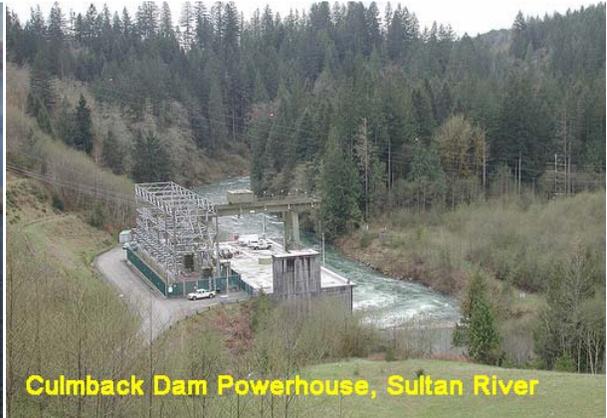




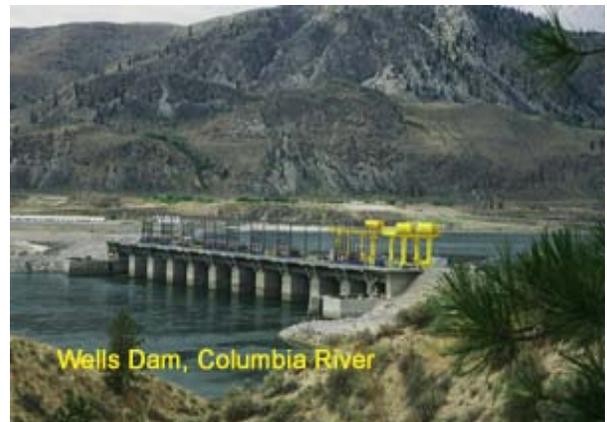
Wanapum Dam, Columbia River



Culmback Dam Powerhouse, Sultan River



Cowlitz Falls, Cowlitz River



Wells Dam, Columbia River

Report to the Legislature

Water Power License Fees

Expenditures, Recommendations, and
Recognition



December 18, 2009
Publication no. 09-10-095

Publication and Contact Information

This report is available on the Department of Ecology's website at <http://www.ecy.wa.gov/biblio/0910095.html>

For more information contact:

Susan Braley
WQ Program
P.O. Box 47600
Olympia, WA 98504-7600
subr461@ecy.wa.gov

Phone: 360-407-6414

Washington State Department of Ecology - www.ecy.wa.gov

- Headquarters, Olympia 360-407-6000
- Northwest Regional Office, Bellevue 425-649-7000
- Southwest Regional Office, Olympia 360-407-6300
- Central Regional Office, Yakima 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

To ask about the availability of this document in a format for the visually impaired, call the Water Quality Program at 360-407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Report to the Legislature Water Power License Fees

Expenditures, Recommendations, and Recognition

*by
Susan Braley*

WQ Program
Washington State Department of Ecology
Olympia, Washington

This page is purposely left blank

Table of Contents

Executive Summary	v
Introduction.....	1
1. Water Power License Fee Expenditures	3
Ecology/WQ Program funds expended	5
Ecology/ WR Program funds expended.....	6
WDFW funds expended.....	6
2. Recommendations Related to the License Fees Expenditures.....	9
State agencies.....	9
Hydropower industry and other interested parties	10
Chelan PUD and Grant County PUD	10
Douglas County PUD	11
Hydropower Reform Coalition.....	11
PacifiCorp.....	12
Snohomish County PUD	13
Tacoma Power	14
3. Recognition of Hydropower Operators Exceeding Environmental Requirements	15
Low Impact Hydropower Institute certification	15
Chelan County Public Utility District (PUD).....	15
Hydro Energy Development Corporation	15
Seattle City Light.....	16
City of Tacoma	16
Tieton Hydropower, LLC.....	16
Ecology acknowledgements.....	16
Appendix Summary of State Agency Work on FERC Hydropower Projects	19

This page is purposely left blank

Executive Summary

Chapter 286 of the laws of 2007 incorporated Substitute Senate Bill (SSB) 5881, an act relating to water power license fees. This law increased fees for the use of Washington's waters to produce power. Until Chapter 286 became effective on July 27, 2007, water power license fees had remained the same since 1929. One of the main goals of the legislation is to provide the necessary resources to allow the Washington Department of Ecology (Ecology) and the Washington Department of Fish & Wildlife (WDFW) to be more responsive to the hydropower industry and to ensure that the state is taking needed steps to protect our waters' beneficial uses. To justify the appropriate use of fees the state collects as a result of this bill, Ecology is required to submit a biennial progress report to the appropriate committees of the Legislature. The report describes progress made in three areas: (1) how license fees were expended in the current biennium and expected workload in the next biennium; (2) any recommendations related to the license fees; and (3) recognition of hydropower projects that exceed their environmental regulatory requirements.

This page is purposely left blank

Introduction

In the 2007 Washington State legislative session, a bill passed to increase water power license fees. Chapter 286 of the laws of 2007 incorporated Substitute Senate Bill (SSB) 5881, an act relating to water power license fees. This chapter made amendments to RCW 90.16.050 and 90.16.090 that allowed Ecology to revise the annual fee for hydroelectric projects' use of water in Washington State. Until Chapter 286 became effective on July 27, 2007, water power license fees had remained the same since 1929. One of the main goals of the legislation is to provide the necessary resources to allow the Washington Department of Ecology (Ecology) and the Washington Department of Fish & Wildlife (WDFW) to be more responsive to the hydropower industry and to ensure that the state is taking needed steps to protect our waters' beneficial uses.

To justify the appropriate use of fees the state collects as a result of this bill, Ecology is required to submit a biennial progress report to the appropriate committees of the Legislature. The full text of RCW 90.16.050 is as follows:

RCW 90.16.050: Use of water for power development — Annual license fee — Progress report — Exceptions to the fee schedule.

(1) Every person, firm, private or municipal corporation, or association hereinafter called "claimant", claiming the right to the use of water within or bordering upon the state of Washington for power development, shall on or before the first day of January of each year pay to the state of Washington in advance an annual license fee, based upon the theoretical water power claimed under each and every separate claim to water according to the following schedule:

(a) For projects in operation: For each and every theoretical horsepower claimed up to and including one thousand horsepower, at the rate of eighteen cents per horsepower; for each and every theoretical horsepower in excess of one thousand horsepower, up to and including ten thousand horsepower, at the rate of three and six-tenths cents per horsepower; for each and every theoretical horsepower in excess of ten thousand horsepower, at the rate of one and eight-tenths cents per horsepower.

(b) For federal energy regulatory commission projects in operation, the following fee schedule applies in addition to the fees in (a) of this subsection: For each theoretical horsepower of capacity up to and including one thousand horsepower, at the rate of thirty-two cents per horsepower; for each theoretical horsepower in excess of one thousand horsepower, up to and including ten thousand horsepower, at the rate of six and four-tenths cents per horsepower; for each theoretical horsepower in excess of ten thousand horsepower, at the rate of three and two-tenths cents per horsepower.

(c) To justify the appropriate use of fees collected under (b) of this subsection, the department of ecology shall submit a progress report to the appropriate committees of the legislature prior to December 31, 2009, and biennially thereafter until December 31, 2017.

(i) The progress report will: (A) Describe how license fees were expended in the federal energy regulatory commission licensing process during the current biennium, and expected workload and full-time equivalent employees for federal energy regulatory commission licensing in the next biennium; (B) include any recommendations based on consultation with the departments of ecology and fish and wildlife, hydropower project operators, and other interested parties; and (C) recognize hydropower operators that exceed their environmental regulatory requirements.

(ii) The fees required in (b) of this subsection expire June 30, 2017. The biennial progress reports submitted by the department of ecology will serve as a record for considering the extension of the fee structure in (b) of this subsection.

(2) The following are exceptions to the fee schedule in subsection (1) of this section:

(a) For undeveloped projects, the fee shall be at one-half the rates specified for projects in operation; for projects partly developed and in operation the fees paid on that portion of any project that shall have been developed and in operation shall be the full annual license fee specified in subsection (1) of this section for projects in operation, and for the remainder of the power claimed under such project the fees shall be the same as for undeveloped projects.

(b) The fees required in subsection (1) of this section do not apply to any hydropower project owned by the United States.

(c) The fees required in subsection (1) of this section do not apply to the use of water for the generation of fifty horsepower or less.

(d) The fees required in subsection (1) of this section for projects developed by an irrigation district in conjunction with the irrigation district's water conveyance system shall be reduced by fifty percent to reflect the portion of the year when the project is not operable.

(e) Any irrigation district or other municipal subdivision of the state, developing power chiefly for use in pumping of water for irrigation, upon the filing of a statement showing the amount of power used for irrigation pumping, is exempt from the fees in subsection (1) of this section to the extent of the power used for irrigation pumping.

As prescribed by the statute, the following report describes progress made in three areas: (1) how license fees were expended in the current biennium and expected workload in the next biennium; (2) any recommendations related to the license fees; and (3) recognition of hydropower projects that exceed their environmental regulatory requirements.

1. Water Power License Fee Expenditures

Chapter 286 of the laws of 2007 (SSB 5881) stipulates that a progress report be submitted by the department of Ecology (Ecology) each biennium that describes how license fees were expended in the Federal Energy Regulatory Commission (FERC) licensing process during the current biennium, and expected workload and full-time equivalent (FTE) employees for FERC licensing in the next biennium. The progress report was conducted based on the state fiscal year (FY).

This chapter made amendments to RCW 90.16.050 and 90.16.090 that allowed Ecology to revise the annual fee for hydroelectric projects' use of water in Washington State beginning in December 2007. The amendments provided authorization to Washington Department of Fish & Wildlife (WDFW) and Ecology to spend these funds on specific activities associated with reasonable and necessary oversight. The amendments direct state agencies to spend the funds to develop and implement environmental protection, mitigation and enhancement measures included in FERC-issued hydroelectric project licenses. The amendments included the following license fee schedule for FERC projects:

For federal energy regulatory commission projects in operation, the following fee schedule applies in addition to the fees in (a) of this subsection: For each theoretical horsepower of capacity up to and including one thousand horsepower, at the rate of thirty-two cents per horsepower; for each theoretical horsepower in excess of one thousand horsepower, up to and including ten thousand horsepower, at the rate of six and four-tenths cents per horsepower; for each theoretical horsepower in excess of ten thousand horsepower, at the rate of three and two-tenths cents per horsepower.

In 2008 and 2009, a total of approximately **\$935,622** was collected from FERC water power license owners in accordance with the above stipulations. The fees were distributed as follows:

State Agency	FY 08 (1/1/08 – 6/30/08)	FY 09 (7/1/08 – 6/30/09)	TOTAL
Ecology WQ Program ¹	71,107	266,964	338,071
Ecology WR Program ²	14,743	59,543	74,286
WDFW-Habitat Management ³	233,021	230,943	463,964
TOTAL	318,871	557,450	\$876,321
License Fees Collected⁴	467,811	467,811	\$935,622

The hydropower project fees provide funding for FERC licenses and for Clean Water Act Section 401 water quality certification activities that are directed to Ecology's Water Quality

¹ Budgetary reductions and hiring freezes in the WQ Program caused delays in being able to hire a new technical support staff member, thus allotted funds were not fully spent in FY 08.

² New WR staff was hired May 2008, thus allotted funds were not fully spent in FY 08.

³ Ecology and WDFW established an Interagency Agreement (Ecology #C0800078) for work conducted by WDFW in FY 08 and FY 09. The contract allocated a total of \$235,000 per fiscal year for implementing the intent of Chapter 286.

⁴ License fees collected were the same for both FY 08 and FY 09 because no new water rights were awarded nor were major water rights taken away.

(WQ) and Water Resources (WR) programs, as well as WDFW. However, due to the number of FERC-licensed hydroelectric projects and the wide range of activities that affect water quality and the beneficial uses associated, the fees did not cover the entire workload associated with these projects in the past biennium. Moreover, the fees are not expected to cover the full workload for the next biennium. Both Ecology and WDFW use additional agency resources to supplement the staff working with FERC license holders, from either state general funds or federal contracts. This addition allows for the state's continued participation in FERC license issuance, adaptive management, and license implementation activities associated with 401 activities. In addition, program and agency managers provide policy direction and interagency coordination that are in addition to staff work.

The hydropower license fees generated for state agency participation funds only a portion of the overall work effort on FERC projects. The following table shows the total state agency resources spent on hydropower license projects, both the current level of fulltime equivalent (FTE) staffing and FTE work funded by hydropower fees:

State Agency	Current Level of FTE Committed to FERC Projects per year	FTE Work Funded by Hydro Fees	Project Involvement ⁵
ECOLOGY:			
Water Resources Program	1.0	0.5	Tech assistance on instream flow issues for all projects statewide
Water Quality Program-Headquarters	1.0	1.0	Tech. assistance to WQ Regions on all projects statewide
WQ-Central Region	1.0	0	401 FERC Coordination for projects in central region.
WQ-Eastern Regional	1.0	0	401 FERC Coordination for projects in eastern region.
WQ-Northwest Region	0.5	0.5	401 FERC Coordination for projects in northwest region.
WQ-Southwest Region	0.5	0.5	401 FERC Coordination for projects southwest region.
FERC Attorney (A.G.'s Office)	3.5	0	Legal assistance for FERC licensing, 401 certifications, and settlement agreements.
ECOLOGY TOTAL	8.5	2.5	
DEPARTMENT OF FISH AND WILDLIFE	5.5	2.1	Tech assistance on fish and wildlife issues for all projects statewide.
STATE AGENCY TOTAL	14.0	4.6	

Expected workload and FTE estimates for the state agencies remain the same for the next biennium, except that involvement by the Office of the Attorney General should reduce as projects are relicensed. Although Ecology has issued 401 certifications for several relicensing projects that required significant workload, most of these projects have 10-year compliance

⁵ See Appendix 1 for summaries of 33 FERC hydro projects that state agencies worked on for 2007-2009 biennium.

schedules as part of their water quality certification, which will require continued active participation by Ecology and WDFW staff.

There is also renewed interest in hydropower projects because of their potential to provide “green energy.” Thus, several new, potential hydropower projects are being considered in Washington, such as pumped storage project proposals and new hydropower projects. These new projects will potentially provide more electricity and potential water storage. Ecology and WDFW are evaluating possible sites for several new, small dams in Snohomish, Skagit and Whatcom counties for impacts to fish and water quantity. New possible sites for large dams, mostly for storage water but some with hydropower components (such as Banks Lake) are in the preliminary FERC permit stage with no water rights yet given.

The following sections provide summary information on hydropower license fees expended this biennium and expected workload for next biennium from Ecology/Water Quality (WQ) Program, Ecology/Water Resources (WR) Program, and WDFW.

Ecology/WQ Program funds expended

WQ program expenditures for FERC hydropower license work occurred at both the headquarters and regional levels. WQ staff in headquarters provided technical support to the regional 401 certification staff for analysis of water quality studies, Quality Assurance Project Plans (QAPPs), modeling reviews, and interpretations of the water quality standards in the 401 certifications. Budgetary reductions and hiring freezes in the WQ Program caused delays in being able to hire a new technical support staff member. However, the WQ Program was able to borrow some technical expertise from the Ecology’s Environmental Assessment Program to provide adequate technical assistance to regional FERC 401 Coordinators. The WQ Program subsequently filled the technical support position on November 3, 2009.

Regional WQ Program FERC 401 staff provide the lead point of contact for the dam relicensing and 401 certifications in their regions. Responsibilities included all aspects of relicensing in relation to issuing a 401 certification to meet water quality standards, including:

- Participation in the FERC relicensing process—including meetings, workgroups, and settlement negotiations—that relate to Ecology’s water quality certification authority.
- Review and preparation of comments on natural resource study plans, QAPPs and environmental documents related to water quality.
- Development of 401 conditions that protect, mitigate impacts and enhance water quality, flow, and habitat issues, with the assistance of Ecology’s WR Program and WDFW.
- Communication with FERC, the licensee, tribes, state and federal resource management agencies (including USFWS), and stakeholders on issues associated with conditions in the water quality certification.
- Implementation of conditions in the 401 certification and settlement agreements after issuance.

For the 2009-2011 biennium, the WQ Program expects the workload for relicensing existing dams will stabilize as it continues to issue 401 certifications. Workloads for dams that have been

relicensed will increase, because the majority of relicensed dams now have ten-year compliance schedules that will require ongoing implementation activities in which the regional FERC 401 staff and the technical lead at headquarters will need to be actively involved. Examples include review and approval of monitoring studies and water quality attainment plans, gas abatement approvals and related activities, adaptive management activities associated with the compliance schedule, and modeling where needed.

Ecology/ WR Program funds expended

WR Program activities included:

- Settlement negotiations and development of memorandums of agreement for instream flows for licenses and amendments to licenses.
- Water right permitting for power production; writing instream flow language for 401 certifications.
- Supporting settlement agreements and 401 certifications through adaptive management groups.
- Collecting and administering fees.
- Clerical and management support.

The WR Program's expected workload in the 2009-2011 biennium will increase for new hydropower development and for participation on established adaptive management teams for instream flow and habitat. Expected workload for relicensing old dams will be greatly reduced since we have already relicensed the current batch of existing licensed dams where flows are an issue. The program expects initial workload to automate fee collection, although automated fees will ultimately reduce workload.

WDFW funds expended

WDFW staff activities focused on:

- Assisting Ecology during the development, implementation, and adaptive management of 401 certifications. The agency provided technical fish and aquatic habitat expertise, including instream flow modeling and evaluation.
- Providing technical assistance and collaborating with hydropower project owners and stakeholders throughout the FERC license timeline.
- Technical assistance and consultation during new license development.
- Active participation in natural resource protection and enhancement measures that are required by the FERC-issued operating licenses.
- Participation in natural resource technical committees during license implementation and communication with FERC, Ecology, project owners and other stakeholders.
- Provided monthly reports with a summary of significant activities associated with FERC-licensed hydropower projects, and quarterly reports of products developed and technical assistance provided to FERC-licensed hydropower projects.

For the next biennium, Ecology and WDFW established an Interagency Agreement (Ecology #C0900287) for continued work on FERC-licensed hydropower projects. Similar to the last biennium, a first priority for WDFW under this contract will be to support activities and obligations identified in the signed interagency agreements that already exist for the Priest Rapids-Wanapum, Rocky Reach, Wells, and Spokane River hydroelectric projects.

WDFW will perform similar activities for each of the other 401 certifications developed by Ecology for FERC hydroelectric projects in order to achieve the objectives identified in the above interagency agreements, including notification.

In general, WDFW will monitor the implementation and adaptive management of the protection, mitigation, and enhancement measures for salmonids, bull trout, sturgeon, lamprey and resident fish, and consult with Ecology regarding these matters. WDFW staff participation is anticipated in all of the resource protection and enhancement measures that affect fish and wildlife, or their habitat, in addition to measures that affect the beneficial uses of the water, and fish and wildlife oriented recreation.

This page is purposely left blank

2. Recommendations Related to the License Fees Expenditures

Chapter 286 of the laws of 2007 (SSB 5881) also requires that the progress report include any recommendations based on consultation with the departments of Ecology and Fish and Wildlife, hydropower project operators, and other interested parties. Ecology solicited state agency programs, the hydropower industry, and other interested parties for comments on the biennium progress report and any recommendations they would like included. Besides the participating state agencies, responses were received from the following hydropower industry and other interested parties (in alphabetical order):

- Chelan PUD and Grant PUD (Carrington & Munro, 12/16/09)
- Douglas County PUD (Bickford, 12/10/09)
- Hydropower Reform Coalition (Bowers, 12/16/09)
- PacifiCorp (Olson, 12/16/09)
- Snohomish County PUD (Moore, 12/16/09)
- Tacoma Power (McCarty, 12/16/09)

Editorial comments on the report were incorporated. Recommendations made by state agencies, hydropower industry representatives, and other interested parties covered several common themes: coordination, roles and responsibilities, funding, transparency, teamwork, collaboration, workload, and incentives.

The following sections include the written recommendations provided by participating entities. In the interest of ensuring that each participant's perspective was preserved, Ecology incorporated language directly from the correspondence provided, with only minor editing for consistency purposes.

State agencies

Coordination. Ecology's WQ Program at headquarters will continue to look for more capacity in this biennium to facilitate coordination between WQ regions, WR, WDFW, and hydropower operators when dealing with FERC hydropower projects. This capacity was lost when a WQ Program 401 coordination position was eliminated due to WQ Program budget reductions.

Roles and Responsibilities. Ecology and WDFW agreed in the 2009-2011 Interagency Agreement to meet at least once annually, or more as needed, to review work plans, prioritize work products, and discuss issues that will enhance coordination and collaboration on FERC hydropower projects.

Funding. Ecology's WR Program will initiate a project in 2010 to automate the collection and tracking of water power license fees. The current system is somewhat out-dated and labor intensive. This new tracking system will calculate the fees automatically and send out bills to the dam owners, simplifying the billing process for both the State and for the utilities.

Hydropower industry and other interested parties

The following written recommendations were received from the hydropower industry and other interested parties. The recommendations have been taken directly from the correspondence provided.

Chelan PUD and Grant County PUD

Chelan and Grant PUDs value the collaborative processes that have been established by the region to develop and implement hydropower licenses. There are three main points we would like to make regarding the process and the report:

- Transparency. Chelan and Grant would like to see more transparency in how the hydropower license fees are being utilized by Ecology and WDFW. The report's inclusion of tables showing fees collected from hydro operators during the reporting period and state agency staffing allows all parties to understand the magnitude of fees collected along with the level of effort expended by Ecology and WDFW. In addition, Ecology, hydro operators, and other interested parties would benefit by Ecology organizing an annual meeting (late fall or early winter) to discuss the past year's work and work expectations for the coming year. This meeting would provide a venue to discuss the programs and projects, and provide an opportunity to exchange ideas for possible improvements to the programs. In addition, this process will help reduce the efforts needed at the end of the biennium to produce the report to the legislature, as well as ensure more transparency in how the fees are being spent.
- Roles and Responsibilities. Clearly identified roles and responsibilities are necessary when multiple organizations and individuals work on a single effort. Chelan and Grant PUD request that the respective state agency staff working on FERC licensing projects clarify their respective roles and responsibilities so that industry personnel better understand who is the lead agency and staff for a given issue. There have been instances where state agency staff has disagreed on a licensing or 401 certification issue during deliberations, leaving the hydropower operator in limbo as to how the issue can be resolved in a manner that ensures the project will get approved. One of the primary benefits of the hydro fee was to provide a unified and consistent position from state agencies.
- Teamwork and Collaboration. Finally, Chelan and Grant would like to see an improvement in teamwork and collaboration between the project operators and state agencies. We all have a vested interest in developing and implementing environmental protection, mitigation, and enhancement measures for hydropower projects. The FERC licensing process is complex, lengthy, and at times can be contentious because of the many parties involved. A commitment from agency managers to work in a professional, respectful manner and to strive for good teamwork, at least at the state level, will improve the overall licensing process and outcome. A meeting or workshop with industry, state agency managers, and staff to improve teamwork and coordination would be beneficial, both generally and at the project level. Holding these workshops at the beginning of the licensing process and the beginning of the implementation process can help ensure the spirit of collaboration and teamwork throughout the process.

Chelan and Grant PUD recommend that a workshop on these subjects be held, potentially with eastern Washington hydro operators initially, in January or February 2010. Chelan is available to help organize the meeting.

Douglas County PUD

Douglas county PUD provided editorial comments on the draft report, which were incorporated.

Hydropower Reform Coalition

The Coalition and its individual members are strong supporters of SSB 5881 and were very active in its passage. Our support comes from our involvement in many of the hydropower relicensing efforts in Washington State, and from an understanding of the need to adequately fund a program designed to ensure that hydropower relicensing results in compliance with water quality standards and adequate mitigation for impacts to fish and wildlife, recreation, public access, and other beneficial uses. Support comes also from our recognition of Washington's leadership on Clean Water Act Section 401 Certification, as the Washington Department of Ecology (Ecology) has developed the most thorough state guidance on 401 in the nation. Such a program, with sufficient funding, provides significant value to the state, to hydropower project operators, and to environmental organizations interested in river restoration and natural resource protection. The following recommendations are offered by the Coalition.

- Funding. This program needs to be fully funded and the state should find additional funding to support future hydropower involvement. One of the major goals in 2007 was to provide a dedicated funding source that would allow Ecology and WDFW to more fully and efficiently engage in the relicensing process and ensure protection for beneficial use. Such funding is critical as Washington State has one of the largest hydropower workloads in the nation. The legislation, SSB 5581, provided funding to address the existing work in which Ecology was engaged. However, it did not result in increased funding that allowed Ecology to take on new hydropower demands, or complete work at a faster pace. Moreover, after passage, a number of events including statewide budget deficits, budget cuts in the Water Quality Program, and a statewide hiring freeze, combined to restrict even this modest goal. As the report illustrates, staff has required creative solutions to remain engaged in the relicensing process. While the fee established by the legislation was at a level intended to provide for 5 new FTEs for the Water Quality Program, no new staff have been hired, and these fees currently provide for only 1/3 of the existing level of staffing needs (4.6 FTE's out of 14 total). So, while the fee has supported certain critical functions of the agencies, it has not met the original objectives. The Coalition remains committed to working with the State legislature, Ecology, WDFW, industry and other nonprofit partners to find a way for this already allocated funding to support the agencies in relicensing, including hiring of needed new staff positions.
- Existing workload. While we greatly appreciate the work being done by staff under existing circumstances, additional staff and resources are needed to meet existing deadlines, adequately participate in each project, and effectively collaborate with other stakeholders. Without additional resources, staff will be forced to continue borrowing expertise from other programs which may result in limiting state authority in the licensing process. This will not provide adequate protection for Washington's rivers and watersheds.

- Future workload. Based on our assessment of future workload for the Departments of Ecology and Fish and Wildlife, we do not necessarily agree that there will be a reduction in work regarding the relicensing of old dams during the 2009-2011 biennium. Some existing dams, such as Condit, Elwha, and Glines Canyon are scheduled for removal in the next few years, and the workload for resource agency staff can be expected to increase as the dam removal process accelerates. Likewise, a number of existing projects are just starting the settlement process (Boundary and Sullivan) and will most likely continue during this biennium. Licensing, settlement, and especially dam removal projects will require extended agency staff involvement in compliance issues, participation in technical, monitoring and adaptive management workgroups, and in many cases enforcement of settlements terms and conditions over the life of the license or final restoration measures.
- New Hydropower. We support the report's assessment regarding the potential for new hydropower development to increase during the coming years. Some of the anticipated projects include Youngs Creek, potential dams on the Chehalis River, Shankers Bend on the Okanogan, pump storage projects, and existing non-power dams seeking to add generation (Cle Elum). In addition to the potential projects identified in the report, Ecology and WDFW will also need to protect beneficial use for any new technologies, such as marine and hydrokinetic projects. And while new technologies and investment are also affected by the economic downturn right now, these issues will continue to progress, requiring further staff review, involvement, and monitoring. New hydropower capacity was not contemplated by SSB 5881, even before the recent cuts, deficits and hiring freezes.

PacifiCorp

PacifiCorp's interaction over the years with Ecology and WDFW have mainly focused on two hydroelectric developments. Condit dam, located in southwestern Washington, is currently in the process of seeking a 401 Certification for the decommissioning of the project. The Lewis River projects, consisting of Swift No. 1, Yale, and Merwin projects, also in southwestern Washington, gained new FERC licenses in 2008 and the company is implementing conditions of the license and associated 401 certifications. Recommendations are provided by project:

- Condit Dam: PacifiCorp is pleased with the representation of both agencies throughout the process towards decommissioning. Agency staff has been assigned and are actively engaged. Staff has been timely in responding to participation needs including fulfilling any work requests. As process activities move forward, continued emphasis on this project will be needed.
- Lewis River: PacifiCorp is pleased for the most part with the continued representation of WDFW from the licensing process into implementation of the new licenses. This agency was active in collaborating and preparing the Lewis River Settlement Agreement, and is one of 26 parties to the agreement. With one exception, that participation level has extended into implementation. In 2009, the assigned wildlife biologist was apparently reassigned due to budget cuts. WDFW management and staff are functionally covering this area; however, reinstatement of this position would be beneficial. Both wildlife and fisheries representatives participate in regular implementation meetings, and are generally timely with input and consultation requirements.

During the licensing, Ecology elected not to participate in the settlement process. Now that a new license and 401 certification have been issued to the hydroelectric projects, Ecology is responsible for overseeing PacifiCorp's implementation of certification conditions. Ecology staff assignments to the project have been unclear, and Ecology attendance at implementation meetings has been infrequent. The Ecology designated representative has changed twice since the 401 Certifications were issued. As a consequence, Ecology's responses to PacifiCorp's submission pursuant to the certifications are most often months after the submission, leaving the company without clear direction on next steps. In addition, on more than one occasion, when asked for technical assistance or guidance on implementation of specific 401 certification conditions, Ecology staff was unaware of or unable to explain the requirements of the conditions. PacifiCorp recommends that a clear single point of contact be established for each region, much like the structure of WDFW, which allows licensees to establish appropriate working relationships.

Snohomish County PUD

Snohomish County PUD appreciates Ecology's and WDFW's participation in the relicensing of the Jackson Project, updating of the 401 certification for the Youngs Creek Project, and input into the siting of potential low impact hydro projects. As a public agency, the District also appreciates Ecology and WDFW seeking ways to be more efficient and cost effective for the citizens of Snohomish County and Washington State. Snohomish County PUD offers the following recommendations for reducing costs and increasing efficiencies:

- Funding. Continue to pursue budgeting for a Technical Support position in the coming years. Having staff with a strong knowledge of hydropower, the FERC licensing process, and resource issues and solutions will assist in the efficient review, processing, and negotiations of project licenses, 401 certifications and settlement agreements.
- Teamwork. Continue to have separate meetings with the Licensee as they are effective for managing expectations for studies, reporting and application contents.
- Collaboration. Continue to collaborate with other resource agencies with similar interests as to not overwhelm Ecology/WDFW staff with areas that are already covered by those other agencies. Such collaborations should include: 1) Ecology to defer to WDFW on fish/recreation issues; 2) both Ecology and WDFW to defer to NMFS on ESA/passage issues; 3) WDFW to defer to Ecology on water quality parameters; 4) look for other collaborative efforts. Reducing duplicative work will allow Ecology and WDFW staff to focus on other priorities and reduce the cost of doing business.
- Hydro Industry Incentives. Establish incentives for hydro industry to build projects in a more environmentally friendly manner. Such incentives should include financial incentives, fast-track processes, and renewable energy credits. By establishing incentives, the hydro industry is likely to meet that higher bar of environmental mitigation and enhancement from the onset of the licensing/relicensing process; thereby reducing the time needed for technical meetings, negotiations, and other reiterative work.

Tacoma Power

Tacoma Power appreciates the participation of Ecology, especially the Attorney General's office, in the intensive negotiations leading to a successful settlement agreement for the Cushman Hydroelectric Project relicensing. Consistent participation by Ecology's representative and commitment to coordinating internal agency input was very helpful

We think it is important that interagency collaboration continue to clearly delineate which agency will be the lead on which issues in negotiations so that staff time is maximized.

We hope that DOE will work to replace lost staff support for internal coordination between water rights, the Coastal Zone Management Act, and 401 certification staff when processing permits pertaining to the same hydroelectric project. This would help use staff time with Ecology and hydro utilities efficiently.

3. Recognition of Hydropower Operators Exceeding Environmental Requirements

Chapter 286 of the laws of 2007 (SSB 5881) also requires that the progress report recognize hydropower operators that exceed their environmental regulatory requirements.

Low Impact Hydropower Institute certification

Ecology recognizes and supports the Low Impact Hydropower Institute (LIHI) criteria for selecting hydropower utilities that rise above, or exceed, their environmental regulatory requirements. In order to be certified by the Institute, a hydropower facility must meet criteria in the following eight areas:

1. River flows,
2. Water quality,
3. Fish passage and protection,
4. Watershed protection
5. Threatened and endangered species protection,
6. Cultural resource protection,
7. Recreation, and
8. Facilities recommended for removal.

The criteria standards are typically based on the most recent, and most stringent, mitigation measures recommended for the dam by expert state and federal resource agencies, even if those measures aren't a requirement for operating. A hydropower facility meeting all eight certification criteria will be certified by LIHI. Once certified, the owner or operator can market the power from the facility to consumers as produced by a LIHI- certified facility.

Hydropower projects in Washington that received LIHI certification can be found on the LIHI website at <http://lowimpacthydro.org/cf.aspx?state=WA>. In 2008, the Institute awarded or renewed LIHI certification to five hydropower operators for the following projects (in alphabetical order).

Chelan County Public Utility District (PUD)

On January 24, 2008, the Lake Chelan Hydropower Project, operated by Chelan PUD, received LIHI certification (#30). The Lake Chelan Hydroelectric Project is located on the Chelan River, near the city of Chelan, in Chelan County, Washington. The project occupies 465.5 acres of federal lands administered by the U.S. Forest Service and U.S. Department of the Interior, National Park Service.

Hydro Energy Development Corporation

On October 23, 2008, the 3.7 MW Black Creek Project, which is owned and operated by Hydro Energy Development Corporation, received renewal of their LIHI certification (#6) with an effective date of April 10, 2008. This project first earned LIHI certification in 2003. The Black

Creek Project facility is located at Black Creek, Washington, approximately 30 miles east of Seattle.

Seattle City Light

On August 28, 2008, the Skagit River Project, owned and operated by Seattle City Light, earned renewal of their LIHI certification (#5). The Skagit River Hydroelectric Project is located in the upper Skagit River basin, in northeastern Puget Sound, Washington. Headwaters of the Skagit River originate in Canada, and the Project occupies a scenic area in the Mount Baker-Snoqualmie National Forest and Ross Lake National Recreation Area, adjacent to North Cascades National Park. The project includes three dams: Ross, Diablo, and Gorge.

City of Tacoma

On August 28, 2008, the Nisqually Hydroelectric Project, operated by the city of Tacoma, received a renewal of their LIHI certification (#8). The Nisqually Hydroelectric Project is located on the Nisqually River in western Washington, south of the city of Tacoma. The Nisqually River originates from the Nisqually Glacier on Mount Rainier and flows about 80 miles west to Puget Sound. This project first earned LIHI certification in 2003.

Tieton Hydropower, LLC

On July 31, 2008, Tieton Hydropower, LLC received LIHI certification (#36) for the Tieton Dam Hydroelectric Project. The project is located at the Bureau of Reclamation's Tieton Dam and Reservoir on the Tieton River, about 21 miles upstream of a confluence with the Naches River, in Yakima County, Washington.

Ecology acknowledgements

In addition, Ecology recognizes the following hydropower operators for efforts and activities that enhanced the protection of water quality and/or the associated beneficial uses.

Avista Corporation received a new 50-year FERC license in June 2009 after several challenging settlements. One major focus of the proceedings was an effort to enhance aesthetic flows in downtown Spokane. This effort was championed by environmental stakeholders, citing the importance of the Spokane River waterfalls from cultural, historic, economic and aesthetic vantages. A relicensing work group approved a plan to modify the north and south channels at Upper Falls to improve and magnify the aesthetic effect of the flows, and to release a flow of 200 cfs. Avista put this plan in its application, and FERC's FEIS said it was the best balance of aesthetic flows and generation. The Washington Department of Ecology adopted this option in its original 401 certification, but also added a second requirement: that Avista release 300 cfs at Upper Falls from 10 am to just after sunset from Memorial Day through Labor Day. This condition was reached after Avista and the environmental stakeholders came together to better understand each other's needs, and compromises were agreed upon. Avista indicates it will do a channel modification study next year and hopes to implement the modifications in 2011.

Chelan PUD worked quickly and proactively to design and construct habitat restoration and enhancement projects on Lake Chelan and the Chelan River, as required under their FERC license (issued in 2006). These requirements were included in the license based on a Settlement

Agreement including Ecology and the other federal, state and tribal resource management agencies. To optimize fish habitat and long-term stream stability, the PUD modeled various stream restoration designs for the Chelan River. They completed construction this year, which has already resulted in successful salmon spawning habitat. They continue to work on additional riverine enhancement projects on tributaries to Lake Chelan. They will evaluate the projects using the adaptive management provisions in the Settlement Agreement to fine-tune operations and plans to make their managed habitats function as effectively as possible. Overall, Chelan PUD took the habitat restoration requirements and made them a driving goal of the project, not just a regulatory requirement to be fulfilled. They have and continue to enhance the riverine habitats and recreation that the dam affects in a way that benefits aquatic life on Lake Chelan, the Chelan and Columbia rivers, the local public, and visitors to their area.

Douglas PUD created a new standard of excellence by using a pair of computer models to predict total dissolved gas (TDG) generation, movement and dissipation as a result of different operational scenarios at the dam. The first of the two models was used to determine how water moving through the different gates at the dam interacted with each other and with the river below to mix the water laterally, vertically and horizontally. The gas model was laid on top of these results to predict where the TDG levels would be the greatest. The model results predicted an entirely new means of operation of the dam gates to reduce TDG, generally opposite of the operations determined for other hydropower projects elsewhere on the Columbia River. The PUD went beyond demonstrating their ability to meet state TDG standards for compliance, to further studying which operations, which further lower TDG levels below the dam.

In addition, Douglas PUD performed additional studies of adult lamprey passage up the fish ladder. Specifically, the PUD reduced flows in the fish ladders in the late evening, at a time when lamprey movement up the ladder was at its greatest and salmonid movement was greatly reduced. The PUD also installed special acoustic (DIDSON) cameras to create visual footage of the lamprey movement at the entrance to the ladder, the area identified as posing the greatest challenge to lamprey passage. Results of the studies are expected February 2010.

Grant County PUD developed the Wanapum Dam Fish Bypass TDG Study as part of their 401 Certification conditions. Ecology's review of this study found that it exceeded expectations and the original objectives of the study. The PUD added a phase 2 data analysis and utilized a broader set of data to understand the effects of the fish bypass project. This analysis will assist in analyzing future data to determine the effects of modifications to fish bypass and spill operations.

Seattle City Light developed computational and physical hydraulic modeling of Boundary Dam in order to characterize existing conditions and to optimize new proposed modifications to lower TDG levels from the dam. A physical model of Boundary Dam was developed at a scale of 1:25 to provide valuable insights into the hydrodynamics of the jet trajectories, interactions, and plunge pool action of the dam. The hydraulic modeling provides a better understanding of gas transfer mechanisms where the plant and spill flow interact, and will contribute to testing and optimizing the design of an alternative or alternative combination for reducing TDG.

Snohomish PUD signed an agreement that will result in improved flow restoration for fish, fish passage, and whitewater boating in the Sultan River. In addition, when exploring new hydropower sites, the Snohomish PUD proactively worked with the regulatory agencies to identify potential hydropower sites and eliminate sites of environmental concern.

Tacoma Power worked hard this past year, during settlement negotiations on the Cushman Dam, to finally come to an agreement with fish agencies, the tribe, and Ecology that results in flow restoration to the North Fork of the Skokomish River. This agreement was a result of long and challenging litigation.

Appendix

Summary of State Agency Work on FERC Hydropower Projects

The following table provides a summary of state agency work associated with FERC hydropower projects during the 2007-2009 biennium.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
1	Baker Dam	2150	Puget Sound Energy	401 Certification issued 5/2007. Ecology approved the following: the 7Q10 Determination Report, Annual Water Quality Report, Spill Prevention and Control Plan, Water Quality Monitoring Plan, and the Water Quality Protection Plan. Ecology visited the facility to analyze oil and grease control and monitoring requirements. WQ staff provided post-401 oversight on conditions required in the certification. WDFW staff provided review and comments to the Habitat Mitigation Plans and participated in the Terrestrial Resource Implementation Group meetings to discuss elk parcel mitigation strategies. WDFW staff provided ongoing technical assistance for relicensing.
2	Boundary Dam	2144	Seattle City Light (SCL)	Ecology participated in all integrated licensing process meetings to date. WR staff regularly attended meetings and did document reviews to assess potential for habitat improvement flows and progress toward establishment of habitat mitigation. The License Application has been filed with FERC, and other components of the Licensing process have been reviewed by Ecology. The application for 401 certification is expected in 2/2010. WDFW staff provided ongoing technical assistance for relicensing. Assisted with study implementation and coordination. Staff reviewed instream flow habitat modeling. Also participated in discussion of modeling of exposure sensitivity of some aquatic biota. WDFW and Ecology staff reviewed relicensing study reports and requested additional analyses for Boundary Dam. Agencies and the Kalispell Tribe reached agreement on priorities for species for protection, mitigation, and enhancement.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
3	Box Canyon	2042	Pend Oreille PUD	Pend Oreille PUD received their 401 Certification on 12/ 2002. It was further amended 2/ 2003 to contain the Total Dissolved Gas Abatement Plan, the Aquatic Plant Management Plan, the Interim Temperature Management Plan, and the Water Quality Monitoring and Quality Assurance Project Plan. The FERC License was amended on 5/ 2009. The 401 Certification is currently in the Implementation Phase. Plans reviewed have been fisheries, Water Quality Assurance Project Plans and Water Quality Attainment Plans. Ecology provided post-401 oversight on conditions required in the certification. WDFW staff provided ongoing technical assistance for relicensing.
4	Chehalis River		Lewis PUD	Primarily a flood storage project proposal with added hydropower. Ecology provided initial consultations and evaluations of hydrological benefits and impacts to water quality and instream flows for fish.
5	Cle Elum (Lake)	12746	Grant PUD	Grant PUD received a preliminary permit from FERC to study the feasibility of adding a 30.2-MW powerhouse to the existing dam at Lake Cle Elum. Ecology provided sources of existing information, including web links to water body listings, applicable TMDLs, well reports and the Environmental Information Management (EIM) database for study reports and guided the PUD to contacts for obtaining water right information and copies of inspections of the dam structure. WDFW staff provided ongoing technical assistance for relicensing. WDFW staff negotiated and implemented licenses agreements for fish and wildlife protection and mitigation.
6	Condit Dam	2342	PacifiCorp	The Condit Dam removal and restoration project progressed significantly over the past 2 years, with identification of additional environmental issues surrounding the dam removal. The discovery of elevated levels of mercury in fish and sediments behind the Condit Dam necessitated the development of an addendum to the SEPA documentation accompanying the project. Ecology's multi-program team has been working to address the air, water, hazardous waste, and other issues surrounding dam removal and stream restoration. The review of the request for a Section 401 certification is currently ongoing. Pending all permits being issued dam removal is expected to occur in 2010 or 2011. WDFW staff continues to participate in dam removal and fish recovery planning as part of the technical coordination team.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
7	Cowlitz	2016	City of Tacoma	Ecology and WDFW regularly attended the adaptive management group to assess adequacy of instream flow releases for the various species of salmon during spawning, rearing and outward migration life stages; fish passage and aquatic habitat improvements, and review reports.
8	Cowlitz Falls	2833	Lewis County PUD	Ecology participated in an adaptive management group to assess adequacy of fish passage. WDFW staff participated in the Cowlitz Habitat Advisory Group to approve efforts by Tacoma Power to purchase or obtain conservation easements on parcels of riparian land that border side channels or other sensitive aquatic habitats along the lower Cowlitz River.
9	Cushman	460	City of Tacoma	Ecology is currently working on the issuance of a new 401 Certification for the new powerhouse on Dam No. 2. Ecology participated in negotiations to finalize and improve minimum flow regimes, ramping flows, channel-forming flows, and flushing flows. aquatic habitat improvements and fish passage; attendance on adaptive management group to assess effectiveness of various flow regimes, habitat improvements and fish passage. WDFW staff provided ongoing technical assistance is instrumental in reaching settlement agreement in relicensing.
10	Enloe Dam	12569	PUD No. 1 of Okanogan County	Okanogan PUD released their draft FERC license application. Ecology staff met with the Okanogan PUD to review results of consultant studies for the project. Ecology evaluated the project's probable impacts on dissolved oxygen, TDG, temperature, and toxic sediment. Ecology also has provided comments and guidance on how to address on water rights permitting, wetlands, and aesthetics. Discussions are ongoing with regard to instream flows. WDFW staff coordinated activities with Ecology staff to access the biological impact of the proposed 370-foot long bypass reach. The side channel enhancement and gravel augmentation mitigation proposals for impacts to fish below Enloe Dam are being discussed as well. WDFW staff is discussing the development of a triploid trout recreation fishery proposal for areas above Enloe Dam on the Similkameen River to mitigate for fishery impacts above Enloe Dam and in lieu of a boulder cluster proposal that is intended to provide habitat for whitefish.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
11	Jackson	2157	Snohomish County PUD No. 1 and City of Everett	The FERC License for this hydroelectric project will expire in 2011. Ecology reviewed and commented on a two-year water quality study report, Preliminary License Proposal (PLP), Final Water Quality Technical Report, Protection, Mitigation and Enhancement (PM&E) Measures, Pre-application documents and several other documents related to the 401. Ecology drafted, reviewed and commented on terms and conditions of the confidentiality agreement and settlement agreements for Jackson Hydroelectric. Participated in negotiations to determine various flow regimes for resident and anadromous fish, aquatic habitat improvements, and fish passage; regular attendance of adaptive management group to assess effectiveness of various flow regimes including minimum flows, flushing flows, channel forming flows, whitewater boating flows; and aquatic habitat improvements and fish passage. The Agreement was signed on October 13, 2009. Ecology met with SNO PUD and aquatics group on several occasions, to provide technical assistance. Ecology received the 401-certification application on October 20, 2009. WDFW staff provided ongoing technical assistance for relicensing. WDFW staff has been negotiating with Snohomish PUD to establish process flows, relatively brief high flows to provide channel maintenance functions in the Sultan River, based on hydrologic and geomorphic analyses by WDFW staff guidelines.
12	Lake Chelan Hydroelectric Project	637	Public Utility District No. 1 of Chelan County	The Lake Chelan Hydropower 401 Certification was issued in March 2003; the FERC license was issued in 2006. WQ staff provided 401 oversight and participated in implementing the conditions required in the certification. Ecology and WDFW staff has been active participants on the Lake Chelan Fish Forum. The forum participated in the design and review of the proposed new tailrace and Chelan River Reach 4 salmonid habitat restoration, including concerns about hydraulic stability. The construction is now complete and water is being released down the Chelan River for the first time in 80 years. Ecology made site visits to witness the success of spawning and rearing channel improvements. Ecology reviewed the PUD's initial proposed water quality monitoring plan, which will be used to track compliance with water quality standards and determine the need for further modifications, in an adaptive management approach. The forum also reviewed and approved designs to improve fish access to tributary streams entering Lake Chelan.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
13	Merwin Dam	935	PacifiCorp	401 Certification issued 10/2006 and subsequently issued amendments on 12/2007, 1/2008, and 10/2008. Ecology provided post 401 oversight on conditions required in the certification, and coordinated with adaptive management group to assess flow releases and gravel improvements below project. WDFW is active in supplementation planning and fish passage facility design.
14	Morse Creek	6461	City of Port Angeles	Original FERC License and 401 Cert issued 8/95. Amended Order to 401 Certification issued 12/08. Ecology provided post 401 oversight on conditions required in the certification. WR staff established load following flows. WDFW staff met with Clallam County PUD to measure flows and survey elevations downstream of the tailrace to investigate the impact of ramping on juvenile salmonid habitat. WDFW staff reviewed the draft 401 specific to following ramping rates in WDFW Technical Report 119 that are intended to reduce the biological effects of flow fluctuation on salmonids.
15	Newhalem	2705	Seattle City Light	WDFW staff negotiated and implemented licenses agreements for fish and wildlife protection and mitigation.
16	Nisqually	1862	City of Tacoma	WDFW staff negotiated and implemented licenses agreements for fish and wildlife protection and mitigation.
17	Packwood Lake	2244	Energy Northwest	The 401 Certification was issued in August of 2009. There were several water quality characteristics requiring study on this re-issuance of the 401 Certification. Energy Northwest worked with Ecology and WDFW to provide the information needed to make the Integrated Licensing Process (ILP) successful (it was the first northwest implementation of the ILP). WQ staff provided post 401 oversight on conditions required in the certification. WR staff established seasonal minimum flows, load following, channel forming flows, and flushing flows.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
18	Priest Rapids- Wanapum Dam	2114	Public Utility District No. 2 of Grant County, WA	FERC issued a 44-year license for the Priest Rapids Hydropower Project. Ecology enforced requirements and conditions of the 401 certification related to fish management agency interests, drafted more detailed language on biological objectives, resolved technical and regulatory issues regarding total dissolved gas (TDG), discussed Hanford Reach and sturgeon and lamprey habitat. Staff reviewed the associated EIS for the project to assess water quality and fish habitat impacts while issuing two draft 401 certifications and a final 401 certification. The implementation plan for this certification requires a long-term commitment and partnership with Grant PUD over the next 40+ years. Ecology provided post 401 oversight on conditions required in the certification. WDFW staff participated in the development and approval of numerous study plans and agreements for fish and wildlife protection and mitigation.
19	Rocky Reach- Rock Island	2145	Public Utility District No. 1 of Chelan County	The Rocky Reach dam received its license from FERC in 2009. The fish forum has begun meeting to implement terms of the license. Like other mid-Columbia River forums, it will provide guidance and review to the PUD on measures to mitigate impacts to pacific lamprey, white sturgeon, bull trout, and resident fish, as well as measures to reduce TDG. Ecology reviewed Chelan PUD's Gas Abatement Plan and report for the Rocky Reach and Rock Island dams. Ecology provided post 401 oversight on conditions required in the certification. WDFW staff provided ongoing technical assistance for relicensing.
20	Shanker's Bend	12804	Okanogan PUD	FERC granted Okanogan PUD a preliminary permit for the proposed Shanker's Bend Hydropower Project, to be located on the Similkameen River upstream of Enloe Dam. Of three options under consideration, the largest would generate 84 MW of power and create a storage reservoir that would flood Palmer Lake and lands along the river 8 to 10 miles into Canada. WDFW staff provided ongoing technical assistance for licensing.
21	Skagit River	553	Seattle City Light	WDFW staff negotiated and implemented licenses agreements for fish and wildlife protection and mitigation.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
22	Snoqualmie Falls	2493	Puget Sound Energy (PSE)	PSE is proposing to amend the Order to address updated WQ standards, change in flow, ramping rates and construction activities. PSE is upgrading this site and the construction work will be carried out from 2010 to 2014. No capacity change is proposed at this time. Ecology met with PSE in September 2009 to review their proposed 401 amendment plan. Ecology met with SNOPUD and other stakeholders on several occasions, to provide technical assistance. WDFW staff is participating in license implementation to achieve fish and wildlife protection and mitigation.
23	Spokane River Project Dams (Upper Falls, Monroe Street, Nine Mile and Long Lake)	2545	Avista Corporation	401 certification was issued 5/2009. For the Spokane River and Post Falls Hydroelectric Projects, Ecology reviewed the draft Environmental Impact Statement written by FERC, assessed minimum instream flows, and reviewed documents. WQ completed the 401 certifications for the four dams on the Spokane River and submitted them to FERC. Several appeals were made against the 401 certification, that were later resolved. The FERC License was issued June 18, 2009 as a joint license with the State of Idaho. Ecology provided post 401 oversight on conditions required in the certification. WDFW staff provided ongoing technical assistance for relicensing. Staff worked with Ecology WQ staff to seek resolution on spring instream flows for the Lower Spokane River. Staff completed a response to Avista Corporation's first interrogatories and other legal requests. The majority of the interrogatories (35 of them) targeted fish issues.
24	Swift No. 1	2071	PacifiCorp	The 401 Certification was issued 10/2006 and subsequently amended on 12/2007, 1/2008, and 10/2008. Ecology coordinated with adaptive management group to assess aquatic habitat improvements to provide adequate flow regimes for fish, and provided post 401 oversight on conditions required in the certification. WDFW staff met with PacifiCorp staff to consider wording in water rights for the Speelyai hatchery and for diverting Speelyai Creek water to Yale Reservoir to make them consistent while improving flows in lower Speelyai Creek without jeopardizing fish health at the hatchery. WDFW staff provided ongoing technical assistance for relicensing and license implementation.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
25	Swift No. 2	2213	Public Utility District No. 1 of Cowlitz County	The 401 Certification was issued 10/2006 and subsequently amended on 12/2007, 1/2008, and 10/2008. Ecology provided post 401 oversight on conditions required in the certification. WR staff made site visits and consultations to approve designs of flow channel for spawning and rearing flows. WDFW staff provided ongoing technical assistance for relicensing and license implementation.
26	Sullivan Dam	22256	Pend Oreille PUD ERO	Pend Oreille PUD is currently in a surrender of license process as well as possibly removing Mill Pond Dam. Ecology attended public meetings to determine what the views and opinions are regarding these subjects and participated in consultations toward maintaining adequate flows, instream flow and habitat measurements. Ecology and WDFW participated on an Agreement in Principle to issue a Special Use Authorization ("SUA") for the occupancy of US Forest Service lands by any of the Project facilities.
27	Tieton Hydroelectric Project	3701	Tieton Hydropower LLC.	Under the adaptive management process in its approved 401 certification, the project owner is installing additional monitoring stations as part of its adaptive management process to determine best methods to achieve compliance with the dissolved oxygen standards.
28	Trinity Dam	719	Trinity Conservancy, Inc.	Ecology tracked compliance with dissolved oxygen and with the design and construction of a new tailrace, to return tailwater to Phelps Creek. Ecology has gone on yearly site visits to track project progress. WDFW staff provided ongoing technical assistance for relicensing.
29	Twin Falls Hydroelectric Project	4885	Twin Falls Hydro Associates, L.P.	Ecology amended the 401 certification for Twin Falls Hydroelectric on January 26, 2007. The amended order required several submittals during first two years of amendment. Ecology reviewed and commented on Water Quality monitoring reports, and provided post 401 oversight on conditions required in the certification.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
30	Wells Dam	2149	Douglas County PUD	Douglas PUD met with Ecology and federal, state and tribal fish resource management agencies to develop six aquatic resource management plans to be included in the PUD's application for the 401 certification and the FERC license. They form the basis of a settlement agreement with the PUD and will be included as conditions of the 401 certification. As part of the technical review, the PUD prepared the combined three-dimensional hydrodynamic and TDG gas bubble equilibrium computer model results used to identify optimal operational conditions for attaining compliance with TDG standards. Ecology also reviewed the studies of pH, dissolved oxygen (DO), DDT and PCBs for project impacts in the lower Okanogan River. Staff also reviewed the PUD's annual Gas Abatement Plan, and approved the spill allowance for fish passage in the Columbia River for the 2008 season. A late request from the U.S. Bureau of Indian affairs to provide extensive comments on the Pacific lamprey plan had the potential to delay the process. However, as part of its studies for determining dam effects on lamprey passage, Douglas PUD was still able to collect acoustic "videos" of lamprey entering the fish ladder. WDFW staff participated in the development and approval of the Pacific Lamprey Management Plan, and the Water Quality Management Plan. WDFW staff has provided ongoing technical assistance for relicensing, including successfully negotiating final management plans for wildlife and botanical resources, an avian protection plan and a recreation management plan. WDFW also successfully negotiated a settlement agreement with Douglas to provide funding for the Wells Wildlife Area and to enhance recreation fishing in Okanogan and Douglas counties.
31	White River	2494	Puget Sound Energy	WR staff provided instream flows for salmon modeling review.

	Project Name (in alphabetical Order)	FERC #	Owner	Present Status
32	Yale Dam (Lewis River)	2111	PacifiCorp	401 Certification issued 10/2006 and subsequently issued amendments on 12/2007, 1/2008, and 10/2008. Ecology provided post 401 oversight on conditions required in the certification and coordinated with adaptive management group to assess aquatic habitat improvements to provide adequate flow regimes for fish. WDFW staff negotiated and implemented licenses agreements for fish and wildlife protection and mitigation. WDFW staff measured flows at several locations along Speelyai Creek, including the diversion channel owned by PacifiCorp and above and below the hatchery intake. They also estimated the flow needed to provide suitable habitat in the channel of Speelyai Creek immediately downstream of the canal that diverts most of the upper Speelyai Creek flow into Yale Reservoir and Dam instream instead of following its natural course downstream to the lower Merwin Reservoir. Staff conducted site visits of two potential acquisition parcels for project mitigation.
33	Youngs Creek	10359	Snohomish PUD (SNOPUD)	In October 2008, SNOPUD acquired ownership of the Youngs Creek Project through a sales agreement. Because of the recent increase in needs for renewable energy in the Northwest, SNOPUD is proposing to construct and operate Youngs Creek Hydroelectric Project. Ecology proposed, reviewed and commented on several technical reports during 401 amendment process. WR staff did a fish passage evaluation and reevaluated seasonal variations. Ecology met with SNOPUD and other stakeholders on several occasions, to provide technical assistance and visited the facility to analyze monitoring requirements. Ecology amended the 401 certification on September 17, 2009 to address dam construction, changes in flow conditions, ramping rates, and state's water quality standards. WDFW staff visited the project and participated in a Memorandum of Agreement (MOA), which establishes instream flows based on Physical Habitat Simulation Model (PHABSIM), which provides for fish population monitoring to determine flow management response by fish. The PHABSIM model provides statistical criteria for determining whether there is an effect, and recommends a flow modification if an effect is shown.