment Reduction

PacifiCorp proposes to evaluate a strobe light system to prevent bull trout entrainment at the Yale and Swift No. 1 spill and turbine intakes (*see* 6.2 Biological Justification). However, effectiveness for bull trout is unknown and the system would need to be adequately evaluated. PacifiCorp believes that available scientific information suggests that strobes may prove successful in substantially reducing salmonid entrainment at the projects. Such evaluation will also provide the Aquatics Workgroup with a scientific basis for determining whether PacifiCorp should explore other measures to address entrainment concerns. In terms of the Yale spillway, PacifiCorp proposes to conduct preliminary engineering design studies to address modifications of the spillway configuration in order to reduce any potential for fish injury or mortality.

Habitat Protection

Habitat does not appear to be a limiting factor for cutthroat trout in the upper basin. In contrast, the primary limiting factor for Yale and Swift bull trout production is the availability of adequate spawning and rearing habitat. The fact that only 1¾ miles of spawning and rearing habitat (Cougar Creek) exists for the Yale population may explain the chronically low numbers of spawning adults observed each fall since records have been kept. With the exception of possible rearing habitat in Ole and Rain creeks, there are limited opportunities for expanding or improving habitat for the Yale bull trout population. While Graves (1982) observed bull trout spawning in the Swift bypass reach in 1981 and 1982, the potential for permanent spawning areas in this reach is limited. The bypass reach serves as a spill channel and has passed flows as high as 44,700 cfs in the 1996 flood. Flows of this magnitude completely scour the channel of any potential spawning gravels and, since flows of this magnitude usually occur in winter, would potentially eliminate bull trout redds.

For spawning and rearing habitat protection, action could be taken to protect the existing habitat around Cougar Creek. Therefore, PacifiCorp has purchased land from Weyerhaeuser Corporation in the Cougar Creek riparian corridor to protect the bull trout spawning and rearing habitat and proposes a conservation easement that will be approximately a 500-foot buffer on Cougar Creek and a 200-foot buffer on Panamaker Creek. No other known spawning habitat for bull trout residing in Yale reservoir is known. Therefore, the protection of this habitat is very desirable. PacifiCorp shall maintain the property consistent with the conservation easement and BO and incidental take statement. Such maintenance may include, but is not limited to, planting of vegetation, removal of non-native or invasive plant species, other vegetation management and installation of boundary markers or fences. PacifiCorp will coordinate with USFWS and NMFS on maintenance and management of lands subject to the conservation easement. Management of the lands outside the easement will include road and culvert maintenance in the short term and may eventually be included in the Lewis River wildlife management plan at the completion of ALP settlement discussions. PacifiCorp and PUD recognize and intend that the conservation easement along Cougar and Panamaker creek riparian corridors are measures under the ESA for the benefit of the species in the entire range of all four projects.

Water Quality in Tailraces

PacifiCorp has implemented modifications to the Yale turbine intakes to resolve total dissolved gases (TDG) levels in the Yale tailrace. Temperature fluctuation in the Yale tailrace is currently being addressed

through the Lewis River ALP. Through the ALP, PacifiCorp is studying temperatures and TDG in the Swift Nos. 1 and 2 tailraces. This may lead to potential equipment modification, subject to USFWS approval, that will reduce TDG and temperature effects while providing for continued operational flexibility.

Protect Swift Bull Trout and Cutthroat Trout Habitat

Information is lacking on bull trout in the Swift Creek arm and the location and status of known sub-adult rearing habitat in Swift reservoir. Therefore, PacifiCorp has entered into a contract with Weyerhaeuser Corporation to purchase lands on the east side of the Swift Creek arm (Devil's Backbone) for protection of shoreline rearing habitat and with the intent of placing a conservation easement along that adjacent riparian zone for the protection of that habitat in perpetuity. Such an easement will be created to protect and conserve the habitat for bull trout, cutthroat trout and other aquatic species and will provide a high level of certainty that long-term benefits will accrue to these species. PacifiCorp shall maintain the property consistent with the conservation easement and BO (Attachment C), and its associated incidental take statement. Such maintenance may include, but is not limited to, planting of vegetation, removal of nonnative or invasive plant species, other vegetation management and installation of boundary markers or fences. PacifiCorp will coordinate with USFWS and NMFS on maintenance and management of lands subject to the conservation easement.

This proposed conservation easement will result in increased protections for the adjacent riparian zone beyond that currently required by the Washington Forest Practice Act and associated regulations. For example, NMFS believes these regulations do not provide properly functioning riparian and instream habitats. Specifically, NMFS believes the base regulations do not adequately address LWD recruitment, tree retention to maintain stream bank integrity and channel networks within floodplains, and chronic and episodic inputs of coarse and fine sediment that maintain habitats that are properly functioning for all salmonid life stages. Therefore, the proposed placement of a conservation easement on these areas will benefit salmonids by enhancing and protecting the productivity of aquatic habitat in this area, providing such benefits in perpetuity.

Continue Population Monitoring

PacifiCorp has been funding and participating in a WDFW/USFWS cooperative Swift bull trout population monitoring project since 1988. Currently, WDFW is utilizing a visual mark-recapture protocol to estimate reservoir population size. PacifiCorp proposes to continue providing partial funding and in-kind services to maintain the Swift population monitoring database.

5.1.3 Alternatives

Commission staff considered the Proposed Action and No Action alternatives until collaborative project relicensing is completed. Commission staff believe the Proposed Action is preferable because the proposed conservation measures will likely provide beneficial effects for listed, proposed and candidate fish species in the North Fork Lewis River project area. Securing essential habitat for listed species is important because these lands could be sold and developed in the future.

5.2 Reasonable Alternatives

No alternatives to PacifiCorp's proposed measures were identified. Commission staff considered the Proposed Action and No Action until a new project license is issued by the Commission. No other alternatives were identified that met the purpose of providing near term ESA compliance. As discussed earlier, the Commission approved the use of the ALP for the Lewis River projects. A Collaborative Team consisting of PacifiCorp, PUD, federal, state, county and city agencies, the Yakama Nation, the Cowlitz Indian Tribe and non-governmental organizations and private citizens are working together to complete the relicensing process. Through this process, PacifiCorp proposed to negotiate a comprehensive settlement agreement covering natural and social resource management measures for the new license terms of its projects, including long term conservation strategies for ESA compliance. Thus, the measures in the PacifiCorp's BA (Appendix A) represent important near-term conservation opportunities that can provide immediate benefits to aquatic species in the Lewis River Basin while recognizing that the Collaborative Team would devise a long-term conservation strategies in the ALP settlement for ESA compliance.

Commission staff believe the Proposed Action is preferable because the proposed conservation measures will likely provide immediate benefits for listed, proposed and candidate fish species in the North Fork Lewis River project area. Securing essential habitat for listed species is important because these lands could be sold and developed in the future, subsequently becoming lost opportunities.

5.3 No Action Alternative

The No Action alternative would require denying the inclusion of ESA compliance measures within the Lewis River Projects' licenses. A denial would maintain the status quo and result in a lost opportunity to purchase and protect essential habitat for the species in the near term prior to settlement or new licenses.

6.0 Consultation

6.1 Motions To Intervene and Comments on the DEA

The Commission publicly noticed the licensee's application on July 6, 2000. Table 6.1–1 lists those who filed motions to intervene.

TABLE 6.1–1.—LIST OF INTERVENORS

Agency	Action	FERC project No.	Date filed
USDOI	Motion to Intervene	P–935–037, P–2071–015, P–2111–011, P–2213–002.	Oct. 11, 2000.
NMFS	Motion to Intervene	P–935–037, P–2071–015, P–2111–011, P–2213–002.	Oct. 16, 2000.
State of Washington	Motion to Intervene	P–2213–002	Oct. 13, 2000.
PacifiCorp	Motion to Intervene	P–2213–002	Oct. 4, 2000.
Cowlitz PUD	Motion to Intervene	P–935–037, P–2071–015, P–2111–011	Oct. 4, 2000.
American Rivers	Motion to Intervene	P–935–037, P–2071–015, P–2111–011, P–2213–002.	Oct. 16, 2000.

Commission staff included a draft environmental assessment (DEA) in the **Federal Register** with a comment closing date of October 15, 2000. All comments are addressed in Attachment B. Table 6.1–2 lists all of those who filed comments on the DEA.

TABLE 6.1–2.—LIST OF COMMENTORS ON DEA

Agency	Action	FERC project No.	Date filed
NMFS	Comments on DEA	P–935–037, P–2071–015, P–2111–011, P–2213–002.	Oct. 16, 2000.
USFS	Comments on DEA	P–935–037, P–2071–015, P–2111–011, P–2213–002.	Dec. 27, 2000.*
American Rivers	Comments on DEA	P–935–037, P–2071–015, P–2111–011, P–2213–002.	Oct. 16, 2000.

*Late Submission.

6.2 Consultation History

1995—PacifiCorp began working with the USFWS regarding the Yale Hydroelectric Project.

1998—PacifiCorp and Cowlitz PUD continued to work with the USFWS and began working with NMFS when the scope of analysis was expanded to include the remaining three hydroelectric projects on the North Fork Lewis River Watershed.

July 1999—PacifiCorp and Cowlitz PUD met with the USFWS, NMFS, and Commission staff to discuss habitat protection measures designed to protect and conserve salmon, steelhead and bull trout with the objective of obtaining authorization of incidental take under Section 7 of the ESA for the operations of the Lewis River Projects.

July 2000—On July 6th, PacifiCorp filed a draft single-party BA and application to amend the licenses for Merwin, Yale and Swift No. 1 Hydroelectric Projects.

August 2000—On August 16th, PacifiCorp and Cowlitz PUD jointly draft a BA for all four hydroelectric projects. PacifiCorp filed an amended application for amendment of PacifiCorp licenses and included a revised Exhibit E, a revised BA, and a revised EA. Cowlitz PUD filed an application to amend its license for the Swift No. 2 Hydroelectric Project.

October 2000—On October 4th, the Commission requested formal Section 7 consultation by letter to the NMFS and USFWS. The NMFS initiated consultation.

December 2000—On December 15th, the Commission sent additional information in a letter to the USFWS, per USFWS request. Commission staff noted that no other additional information was available. The USFWS initiated formal consultation on 27 December.

June 2002—On June 28th, NMFS and USFWS file their BO and its associated Incidental take statement. Formal consultation concluded.

Commission staff reviewed all comments received on the DEA (Attachment B). Below is a summary of and responses to the comments received.

The NMFS, USFS, and American Rivers submitted comments on the DEA. The NMFS and American Rivers also filed motions to intervene. All comments received are generally supportive of the proposed amendments in this Order. The USFS made numerous comments that extended beyond the scope of the proposed amendments.

The NMFS and American Rivers expressed concern that the DEA did not address, comprehensively, the impacts of ongoing operation of the Lewis River Projects on listed species but limited the scope to the specific measures contained in the amendment. The BA, which was included in the FEA, did address the impacts of ongoing operation on listed species to the extent it was known. However, as indicated earlier, the projects are undergoing the preparation of relicense applications. This effort will ultimately result in a comprehensive examination of project effects on listed species.

In addition, both NMFS and American Rivers expressed concern regarding the lack of details as to how the lands that are to be protected will be managed. As stated in the FEA and required in this order management activities will be consistent with the terms and conditions of the BO for each target species.

Finally, these entities expressed concern that, in the event that unforeseen circumstances cause the relicensing effort to become a protracted affair, the actions approved herein should have some time limits. Specifically their concern is that the protection measures may not afford the necessary protection for ongoing operation beyond the expiration of the existing licenses. Their does exist the possibility, albeit remote, that information will become available that indicates additional measures are required to address, as yet, unidentified effects to listed species associated with the ongoing operation of the subject projects. The ALP collaborative is in the process of undertaking studies or reviewing study results pursuant to the relicensing effort and it is possible that such efforts could reveal unidentified impacts. If this were to happen, then it is expected that Commission staff, in concert with the Licensee, NMFS, and USFWS, would undertake an effort to discuss the situation as appropriate.

7.0 Environmental Analysis

7.1 General Project Location

The North Fork Lewis River Basin (Lewis River Basin) lies on the flanks of the southern Cascade Mountains of Washington State. The river flows in a general southwesterly direction from its source on the slopes of Mount Adams to the Columbia River 19 miles downstream of Vancouver, Washington. The river is 93 miles long and has a total fall of 7,900 feet, the greater part of which is in the upper reaches. At its mouth and up to the Lewis River Hatchery, the river stage is influenced by tides and subsequent backflow from the Columbia River. The area of the drainage basin is 1,050 square miles; its mean elevation is 2,550 ft.-mean sea level (msl). Slopes in the upper portions of the basin are generally steep, resulting from the incision of numerous streams and rivers into the geologically young landscape. Most of the tributaries have natural barrier falls or are too precipitous for spawning (Chambers 1957; Kray 1957). Areas to the south of the Merwin Project and downstream along the river are less steep, represented by rolling hills and flat woodland bottomlands.

The basin has a complex geologic history, having undergone Tertiary volcanism, several glaciations, and interglacial erosion and deposition. Bedrock surrounding the project

reservoirs is predominantly comprised of younger Eocene to older Oligocene volcanic lava flows, Oligocene volcaniclastic rocks, and Quaternary volcaniclastic deposits. Alpine glacial deposits overlay older bedrock but underlay the younger Quaternary volcaniclastic deposits. The volcanic rocks have undergone regional compressional deformation; rock strata are folded by a major southeast plunging anticline and a southeast plunging syncline.

Soils in the basin are predominantly well drained and medium-textured, and were derived from volcanic ash or were formed in sediments derived from mixed volcanic rocks and ash. Slopes, which are variable from gentle to steep, range from flat to more than 70 percent. Soil erosion hazard is dependent on slope and vegetation cover; the erosion hazard increases with increasing slope and extent of bare soil.

The climate in the North Fork Lewis River basin is influenced by the Pacific Ocean to the west and the Cascade Range to the east. The Pacific Ocean provides a moderating influence on temperatures in the basin. Storms from the Pacific encounter the Cascade Range, forcing the air masses to rise, cool, and drop large volumes of precipitation. Levels of precipitation increase with elevation in this area. Average annual precipitation varies from 45 inches near Woodland, to over 140 inches on Mount Adams. The majority of the precipitation occurs during the rainy fall and winter months, with snow falling at higher elevations of the basin. Summers (July through mid-October) are generally drier.

The majority of the North Fork Lewis River basin is forested; a condition typical of the Southern Washington Cascades Province. However, an area of approximately 30 square miles within the upper basin was denuded by the May 18, 1980 eruption of Mount St. Helens. Most of the basin is within the western hemlock vegetation zone (Franklin and Dyrness 1988).

Basin lands provide winter range for deer and elk; mink and beaver are common in wetlands. Large numbers of amphibians have been observed in the basin, primarily in wetland and riparian/riverine habitats. Over 100 species of birds have also been observed, including waterfowl, raptors, and numerous species of passerines.

A large portion of the North Fork Lewis River basin is managed as commercial forest, and as such is undeveloped except for logging roads. In recent years, these lands have experienced increased recreation use and demand for residential development. Other land uses include farming in the lower elevation areas, hydropower, parks, and the Mount St. Helens National Volcanic Monument (Monument). Population densities are low. The small communities of Cougar, Chelatchie, and Amboy lie in the upper basin, along with scattered private homes and recreational properties. The largest town near the project is Woodland.

The Lewis River Hydroelectric Facilities

The following description covers all four hydroelectric projects in the North Fork Lewis River basin. The projects begin approximately 10 miles east of the small town of Woodland, Washington. The upstream sequence of the projects from the confluence of the Lewis and Columbia rivers is as follows: Merwin, Yale, Swift No. 2, and Swift No.1. The Merwin, Yale, and Swift No.1 projects represent a linked reservoir/powerhouse system covering over 30 miles of the Lewis River. The Swift No. 2 project does not include a dam and reservoir. It utilizes water directly from the tailrace of Swift No.1, which flows into a 3.2 mile-long canal that discharges through the Swift No. 2 powerhouse into Yale Reservoir.

The three-reservoir system is operated in a coordinated fashion to achieve optimum benefits for power production, flood control, and to provide for natural resources in the basin such as fish, wildlife and recreation. The four projects utilize the water resources within the North Fork Lewis River basin from elevation 50 ft msl (Merwin Project tailwater) to 1,000 ft msl (Swift No. 1 normal pool). The total usable storage in the reservoirs is 814,000 acre-ft. The total installed capacity for the four projects is 580 MW.

Merwin Dam and Reservoir

The Merwin Hydroelectric Project is a 136 MW plant owned and operated by PacifiCorp. The project is the furthermost downstream project of the four projects on the North Fork Lewis River, and is located approximately 35 miles northeast of Portland. Construction of the Merwin Project began in 1929 and was completed with a single unit in 1931. Two additional units were added to the project in 1949 and 1958.

Merwin Dam is located on the North Fork Lewis River 21 miles upstream from the confluence with the Columbia River. Merwin Dam is a concrete arch structure with a total crest length of 1,300 feet and a maximum height above its lowest foundation of 314 feet. The dam consists of an arch section 752 feet in crest length, a 75-foot-long gravity thrust block, a 206-foot-long spillway section, a non-overflow gravity section 242 feet long, followed by a concrete core wall section 20 feet high and extending 25 feet into the bank. The spillway is equipped with four taintor gates 39 feet wide and 30 feet high, and one taintor gate 10 feet wide and 30 feet high. The taintor gates have been extended to an elevation of 240 ft above msl by the addition of 5-foot flashboards.

The reservoir formed by Merwin Dam is about 14.5 miles long with a surface area of approximately 4,000 acres at elevation 239.6 feet above msl (full pool). At full pool, the reservoir has a gross storage capacity of approximately 422,800 acre-ft. Of this amount, 182,600 acre-ft are available between elevation 190 and 239.6 ft msl, and an additional 81,100 acre-ft are available if the reservoir is lowered to its allowable minimum level of 165 ft msl.

Yale Dam and Reservoir

The Yale Hydroelectric Project is a 134 MW plant owned and operated by PacifiCorp. The project lies directly upstream of the Merwin Project on the North Fork Lewis River, approximately 40 miles northeast of Portland. Construction of the Yale Project began in 1951 and was complete by 1953. The project consists of a main embankment dam, saddle dam, reservoir, penstocks, powerhouse, and transmission line. The project is operated in coordination with the other three hydroelectric facilities on the North Fork Lewis River.

Yale Dam is located on the North Fork Lewis River approximately 30 miles upstream from the confluence with the Columbia River. Yale Dam is a rolled earthen fill embankment type dam with a crest length of 1,305 feet and a height of 323 feet above its lowest foundation point. Its crest elevation is 503-ft msl. The saddle dam is located ¼ mile west of the main dam and it is approximately 1,600 feet long and 40 feet high with a crest elevation of 503 feet msl The main dam has a chute type spillway, located in the right abutment, with a capacity of 120,000 cfs by utilizing five 30 foot by 39 foot taintor gates with the reservoir at elevation 490 ft msl.

The reservoir formed by Yale Dam is approximately 10.5 miles long with a surface area of approximately 3,800 acres at elevation 490-ft msl (full pool). At full pool, the reservoir has a gross storage capacity of approximately 401,000 acre-ft. At the minimum pool elevation of 430-ft msl, the reservoir has a capacity of approximately 190,000 acre-ft.

Swift No. 1 Dam and Reservoir

The Swift No. 1 Hydroelectric Project is a 240 MW plant owned and operated by PacifiCorp. The project is the furthermost upstream hydroelectric facility on the North Fork Lewis River, lying directly upstream of the Swift No 2 Hydroelectric Project, or approximately 45 miles northeast of Portland. Construction of the Swift No. 1 Project began in 1956 and was completed in 1958. The project consists of a main embankment dam, saddle dam, reservoir, penstocks, powerhouse, and transmission line. It is operated in coordination with the other three hydroelectric facilities on the North Fork Lewis River.

Swift Dam is located on the North Fork Lewis River approximately 40 miles upstream from the confluence with the Columbia River and 10.5 miles upstream of Yale Dam. Swift Dam is a an earthen fill embankment type dam with a crest length of 2,100 feet and a height of 512 feet above its lowest foundation point. At the time of its construction, Swift dam was the tallest earthen fill dam in the world. Its overflow spillway, located in the left abutment, has a capacity of 120,000 cfs by utilizing two 50 foot by 51 foot taintor gates with the reservoir at elevation 1,000 ft msl. The elevation at the top of the taintor gates is 1,001.6-ft msl.

The reservoir formed by Swift Dam is approximately 11.5 miles long with a surface area of approximately 4,680 acres at elevation 1,000-ft msl (full pool). At maximum pool, the reservoir has a gross storage capacity of approximately 755,000 acre-ft. At the minimum pool elevation of 878-ft msl, the reservoir has a capacity of approximately 447,000 acre-ft.

Swift No. 2 Hydroelectric Project

The Swift No. 2 Hydroelectric Project is a 70 MW plant owned by Cowlitz PUD and, under contract, is operated and maintained by PacifiCorp. The project lies between the Swift No. 1 and Yale hydroelectric projects. The Swift No. 2 Powerhouse is located 3.2 miles downstream of the Swift No. 1 Powerhouse. Construction of the Swift No. 2 Project began in 1956 and was completed in 1958. The project consists of a power canal, penstocks, powerhouse, and transmission line. It is operated in coordination with the other three hydroelectric facilities on the North Fork Lewis River.

7.2 Terrestrial Resources

Basin lands provide winter range for deer and elk; mink and beaver are common in wetlands. Large numbers of amphibians have been observed in the basin, primarily in wetland and riparian/riverine habitats. Over 100 species of birds have also been observed, including waterfowl, raptors, and numerous species of passerines. More information regarding terrestrial resources may be found in the supporting BA (Attachment A) and BO (Attachment C).

Affected Environment

Terrestrial resources associated with the four Lewis River Projects include wildlife comprised of plant communities, unique land forms, and a compliment of mammals, birds, amphibians, and reptiles.

Vegetation

Vegetation cover in the Lewis River basin is predominantly managed second-growth Douglas-fir forests and mixed conifer-hardwood forests typical of the Cascade region of Washington (Franklin and Dyrness 1988). Forest resource inventories conducted on PacifiCorp-owned lands for the Yale and Merwin projects identified 7,340 acres of upland forest and provided information on associated species, volume, site class, and overstory crown closure (Hildreth 1995). The upland forests consist of conifer, mixed conifer/hardwood forest, and hardwood forest. A unique lodgepole pine community occurs in the old lava flow in the Mount St. Helens area. Non-forest cover types include meadows, wetlands, transmission line right-of-way (ROW) and other project facilities, shrub-dominated communities, and a small portion of the lava flow area. Detailed maps of vegetation cover types were produced for relicensing the Yale Project; these are included in the license application and Terrestrial Resource FTR (PacifiCorp 1999). Wetlands in the project area occur in the vicinity of the Yale Project, Frazier Creek, the upper end of Lake Merwin and Yale Dam and along the transmission line ROW (PacifiCorp 1996b). Wetlands have been identified around Swift Dam (EDAW 2000).

Other sensitive habitats include caves, oak woodlands, old-growth forest stands, riparian areas, snag-rich forest stands, cliff/talus, meadows, and deer/elk winter range are present in the project vicinity (WDFW 1998). Functional riparian habitat in the project vicinity is present only at the upper end of Swift Reservoir, along the Swift bypass reach, and Lake Merwin. Other riparian habitat is primarily associated with the Lewis River downstream of Merwin Dam and with tributary streams, including Drift, Siouxon, Speelyai, Cougar, Canyon, Cresap, Rock, and Buncomb Hollow creeks.

A number of threatened, endangered, and sensitive (TES) plant species potentially occur in the vicinity of the projects. Only one TES plant, the green-fruited sedge, was identified in surveys conducted for the Yale Project (PacifiCorp 1999).

Wildlife

Wildlife species in the Lewis River basin are representative of southwest Washington and include a number of TES and state priority species (WDFW 1991) including nesting osprey and wintering and nesting bald eagles along the Lewis River and project reservoirs and northern spotted owls on Washington Department of Natural Resources (DNR) lands within 0.5 mile of the Lewis River Projects. No spotted owl nests have been documented in the old-growth conifer habitat on PacifiCorp lands.

Environmental Impacts

Improving watershed conditions by purchasing conservation easements will provide direct and substantial benefits for wildlife and terrestrial species. Riparian areas are very productive biological areas for such species, providing important areas of food production, as well as cover areas for resting, watering, and feeding wildlife (Knutson and Naef 1997). Conservation easements also provide undisturbed areas where sensitive plant species may colonize and proliferate. Improving aquatic habitat conditions as proposed will also provide indirect benefits for various bird species including bald eagles, osprey, and other birds of prey that rely on aquatic species for food sources. Further, the Proposed Action will require compliance with the BO (Attachment C), and its associated incidental take statement, issued by NMFS and USFWS designed to protect and enhance TES and their associated habitats resulting in improvements in terrestrial resources relative to the No Action alternative.

7.3 Aquatic Resources

More information regarding aquatic resources may be found in the supporting BA (Attachment A) and BO (Attachment C).

Affected Environment

The Lewis River supports a variety of aquatic organisms. Merwin Dam, located approximately 21 miles upriver from the mouth of the Lewis River, is a barrier to upstream migration. The river

downstream of Merwin Dam includes a self-sustaining population of wild fall Chinook. Hatchery stocks of spring Chinook, early and late coho, winter and summer steelhead, and sea-run cutthroat trout also inhabit the Lewis River. Sturgeon, lamprey, eulachon smelt, northern pikeminnow (Ptychocheilus oregonensis, formerly known as northern squawfish), whitefish, and chum, pink, and sockeye salmon are occasionally observed downstream of Merwin Dam. More information for the selected species discussed below can be found in the supporting BA.

Existing Fish Species

Numerous fish species are known to occur in Lake Merwin, Yale Lake, and Swift Reservoir (*see* supporting BA and BO).

A list of analysis species was developed during planning sessions conducted for the Lewis River Watershed Studies scoping process. Contributors to this list include but are not limited to: WDFW, NMFS, USFWS, and USFS). Analysis species to be included in aquatic studies are listed in Table 7.3–1 (note this list also includes taxonomic groups or guilds).

TABLE 7.3–1—AQUATIC ANALYSIS SPECIES TO BE ASSESSED DURING AQUATIC RESOURCE STUDIES OF THE LEWIS RIVER BASIN.

Analysis species	Selection criteria
Chinook salmon	Potential sensitivity to changes in aquatic and riparian habitat quality and connectivity. Strong ecological interactor.
Coho salmon	Potential sensitivity to changes in aquatic and riparian habitat quality and connectivity. Strong ecological interactor.
Chum salmon	Potential sensitivity to changes in aquatic and riparian habitat quality and connectivity. Strong ecological interactor.
Steelhead trout	Potential sensitivity to changes in aquatic and riparian habitat quality and connectivity. Strong ecological interactor.
Sea-run cutthroat trout	Potential sensitivity to changes in aquatic and riparian habitat quality and connectivity. Strong ecological interactor.
Pacific lamprey	Special habitat requirements during spawning and rearing stages. Important ecological species.
White sturgeon	Long-lived species which may have been affected by construction of dams. May be vulnerable to overharvest.
Northern pikeminnow	Top level predator. May have increased in numbers due to construction of dams.
Mountain whitefish	Native species with some habitat requirements that differ from other salmonids.
Bull trout	Federally listed threatened species. Unique habitat requirements. Top level predator.
Kokanee	Important introduced sport fish. Planktivore. Interspecific interactions with native fishes may be important.
Sculpins	Require cool water temperatures. Many species associated with high stream gradients. Benthic species.
Threespine stickleback	Present in Yale and Merwin. Interspecific interactions with kokanee fry may be important.
Largescale sucker	Juveniles may constitute important prey item for bull trout.
Aquatic macroinvertebrates and zooplankton guilds.	Changes in these communities may indicate changes in ecological conditions.

The following sections present information on the status of several key aquatic species in the Lewis River basin.

Chinook Salmon

In the Lewis River, spring Chinook have been supplemented with Cowlitz and Carson hatchery stocks since 1956 (pers. comm., R. Nicolay, WDFW, 1999). The bright fall Chinook run is considered a wild run although the run has experienced intermittent supplementation from 1930 through 1986 (pers. comm., R. Nicolay, WDFW, 1999). This stock is one of only two self-sustaining, wild fall Chinook salmon populations in the Columbia River basin. The Lewis River bright fall Chinook salmon is a designated index stock used for monitoring purposes under the Pacific Salmon Treaty. The Tule fall Chinook run has also been supplemented with Kalama stock since 1930.

Chum Salmon

Very little is known about the life history of chum in the Lewis River. Smoker *et al.* (1951) confirmed the presence of chum in the Lewis River downstream of Merwin Dam. Chambers (1957) reported 96 chum spawning just downstream of Merwin Dam in mid-November of 1955. Chum were sighted occasionally during 1998 fall Chinook spawning surveys, and four adult carcasses were observed in Cedar Creek. In addition, about 45 juvenile chum were captured during seining operations related to a smolt residual study in 1998 (pers. comm., S. Hawkins, WDFW, 1999). Annually, about three or four adult chum have also been captured at the Merwin fish trap (pers. comm., R. Nicolay, WDFW, 1999).

Steelhead

The Lewis River supports populations of winter and summer steelhead. The number of adults returning to the river and run-timing for each of these species are determined by trapping adult migrants in the fish ladder at the Lewis River hatchery and the fish trap at Merwin Dam. In addition, WDFW conducts spawning surveys on the East Fork Lewis River and Cedar Creek. The primary steelhead spawning and rearing areas in the Lewis River are located downstream of Merwin Dam in the mainstem, Cedar and Johnson creeks, and the East Fork Lewis River. WDFW continues spawning surveys on Cedar Creek and has installed a trap at the Grist Mill fish ladder to monitor upstream migration and to segregate hatchery and wild stocks. There are no existing data on the average annual size of the natural outmigration.

Bull Trout

Currently, bull trout are listed as threatened under the ESA and are present in all three reservoirs. Self-sustaining bull trout populations exist in Yale and Swift reservoirs. Bull trout found in Lake Merwin are thought to be introduced from upstream, either through spill or turbine operations. There is no known spawning habitat available to bull trout in the reservoir.

The Columbia River population of bull trout is comprised of 141 subpopulations. The Lewis River basin contains two of the 20 subpopulations in watersheds of nine major tributaries of the lower Columbia River (63fr111, June 10, 1998). The number of bull trout inhabiting the Lewis River basin is believed to be low. Spawning and

juvenile-rearing occur in Cougar, Rush, and Pine creeks. Additionally, sub-adults have been observed in the Swift bypass reach and Swift Creek arm of Swift Reservoir (PacifiCorp 1999).

Bull trout populations in the Lewis River basin are found in Merwin, Yale, and Swift reservoirs. Spawning populations are found only in Yale and Swift reservoirs. The bull trout populations in the Lewis River basin are considered as having a ''moderate'' risk of extinction (WDFW 1998).

Coho Salmon

Both early and late run coho salmon are endemic to the Lewis River (WDFW and USFWS 1951). Supplementation of the runs has occurred since the days of the Johnson Creek facility dating back to 1909. Historically, native stocks were used for supplementation; however, in 1965 early coho were supplemented with eggs taken from Big Creek, Oregon (pers. comm., Robin Nicolay, WDFW, Lewis River Hatchery Complex Manager). Late-run coho were supplemented in 1981 with Cowlitz River stock. Today, the Lewis River hatchery continues to produce 3.3 million coho for PacifiCorp's obligation under the Merwin license. PacifiCorp funds about 70 percent of the hatchery operations and maintenance (O&M) for that facility.

Sea-Run Cutthroat Trout

Contrary to increasing trends in the Toutle River, WDFW states that its population numbers for sea-run cutthroat trout are still critically low in the Lewis River (approximately 100 total adults in run). For example, 1998 sea-run cutthroat creel returns on the Lewis River numbered only 20 (Hillson and Tipping 1999). Based on this information, WDFW has elected to discontinue cutthroat trout production at Merwin Hatchery.

Environmental Impacts

Section 7(a) of the ESA requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat. NMFS has identified that the following factors have significantly contributed to the decline of steelhead and other salmonids (NMFS 1996): (1) The present or threatened destruction, modification, or curtailment of its habitat or range; (2) over-utilization for commercial, recreational, scientific, or education purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or human-made factors affecting its continued existence.

Adoption of the No Action alternative will likely continue to contribute to the decline of these species per the factors listed above given that no ESA measures will be in place to protect listed or candidate species. Under the Proposed Action, measures will be adopted to benefit listed and proposed species occurring in the project area. These measures, including acquisition of conservation easements, modification of project ramping rates, and implementation of technological measures to reduce entrainment, will help conserve listed and proposed species during the period of project relicensing.

Maintenance and improvement of water quality, temperature, and ecological productivity in the project area.

The Proposed Action will adopt measures to modify turbine intakes to resolve TDG levels in the Yale tailrace, evaluate temperature fluctuation in the Yale tailrace, and study of temperatures and total dissolved gases (TDG) in the Swift No. 1 and Swift No. 2 tailraces. Improvement of water quality conditions will improve conditions for listed fish species that exist in the Yale and Swift tailraces.

Protection of listed species and their progeny from stranding as a result of rapid flow fluctuations

The Proposed Action will adopt measures to implement Merwin redundancy equipment to prevent potential dewatering of riverbed, fish trap and hatcheries in efforts to protect listed species including steelhead, chinook, chum, coho, and cutthroat. Collaboration with WDFW will continue to provide habitat enhancement measures in the Lewis River and tributaries to benefit salmon populations.

Protection of Listed Species From Entrainment

Entrainment through spill or turbine intakes represents a potential threat to the Yale and Swift bull trout populations. The Proposed Action will address entrainment issues, however, measures are not likely to be in place until after additional studies are complete and settlement for Lewis River relicensing is achieved. Measures adopted by the Proposed Action will include a study using the Flash Technology strobe light system to determine the effectiveness of strobe lighting as a deterrent for entrainment. This study would take place during the relicensing process. If strobe lighting proves effective for bull trout and other resident species, bull trout and cutthroat trout entrainment should be curtailed resulting in substantial population level benefits in terms of reduced turbine and spill mortality.

Protection of Juvenile and Adult Habitat

Land has been acquired to protect and enhance fall chinook habitat downstream of Merwin Dam. Eagle Island is a 259-acre parcel with an associated 20-acre mainland piece. Over 75% of the present day wild fall chinook rearing habitat is associated with the island. The island also provides important habitat for adult and juvenile steelhead, coho, chum and cutthroat (WDFW 1998). The primary purpose of the acquisition is to provide juvenile wild fall chinook rearing to protect the remaining indigenous stock. Further, the Proposed Action will result in the modification of existing ramping rates and a review of the existing license flows downstream of Merwin Dam to determine if the current flow regime is suitable for all anadromous species' life stages.

With the exception of possible rearing habitat in Ole and Rain creeks, there are limited opportunities for expanding or improving habitat for the Yale bull trout population. However, the Proposed Action will adopt measures regarding the acquisition of lands to protect bull trout and cutthroat trout spawning and rearing habitat in the Cougar/Panamaker Creek, Swift Creek, and Devil's Backbone areas. Conservation easements will be established with the express purpose of conserving and protecting in perpetuity bull trout and cutthroat trout spawning and rearing habitat. These proposed conservation easements will result in increased protections for the adjacent riparian zones beyond that currently required by the Washington Forest Practices Act and associated regulations.

Failing to adopt measures identified in the Proposed Action would result, at best, in maintaining the status quo. The No Action alternative could result in current potential adverse project effects on anadromous fish resulting from a lack of fish passage, inadequate instream flows and ramping rates, and spill. Further, opportunities to purchase and protect important aquatic and riparian habitats would be lost resulting in increased impacts to listed species. Therefore, the Proposed Action will likely result in improvements in aquatic resources relative to the No Action alternative.

7.4 Recreation Resources

Affected Environment

Recreation Resources and Use in the Project Vicinity

The Lewis River Projects provide many recreation opportunities, one component of the large number of recreation facilities and opportunities in the Lewis River basin. Recreation development intensity and visitation at the three reservoirs range from more developed active recreation activities at Merwin and Yale, located closest to the Interstate 5 (I–5) corridor and Portland/Vancouver population base, to more primitive recreation activities at Swift, located farthest from the I–5 corridor.

Popular recreation activities at these projects include camping (RV and tent), picnicking, boat and bank fishing, hunting, hiking, power boating (including personal watercraft), sailing, wind surfing, swimming, water skiing, horseback riding, cycling (road and mountain), relaxing, and sightseeing.

Yale Lake recreation facility occupancy and use were examined during previous relicensing studies. The occupancy level at the three campgrounds is at 95 percent on weekends during the peak recreation period (July and August). From Memorial Day to Labor Day weekend, the weekly occupancy level ranges from 47–73 percent (PacifiCorp 1999). Day use site occupancy averages only 8–14 percent season long; however, overflow conditions do occur approximately five times annually, particularly on hot days.

Swift Reservoir has two developed recreation facilities at the east end of the reservoir, Swift Campground and Eagle Cliff Park. Swift Campground has 93 campsites, a 2-lane boat ramp with parking spaces, and a day use beach swim area. Eagle Cliff Park is located at the far eastern tip of the reservoir and has ten picnic sites, a restroom, and a parking area.

While the Swift No. 2 Project has no developed recreation facilities, the Swift No. 2 power canal does receive consistent use by bank anglers. In addition, an annual fishing derby for disabled recreationists is held at the Swift No. 2 power canal, which is stocked with fish for the event.

All PacifiCorp recreation sites are open to the public during the primary recreation season, while Merwin Park and Speelyai Bay Park at Lake Merwin and Yale Park at Yale Lake are open year-round. Cresap Bay Campground at Lake Merwin is generally open from Memorial Day weekend to late September. Saddle Dam, Cougar Park, and Cougar Camp on Yale Lake are open from Memorial Day weekend to Labor Day weekend. Beaver Bay on Yale Lake is open from late April until mid-late September to accommodate spring fishing and fall hunting seasons. The use season at Swift Campground is also extended to accommodate fall hunter use and fishing, generally from late April until mid-November. Elk and deer hunting seasons for all types of hunts extend from September 1 through December 15 for management units in the immediate area. Peak hunting occurs during times when modern firearms are allowed; for elk this is November 6 through 14, and for deer this is October 16 through 31 (WDFW 1999b). Recreation use at Swift Reservoir is limited by low pool levels, fishing season closure, and road access during winter months.

The projects also provide non-shoreline dispersed recreation opportunities, such as trail use by hikers, equestrians, and mountain bikers. Most of this use occurs along a trail running from Saddle Dam along the southwest shoreline of Yale Lake to the Speelyai Canal and along the International Paper (IP) Road at Yale Lake. Other smaller trails also exist.

Numerous examples of dispersed shoreline recreation use exist around the three reservoirs and along the Swift bypass reach above Yale Lake. Boat-in dispersed use occurs on all three reservoirs. Shoreline impacts have occurred because of this activity. As a result, PacifiCorp is increasing Marine Patrol activities and no longer permits overnight parking at its day use facility parking areas except at Swift. There is no fee for dispersed shoreline use; however, there is a fee charged for day use parking and for each watercraft trailered or hauled into PacifiCorp recreation sites, except for car-top watercraft.

Other dispersed recreation uses adjacent to the reservoirs include a number of sites relating to river recreation in the Lewis River corridor. Canyon Creek, which joins Lake Merwin just below Yale Dam, receives whitewater boating use primarily in the form of kayaking. This advanced-level run has been the site of a ''kayak rodeo'' in recent years. Many paddlers running the creek either take out well above Lake Merwin or descend to the reservoir and paddle to the nearest takeouts at the SR 503 bridge or Cresap Bay Park. Upstream of Swift Reservoir, the upper Lewis River is used for dispersed recreation, hiking, mountain biking, and non-motorized boating.

Over the last 15 to 20 years, recreation resource managers in the Lewis River corridor have witnessed increased use levels at Merwin, Yale, and Swift reservoirs based on day use vehicle counts, campground occupancy levels, signs of environmental degradation along the shoreline caused by boat-in dispersed camping and day use activities, and other indicators. While these higher use levels are usually contingent upon weather conditions, increased use is generally attributable to: (1) Increased population growth in the Portland/Vancouver metropolitan area and proximity to Interstate 5 and Lewis River Road; (2) increased publicity about Merwin, Yale, and Swift reservoirs; (3) creation of and increased popularity of the Monument, including increasing use of the southern scenic loop road (Forest Road 90, SR 503, and Lewis River Road) coupled with few overnight camping facilities within the Monument and GPNF; (4) increasing urban development in the Lewis River valley including new custom home development; and (5) increasing demand for lower cost recreation activities available at Merwin, Yale, and Swift reservoirs, and within western Washington State.

Environmental Impacts

Recreation opportunities should be enhanced by measures that improve watershed conditions in the project area. Areas of the Lewis River are recognized as providing excellent sportfishing opportunities, as well as opportunities for boating, swimming, and wildlife observation. Improving watershed conditions and aquatic productivity should translate into enhanced recreational fishing opportunities, which should in turn provide greater recreational opportunities in an area near several large urban centers. However, greater recreational fishing opportunities also heighten the potential for anglers to catch and possibly harvest bull trout from reservoirs and streams. There is some evidence to suggest that bull trout are targeted and occasionally harvested by anglers even though fishing for bull trout is prohibited. Opening day creel surveys conducted by the WDFW on Swift reservoir and power canal have indicated that some bull trout are harvested in the Swift power canal (WDFW 2000). Large spoons and plugs are also sometimes found in the mouths of bull trout during annual bull trout surveys in the Swift reservoir (WDFW. 1999).

7.5 Aesthetic Resources

Affected Environment

The natural setting of the study area is mountain rural with sweeping vistas

of forested hillsides, mountain lakes (project reservoirs), and distant volcanic peaks. Large numbers of visitors pass through the study area on Lewis River Road (State Route 503) on their way to the Mount St. Helens National Volcanic Monument (Monument). Visual resources in the vicinity include the landscapes visible from State Route 503 and the reservoir surfaces. The combination of extensive timber management activities, forested slopes, open meadows, and low-density residential development in this area creates a rural setting with ever-present signs of human modification of landscape characteristics. Primary features of the viewshed include the rolling, forested hills that encompass the Lewis River valley; Merwin, Yale, and Swift reservoirs; and Mount St. Helens.

The Clark, Cowlitz, and Skamania county planning departments have primary jurisdiction over lands in the project vicinity. The USFS and the Washington State Department of Natural Resources (DNR) manage extensive holdings around Yale and Swift reservoirs. Their management practices affect the reservoir's viewsheds.

Visual resource issues related to the project include:

- Visual character of project features, including hydroelectric generation, transmission, and recreation facilities;
- Visibility of project features from locations of high public use such as Lewis River Road, and recreation areas;
- Visual effect of reservoir water level fluctuations, particularly during periods of high recreation use;
- Visual effect of instream flows in sections of the Lewis River controlled by the project;
- Consistency of the project with existing and proposed federal, state, and local plans and policies regarding the visual resource; and
- Opportunities to enhance the scenic landscape characteristics of the Lewis River Valley viewshed.

Environmental Impacts

As described above, improving watershed conditions will provide direct and substantial benefits for aquatic species and terrestrial species associated with protected riparian communities. These improvements in the natural setting should result in improved aesthetic qualities in and around project features, and should result in a more natural setting in such areas. At this point, no construction or project alterations are proposed at this time that could result in construction-related impacts to aesthetic qualities. Therefore, the Proposed Action should result in enhanced aesthetic qualities relative to the No Action alternative.

7.6 Land Use

Affected Environment

Existing land uses in the project vicinity include timber production, agriculture, hydroelectric generation, recreation, small commercial businesses, and residential housing. Land ownership in the project vicinity is a combination of large and small holdings by public and private entities including the USFS, DNR, Weyerhaeuser, Longview Fibre, Clark County, Cowlitz County, PacifiCorp, and private residents.

The projects are located east (10–40 miles) of the community of Woodland; in recent years, there has been a considerable increase in residential development in the Woodland area and in areas adjacent to the projects along Lewis River Road.

Land use regulations in the project vicinity are under federal, state, and local jurisdiction. Agencies with land management responsibilities in the project vicinity include the USFS, U.S. Army Corps of Engineers, DNR, WDFW, WDOE, Cowlitz County Planning Department, Clark County Planning Department, Skamania County Planning Department, and the City of Woodland.

Environmental Impacts

Proposed watershed improvement measures are consistent with existing land use regulations. Conservation efforts with regard to the acquisition of Eagle Island reduces potential for land use conflicts as Eagle Island will be unavailable for development due to the conservation easement. Likewise, conservation easements for riparian habitat will provide long-term benefits for existing landowners, particularly with regard to aesthetic values as land within an easement is not likely to be developed. The Proposed Action provides opportunities to enhance the land use practices and benefit efforts to protect listed species.

7.7 Socioeconomic

Affected Environment

The Lewis River Projects occupy lands located in three counties: Clark, Cowlitz, and Skamania. Information presented in this EA is based on information from the Economic Development Network Web site titled County Profiles for Washington. (*http://www.wa.gov/esd/lmea/pubs/profiles/profiles.htm*). County demographic data are summarized in Table 7.7–1.

TABLE 7.7–1.—COUNTY AND DEMOGRAPHIC DATA

County	Area (square miles)	Population	Population density per square mile
Clark	628	332,000	537
Cowlitz	1,139	94,100	83
Skamania	1,657	9,900	6

Clark County

For the past decade, Clark County has had one of the most dynamic economies in the state of Washington. Clark County's demographics and economy have been shaped by its status as a suburb, by its diverse industrial base, by a steady flow of high tech investment, and by the differing tax structures between Washington and Oregon.

Clark County is a suburban county within the Portland-Vancouver metropolitan area. It shares many of the characteristics of not-yet-fully-mature suburban counties, such as rapid population growth and an imbalance in commuting patterns. Close to one-third of the county's work force commutes across the Columbia River to Portland every day. The county's role as a bedroom community means that many of the jobs there cater to consumers, in the form of retail trade, social and health services, and personal services. Conversely, most of the (high wage) corporate services such as finance, advertising, law, engineering, *etc.,* are located in Portland. While the county has strong economic and cultural ties to Portland, it also has a unique identity due to the barrier of the state border and the Columbia River. Transportation

access between the county and Portland is limited to two interstate bridges. Communication access is hampered by a different area code and long distance charges. Politically, Clark County is connected to Olympia and the rest of the state of Washington.

Historically, Clark County has been a blue-collar community, with a diverse manufacturing base. The timber industry has always been present in the county but has not played a dominant role since the turn of the century. Besides paper and lumber, the county has been the site of food processing, textiles, apparel, aluminum, and machinery. The Port of Vancouver has also played a key role, both as a transportation hub and an industrial landlord. Employment in some of these ''traditional'' manufacturing industries has declined somewhat in the past few years due to employment reductions and closures, and future closures should not be ruled out. In general, however, new investment has far outpaced shutdowns, and manufacturing employment has grown substantially.

Over the past 20 years, there has been a tremendous surge in high technology investment in the county. It began in the late 1970s when Tektronix sited a branch plant. Tek's employment peaked at about 2,000 before the company spun off some operations and then closed down its Vancouver operation in 1990. Other large branch plants were established during the 1980s, many of them Japanese. High tech employers were lured by low land and energy costs, plenty of available water, a skilled and growing work force, excellent K–12 and community college education and training installations, proximity to the Portland International Airport (Vancouver and Camas are closer than Hillsboro), a Pacific Rim locale, and access to recreational opportunities.

The future should bring continued maturation of the county economy and increased integration with Portland. Among the more prominent developments, Washington State University moved into a new campus just north of Vancouver in June. Reclamation of the Columbia River waterfront for recreational use is well under way. The city of Vancouver recently bought the former Lucky Brewery and surrounding blocks downtown; the old brewery will be razed, with mixed-use development in the offing. Finally, high tech investment and expansion continue to make the headline. A case in point is the large facility planned by Taiwan Semiconductor (doing business as WaferTech) in Camas, which is expected to add 800 manufacturing jobs to the county's employment base.

Along with Portland, Clark County faces a major challenge in determining how to handle growth. At this point growth is occurring faster than local governments can plan and build infrastructure. The bridges crossing the Columbia are nearing capacity, and Clark County voters recently soundly rejected funding a light rail connection with Portland.

Cowlitz County

Cowlitz County historically has had large resource-based economies that relied on timber. Although the big shakeout of the industry that occurred in the early-to-mid 1980s had a significant effect, timber still remains the biggest industry. Its employment fell dramatically but has since stabilized at new levels, and there has been some diversification of industry within manufacturing, as well as significant growth in the trade and services sectors.

Because the economy has stabilized in recent years, the population is again increasing. During much of the 1980s, out-migration exceeded in-migration, and the overall population in the county declined. Since about 1990, that situation has reversed and the population is growing again. In 1999, the population of Cowlitz was estimated at 94,100.

The labor force has been growing much like the population, and unemployment is at its lowest level in years. In 1997, the rate was 7.1 percent in Cowlitz, the lowest since 1990. Even so, there are proportionally more unemployed people in the area than there are statewide, where the rate is down to 4.8 percent.

There has been good growth in non-farm employment following the 1990–91 national recession. Since 1992, Cowlitz County has added over 3,000 jobs. Looking at the area as a whole, most of the growth has come in trade, services, and government. This growth in non-manufacturing activities and the earlier, quite sharp declines in the timber industry have not sufficed to dislodge manufacturing from its position as the largest industry sector in the county. Cowlitz County has over one-fourth of its employment in manufacturing. Statewide, the share is 15 percent.

Cowlitz County has withstood the turbulence of the restructuring and decline in employment and wages of the timber industry in the 1980s. The area is regaining population—in-migration is up—and timber remains a large, solid foundation of the economy. Relatively low unemployment and gains in the number of non-farm jobs make the labor market picture quite a bit more attractive than it has been for quite some time. Wages have been stagnant, in real terms, but are no longer declining. At the moment, the area is doing well. Projections to 2001 indicate that Cowlitz County will have moderate growth overall with strong growth in non-timber related manufacturing, construction, services, and the finance, insurance, and real estate sector.

Skamania County

Geography and politics have greatly influenced the Skamania County economy. Ninety percent of the county is forest land, and 80 percent of the county is part of the GPNF. For decades, the county economy rested on timber, directly through logging and milling and indirectly through USFS employment. Timber-related employment began to decline in the 1980s, dropping from 820 in 1979 to 620 in 1988. At that time, harvest restrictions were placed on federal lands, limiting local timber supply and raising log prices. Timber harvest from federal lands dropped from an average of 250 million board feet to less than five million in 1996. Scarce timber and competition from chipboard substitutes led to the closure of Stevenson Co-Ply, the largest mill remaining in the county, in early 1992. The job loss was accompanied by loss of savings because the mill was a co-op. By 1993, only 180 timber jobs remained in Skamania County, and federal employment has fallen from a peak of 420 to only 240 in 1996.

While most of Skamania County is in forested, mountainous terrain, the bottom strip of the county borders the Columbia River Gorge. The gorge has influenced the county economy in two major ways. In the 1978–1982 period, construction of a second powerhouse at Bonneville Dam boosted county construction employment, chiefly through construction workers commuting into the county. This had the unfortunate side effect of skewing county labor force estimates in the 1983–1989 period; through use of a faulty commuting ratio, the labor force size was under-estimated and the unemployment rate overestimated.

Second, in 1986, about 15 percent of the county was made part of the Columbia River Gorge National Scenic Area (CRGNSA). Creation of the CRGNSA, while placing some restrictions on development in the gorge area, has helped augment the county's growing tourism industry. Federal subsidies helped build the Skamania Lodge, a conference center/destination resort, now the largest private sector

employer in the county. An interpretive museum is now in operation, and other retail and service spin-offs have come on line. In addition, manufacturing jobs related to windsurfing have been created.

The transition from timber to tourism has had a number of effects. Population growth began picking up in 1990, as did labor force growth. Because of fewer job opportunities, almost half of the county labor force commutes to work outside the county. Unemployment rose sharply in 1992 with the mill closure, reaching 18 percent before declining to the current 10–11 percent.

Only a few years ago, one-third of the jobs in the county were in manufacturing; by 1996, the number had fallen below 15 percent. With the advent of the Skamania Lodge, trade and service employment rose from 19 percent to a 36 percent share, while the public sector accounted for 43 percent.

Coming years should bring further expansion of tourist-related business as well as modest growth in population and employment. Commuting to jobs outside the county by a significant share of the labor force should be the norm.

Environmental Impacts

The Proposed Action enhances the natural setting of the area and encourages tourist-related use and development that are consistent with current and anticipated socioeconomic development. This should more than offset any effects of habitat protection and conservation easements on timber-related employment or revenues associated with the No Action alternative.

7.8 Cultural Resources

Affected Environment

Regulatory Overview

Cultural resource management in the Lewis River basin is under the auspices of the Washington State Office of Archaeology and Historic Preservation (OAHP), the GPNF, and the Advisory Council on Historic Preservation (ACHP). Indian Tribes that have an interest in the project include the Cowlitz Indian Tribe (CIT) and the Yakama Nation (YN). Under Section 106 of the National Historic Preservation Act (NHPA) and regulations promulgated by the Federal Power Act (FPA), the Commission is required to inventory archaeological, historical, and traditional cultural resources; evaluate their eligibility for listing in the National Register of Historic Places (National Register); determine project impacts on them; and consider measures to avoid or mitigate adverse effects. This work is conducted in consultation with the cultural resource oversight agencies, responsible federal land management agencies, and Indian tribes.

Cultural Resources in the Merwin Project Area

Two archaeological sites, one historic-period cemetery, and 6 isolated scatters of flaked stone artifacts have been recorded for the Merwin Project area. The National Register eligibility of the two archaeological sites and the cemetery has not been formally considered. The Federal Power Commission granted the license for the Merwin Project in late 1929, and the project began commercial operation on January 1, 1932. The current Merwin license, issued in 1983, does not identify any specific cultural resource enhancement measures. Article 38 of the Merwin license states:

> Prior to commencement of any construction or development of any project works or other facilities at the project, the licensee shall consult and cooperate with the State Historic Preservation Officer to determine the need for * * * any archaeological or historic resource surveys and any mitigation measures that may be necessary.

In mid-September 1990, a GPNF archaeologist reported to PacifiCorp the occurrence of unauthorized excavation of archaeological deposits along the exposed shoreline of Lake Merwin. Subsequently, PacifiCorp contracted the Oregon State Museum of Anthropology (OSMA) to survey high probability areas, evaluate the known deposits, and assess the damage to cultural resources at Lake Merwin (O'Neill 1991). A brief reconnaissance was conducted by OSMA staff, resulting in the discovery of 6 isolated scatters of flakes and tools along with excavations in 2 locations. Excavations in one of the sites at Merwin revealed some flaked stone artifacts but not enough to make a detailed analysis. This site was found to have some significance but was not evaluated for National Register eligibility. The location of the historic-period cemetery near Woodland Park was recorded, but according to O'Neill (1991), all of the burials were removed prior to inundation. Protection of the sites through ongoing monitoring was recommended.

Additional surveys in October 1999 examined the Lake Merwin drawdown zone and all developed and dispersed use areas associated with the lake. These investigations revealed the following:

- 15 new prehistoric sites were recorded, all of which were lithic scatters without ground stone.
- 5 historic-period sites were recorded, including a washed-out bridge, a campsite with a cleared tent platform, a dense scatter of historic-period refuse, and an abandoned railroad grade.
- 54 isolates were identified, the majority of which were groupings of flaked cobble tools, occasionally associated with a few flakes or other prehistoric artifacts.

An evaluation of the Merwin powerhouse conducted by Historical Research Associates, Inc (HRA). Based on a survey of the powerhouse and associated facilities and archival research, HRA recommended that the powerhouse be considered eligible for inclusion on the National Register (pers. comm., G. Thompson, HRA, Seattle, WA, May 1, 1999).

Additional archaeological sites may exist in the Merwin Project area, and historical buildings and structures need to be inventoried and evaluated for National Register eligibility.

Cultural Resources in the Yale Project Area

Construction of the Yale Project began soon after the license was issued in April 1951, and the project began operation in 1953. A survey for archaeological resources in the area to be inundated by Yale Lake was conducted in 1952 and 1953 by the University of Washington (Bryan 1953, 1955). This study resulted in the recording and testing of 6 sites. Three other recent cultural resource investigations have been conducted at Yale Lake including: a 1993–94 GPNF-sponsored archaeological survey conducted by Oregon State University at a site along the margin of Yale Lake; PacifiCorp-sponsored archaeological testing in 1995 at a heavily vandalized site on company lands near Yale Dam; and a comprehensive cultural resources inventory and National Register evaluation of historic, prehistoric, and traditional cultural resources conducted in 1996–97 as part of the Yale license application process (PacifiCorp 1999).

The results of this analysis found 8 prehistoric archaeological sites, 5 historic sites, and 9 prehistoric isolated finds. Of these, 5 of the prehistoric sites were determined to be eligible for listing in the National Register (letter from Greg Griffith, OAHP to Russ Howison, PacifiCorp April 3, 1998). The OAHP and affected Indian tribes have expressed ongoing concern over the illegal collecting of artifacts and

possible damage from project-related ground-disturbing activities.

The Yale hydroelectric facilities were evaluated for National Register eligibility and were found to be not eligible for listing. However, the Yale Project may be eligible for listing in the National Register as a contributing element to a mufti-property nomination for the entire Lewis River hydroelectric system.

A Cultural Resource Management Plan (CRMP) for resources potentially affected by the Yale Project is included as a proposed enhancement measure in the Yale license application submitted to the Commission in April 1999. A subsequent agreement was developed in consultation with Commission staff, the Advisory Council on Historic Preservation (ACHP), and the Lewis River Cultural Resource Work Group on January 20, 2000. Terms of this agreement include delaying development of the formal CRMP until the conclusion of relicensing studies for all four projects. Protection measures, as described in the Yale application, will be implemented. These include management guidelines for National Register-eligible sites (5 known currently) within the 2,500-acre Yale Area of Potential Effects (APE), which will include: Monitoring of known sites, options for site avoidance, site protection measures, or mitigation through data recovery. The final CRMP also will include a protocol for the discovery of previously unknown sites and a training program for project personnel.

Cultural Resources in the Swift No. 1 and No. 2 Project Areas

The Swift No. 1 and Swift No. 2 projects operate under separate licenses issued in 1956, with project completion in December 1958. The current licenses for the Swift projects do not contain any specific cultural resource enhancement measures, nor are there any sites officially determined eligible for the National Register. A May 1957 archaeological survey of the areas to be inundated by the Swift No. 1 dam and Swift No. 2 power canal did not find any cultural resources present (undated letter from Clayton Denman to Dr. Douglas Osborne, Washington State Museum). However, the study was conducted under the standards of the day, and it remains a possibility that undiscovered cultural resources may be present. A 1998 archaeological survey of the Swift Reservoir drawdown area recorded two archaeological sites and nine isolated finds; one of the sites was considered not to be National Register eligible, and testing is needed to determine the eligibility of the other site (Goetz 1998). Additional surveys performed in October 1999 revealed a single prehistoric isolate. In addition, the project buildings and structures need to be inventoried and evaluated for National Register eligibility because they will meet the 50-year age criterion when the existing license expires.

Environmental Impacts

None of the proposed measures contained in the Proposed Action involve ground disturbing activities with potential to affect cultural resources. The Proposed Action should result in reduced adverse impacts to cultural resources with a conservation easement for riparian habitat on Cougar Creek and the habitat protection on Eagle Island versus the No Action alternative.

8.0 Issues and Recommendations

Fish and Wildlife Coordination Act

Measures contained in the Proposed Action were arrived at through extensive pre-filing discussions with the USFWS and NMFS. Both agencies support the proposed measures and have issued a BO (Attachment C), and its associated incidental take statement, which is consistent with and supports the proposed amendments to the license. Comments and recommendations have likewise been incorporated from both agencies in this document and the associated BA (Attachment A).

Environmental Justice—Executive Order 12898

On February 11, 1994, President Clinton issued Executive Order 12898 (''E.O. 12898''), Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. E.O. 12898 requires federal executive agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations which may be affected by agency actions. Environmental justice issues encompass a broad range of issues already covered by the NEPA, including impacts on the natural or physical environment and interrelated social, and economic effects. Environmental justice analysis focused NEPA review on whether the environmental effects of a proposed federal action has disproportionately high and adverse effects on minority and low-income populations, including Indian tribes. Although independent agencies such as the Commission are not subject to E.O. 12898, President Clinton requested independent agencies to comply with the provisions of E.O. Order 12898. In the exercise of the Commission's discretion, and recognizing the E.O. Order 12898 is not by its terms applicable to the Commission, but that potential environmental justice issues are already within the scope of NEPA issues that the Commission must evaluate in connection with proposals for Commission action, this EA analyzes the effects of the Proposed Action with respect to potential environmental justice issues.

The Proposed Action is expected to have a positive effect on fish populations in the project vicinity, compared to existing conditions. Therefore, the Proposed Action is reasonably expected to have a beneficial effect on any population which relies on fishery resources for food or other purposes. Commission staff have not identified any disproportionate, adverse effect of the Proposed Action on any minority or low-income population or Indian tribe. Commission staff conclude therefore that the Proposed Action does not have adverse environmental justice effects.

Magnuson-Stevens Act

Section 305(b) of the Magnuson-Stevens Act and associated implementing regulations provide that Federal agencies must consult with NMFS concerning all actions that may adversely affect designated essential fish habitat (EFH). NMFS EFH guidance documents provide that EFH consultations should be combined with ESA consultations to accommodate the substantive requirements of both Acts. As discussed in the above referenced biological assessment, the Proposed Action will result in habitat improvements, and will not result in any adverse effects to EFH. Therefore, EFH consultation is not required at this time.

9.0 Finding of No Significant Impact

The recommended alternative is approving the amendment of PacifiCorp's and PUD's licenses to adopt and implement the proposed conservation measures pursuant to the terms and conditions of the BO, as appropriate. Incorporating the conservation measures into PacifiCorp's and PUD's licenses will reduce incidental take of listed species resulting from operation of the Lewis River Projects. Such conservation measures likewise represent important near-term conservation opportunities that may be lost if not secured while the

parties collaboratively devise long-term conservation strategies.

On the basis of our independent analysis, the proposed amendments for the Lewis River Projects, with the recommended mitigation measures, would not constitute a major federal action significantly affecting the quality of the human environment.

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DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. CP03–75–000]

Freeport LNG Development, L.P.; Notice of Intent To Prepare an Environmental Impact Statement for the Proposed Freeport LNG Project and Request for Comments on Environmental Issues and Notice of Public Scoping Meeting and Site Visit

May 13, 2003.

The staff of the Federal Energy Regulatory Commission (FERC or Commission) will prepare an environmental impact statement (EIS) that will discuss the environmental impacts of the Freeport LNG Project involving construction and operation of facilities by Freeport LNG Development, L.P. (Freeport) in Texas.[1] These facilities would consist of a liquefied natural gas (LNG) import terminal and storage facilities and 9.38 miles of 36-inch-diameter pipeline in Brazoria County. This EIS will be used by the Commission in its decision-making process to determine whether the project is in the public convenience and necessity.

This notice is being sent to residences within 0.5 mile of Freeport's proposed LNG facilities and to landowners along the proposed pipeline route. If you are a landowner receiving this notice, you may be contacted by a pipeline company representative about the acquisition of an easement to construct, operate, and maintain the proposed facilities. The pipeline company would seek to negotiate a mutually acceptable agreement. However, if the project is approved by the Commission, that approval conveys with it the right of eminent domain. Therefore, if easement negotiations fail to produce an agreement, the pipeline company could initiate condemnation proceedings in accordance with state law.

A fact sheet prepared by the FERC entitled ''An Interstate Natural Gas Facility On My Land? What Do I Need To Know?'' was attached to the project notice Freeport provided to landowners. This fact sheet addresses a number of typically asked questions, including the use of eminent domain and how to participate in the Commission's proceedings. It is available for viewing on the FERC Internet Web site (www.ferc.gov).

Summary of the Proposed Project

Freeport proposes to build a new LNG import, storage, and vaporization terminal on Quintana Island, southeast of Freeport, Texas; and a natural gas pipeline to transfer up to 1.5 billion cubic feet per day of imported natural gas to the Texas market. This would help satisfy the demand for natural gas in the state of Texas. Freeport seeks authority to construct and operate the following new facilities at its proposed site:

- LNG ship docking and unloading facilities with a protected single berth equipped with mooring and breasting dolphins, three liquid unloading arms, and one vapor return arm;
- Reconfiguration of a storm protection levee and a permanent access road;
- Two 26-inch-diameter (32-inch outside diameter) LNG transfer lines and one 16-inch-diameter vapor return line;
- Service lines (instrument air, nitrogen, potable water, and firewater);
- Two double-walled LNG storage tanks each with a usable volume of 1,006,000 barrels (3.5 billion cubic feet of gas equivalent);
- Six 3,240 gallon-per-minute (gpm) in-tank pumps;
- Seven 2,315 gpm high pressure LNG booster pumps;
- Three boil-off gas compressors and a condensing system;
- Six high-pressure LNG vaporizers using a primary closed circuit water/

[1] Freeport's application was filed with the Commission under Section 3(a) of the Natural Gas Act and Parts 153 and 380 of the Commission's regulations.