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# Spada Lake Recreational Fishery Plan

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Henry M. Jackson Hydroelectric Project  
(FERC No. 2157)

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Public Utility District No. 1 of Snohomish County



**July 2010**

**Updated per September 2, 2011  
License Article 409**

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# ACRONYMS

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A-LA	Aquatic License Article
ARC	Aquatic Resource Committee
FERC	Federal Energy Regulatory Commission
PM&E	Protection, mitigation and enhancement
RSP	Revised Study Plan
SLRF	Spada Lake Recreational Fishery
WDFW	Washington State Department of Fish and Wildlife

## 1. INTRODUCTION

### 1.1. Background

Public Utility District No. 1 of Snohomish County (District) is seeking from the Federal Energy Regulatory Commission (FERC) a new license for the existing 111.8-megawatt (MW) Henry M. Jackson Hydroelectric Project (FERC No. 2157) (Project). The current license expires on May 31, 2011. The Project is located on the Sultan River in Snohomish County, Washington, near the City of Sultan. The Project was originally licensed in 1961 and amended in 1981. In 1964, construction of Culmback Dam was completed to create Spada Lake (Reservoir<sup>1</sup>) – the primary source of drinking water supplied to approximately 80% of Snohomish County by the City of Everett. In 1984, construction of the Project as it exists today was completed. The Project includes a 262-foot high rock-fill dam (Culmback Dam); a 1,870-acre reservoir operated for water supply reliability, fisheries habitat enhancement on the lower Sultan River, hydroelectric power generation, and incidental flood control; a Powerhouse and various other facilities; wildlife mitigation lands; and several developed and undeveloped lake recreation and river access sites.

On October 14, 2009, the District filed a comprehensive settlement agreement (Settlement Agreement) on behalf of itself, National Marine Fisheries Service, United States Forest Service, United States Fish and Wildlife Service, United States National Parks Service, Washington Department of Fish and Wildlife (WDFW), Washington Department of Ecology, the Tulip Tribes of Washington, the City of Everett, Snohomish County, the City of Sultan and American Whitewater (collectively referred to as “Settlement Parties”). The Settlement Agreement resolved among the signatories all issues associated with issuance of a new license for the Project, including reservoir operation, minimum instream flows, process flows, whitewater boating flows, ramping rates, fish passage, fish habitat improvements, wildlife habitat management, marbled murrelet protection measures, recreation, historic properties and license term.

The Settlement requests that the Commission adopt, without material modification, several Proposed License Articles. These Proposed License Articles will implement a complex and interrelated suite of protection, mitigation and enhancement measures that will result in improved resource conditions and ecological processes in the Sultan River over the term of a new license. The Proposed License Articles address flows, fish passage, fish and wildlife habitat enhancement and protection, water quality, municipal water supply, rule curves for reservoir operation, fish supplementation, recreation, historic properties, and noxious weeds. Proposed Aquatic License Article 10 (A-LA 10, Spada Lake Recreational Fishery) addresses enhancements to the Spada Lake recreational fishery resource (see Appendix 1).

At full pool (elevation 1450 feet msl) Spada Lake has approximately 1,870 surface acres and 22 miles of shoreline. It is approximately five miles long, two miles wide and 210 feet deep. The predominant fish species in Spada Lake and its tributaries include rainbow trout, cutthroat trout, and brown bullhead, and to a lesser degree, large-scale sucker and brook trout (Snohomish PUD 2005).

To implement this proposed license article, Proposed A-LA 10 provides for the development of this Spada Lake Recreational Fishery Plan (“SLRF Plan”). Consistent with Proposed A-LA 10, the SLRF Plan includes provisions that address:

1. removal of man-made barriers to fish passage within tributaries along South Shore Road;
2. improvement to South Fork Recreation Site boat launch to provide boat trailer access;

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<sup>1</sup> Technically considered a reservoir being manmade but referred to as Spada Lake on maps and in fishing regulations.

3. maintenance of lake elevations;
4. creation of a recreational fishing brochure for Spada Lake; and
5. conduct routine fish populations surveys of Spada Lake using gill nets .

The Spada Lake Recreational Fishery proposed license article provides that this Plan must be filed with the Commission, for approval, within one year of issuance of the license. However, the Settlement Parties understand that for the Commission to include this Plan's approval as part of a New License order, it must be submitted earlier. Consistent with the Commission's staff desire to approve management plans as part of a New License order, the District is filing this SLRF Plan prior to the issuance of the new license. The District requests that the Commission approve this SLRF Plan concurrently with its issuance of the New License. Doing so will ensure rapid implementation of this Plan.

On September 2, 2011, the FERC issued a 45-year license for the Jackson Project (License). Article 409 of the License approves the SLRF Plan submitted to the FERC on July 16, 2010 with modifications to Sections 3, 4, and 5 (see Appendix 1B); this version of the SLRF Plan reflects those required modifications.

Consistent with the requirements of Spada Lake Recreational Fishery proposed license article, the District has developed this Plan in consultation with the ARC. Along with this SLRF Plan, the District has included documentation of consultation opportunities (Appendix 2).

## **1.2. Purpose**

The purpose of the SLRF Plan is to implement the District's obligations specified in Proposed A-LA 10 which ultimately enhances the recreational fishery resources of Spada Lake. This Plan is based on results of the RSP 16 (Meridian Environmental 2008, Beauchamp 2008), the Recreation Resource Management Plan, and consultation with the ARC.

## **1.3. Coordination and Integration**

### **1.3.1. District's Role**

Upon issuance of the new license and approval of the SLRF Plan, the District will be responsible for implementing the SLRF Plan. This responsibility will include:

- funding to carry out the measures as described herein;
- coordinating with surrounding landowners regarding land management in or near the Project boundary that may affect or be affected by the measures provided;
- consulting with the Washington Department of Fish and Wildlife; and
- reporting to the FERC.

The District's resource specialists and consultants will be involved as needed. Operational staff will be trained on the unique requirements of the SLRF Plan.

### **1.3.2. ARC Involvement**

The District will meet quarterly with the ARC on license implementation measures. As necessary, these meetings will address outstanding issues associated with the implementation of this Plan.

### **1.3.3. Resources**

The District will coordinate the actions of the SLRF Plan with the actions of various Project resource management plans and license articles including the:

- Recreation Resource Management Plan – for cross reference to Spada Lake recreation sites' improvements, abandonment of the South Shore Road, and implementation of interpretation and education program, web site postings, use restrictions, and access provisions; and
- Operating rule curves.

## 2. SITE IMPROVEMENTS

### 2.1. SOUTH SHORE ROAD

Stream crossings along the South Shore Road between Olney Pass and the South Shore Recreation Site (Figure 1) will be upgraded to Forest Practice Standards by the District per the schedule identified in the Recreation Resource Management Plan. No other man-made barriers exist between these two points. This work will be conducted in conjunction with fish passage improvements associated with the Washington State Department of Natural Resources' abandonment of the South Shore Road east of the South Shore Recreation Site.



Figure 1: Map of Spada Lake Recreational Areas

### 2.2. BOAT LAUNCH

Boat launch improvements at the South Fork Recreation Site will be conducted per the schedule and detail identified in the Recreation Resource Management Plan. The improvements will include launching access and parking for trailered-boats. All maintenance of the site will be conducted through the Recreation Resource Management Plan.

### 3. LAKE LEVEL

Per Article 409, operational requirements for Spada Lake Reservoir will be managed according to Article 406.

### 4. FISHING BROCHURE

The District will prepare a recreational fishing brochure for Spada Lake that describes effective fishing techniques, including the best times and suggested locations, among other informational items related to the fishery resource of Spada Lake. The District will make this brochure available on its web site and file it with the FERC.

The brochure will be developed in coordination with the Interpretation and Education program identified in the Recreation Resources Management Plan. The first version of the brochure will coincide with the most up to date gill net survey data collected in fall 2012. Subsequent to future surveys, the District will review the fishing brochure for areas to update if needed. If updated, the District will file the brochure with the FERC in accordance with License Article 409.

In general, the steps and scheduled for this brochure's development are:

Step	Approximate Schedule/Due Date
Gather information	December 2012 (after gill net data is collected and analyzed)
Layout information	March 2013
Print brochures	April 2013
Post to web and file with FERC	April 2013 (prior to fishing season opening)

### 5. GILL NET SURVEYS

Upon approval of the SLRF Plan and License issuance by the FERC, starting in 2012 and once every five (5) years thereafter, the District will conduct fall gill net surveys at Spada Lake during the month of October. For purposes of seasonal catch comparisons, surveys will be patterned after previous surveys conducted by WDFW and the District (Pfeifer 1999, Meridian 2008). Surveys will consist of overnight sets on two consecutive nights. Ten gill nets (6 sinking and 4 floating) will be set each night in established index zones with demonstrated high trout catch per unit effort, such as areas located along the reservoir shoreline and near tributary inlets to the reservoir. Index zones will be in proximity to areas influenced by input from major tributaries including the South Fork, mainstem of the Sultan River, and Williamson Creek. The dimensions of all horizontal nets will be 1.8 m deep by 38.1 m long with 5 separate 7.6 m-wide mesh panels of 2.5-, 3.2-, 3.8-, 5.1-, and 6.4-centimeter monofilament stretch mesh. Data collected will include net location, set duration (start and stop times), sampling depth, species identification and enumeration, total/fork length, and weight. General weather conditions, water clarity, water temperature, and other pertinent environmental information will be recorded. Emphasis will be placed on monitoring of the trout population although data on bullhead will be collected as well. Subsampling of bullhead will occur when heavily abundant. Analysis will include species composition, species catch per unit effort, size structure, and condition factor.

A technical memorandum will be prepared upon completion of the survey including comparisons with previous survey efforts. The memorandum will be submitted to the regional office of WDFW for trend monitoring and management purposes. Per License Article 409, the District will file the technical memorandum with the FERC within 180 days of completing the gill net surveys.

The District with the consent of Washington Department of Fish and Wildlife may use alternative non-lethal sampling methods in the event such sampling method become available. The District will review the gill net survey protocol prior to each 5-year survey and may update the protocol based on consultation with WDFW.

## **6. REPORTING AND PLAN REVIEW**

The District will provide copies of the gill netting memorandum and fishing brochure to the ARC if requested.

The District will review the Plan at least every 5 years and recommend changes, if any, to the ARC. The District will allow a minimum of thirty (30) days for members of the ARC to comment and make recommendations before submitting the modified SLRF Plan to the FERC. When filing the modified SLRF Plan with the FERC, the District will include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from the ARC are accommodated by the District's plan. If the District does not adopt a recommendation, the filing will include the District's reasons based upon Project-specific information.

## **7. REFERENCES**

Beauchamp, David. 2008. Factors Limiting Trout Production in Spada Lake Final Technical Report for Revised Study Plan 16: Spada Lake Trout Production. Prepared for Public Utility District No. 1 of Snohomish County.

<http://www.snopud.com/PowerSupply/hydro/jhprelicense/jhprdo crel/jhprstudy rpts.ashx?p=1480>

Meridian Environmental. 2008. Revised Study Plan 16 Spada Lake Trout Production Draft Phase 2 Field Studies Technical Report. Prepared for Public Utility District No. 1 of Snohomish County.

<http://www.snopud.com/PowerSupply/hydro/jhprelicense/jhprdo crel/jhprstudy rpts.ashx?p=1480>

Pfeifer, B., P. Tappel, A. Vogel, M Schuh, and W. Brunson. 1999. Spada Lake Biological Assessment and Sport Fishery Evaluation. Washington Department of Fish and Wildlife, Fish Program, Fish Management Division. December 1999.

<http://www.snopud.com/PowerSupply/hydro/jhprelicense/jhprdo ch/jhprhistfish.ashx?p=1535>

Snohomish PUD. 2005. Pre-Application Document.

<http://www.snopud.com/PowerSupply/hydro/jhprelicense/jhprdo crel/jhprnoipad.ashx?p=1472>

Snohomish PUD. 2009. Settlement Agreement Recreation Resources Management Plan. Filed with FERC as Appendix X in the Settlement Agreement on October 14, 2009.

<http://www.snopud.com/PowerSupply/hydro/jhprelicense/jhprdo crel/jhprfla.ashx?p=1485>

Snohomish PUD. 2010. Directive 73: Public Use of Jackson Hydroelectric Project Recreation and Mitigation Lands.

[http://www.snopud.com/site/content/Documents/73\\_Public\\_Use\\_of\\_Jackson\\_Recreation\\_Lands.pdf](http://www.snopud.com/site/content/Documents/73_Public_Use_of_Jackson_Recreation_Lands.pdf)



# **Appendix 1**

# **Proposed Aquatic License Article 10**

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**A-LA 10: Spada Lake Recreational Fishery**

Within one (1) year of License issuance, the Licensee shall file with the Commission, for approval, a Spada Lake Recreational Fishery Plan (SLRF Plan). This SLRF Plan shall document how the Licensee shall implement a program to enhance the Spada Lake recreational resources. The SLRF Plan shall include provisions as follows:

1. The Licensee shall remove existing man-made barriers to fish passage within tributaries along South Shore Road beyond Recreation Site 3. The removal of these barriers shall be done in conjunction with abandonment of portions of the South Shore Road beyond Recreation Site 3.
2. The Licensee shall improve the Recreation Site 2 boat launch by providing boat trailer access. This improvement shall provide better access to the southern part (South Fork arm) of the Spada Lake (an area that has relatively high fish densities and historically good catch rates) and more geographic options to anglers. This improvement shall also provide increased access to an area of the reservoir not subjected to the high winds prevalent in the main body. This improvement shall provide launch access to elevations as low as 1410 feet mean sea level (msl). Throughout the License term, the Licensee shall maintain the boat launch (including repairing ramp structures down to elevation 1410 feet msl) and on an annual basis (before the start of the recreation season) remove debris from the boat launch.
3. Subject to meeting City of Everett water demands and the Licensee's other License Article obligations and power production needs, the Licensee shall attempt to maintain a minimum impoundment elevation at or above approximately 1430 feet msl from July 1 until August 15 to enhance recreational opportunities.
4. The Licensee shall prepare a recreational fishing brochure for Spada Lake that describes effective fishing techniques, including the best times and suggested locations. The Licensee shall make this brochure available on its website.
5. Upon approval of the SLRF Plan and once every five (5) years thereafter, the Licensee shall conduct gill net surveys at Spada Lake. Such surveys shall be conducted in either June or October. The Licensee with the consent of Washington Department of Fish and Wildlife may use alternative non-lethal sampling methods in the event such sampling method become available.

The Licensee shall develop the SLRF Plan in consultation with the Aquatic Resource Committee (ARC). The Licensee shall allow a minimum of thirty (30) days for members of the ARC to comment and make recommendations before submitting the SLRF Plan to the Commission. When filing the SLRF Plan with the Commission, the Licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from the ARC are accommodated by the Licensee's plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based upon Project-specific information.

Upon Commission approval and obtaining any necessary regulatory approvals, the Licensee shall implement the SLRF Plan.

**The following is from the Settlement Agreement's Joint Explanatory Statement regarding this proposed license article:**

J. Article A-LA 10: Spada Lake Recreational Fishery

In its License Application (see Appendix B at 17), the District proposed to develop and implement a program to enhance the Spada Lake recreational resources. Specifically, the Spada Lake Recreational Fishery Plan ("SLRF Plan") would remove existing man-made barriers to fish passage within tributaries along South Shore Road (beyond South Shore Recreation Site No. 3), improve the Recreation Site 2 boat launch by providing boat trailer access, and develop a recreational fishing brochure for Spada Lake that describes effective fishing techniques.

A-LA 10 includes the same measures that were proposed in the License Application, but also includes a measure to monitor trout relative abundance and population metrics in Spada Lake every five years for the term of a new License. A-LA 10 also includes a measure to maintain a target minimum impoundment elevation at or above approximately 1,430 feet msl from July 1 until August 15 to enhance recreational opportunities.

While no detailed field surveys were conducted to inventory the number and location of potential fish migration barriers located along the South Shore Road, removing the culverts may provide fish access to about 1.5 miles of stream habitat (based on map analysis). This increase in the amount of available trout spawning and early rearing habitat could potentially increase the abundance of cutthroat and rainbow trout residing in Spada Lake, increasing the number of trout available for recreational harvest. Improving angler access at Recreation Site 2 and providing a brochure to anglers detailing techniques to target Spada Lake trout is expected to promote increased angler effort and may contribute to increased harvest and improved angler satisfaction. The additional A-LA 10 measures will provide valuable monitoring data to fishery managers to inform future decisions on trout management in Spada Lake and will facilitate angler access to Spada Lake during the summer recreational fishing season.

**Appendix 1B**  
**License Article 409 per the FERC-**  
**Issued License on September 2, 2011**

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Article 409. Spada Lake Recreational Fishery Plan. The Spada Lake Recreational Fishery Plan, filed on July 16, 2010, is approved and shall be implemented with the following modifications:

(1) the operational requirements for Spada Lake described in section 3 are removed and Spada Lake levels shall be managed according to Article 406.

(2) the licensee shall file the recreational fishing brochure and any subsequent updates to the recreational fishing brochure described in section 4 concurrently with its posting on the licensee's website; and

(3) within 180 days of completing the gill net surveys, which are to be conducted starting in 2012 and once every five years thereafter in accordance with Section 4 of the plan, the licensee shall file with the Commission the gill net technical memorandum identified in Section 5 of the plan.

# **Appendix 2**

# **Consultation on Draft SLRF Plan**

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## Presler, Dawn

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**From:** Presler, Dawn  
**Sent:** Wednesday, April 28, 2010 10:26 AM  
**To:** 'Applegate, Brock A (DFW)'; 'Abby Hook'; 'Jim Miller'; 'Andy.Haas@co.snohomish.wa.us'  
**Cc:** 'Steve Fransen'; 'Barry Gall'; 'Tim\_Romanski@fws.gov'; 'Maynard, Chris (ECY)'; 'deborah.knight@ci.sultan.wa.us'; 'Thomas O'Keefe'; Moore, Kim; Binkley, Keith  
**Subject:** ARC - Draft SLRF Plan for your review  
**Attachments:** DRAFT\_SLRF\_Plan\_April2010.DOC

Dear ARC (Spada Lake Recreational Fishery Plan Quorum Members):

Attached is the draft Spada Lake Recreational Fishery Plan for your 30 day review and comments. If you have any comments on the attached please email them by May 30. We'll be discussing the draft plan at the upcoming ARC meeting (May 13) as well.

***Dawn Presler***

Relicensing Specialist  
Jackson Hydro Project

Snohomish County PUD No. 1  
PO Box 1107 Everett, WA 98206-1107  
Phone: 425-783-1709

## Presler, Dawn

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**From:** Presler, Dawn  
**Sent:** Thursday, July 01, 2010 3:19 PM  
**To:** Engel, John  
**Cc:** Andy' 'Haas  
**Subject:** FW: ARC - Spada Lake Recreation Fishery Plan - ready to file with FERC?  
**Attachments:** DRAFT\_Spada\_Lake\_Recreational\_Fishery\_Plan\_July2010.DOC

FYI...

Dawn

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**From:** Presler, Dawn  
**Sent:** Thursday, July 01, 2010 3:19 PM  
**To:** 'Applegate, Brock A (DFW)'; 'Abby Hook'; Andy' 'Haas'; 'Jim Miller'  
**Cc:** 'jsklare@ci.everett.wa.us'; 'dwilliams@tulaliptribes-nsn.gov'; Moore, Kim; Binkley, Keith; Steven.M.Fransen@noaa.gov; 'Tim\_Romanski@fws.gov'; 'Barry Gall'; 'Maynard, Chris (ECY)'; 'Deborah Knight'; 'Thomas O'Keefe'  
**Subject:** ARC - Spada Lake Recreation Fishery Plan - ready to file with FERC?

Dear ARC (Spada Lake Rec Fishery Quorum Members):

Attached is the updated SLRF Plan based on WDFW and City of Everett comments. Please take until July 12 to review and let us know if you have any final concerns/questions/comments. We will be discussing the readiness of filing this Plan with FERC at the ARC meeting on July 13. If ready for filing, I'll file the Plan asap.

Thanks!

***Dawn Presler***  
Relicensing Specialist  
Jackson Hydro Project

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