

# Reservoir Shoreline Erosion Control Management Plan

## Settlement Agreement Article 110

BAKER RIVER PROJECT, FERC No. 2150



Puget Sound Energy  
Bellevue, Washington  
29 September 2010



**PUGET SOUND ENERGY**  
*The Energy To Do Great Things*

**Reservoir Shoreline Erosion Control  
Management Plan  
Settlement Agreement Article 110**

**BAKER RIVER PROJECT  
FERC No. 2150**

**Puget Sound Energy  
10885 N.E. 4<sup>th</sup> Street  
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**29 September 2010**

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## Acronyms and Abbreviations

This abbreviation, acronym, or short name	Refers to
ARG	Aquatic Resource Group
CAO	Critical Areas Ordinance
DNR	Department of Natural Resources
FERC	Federal Energy Regulatory Commission
GIS	Geographic Information System
NAVD 88	North American Vertical Datum. Unless specifically noted, all elevations refer to the GIS-based datum of 1988.
NEPA	National Environmental Policy Act
NFS	National Forest Service
NOAA Fisheries	National Oceanic and Atmospheric Administration, [National Marine Fisheries Service]
PSE	Puget Sound Energy, Inc.
RRG	Recreation Resources Group
RSECMP	Reservoir Shoreline Erosion Control Management Plan
SA	Settlement Agreement
SA 102	Settlement Agreement Article 102 Aquatics Reporting
SA 110	Settlement Agreement Article 110 Shoreline Erosion
SA 201	Settlement Agreement Article 201 Programmatic Agreement
SEPA	State Environmental Policy Act
TRIG	Terrestrial Resources Implementation Group
WDAHP	Washington Department of Archaeology and Historic Preservation
WDFW	Washington Department of Fish and Wildlife
USDA-FS	United States Department of Agriculture-Forest Service
USFWS	United States Fish and Wildlife Service

## 1.0 Executive Summary

This Reservoir Shoreline Erosion Control Management Plan (RSECMP) is prepared for the Baker River Hydroelectric Project (FERC No. P-2150) (Baker Project) pursuant to the Order on Offer of Settlement, Issuing New License and Dismissing Amendment Application as Moot dated October 17, 2008 (License). Specifically, Settlement Agreement Article 110 Shoreline Erosion (SA 110), and License Article 409 Shoreline Erosion Control Plan sets forth the applicable requirements for this plan. SA 110 defines erosion control, prevention and/or remediation measures to be undertaken at Baker Lake to control shoreline erosion that may threaten recreation sites, heritage resources, and aesthetic/cultural sites. License Article 409 extends erosion control to Lake Shannon shorelines relative to project-related impacts and needs.

Implementation of SA 110 involves the following key elements:

- Description of survey protocols, fieldwork schedules, and reporting requirements;
- Selection criteria and prioritization of sites for treatment;
- Descriptions of appropriate treatment techniques;
- Evaluation of the probability of success for treatments and consideration of alternatives;
- Schedules for treatment implementation;
- Schedules for maintenance of treatments;
- Development and implementation of a monitoring plan;
- Evaluation and treatment of erosion at newly emergent sites that are affecting resources;
- Annual reporting requirements; and
- Provisions for updating the Plan at five year intervals utilizing adaptive management and monitoring to assess future treatment and maintenance actions.

The RSECMP was developed in consultation with the U.S. Forest Service (USDA-FS) and Skagit County and will be implemented consistent with the Historic Properties Management Plan. Funding for actions implemented in support of the RSECMP will be allocated in 2010, 2011, 2012, and 2022, 2032, 2042, and 2052 in accordance with the SA 110 schedule.

## 2.0 Introduction

### 2.1 Overview

The RSECMP has been prepared to comply with SA 110 and License Article 409. This plan was prepared in consultation with the USDA-FS and Skagit County.

The Baker River Hydroelectric Project (FERC No. P-2150) (Project) consists of two hydroelectric dams and associated reservoirs on the Baker River, a tributary to the Skagit River, in Skagit and Whatcom counties, Washington (figure 1). Lower Baker Dam, which impounds 2,278-acre Lake Shannon, was completed in 1925. The dam is located within the city limits of Concrete, Washington, but most of Lake Shannon is surrounded by State and private industrial timberlands in unincorporated Skagit County. The Upper Baker development is directly upstream (north) of the Lower Baker development, in Whatcom County. It was completed in 1959 and consists of Upper Baker Dam and Baker Lake, a 4,980-acre reservoir. The Upper Baker development is on National Forest System lands administered as part of the Mt. Baker-Snoqualmie National Forest.

Shoreline erosion within and directly adjacent to the normal operating pool of Baker Lake and Lake Shannon can impact Project facilities, cultural and heritage resources, terrestrial and aquatic habitats and recreational resources. Shoreline erosion occurs naturally depending on geology, soil type, bank configuration and wind direction, but it can also be influenced by reservoir pool level fluctuations, land use activities and recreational activities. Shoreline erosion in Baker Lake and Lake Shannon was inventoried in 2002 to identify areas of shoreline erosion, evaluate the processes driving shoreline erosion and deposition, and estimate an annual rate of deposition or bank retreat for identified shoreline erosion sites (AESI 2003).

Under the terms of the License, PSE will implement a Reservoir Shoreline Erosion Control Management Plan (RSECMP). This document describes relevant Project features, identifies commitments of various parties, outlines the anticipated schedule of activities, and describes the administrative process that will be followed when implementing the plan.

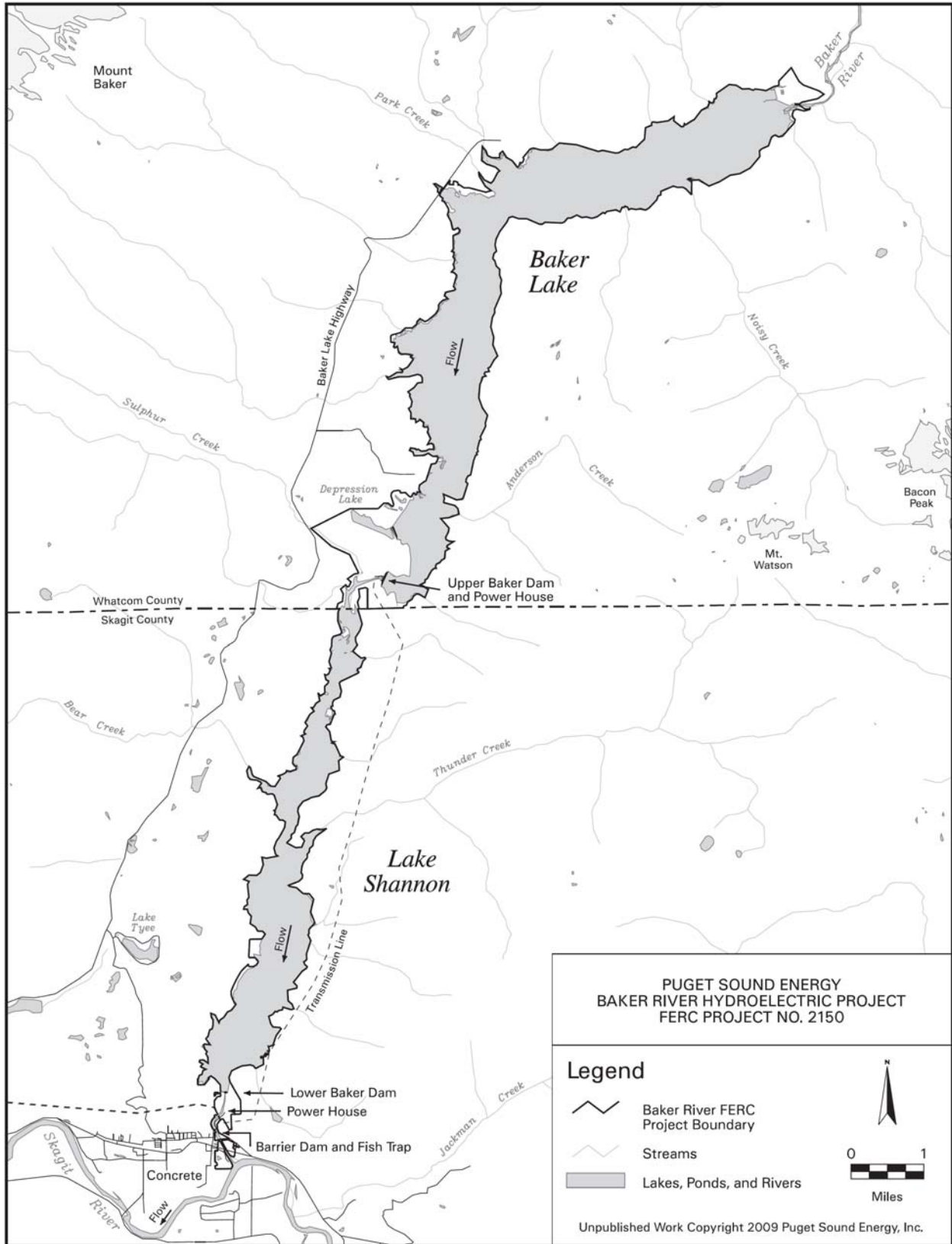


Figure 1: Baker River Hydroelectric Project, Concrete, Washington.



## 3.0 Basis for the Plan

On November 30, 2004, PSE filed a Settlement Agreement that resolved all issues among the parties related to the relicensing and ongoing operations of the Baker Project. FERC approved the Settlement Agreement and incorporated the proposed license articles, including SA 110, into the License. SA 110 as approved by FERC is the basis for the RSECMP. Article 409 of the License includes further requirements relative to shoreline erosion control at Lake Shannon.

### 3.1 SA 110 – Shoreline Erosion

SA 110 provides as follows:

“Within one year of license issuance, or on an alternative schedule to be submitted to the Commission for approval, the licensee shall develop and file with the Commission for approval a Reservoir Shoreline Erosion Control Management Plan (RSECMP) and Implementation Schedule, defining the measures the licensee shall undertake to control shoreline erosion in a manner consistent with Article 201. The plan shall incorporate the results of pre-filing relicensing Study A14a, Reservoir Shoreline Erosion and Deposition, and shall define the measures that licensee will undertake to control shoreline erosion.

If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the ARG. Licensee shall provide a copy of the proposed alternative schedule to the ARG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.

The RSECMP, and any subsequent updates, shall require the licensee to develop site-specific plans for erosion control, erosion prevention, and/or remediation activities wherever National Forest Service lands or resources may be affected. Prioritization for treatment of identified sites that are at risk of harm shall be in accordance with plans developed in consultation with the USDA-FS, and shall include the first priority for the following: recreation sites, heritage resources, and aesthetic/cultural sites and the second priority for Severe and High Erosion Categories and any sites affecting facilities or resources that emerge during the term of the license. The RSECMP shall include:

- Survey protocols, fieldwork schedules, and reporting requirements for site-specific evaluation (to be used in the design of the treatments), including measurements of geology, vegetation, erosion rates and mechanisms, documented with photographs, maps and GPS locations;
- Selection criteria and prioritization of sites for treatment;
- Descriptions of appropriate treatment techniques including treatment standards and goals, methods, materials, costs and timing;
- Evaluation of the probability of success for treatments and consideration of alternatives;

- Schedules for treatment implementation, including all necessary NEPA/SEPA and permitting;
- Schedules for maintenance of treatments as needed;
- Development and implementation of a monitoring plan to assess the effectiveness of erosion control treatments and to monitor erosion trends at untreated sites;
- Evaluation and treatment of erosion at newly emergent sites that are affecting resources;
- Annual reporting requirements; and
- Provisions for updating the Plan at five year intervals utilizing adaptive management and monitoring to assess future treatment and maintenance actions.

Appropriate erosion treatment techniques will be determined based on potential effectiveness and safety. Erosion control measures may include, but are not limited to: a) vegetation and/or bioengineering; b) anchored logs; c) riprap vestment; d) rock wall; e) crib wall; f) perched beach; and g) drift sills.

The licensee shall develop the RSECMP in consultation with the USDA-FS. The licensee shall allow a minimum of 30 days for the USDA FS to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the RSECMP, documentation of consultation and copies of comments and recommendations on the RSECMP after it has been prepared and provided to the agency, and specific descriptions of how the agency's comments are accommodated by the RSECMP. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.

Licensee shall make funding available in an amount not to exceed \$600,000, in accordance with the following schedule: \$100,000 in each of Years 2, 3, and 4 following license issuance and \$100,000 every ten years thereafter during the term of the license.”

### ***3.2 Relationship to Other Articles of the License and Settlement Agreement***

The FERC License and Settlement Agreement refer to the RSECMP in several other articles. License Article 409 stipulates that implementation of the RSECMP also shall occur at Lake Shannon:

“The licensee shall incorporate into the shoreline erosion control plan required by Settlement Agreement (SA) article 110 in Appendix A of this license, the following additional measures: site specific plans to prevent and control erosion on Lake Shannon shorelines in accordance with the specifications contained in SA article 110 except that erosion control, prevention, and/or remediation shall not be limited to ‘wherever Forest Service lands or resources may be affected.’ The licensee shall control erosion along Lake Shannon shorelines relative to project-related impacts and needs. In addition to consulting with the U.S. Forest Service, the licensee shall consult with Skagit County while developing the shoreline erosion control plan pursuant to SA article 110.”

SA 110 stipulates that the Reservoir Shoreline Erosion Control Management Plan shall be implemented in a manner consistent with SA 201 Programmatic Agreement pertaining to the Historic Properties Management Plan:

“The licensee shall implement the Programmatic Agreement Between the Federal Energy Regulatory Commission and the Washington State Historic Preservation Officer for Managing Historic Properties that May be Affected by a License Issuing to Puget Sound Energy for the Continued Operation of the Baker River Hydroelectric Project in Skagit and Whatcom Counties, Washington - FERC Project No. P-2150...including, without limitation, but not limited to the Historic Properties Management Plan (HPMP) attached to the Programmatic Agreement.”

Settlement Agreement Article 508 Noxious Weeds requires PSE to implement a plan to manage noxious weeds on Project lands; and SA 509 Plants of Special Status requires PSE to implement a plan to manage plants of special status on existing Project lands and select non-Project lands. Activities associated with implementation of SA 110 will be consistent with SA 508 and SA 509 management plans.

Under SA 102, implementation of the RSECMP requires that PSE coordinate reservoir shoreline erosion control activities with other applicable plans, such as the Northwest Forest Plan. PSE shall submit an annual report by March 31 of each year that includes a description of how PSE, agencies, and tribes coordinated implementation of SA 110 and License Article 409. Activities conducted during the previous 12-month reporting period (January 1 to December 31) and the status of development or implementation of measures will be summarized in each annual report.

## 4.0 Goals

The goal of the RSECMP is to control shoreline erosion of Baker Lake and Lake Shannon that may threaten aesthetic/cultural sites, heritage resources and other features identified in areas of severe or high erosion categories during the license term. SA 110 allocates funding to control and monitor erosion along the Baker Lake shoreline. License Article 409 extends the RSECMP to Lake Shannon relative to Project-related impacts.

### 4.1 Key Elements of SA 110

Implementation of SA 110 involves the following key elements:

- Description of survey protocols, fieldwork schedules, and reporting requirements for site-specific evaluations;
- Selection criteria and prioritization of sites for treatment;
- Descriptions of appropriate treatment techniques;
- Evaluation of the probability of success for treatments and consideration of alternatives;
- Schedules for treatment implementation;
- Schedules for maintenance of treatments;
- Development and implementation of a monitoring plan;
- Evaluation and treatment of erosion at newly emergent sites that are affecting resources;
- Annual reporting requirements; and
- Provisions for updating the Plan at five year intervals utilizing adaptive management and monitoring to assess future treatment and maintenance actions.

## 5.0 Regulatory Reference and Definitions

The RSECMP has been developed and will be implemented in a manner consistent with applicable local, state, and federal laws and regulations.

### 5.1 Federal Authority and Reference

- The RSECMP will be implemented subject to the requirements of the License. Activities such as placing riprap and authorized fills in the navigable waters of the United States may be authorized under conditions specified in permits issued pursuant to Section 404 of the Clean Water Act (33 USC 1344).
- The License incorporates U.S. Department of Interior, USFWS and U.S. Department of Commerce, NMFS conditions under section 7 of the Endangered Species Act, including timing limitations on construction activities that may be implemented under the RSECMP.

### 5.2 Washington State Authority and Reference

- The RSECMP is prepared according to the authority under the License. The License incorporates requirements by Washington Department of Ecology under section 401 (a)(1) of the Clean Water Act, including preparation of a Water Quality Protection Plan for Project-related construction, maintenance and repair work. Treatments implemented under the RSECMP may require permitting through the State Joint Aquatic Resources Permit Application (JARPA) process, which addresses other state and local requirements.

### 5.3 Definitions

A list of definitions and abbreviations is provided following the Table of Contents.

- The Aquatic Resources Group is comprised of representatives of the 24 settlement parties who have elected to be members of the ARG per SA 601.

## 6.0 Plan Implementation

### 6.1 Plan Area

This plan applies to reservoir shorelines within the Baker Project Boundary. All lands along the reservoir margins below elevation 732.77 feet (NAVD 88) on Baker Lake, and below elevation 445.47 feet (NAVD 88) on Lake Shannon are located within the Baker Project Boundary.

The majority of the Upper Baker Development is within the USDA-FS Mount Baker-Snoqualmie National Forest. The Lower Baker Development occupies lands primarily owned by PSE, but about five percent of the area consists of lands managed by the US Forest Service and a mix of state and private ownership. The RSECMP applies to all lands immediately adjacent to or below the reservoir high pool water surface elevation on Baker Lake (Upper Baker Development) and Lake Shannon (Lower Baker Development).

### 6.2 Funding

PSE will fund implementation of the RSECMP as specified by conditions in SA 110. Funding allocated under SA 110 covers all project design, erosion site treatment, monitoring, and reporting activities. Funding for actions implemented in support of the RSECMP will be allocated in 2010, 2011, 2012, and 2022, 2032, 2042, and 2052 in accordance with the SA 110 schedule.

### 6.3 Development and Modification of the RSECMP

The licensee has prepared the RSECMP in consultation with the USDA-FS and Skagit County. Consulted parties were provided a minimum of 30 days to comment and to make recommendations on the draft plan. Comments on the draft plan and licensee responses are provided in Section 9 of this report. Future modifications to the RSECMP will be developed in consultation with the USDA-FS and Skagit County and submitted to the FERC for approval as part of the annual reporting process.

### 6.4 Procedures, Standards, and Criteria

The RSECMP provides for the identification and treatment of erosion sites along reservoir margins within the Baker Project Boundary. During Plan implementation, treatment of erosion sites will be conducted using Best Management Practices and according to guidelines identified through the permitting process and consultation with the USDA-FS and where applicable, Skagit County. Changes to the standards and criteria will be reported in the annual report consistent with SA 102 Reporting.

Implementation of the RSECMP will occur following FERC approval of the plan. The process for implementation will follow the steps of initial site identification, project evaluation, prioritization, site selection, treatment implementation, maintenance and monitoring. Elements of the implementation process are shown in figure 2 and described in greater detail in the following sections.

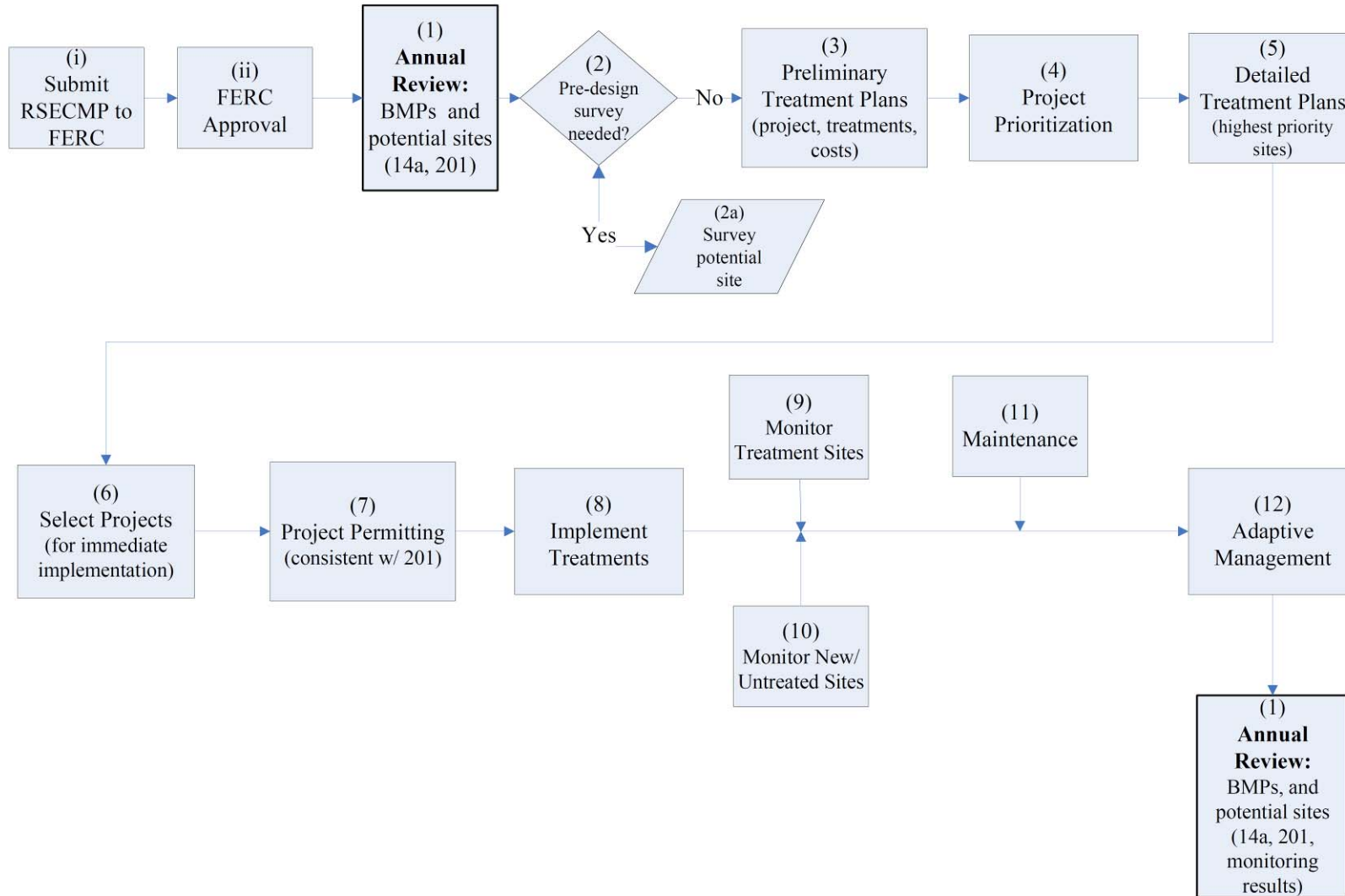


Figure 2: Process flow chart for the Reservoir Shoreline Erosion Control Management Plan, SA 110.

### 6.4.1 Annual Project Review

Under SA 110, the licensee will consult with the USDA-FS and Skagit County during fund allocation years and at five year intervals (2010, 2011, 2012, 2017, 2022, 2027, 2032, 2037, 2042, 2047, 2052, and 2057).

A technical memorandum will be prepared that identifies potential reservoir shoreline erosion sites on Baker Lake and Lake Shannon and potential treatments to control erosion at high priority sites. A list of sites will initially be developed using the results of the AESI (2003) relicensing study A14a Reservoir Shoreline Erosion and Deposition. The list of sites identified in the Study A14a report will be supplemented by available information on changes to sites described in the 2003 report, and any new sites that exhibit severe or high erosion that were not previously reported.

Sites included in the technical memorandum will represent developed (i.e., campgrounds, resorts, boat launches) and dispersed recreation sites classified in the Study A14a report as Category 1 (severe) or Category 2 (high erosion), sites with severe or high erosion located directly adjacent to developed recreation sites, and erosion sites identified through collaboration with the Washington State Historic Preservation Officer (under SA 201).

Potential erosion treatment techniques will be reviewed to identify appropriate measures based on potential benefits, disadvantages, likelihood of success and cost of application. Erosion control measures may include, but are not limited to: a) vegetation and/or bioengineering; b) anchored logs; c) riprap vestment; d) rock wall; e) crib wall; f) perched beach; and g) drift sills. The selection of appropriate erosion control techniques may be modified based on the results of previous treatment efforts at Baker Lake and Lake Shannon shorelines.

In support of the annual review process, a report will be produced that includes:

- Summary description of the existing RSECMP, and detailed description of changes to the plan (if any);
- Maps of treatment sites and project completion reports for each site treated in the preceding reporting period;
- Summary of maintenance and monitoring activities implemented in the preceding reporting period;
- Cost of all activities funded as part of the RSECMP in the preceding reporting period, including site evaluation/review, project design and implementation, maintenance, and monitoring;
- A description of any problems encountered and associated remedies; and
- Any emergency response efforts.

PSE will submit the report to the USDA-FS and Skagit County for 30-day review. Comments and recommendations by the USDA-FS and Skagit County will be included in the annual consultation report submitted to the FERC, along with specific



descriptions of how comments are accommodated. If recommendations are not adopted, the filing will include PSE's explanations based on Project-specific information.

#### 6.4.2 Pre-design Survey (if needed)

Available information on potential erosion treatment sites identified during the annual review process will be compiled and evaluated to identify data gaps and the need to collect additional site specific information. Available information must be sufficient to allow site specific evaluation of appropriate treatment techniques, the likelihood of treatment success, and a rough estimate of treatment costs. If data gaps are identified, the licensee will consult with the USDA-FS and where applicable, Skagit County, to identify survey protocols and fieldwork schedules and will obtain site-specific data on the erosion sites of concern. The selected survey protocols will reflect the type of information to be obtained for each potential treatment site such as local topography, geology and soils associated with the erosion site, documentation of existing vegetation, measurement of erosion rates, and site access constraints. The result of the site-specific surveys will be used to complete the list of information for each potential treatment site. The schedule for conducting site-specific evaluations will be developed based on the number of sites to be evaluated, location/accessibility of each site, reservoir conditions conducive for completing the evaluation, length of time required to complete the surveys and available funds.

#### 6.4.3 Preliminary Treatment Plans

Site specific information for each potential erosion treatment site will be used to develop preliminary, conceptual-level plans for treating erosion at sites identified during the annual review process. Preliminary treatment designs will include a description of project objectives, design criteria, proposed treatment methods, materials, and timing. Treatment techniques will be consistent with best management practices (BMPs) as described in SA 401, or comparable standards identified and approved by the USDA-FS. Preliminary plans will also identify the ongoing risk to the resource, the likelihood of treatment success, and a rough estimate of cost for treatment and maintenance.

#### 6.4.4 Project Prioritization

The licensee will consult with the USDA-FS and Skagit County to develop criteria to prioritize sites for treatment. Factors that will be considered when prioritizing sites will include (but not be limited to):

- Location relative to recreation sites, heritage resources, aesthetic, cultural sites and facilities;
- Severity and ongoing rate of erosion;
- Land ownership;
- Likelihood of treatment success;
- Approximate cost of treatment; and
- Available funding.

The criteria will be used to rank the list of potential treatment sites and identify those sites that are considered highest priority for treatment.

#### 6.4.5 Detailed Treatment Plans

Detailed treatment plans will be developed for the highest priority erosion sites that can be treated using available SA 110 funds. The detailed treatment plans will identify construction procedures, materials and equipment, environmental conditions required for treatment (e.g., reservoir pool level, planting timeline, etc.), construction window (e.g., period of time when those conditions will be available), and time required for construction. The treatment plans will include construction-level drawings and provide sufficient information to support permitting activities.

#### 6.4.6 Select Projects for Immediate Implementation

A proposed implementation schedule will be developed based on the lead time required to complete permitting and implement erosion control treatments. Potential efficiencies associated with implementing complementary projects, or funding availability, may lead to a sequential construction schedule that delays implementation of some high priority erosion control projects. Those projects that can immediately be implemented will be identified for permitting and final plan development.

The prioritization process and the list of recommended treatment sites will be provided to the Aquatic Resources Group (ARG), Terrestrial Resources Implementation Group (TRIG), Recreation Resources Group (RRG), and the Cultural Resource Advisory Group (CRAG). Coordination with the various workgroups is intended to confirm the selection of the highest priority sites and ensure that implementation of erosion treatment techniques at each site will be complementary to the goals of the various groups. Documentation of the prioritized list, proposed treatment sites and the results of work group consultation process will be provided to the FERC as part of annual reporting requirements described in SA Article 102 Aquatics Reporting.

#### 6.4.7 Project Permitting

The detailed treatment plans will be used to initiate construction permitting activities. Permitting for proposed actions may include a Joint Aquatic Resources Permit Application (JARPA), permits from the appropriate land management agency (USDA-FS or Skagit County), and consultation with federal fish management agencies (USFWS, NMFS). Any changes to the design plans identified through the permitting process will be documented in final design plans developed for each site.

#### 6.4.8 Implement Treatments

After permit approvals are obtained, erosion treatments will be implemented at the selected sites consistent with the treatment schedule identified in the final design plans.

#### 6.4.9 Monitor Treatment Sites

The effectiveness of erosion control treatments will be monitored consistent with site specific treatment plans to guide maintenance requirements and the future selection of appropriate treatment techniques. Monitoring protocols will be developed for each site,

or for sets of sites with comparable treatments. Monitoring may include repeat surveys of bank profiles, instrumentation, photography or other methods that can be used to quantitatively or qualitatively evaluate performance of the erosion control measures over time. The licensee will work with the USDA-FS and Skagit County to develop a monitoring plan that will include: 1) monitoring protocols to be utilized at each site or set of sites; 2) schedule describing the timing and frequency of proposed monitoring efforts; and 3) estimated annual cost of monitoring activities. Monitoring costs will be covered under the funding allocation specified in SA 110. The results of the monitoring efforts will be provided to the ARG for review as part of the annual report to the FERC under SA 102.

#### 6.4.10 Monitor Untreated and New Sites

In consultation with the USDA-FS and Skagit County, reservoir shoreline conditions in Baker Lake and Lake Shannon will be surveyed during funding years 2012, 2022, 2032, 2042, and 2052. The intent of the surveys will be to identify new erosion sites or to identify changes to untreated sites that were previously considered lower priority. The shoreline review will be conducted during early spring before the reservoirs have been refilled to summer operational elevations. The intent of the surveys will be to assess treatment and/or maintenance needs and facilitate prioritization of sites for treatment. The results of the surveys will be provided to the ARG for review as part of the annual report to the FERC under SA 102.

#### 6.4.11 Post-Treatment Maintenance

Ongoing maintenance needs for each site will be identified in the erosion control design plans and implemented following treatment. Maintenance of erosion sites treated under this article will occur at the direction of the USDA-FS and Skagit County consistent with conditions identified in SA 110 and Article 409. A summary of maintenance activities during the previous 12 month period will be provided to the ARG for review as part of the annual report to the FERC under SA 102.

#### 6.4.12 Adaptive Management

At five year intervals (2012, 2017, 2022, 2027, 2032, 2037, 2042, 2047, 2052, and 2057), PSE will consult with the USDA-FS and Skagit County to review RSEMP accomplishments, evaluate the effectiveness of treatments applied to date based on monitoring results, and review site-specific evaluation protocols and treatment approaches in the context of improvements in best management practices with regard to erosion control techniques and technology. Based on information presented in the five-year review, PSE will work with the USDA-FS to identify adaptations in treatment, monitoring and/or maintenance techniques. PSE will submit suggested modifications to the ARG for review as part of the annual report to the FERC under SA 102.

### 6.5 Implementation Schedule

The schedule for specific actions to be undertaken in support of the RSEMP will be developed as described in section 6.3 Procedures. Any modifications to the implementation schedule will be developed in consultation with the ARG. PSE shall provide a copy of the proposed alternative schedule to the ARG at least 30 days prior to

submitting the alternative schedule to the FERC, and shall forward any comments on the alternative schedule to the FERC along with the proposed alternative schedule. Upon FERC approval, PSE will implement the alternative schedule, including any changes required by the Commission.

### ***6.6 Rationale***

Shoreline erosion within and directly adjacent to the normal operating pool of Baker Lake and Lake Shannon can affect recreation sites, heritage resources, aesthetic/cultural sites and facilities. Shoreline erosion occurs naturally depending on geology, soil type, bank configuration and wind direction, but it can also be influenced by reservoir pool level fluctuations, land use activities and recreational activities. Shoreline erosion in Baker Lake and Lake Shannon was inventoried as part of pre-licensing studies to identify areas of shoreline erosion, evaluate the processes driving shoreline erosion and deposition, and estimate an annual rate of deposition or bank retreat for identified shoreline erosion sites (AESI 2003). SA 110 requires PSE to develop and implement site specific plans for erosion control, erosion prevention and/or remediation activities.

### ***6.7 Management, Monitoring, and Maintenance***

Management, monitoring, and maintenance activities conducted in support of the RSECMP will occur as described in sections 6.4.8, 6.4.9, and 6.4.10.

## 7.0 Reporting

### *7.1 RSECMP Annual Report Schedule*

For the purposes of SA 110, the annual reporting period for the RSECMP will be January 1 through December 31 as defined in SA 102. After consultation with the ARG, an annual report will be prepared on activities accomplished as part of SA 110 in the prior twelve months. The annual report will be submitted to the ARG for review and comment in accordance with SA 102.

### *7.2 RSECMP Annual Report Content*

The annual report shall include a summary description of activities conducted in support of each key element during the preceding 12-month reporting period including:

- Summary description of the existing RSECMP including any modifications proposed during the previous five year plan review process;
- Schedule for implementing site treatments;
- Summary of treatment, monitoring, and maintenance activities completed in the preceding 12-month reporting period; and
- Summary of funds expended as part of the RSECMP in the preceding 12-month reporting period.

PSE will provide the annual report to the ARG per the schedule in SA 102 for 30-day review. Comments and recommendations by the ARG will be included in the annual report submitted to the FERC, along with specific descriptions of how comments are accommodated in the report. If recommendations are not adopted, the filing will include PSE's explanations based on project specific information.

## 8.0 References

Associated Earth Sciences (AESI). 2003. Reservoir shoreline erosion and deposition study A14a. Prepared by Associated Earth Sciences Inc, Kirkland Washington, prepared for Puget Sound Energy, Bellevue, Washington.

## 9.0 Comments and Responses from the Formal Plan Review

### 9.1 Plan Distribution for Review

On 05 August 2010, PSE sent, by certified mail, the Document Review Transmittal Letter and draft Reservoir Shoreline Erosion Control Management Plan to the USDA-FS and Skagit County for review and comment (table 1). Courtesy copies of the draft plan were also transmitted by e-mail to ARG members on 12 August 2010 (table 1).

Table 1: Parties that were mailed the draft Reservoir Shoreline Erosion Control Management Plan as part of the formal review process.

Name and Title	Organization	Address
Greta Movassaghi	USDA Forest Service	810 State Route 20, Sedro Woolley, WA 98284
Lorna Ellestad	Skagit County	1800 Continental Place, Mount Vernon, WA 98273
* The following parties received an informal courtesy copy.		
Ric Abbett *	The WA Council of Trout	abbett@scattercreek.com
Brock Applegate*	WA Dept. of Fish and Wildlife	Brock.Applegate@dfw.wa.gov
Brett Barkdull *	WA Dept. of Fish and Wildlife	barkdbcb@dfw.wa.gov
Len Barson *	The Nature Conservancy	lbarson@tnc.org
Dan Berenston *	Skagit County	danb@co.skagit.wa.us
Rebecca Bernard *	Upper Skagit Indian Tribe	rbernard@upperskagit.com
Ellen Bynum *	Skagit County Citizen	skye@cnw.com
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Bob Helton *	Skagit County Citizen	poetsmart@msn.com
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Lou Ellyn Jones *	US Fish and Wildlife Service	louellyn_jones@fws.gov
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Sue Madsen *	Skagit Fisheries Enhancement Group	smadsen@skagitfisheries.org

Table 1: Continued.

<b>Name and Title</b>	<b>Organization</b>	<b>Address</b>
Chris May *	WA Department of Ecology	cmay461@ecy.wa.gov
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Jon-Paul Shannahan *	Upper Skagit Indian Tribe	jonpauls@upperskagit.com
Steve Stout *	WA Dept. of Fish and Wildlife	steve.stout@dfw.wa.gov
Jed Varney *	WA Dept. of Fish and Wildlife	varnejsv@dfw.wa.gov
Stan Walsh *	Sauk-Suiattle Indian Tribe and Swinomish Indian Tribal Community	swalsh@skagitcoop.org

\* Received an informal courtesy copy.

## ***9.2 Document Review Transmittal Letter***

For reference purposes, an example of the 30-Day Document Review Transmittal Letter (figure 3) is provided in this section.





August 5, 2010

**VIA CERTIFIED MAIL, RETURN RECEIPT**

Lorna Ellestad  
Skagit County  
1800 Continental Place  
Mount Vernon, WA 98273-5625

**Re: Baker River Hydroelectric Project, FERC No. 2150 - Draft Reservoir Shoreline Erosion Control Management Plan Submittal for Consultation**

Dear Lorna,

On October 17, 2008, the Federal Energy Regulatory Commission (Commission) issued a new license for Puget Sound Energy, Inc.'s (PSE's) Baker River Project (FERC No. 2150). In the license at Paragraph F, the FERC directed PSE to comply with conditions of the comprehensive Settlement Agreement for the Baker River Project which includes a minimum "30-day" Review of the Reservoir Shoreline Erosion Control Management Plan (RSECMP) SA 110.

In accordance with these directives, PSE submits this RSECMP to the USDA-Forest Service and Skagit County for a "30-Day" review and seeks comments and suggestions. These comments and suggestions will be addressed before the final plan is submitted to the FERC.

Please review the enclosed RSECMP and send your comments and/or recommendations to me. You may submit your comments using the enclosed reply form or by email. **Please respond with your reply by September 6, 2010.**

Thank you for your efforts in supporting this process. If you have any questions, please contact me at 425-462-3771 or [jacob.venard@pse.com](mailto:jacob.venard@pse.com).

Sincerely,

A handwritten signature in blue ink that reads 'Jacob Venard'.

Jacob Venard  
Natural Resource Scientist - Fisheries

Enclosures

cc: Cary Feldmann  
Kim Lane

Figure 3: Example Document Review Transmittal Letter.

### 9.3 Summary of Reviewer Comments and PSE Responses

One comment was received from reviewers; PSE response to the comment is provided in table 2. A copy of the e-mail communication is provided in Appendix A.

Table 2: Summary table of reviewer comments on the draft Reservoir Shoreline Erosion Control Management Plan and Puget Sound Energy response to those comments.

Comment	Puget Sound Energy Response
USDA-FS-Greta Movassaghi, e-mail response received September 8, 2010	
The Forest Service negotiated this article with an estimate of costs associated with priority projects in the Baker Basin. FERC subsequently (in LA 409) required consideration of erosion in Lake Shannon. We will work with PSE to insure that sites selected for treatment reflect the priorities and locations identified in the Settlement Agreement.	Comment noted.

# **APPENDIX A**

## **Comment Letters**

**From:** Greta Movassaghi [mailto:gmovassaghi@fs.fed.us]  
**Sent:** Wednesday, September 08, 2010 11:40 AM  
**To:** Venard, Jacob A  
**Cc:** Jon Vanderheyden  
**Subject:** SA 110 Shoreline Erosion Documents Comments

Jacob

We have the following comments. Thank you.

**SA 110 Draft Reservoir Shoreline Erosion Control Management Plan**

General comment

The Forest Service negotiated this article with an estimate of costs associated with priority projects in the Baker Basin. FERC subsequently (in LA 409) required consideration of erosion in Lake Shannon. We will work with PSE to insure that sites selected for treatment reflect the priorities and locations identified in the Settlement Agreement.

**SA110 Draft Potential Erosion Control Sites and Treatments: Baker and Shannon Lakes**

Page 8

Please update to reflect that the decommissioning of the Resort has occurred and the campground (to be called Swift Creek Campground) is under construction

Page 40 Section 4.0 Potential Shoreline Erosion Treatment

Please provide specific references for each of these described treatments; 4.1 through 4.6

Page 44

4th paragraph

This project was implemented by PSE under Article 201 not by the USFS. We provided technical assistance

~~~~~  
 Greta Movassaghi  
 Natural Resource Specialist --  
 Skagit Wild & Scenic River / Hydro  
 Mt. Baker-Snoqualmie National Forest  
 810 SR 20  
 Sedro-Woolley, WA 98284

Sedro Woolley: 360-854-2630  
 Darrington: 360-436-2325  
 Cell: 360-631-4499  
 email: gmovassaghi@fs.fed.us  
<http://www.fs.fed.us/r6/mbs/skagit-wsr/>  
 ~~~~~

E-mail reply from Greta Movassaghi, USDA-FS, September 8, 2010.