167 FERC ¶ 62,198
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of Snohomish County, Washington — Project No. 2157-247

ORDER AMENDING WHITEWATER RECREATION PLAN PURSUANT TO ARTICLE 412

(Issued June 27, 2019)

1. On February 14, 2019, Public Utility District No. 1 of Snohomish County, Washington, licensee for the Henry M. Jackson Hydroelectric Project No. 2157, filed a request to amend its Whitewater Recreation Plan, approved by Article 412 of the project's license.[1] The project is located on the Sultan River, in Snohomish County, Washington. The project occupies land within the Mount Baker-Snoqualmie National Forest administered by the U.S. Forest Service.

2. Article 412 modified and approved the licensee's Whitewater Recreation Plan, which was referenced by Appendix A (Water Quality Certificate Conditions) condition 5.2 (A-LA 4) and Appendix B (Forest Service 4e Conditions) condition 2 (A-LA 4) of the license. Each of these conditions (A-LA 4), which originated in a settlement agreement for the project's relicensing, specify certain whitewater boating flows at the project. Additionally, A-LA 4 requires the Whitewater Recreation Plan to be implemented in consultation with the Aquatic Resource Committee (ARC)[2] and National Park Service. Finally, Article 412(2) required the licensee to file an addendum to the plan to address flooding in the city of Sultan, which was subsequently approved.[3]

[1] Order Issuing New License (136 FERC ¶ 62,188), issued September 2, 2011.

[2] The ARC is required by Condition A-LA 1, made a part of the license in ordering paragraphs (D) and (E) of the 2011 Order. The ARC generally consists of the National Marine Fisheries Service, Forest Service, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Tulalip Tribes, Snohomish County, City of Everett, City of Sultan, and American Whitewater, but may be revised in accordance with Condition A-LA 1.

[3] Order Approving Whitewater Recreation Plan Addendum pursuant to Article 412 (140 FERC ¶ 62,088), issued July 30, 2012.

3. In addition to several minor edits and updates, the licensee is proposing to amend its Whitewater Recreation Plan to incorporate the Whitewater Recreation Plan Addendum (approved by the 2012 Order), remove the requirement for unscheduled events, and increase the number of scheduled events. The licensee states that, after three years of implementing the plan, it noticed low attendance at its unscheduled events and believes that replacing the unscheduled events with scheduled events would improve the whitewater experience on the Sultan River. The licensee discussed its proposal at a recent ARC meeting and reached a general consensus. On November 14, 2018, the licensee provided its proposed Whitewater Recreation Plan in writing to members of the ARC and National Park Service. The licensee received no opposition to the proposed changes and several agencies responded in support of the proposed changes.

4. The licensee's proposed amendment to the Whitewater Recreation Plan would improve whitewater boating opportunities on the Sultan River while protecting aquatic and other environmental resources at the project. For these reasons, and the fact that no agencies or entities object to the licensee's proposal, the licensee's proposed amendment to its Whitewater Recreation Plan should be approved.

The Director orders:

(A) Public Utility District No. 1 of Snohomish County's request, filed February 14, 2019, to amend the Whitewater Recreation Plan at the Henry M. Jackson Hydroelectric Project No. 2157, is approved.

(B) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 825*l* (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2018). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Robert J. Fletcher
Land Resources Branch
Division of Hydropower Administration
and Compliance

SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Your Community Energy Partner

February 14, 2019

VIA ELECTRONIC FILING

Kimberly D. Bose, Secretary
Nathaniel J. Davis, Sr., Deputy Secretary
Federal Energy Regulatory Commission
ATTN: DHAC
888 First Street NE
Washington, DC 20426

Re: Jackson Hydroelectric Project, FERC No. 2157
Whitewater Recreation Plan – Request Approval of Updated Plan
License Article 412

Dear Secretary Bose:

With this letter, Public Utility District No. 1 of Snohomish County (the District) is requesting review and approval by the Federal Energy Regulatory Commission of updates to the Whitewater Recreation Plan (WR Plan) for the Jackson Hydroelectric Project (the Project), FERC No. 2157.

The updates to the WR Plan include incorporating the WR Plan approved by FERC in the License dated September 2, 2011 with the WR Plan Addendum approved by FERC on July 30, 2012, removing the requirement for unscheduled events, and increasing the number of scheduled events. After three years of implementing the WR Plan, the District noted a lack of meaningful whitewater experience associated with the unscheduled events due to lack of or low attendance at these events. The District consulted with American Whitewater and National Park Service to revise the plan to remove the requirement for two unscheduled events per year and increase the number of scheduled events up to a total of three per year as approved by the Aquatic Resource Committee. With this change, a better whitewater experience on the Sultan River is anticipated by providing advanced notice of the events to maximize participation during a preferred time of year.

Attachment 1 contains the redlined version update of the WR Plan. Attachment 2 contains the clean version with all changes accepted and associated appendices. Documentation of consultation with the Settlement Parties regarding the attached is included in the WR Plan's Appendix 2; no parties objected to the updated WR Plan. The District respectfully requests approval to the attached updated WR Plan by May 31 in order to adequately plan for the extra scheduled event to take place in summer 2019.

If you have any questions on the report, please contact Keith Binkley, Natural Resources Manager, at (425) 783-1769, or Dawn Presler, Sr. Environmental Coordinator, at (425) 783-1709.

Sincerely,

/s/ Tom DeBoer

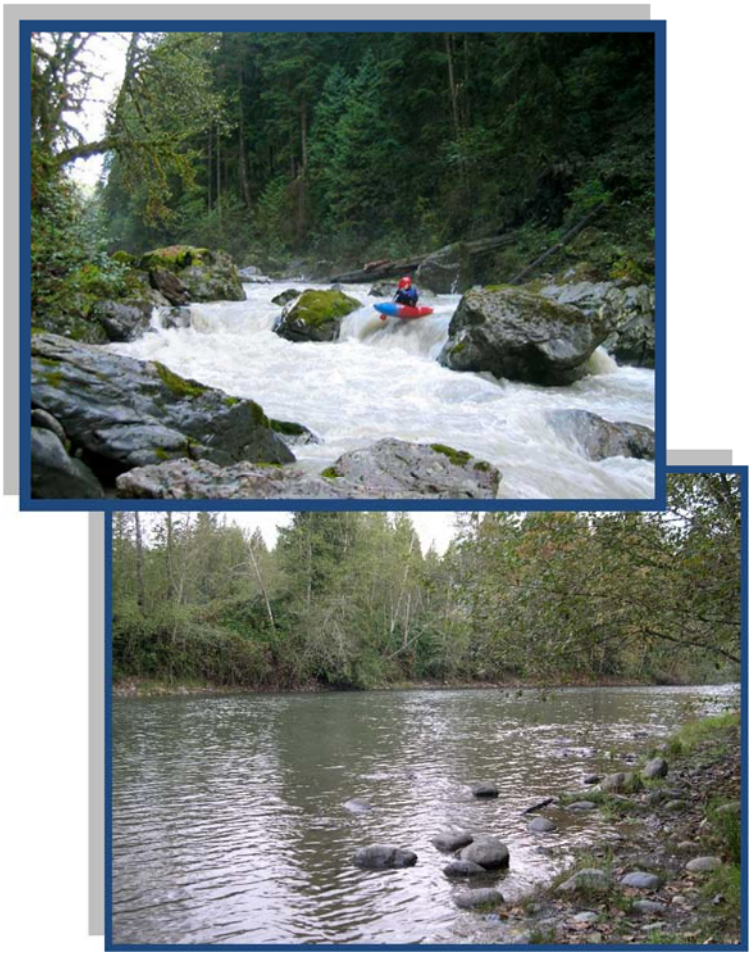
Tom DeBoer
Assistant General Manager of Generation, Power, Rates and Transmission Management
TADeBoer@snopud.com
(425) 783-1825

Enclosed: WR Plan

cc: ARC
Keith Binkley, District
Dawn Presler, District

ATTACHMENT 1

Redlined Version of Updated Whitewater Recreation Plan



Whitewater Recreation Plan

(License Article 412)

Henry M. Jackson Hydroelectric Project

(FERC No. 2157)

Public Utility District No. 1 of Snohomish County

~~*June 2010*~~*February 2019*

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APPENDICES

ACRONYMS

A-LA	Aquatic License Article
AHPS	Advanced Hydrologic Prediction Service
ARC	Aquatic Resource Committee
AW	American Whitewater
cfs	cubic feet per second
District	Public Utility District No. 1 of Snohomish County
FERC	Federal Energy Regulatory Commission
MMHPP	Marbled Murrelet Habitat Protection Plan
msl	m~~M~~ean sea level
NPS	National Park Service
PM&E	Protection, mitigation and enhancement
Project	Henry M. Jackson Hydroelectric Project, FERC No. 2157
RM	River Mile
RSP	Revised Study Plan
USFS	United States Forest Service, Department of Agriculture
USGS	United States Geological Survey
WDFW	Washington State Department of Fish and Wildlife
WR	Whitewater Recreation

1. INTRODUCTION

1.1. Background

~~The~~ Public Utility District No. 1 of Snohomish County (the District) ~~will be~~is the sole Licensee for the Henry M. Jackson Hydroelectric Project (Project) under a New License issued on September 2, 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 1965, Culmback Dam construction was completed to create Spada Reservoir – the source of the majority of drinking water supplied to Snohomish County by the City of Everett. In 1984, the hydroelectric facilities construction was completed. The Project includes a 262-foot high rock-fill dam (Culmback Dam); a 1,870-acre reservoir (Spada Lake or Spada Reservoir) operated for City of Everett's water supply, fisheries habitat enhancement, hydroelectric power, and incidental flood control; a powerhouse and various other facilities; wildlife mitigation lands; and several developed and undeveloped recreation and river access sites. Under the original license, no whitewater recreational flow releases were required.

During the relicensing process, several stakeholders requested that the District conduct a recreation flow study to gage the demand and viability of whitewater boating opportunities on the Sultan River. The District conducted an informal flow study in December 2006 (EDAW 2006) and a formal Recreation Flow Study in 2007 and 2008 (Confluence Research 2008).

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 (USFS), United States Fish and Wildlife Service, United States National Park Service (NPS), Washington Department of Fish and Wildlife (WDFW), Washington Department of Ecology, the Tulalip Tribes of Washington, the City of Everett, Snohomish County, the City of Sultan, and American Whitewater (AW), ~~(~~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, noxious weed management, recreation, historic properties and License term.

The Settlement Agreement request~~s~~ed that the Federal Energy Regulatory Commission (FERC) adopt, without material modification, the 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 mainly address~~ed~~ 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. Included in the Proposed License Articles ~~i~~was the Aquatic License Article (A-LA) 4: Whitewater Boating Flows (Appendix 1).

FERC approved the ~~This~~ Whitewater Recreation Plan (WR Plan) when it issued a new License to the Project on September 2, 2011. This WR Plan has been updated from the original plan filed with FERC on June 17, 2010, incorporating the amended WR Plan Addendum approved by FERC on July 30, 2012, and the recommendations after the first three-year cycle of implementation. The recommendation for this update to the WR Plan included removing the

requirement for unscheduled events and ~~replacing it~~ utilizing the existing water budget to increase the frequency of scheduled events, subject to meeting certain environmental conditions and Aquatic Resource Committee (ARC) concurrence. ~~with~~ Upon agreement, the desire for an increased frequency of scheduled events will be met by ~~the requirement to~~ offering a third scheduled event each year (during late-July through mid-September) for the potential of a total of 9 scheduled events over a three-year water budget cycle. This recommendation was discussed with NPS and AW during a meeting in July 2018, and subsequently with the ARC for review and comment. ~~is pursuant to the proposed A-LA-4. It takes into account results of the Recreation Flow Study (Revised Study Plan 14) and was developed in consultation with the National Park Service (NPS) and the Aquatic Resource Committee (ARC) (which includes American Whitewater).~~ The WR Plan describes:

1. the frequency, magnitude, duration, and timing of possible whitewater events;
2. ~~-~~operational, biological, and other constraints upon whitewater events;
3. the ongoing involvement (including annual meetings) of the ARC and NPS in implementing the Program;
4. ~~-~~the mechanism for timing whitewater events to coincide with natural rainfall events or coordinate with Project generation or other License Article obligations to achieve greater flow volumes in desired reaches or habitats;
5. mechanism for notifying whitewater boating stakeholders of whitewater boating opportunities during scheduled whitewater events and other high flow events within the Sultan River;
6. mechanism for assessing the boaters' satisfaction during whitewater events and impacts to aquatic and terrestrial resources;
7. ~~-~~mechanism for recording the number of participants, safety incidents, and costs;
8. the timing and other restrictions necessary to minimize impacts to aquatic resources, to not exacerbate flood damage in the City of Sultan;
9. the method and schedule for monitoring flow releases and water budget accounting pursuant to the Plan;
10. the waiver of indemnity for participants in a scheduled flow release; and
11. the mechanism for providing and restricting the whitewater boating stakeholder representatives shuttle vehicle access to Culmback Dam and the Diversion Dam during scheduled whitewater events.

Documentation of consultation opportunities on the ~~draft~~ updated WR Plan is included in Appendix 2.

1.2. Coordination and Integration

1.2.1. District's Role

The District is responsible for implementing all aspects of the WR Plan including:

- providing the 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 recreational opportunities provided;
- consulting with appropriate stakeholders and ~~the~~ FERC as needed;

- monitoring recreational use, resource impacts, vandalism; and
- reporting to FERC per Form 80 requirements.

1.2.2. ARC and NPS Involvement

As described in Section 2.3.1., the District will seek the input from NPS and the ARC annually when developing the time, duration, and magnitude of each scheduled whitewater event for that water year.

1.2.3. Resources

Due to the natural setting of the Project recreation facilities and access sites, other resources affect recreation resources and vice versa. The District will coordinate the actions of the WR Plan with the actions of the various Project resource management plans including the:

- Recreation Resource Management Plan – for cross reference to river web content and signage relevant to whitewater boating interests, FERC Form 80 reporting requirements, and recreation and river site maintenance guidelines.
- Noxious Weed Management Plan (NWMP) – for cross reference to types of noxious weeds that can be brought into the Project area.
- Marbled Murrelet Habitat Protection Plan (MMHPP) – for cross reference to sensitive areas and timing constraints.
- Historic Properties Management Plan – for cross reference to potential effects to the two historic properties along the Sultan River.
- Operating related License Articles – for cross reference to rule curves, minimum flow and downramping requirements.
- Process Flow Plan – for cross reference to sequencing potential with other flow releases.

The District's resource specialists will be consulted prior and post flow releases. Operational staff will be trained on the unique requirements of the WR Plan.

The WR Plan and scheduled flow releases need to take into account other resources that may be impacted by such recreational releases and associated activities – such as fish outmigration and spawning, water supply droughts, water temperatures, marbled murrelet roosting, and fishing and mining activities. The timing of events, to the extent possible, will take into account the timing of process flow ~~regime PM&E~~ releases or natural accretion events to maximize the use of the water being provided. Further information on how this will take place is discussed Section 2.3.2.~~.~~ below.

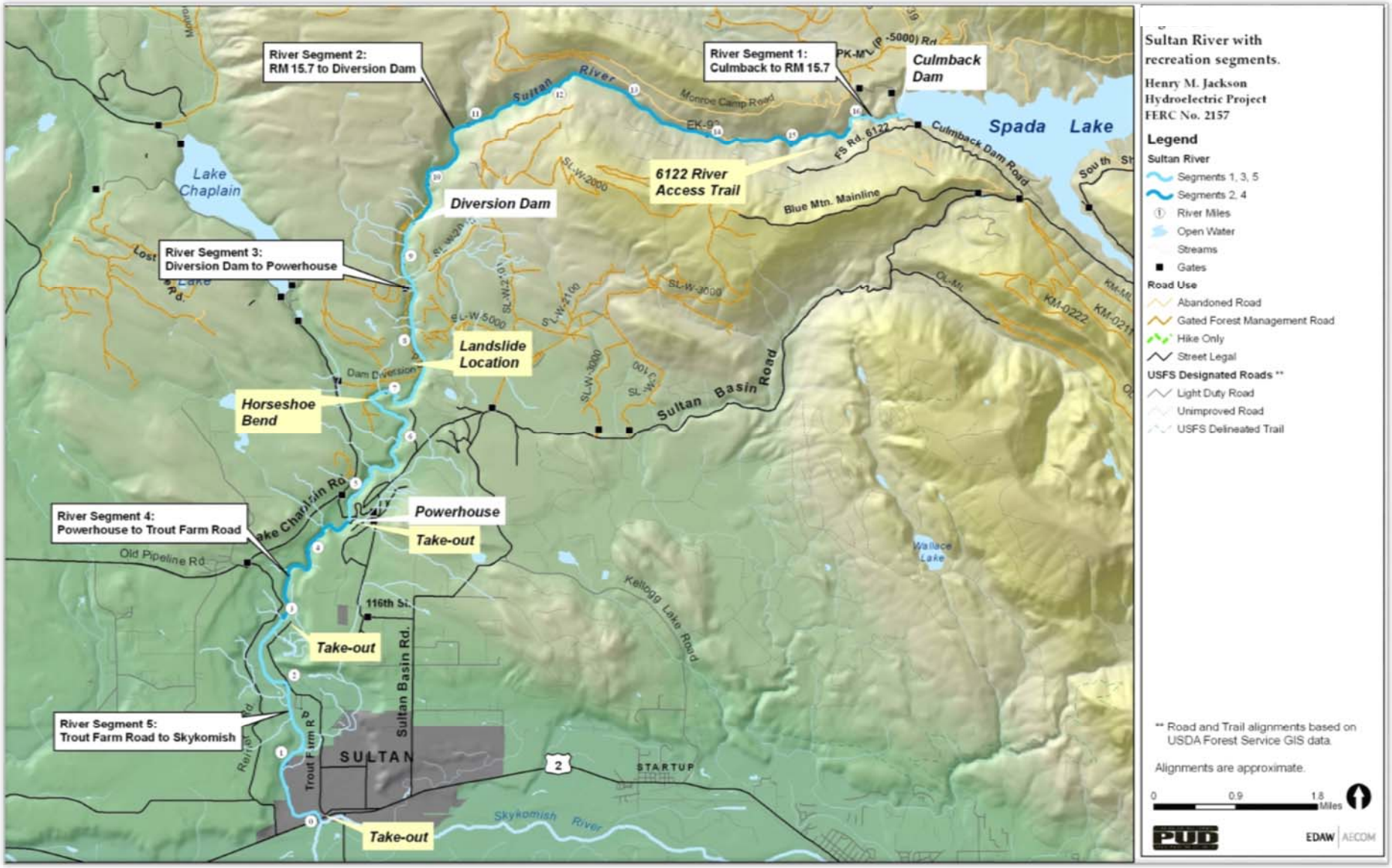

Figure 1. Whitewater boating segments on the Sultan River.

2. WHITEWATER FLOW RELEASES

2.1. Flow Releases

The District will provide flows for ~~12~~ a minimum of six (6) and up to nine (9) viable whitewater boating events on the Sultan River every three years for the duration of the License with sufficient advance notice to whitewater boaters. The intent is to provide an average of ~~four~~ three flows per year for the life of the License.

~~-~~During each three-year period, the District will provide a firm water budget of 2,100 acre-feet of water (total, to be allocated over the three-year period) to ensure that ~~12~~a minimum of six and up to nine viable whitewater events occur. If the 2,100 acre-feet of water budget in combination with controlled and uncontrolled flow releases (i.e. spill) and accretion flows is not sufficient to achieve ~~12~~9 viable whitewater events during each three-year period, the District will provide a reserve budget of 1,200 acre-feet to ensure that such events occur. The ~~12~~nine whitewater events will be provided ~~either~~ as scheduled events ~~(Section 2.1.1), or viable unscheduled whitewater events (Section 2.1.2)~~.

This Plan does not restrict boaters' access to the Sultan River nor does it prescribe when a boater may boat the Sultan River.

Factors the District will consider when scheduling viable events include, but not limited to:

1. Real-time aquatic resource issues,
2. Input from the ARC and NPS,
3. Drought status,
4. Accretion flows,
5. Process flow releases,
6. Market conditions, and
7. Results of the Flow Recreation Study (Confluence Research and Consulting 2008, Key Findings are located in Appendix 3) and boater satisfaction surveys.

~~2.1.1. Viable Unscheduled Whitewater Events~~

~~A viable unscheduled whitewater event is defined as a calendar day (a) occurring between March 15 and November 30 or at times agreed to by the District and American Whitewater in consultation with the ARC, (b) with controlled and uncontrolled flow releases (i.e. spill) and accretion flows between 600 cfs and 2000 cfs for at least three hours, (c) during a time of day that supports whitewater boating, at conditions that allow access to the reach, and (d) with at least 48 hours notice to boaters. Boaters will be notified of up to six viable unscheduled events per water year. For purposes of determining compliance, the unscheduled whitewater event's magnitude and duration will be measured at the flow gage immediately upstream of the City of Everett's Diversion Dam at River Mile (RM) 9.8. The District recognizes that weekend days are preferred by whitewater boaters; however, unscheduled whitewater events are not constrained to take place on weekends.~~

~~2.1.2.~~2.1.1. Scheduled Whitewater Events

Each year, ~~at a minimum two~~ three of the whitewater events will be scheduled at least two weeks in advance and will occur on weekends, with one occurring in late-July to mid-September based

on approval from the ARC after discussing and weighing real-time conditions for water quality, water quantity or drought conditions, fish use, habitat conditions, and status of fall and summer runs, etc.; one occurring specifically between September 1 and 15; and one occurring in April or May. Each event will be between 600 cfs and ~~2~~1,000 cfs and at times of the day that support whitewater boating. To maximize participation, t~~T~~he District intends to provide ~~prioritize higher~~ flows for these scheduled events ~~to provide for~~ that meet the optimal standard flow ~~definition to maximize participation~~, within the constraints of the water budget. If the duration of a scheduled whitewater event is scheduled to be longer than three daylight hours, the event will be counted as two events. For purposes of determining compliance, the scheduled whitewater event's magnitude and duration will be measured at the flow gage immediately upstream of the City of Everett's Diversion Dam at River Mile (RM) 9.8 or alternatively by subtracting Project inflows at the Diversion Dam from the gage (USGS Gaging Station No. 12137800) operated by the U.S. Geological Survey, just downstream of the Diversion Dam at RM 9.6.

2.2. Constraints

When evaluating potential constraints, there are three fundamental considerations related to releases for whitewater recreation; volume (discharge), duration, and season. Constraints should be evaluated relative to a single event.

Seasonally, depending upon climatic and hydrologic conditions, ~~reservoir elevation,~~ ~~a~~ late-July to mid-September whitewater event releases may ~~potentially~~ adversely affect water supply. In addition to recreation, the September whitewater event release, in particular, is intended to be a multi-purpose release to also flush spawning habitats and encourage upstream fish migration. Despite these considerations, the drought provision within the License article is intended to address sensitivities associated with whitewater event releases during drought conditions. Interim modifications during drought conditions include flow reductions or postponement of releases.

~~Similarly, the volume of water associated with a single whitewater event release will have an impact on generation. The foregone generation associated with a single event is between 300 and 450 MWh depending on release magnitude and duration. Depending on variable market conditions, the financial implications tied to a whitewater event release can be significant and should be considered during scheduling.~~ Potential impacts to aquatic resources need consideration when scheduling whitewater events. Releases occurring from the base of Culmback Dam at reservoir elevation 1,220 feet msl are cold. Depending on the season, the increased discharge and release of cold water can have a significant impact on the thermal conditions within the entire river ~~reach extending downstream to the Diversion Dam~~. While short in duration, the relative increase in discharge coupled with disruption to the thermal regime must be considered for both resident and anadromous species.

WDFW expressed concern over whitewater releases that are scheduled during periods when extreme climatic conditions are present. For instance, during a drought when flows in the un-regulated Skykomish River are low and water temperatures are warm, releases from the Sultan River that are relatively high and cool if not properly timed, may "attract" upstream migrating Skykomish River Chinook salmon into the Sultan River. This has been observed in the past when a higher proportion of Wallace Hatchery Chinook have been observed in the Sultan River on drought years than in non-drought years.

-One way to assess the likelihood of whitewater events attracting hatchery Chinook into the Sultan River, is to incorporate the use a flow-weighted thermal mass calculation into the decision making and scheduling process. This tool standardizes discharge and water temperature between the Sultan River and the Skykomish River, immediately upstream (RM 14.1), and assigns a ratio between the two sites. The ratio of pre-release river conditions can be compared to a release scenario based on magnitude and water temperature in the ~~at~~ Sultan River and RM 0.2. Realizing these releases are established two weeks in advance, looking ahead in the weather forecast will also shed light on the potential to attract hatchery Chinook into the Sultan River. Consultation with WDFW and the ARC will be essential to minimizing potential attraction related impacts. To minimize, discourage and/or prevent stranding of fish, downramping rates established in the License will be followed. ~~Additionally, the salmon ceiling flow will be honored once the short duration recreational release has been completed.~~

~~As a general rule, whitewater events should be avoided during the drier summer months and snow-covered winter months that prevent access; therefore, releases will likely occur between August 15~~September 1 to November 30 and March 15 to May 31. Crowding and safety is another important consideration during flow events. The Flow Study (Confluence 2008) identified a minimum of three to four hours needed for a release. The Settlement Agreement identified a maximum of three hours for an event to try to maximize water use. The duration of events could be shorter or longer depending on how long boaters need to get down the river, desires for trade-offs (i.e. increased duration for decreased flow) and crowding issues. If the duration of a scheduled event is longer than three hours, then it would count as two events (see Section 2.1.2).

~~Similarly, T~~the volume of water associated with a single whitewater event release will also have an impact on generation. The foregone generation associated with a single event is between 300 and 450 MWh depending on release magnitude and duration. Depending on variable market conditions, the financial implications tied to a whitewater event release can be significant and should be considered during scheduling.

2.3. Scheduling

The accounting year will begin on July 1 and extend to June 30 to coincide with the water year used at the Project.

The first accounting year for the Whitewater Boating Water Budget ~~will~~ commenced on July 1, 2015, immediately following the completion of construction of the Sultan River Canyon Trail per the Recreation Resource Management Plan. For water budgeting purposes, the first 3-year accounting cycle was completed on June 30, 2018 and the second 3-year cycle began on July 1, 2018. ~~For example, if the Sultan River Trail is complete in September 2011, the first accounting year for the Whitewater Boating Water Budget will commence on July 1, 2012. Prior to the commencement of the Whitewater Boating Water Budget, no whitewater events (scheduled or unscheduled) will be required to occur. However, if the trail development is not complete within three years from License issuance, the District will provide whitewater flows with access to the Diversion Dam.~~

~~Pinpointing the dates for the viable unscheduled events in advance will not be possible. These events will likely occur between March 15 and November 30, as access conditions allow. As such, t~~The flow budget accounting and event scheduling process for all whitewater recreation

~~these~~ events will be dynamic throughout the year with conference calls when ~~held as~~ necessary. Due to coordination of whitewater recreational releases with process flows, ~~accretion flows,~~ input from AW and NPS, and real-time aquatic issues, selecting the magnitude, duration, and timing of whitewater events for ~~the first three years of~~ this Plan's implementation is not possible at this time. Whitewater events will be provided and scheduled as discussed in this Plan.

During the first three years, the District ~~will~~ attempted to maintain a consistent administrative approach for each viable whitewater event, including timing and length of releases, access provisions, notifications, etc. to establish a baseline for subsequent years. Prior to ~~During~~ the fourth year of implementation of this Plan, ~~whitewater recreational releases,~~ the District ~~will~~ shared with AW and NPS the results of the first three years of the whitewater releases and ~~seek~~ discussed recommendations to modify the program to minimize in subsequent years issues related to bottle-necks/crowding, shuttling, or scheduling. Based on this consultation and consultation with the ARC, the District proposed to remove the provisions for unscheduled events (as provided in the original WR Plan and settlement agreement) and provide one additional scheduled event per year (on average), as scheduled events were more widely used by whitewater boaters.

2.3.1. Annual Meetings

The District will seek the input of AW and NPS on the timing and flow levels for scheduled whitewater events as well as other issues related to the implementation of this Plan. Additionally, upon the request of any member of the ARC, the District will meet with the ARC concerning any issue related to the implementation of this Plan.

To ensure that AW and NPS can provide meaningful input on the implementation of this Plan, the District will meet at least twice annually with AW and NPS concerning this Plan. One of the meetings will occur in June ~~or July~~ and one of the meetings will occur in March. Additional meetings may be scheduled if necessary. These meetings may occur via teleconference call.

The purpose of the June~~/July~~ meeting will be to share information and seek input on the (1) anticipated water conditions for the upcoming year (including the drought status), and (2) the potential weekend date and flow levels for the September scheduled viable event. The June meeting will also include participation from the ARC. This will allow the ARC to discuss real-time conditions of the river system and fish use and decide the timing of the late-July to mid-September scheduled whitewater event that would be most likely compatible with protecting fish and aquatic resources. The District will tentatively schedule the date accordingly. However, the District will verify this event is still a "go" 1 week prior to the scheduled event with the ARC. If a member of the ARC decides that the potential impact to water supply, fish and/or aquatic resources is too great, then the event will be cancelled.

The June~~/July~~ meeting will also include a review of the previous years' data, including:

1. Releases and flow levels to meet a variety of boating skill levels;
2. Boater satisfaction;
3. Crowding;
4. Safety incidents;
5. Resource impacts;
6. Budget tracking;

7. Desired flow ranges for each coming event;
8. Gage approximate synergies with process flows for that year; and
9. Plan to firm release schedules, among other things.

Within 30 days of the June/July meeting, the District will notify the ARC of the date, flow level, duration and shuttle coordination for the September Scheduled Whitewater Event.

The purpose of the March meeting will be to seek input on the (1) water conditions for the balance of the water year (including the drought status); and (2) the potential weekend date and flow levels for the spring scheduled viable event. Within thirty days of the March meeting (and at least two weeks in advance of the Schedule Whitewater Event), the District will notify the ARC of the date, flow level, duration and shuttle coordination for the April/May Scheduled Whitewater Event.

A basic understanding of event planning is as follows:

Timing	Action
July 1-June 30	Water year
June~~/July~~	Hold initial annual meeting for the water year, provide proposed potential date to the ARC for review
July/August	Select date and firm up details for late-July/early-September scheduled events
Late-July/Mid-~~-~~September	~~Hold~~ Provide scheduled event #1
September 1 – 15	Provide scheduled event #2
~~September 1-November 30, March 15-May 31~~	~~Likely timeframe for unscheduled events~~
March	Hold second annual meeting, provide proposed potential date to the ARC for review
March/April	Select date and firm up details for April/May scheduled event
April/May	Provide scheduled event #3~~2~~

2.3.2. Sequencing with Releases and Accretion

The District intends to maximize the use of the water resource by sequencing whitewater flow releases with releases for other objectives such as upmigration, outmigration, and channel flushing. Additionally, using the ascending or descending limbs of the channel maintenance or forming flows may be a possibility. To the extent possible, this sequencing will occur by scheduling these whitewater events during the spring (April/May), late-July to mid-September, and early fall (by mid-September). Once scheduled, the dates for these multiple objective releases will be presented to the ARC.

~~The District monitors meteorological reports; these reports are fairly accurate looking forward up to 10 days. This will allow the District to notify boaters at least 48 hours in advance of a viable unscheduled whitewater event when the District anticipates a viable event is likely based on accretion flow.~~ On the day of the event if the accretion flow is insufficient to meet the criteria of a viable ~~unscheduled~~ event, the District will release water from Culmback Dam in order to meet

the requirements for a viable event and will reduce the Whitewater Boating Water Budget proportionately.

The District will monitor the water level at the Sultan River and Skykomish River confluence. If necessary to avoid exacerbating any flood damage to the City of Sultan during a whitewater event, the District may reduce the water release.

2.3.3. Drought Years

During the course of a water year, if necessary, the District in consultation with the ARC will develop a drought controlled flow release schedule for whitewater events when: (1) a drought event resulting in advisory reductions in domestic water consumption (as described by the 2007 City of Everett's Drought Response Plan as a Stage 1 response to a drought event is occurring; (2) the whitewater events described in this Plan require interim modification (including postponing or reductions in flow magnitude) to manage water supply during periods of weather related shortages; and (3) the drought release schedule will not undermine the purposes of this Plan (to provide whitewater boating events).

During the June~~/July~~ meeting or as may be required, the District will meet with AW, NPS, and the City of Everett to determine if a temporary alternative plan for providing whitewater flows is warranted in order to ensure that the District provides priority use to the municipal water supply system and instream flows for fisheries where the use of water for recreational flows will conflict. Any drought release schedule developed for whitewater recreation will be proportionate to the severity of the drought. A drought release schedule may include one or more of the following provisions: reducing the magnitude and/or duration of an event, postponing a scheduled flow until later in the season when drought is no longer an issue, having a slightly longer event in lieu of one scheduled ~~or unscheduled~~ event, ~~converting a scheduled event to an unscheduled event to maximize use of accretion,~~ or other possible alternatives~~.~~ Scheduled releases could occur for the late-July to mid-September event provided temperature and flow in the Skykomish River meet certain non-drought conditions or criteria, for instance, an approach could tentative criteria such as -a requirement that Skykomish River flows be over ~500 cfs and the temperature differential between the Sultan and Skykomish rivers not be greater than 4 to 5 degrees C.

The conditions associated with the 2015 Drought Declaration provide a good example of how decisions around the scheduling of an additional whitewater event could be made~~as an~~. During the latter part of August 2015 (August 15-28), the Sultan River daily discharge below the Jackson Powerhouse averaged 217 cfs. During the same period, daily discharge on the Skykomish River, at the gage below Gold Bar, averaged 350. During this timeframe, the average and maximum differences in the 7-day average of daily maximum metric between the two locations were 3.1 and 4.0 degrees C, respectively. Later, between August 29 – August 31, flows increased in the Skykomish and averaged 970 cfs while flows in the lower Sultan River remained low. During this timeframe, the 7DADM degree difference between the lower Sultan River (RM 0.2) and upstream on the Skykomish River (RM 14.1) decreased to an average of 1.3 in comparison to 3.1 from the earlier time-period. In this example if a whitewater release were to have occurred between August 15 and August 28, the potential of attracting hatchery Chinook into the Sultan River would have been greater than if the release was delayed until at least August 29, 2015. In reality, it is difficult to project when flows will increase and temperatures will decrease, especially considering the requirement of a two-week advanced notices to boaters.

WDFW and ARC must weigh the cost and benefit of such releases during drought conditions and realize the potential of fish attraction during extreme low-flow conditions. Real-time coordination is imperative during times when environmental extremes are present or forecasted.

The District will file a letter with FERC and will implement the drought release schedule within seven days of providing such notice, unless otherwise directed by ~~the~~ FERC.

2.4. Water Budget

2.4.1. Budgeting

The table below indicates the approximate water budget needed to provide the indicated peak release flow over the indicated release time and downramping to 300 cfs. The actual amount of water released for the whitewater event will be deducted from the Whitewater Boating Water Budget.

Table 1. Approximate acre-feet of water needed to provide peak releases.

	Duration of peak release		
	2 hours	2.5 hours	3 hours
Peak Release (cfs)	(acre-feet)*		
600	156	181	206
650	184	211	238
700	199	228	257
750	228	259	290
800	244	277	311
850	274	309	344
900	292	329	366

* Includes downramping at 0.5" per hour to 300 cfs but does not include downramping below 300 cfs at 0.25" per hour because of variable seasonal minimum flows. This is to be used only as a general guide for preliminary planning purposes.

Planners may want to consider the amount of accretion flow that may be present when reviewing the budget and scheduling events. The table below provides the mean and medium accretion flow into the various river segments.

Table 2. Mean and medium accretion flow in the Sultan River.

	Q3*		Q4**		Q5***	
Yr. 1899 - 2008	Mean	Median	Mean	Median	Mean	Median
Jan 1-15	96.00	51.88	86.35	46.67	48.82	26.38
Jan 16-31	93.64	51.69	84.23	46.50	47.62	26.29
Feb 1-14	78.42	48.46	72.04	44.52	41.29	25.51
Feb 15-28/9	82.92	50.56	76.17	46.45	43.65	26.62
Mar 1-15	72.34	51.45	65.90	46.87	36.21	25.75
Mar 16-30	73.35	56.50	66.82	51.47	36.71	28.28

Apr 1-15	74.79	62.01	70.04	58.08	31.42	26.06
Apr 16-30	87.62	73.22	82.06	68.57	36.81	30.76
May 1-15	70.72	62.43	69.61	61.45	22.90	20.22
May 16-31	73.17	65.34	72.02	64.31	23.69	21.16
Jun 1-15	50.04	43.33	53.06	45.94	14.67	12.70
Jun 16-30	40.32	33.48	42.75	35.50	11.82	9.81
Jul 1-15	24.62	19.42	30.47	24.03	7.83	6.18
Jul 16-31	14.89	10.60	18.42	13.11	4.73	3.37
Aug 1-15	10.69	7.18	14.55	9.77	4.02	2.70
Aug 16-31	10.85	6.84	14.78	9.31	4.08	2.57
Sep 1-14	17.80	9.49	14.67	7.82	5.07	2.70
Sep 15-21	23.25	11.41	19.16	9.40	6.63	3.25
Sep 22-30	23.72	11.68	19.54	9.63	6.76	3.33
Oct 1-15	41.28	21.60	32.55	17.03	12.83	6.71
Oct 16-31	56.30	33.43	44.39	26.36	17.50	10.39
Nov 1-15	93.98	57.30	73.74	44.97	35.05	21.37
Nov 16-30	106.47	67.38	83.55	52.87	39.71	25.13
Dec 1-15	108.80	62.42	93.31	53.54	47.65	27.34
Dec 16-31	94.39	53.92	80.95	46.25	41.34	23.62

*Inflow between Culmback Dam and Diversion Dam (the bypass reach) - Does not include 20 cfs release

** Inflow between Diversion Dam and Chaplain Creek - Does not include releases at Diversion Dam

***Inflow between Chaplain Creek and Powerhouse - Does not include releases from Diversion Dam

Additionally, planners should also review the minimum instream flow schedule approved by the ARC. Even though the minimum flows will not be deducted from the Whitewater Boating Water Budget, the flows should be taken into account when planning the overall whitewater event experience. Minimum flows downstream of the Diversion Dam also impact the duration of downramping in the reach upstream.

For purposes of determining compliance, the magnitude and duration will be measured at the flow gage immediately upstream of the City of Everett's Diversion Dam at River Mile (RM) 9.8 or alternatively by subtracting Project inflows at the Diversion Dam from the gage (USGS Gaging Station No. 12137800) operated by the U.S. Geological Survey, just downstream of the Diversion Dam at RM 9.6.

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2.4.2. Tracking

The District will maintain an accounting of the events for stakeholder review as requested. The tracking will include data such as: budget balance, budget used, dates, flow, and ~~scheduled vs. unscheduled,~~ total number of events. The Whitewater Boating Water Budget will be reduced by the amount of water released (including downramping releases) from Culmback Dam. See Appendix 4 for blank form.

Table 3. Example of Whitewater Boating Water Budget accounting log.

EXAMPLE 3-Year Cycle = 7/1/2018 through 6/30/2021						
Event #	Magnitude (cfs)*	Duration (hours)	Date	Deduct	Balance	Notes
Starting Budget Amount					2,100	
1						
2						
3						
4						
5,6						
7						
8						
9						
*As reported at compliance location						

So long as the whitewater recreation flow occurs on the noticed day for the whitewater event, the scheduled magnitude and duration of a whitewater event may be achieved through any combination of controlled (including releases to achieve process flow components pursuant to the Process Flow Plan) and uncontrolled flow releases (i.e. spill) and accretion flow. However, only water (above scheduled minimum flows) released from Culmback Dam pursuant to a noticed viable whitewater recreation flow event and any downramping associated with such release (as required by the downramping requirements of the License) will be deducted from the 2,100 acre-feet water budget.

To maximize participation, t~~T~~he District intends to provide ~~prioritize higher~~ flows for these scheduled events that meet the ~~to provide for~~ optimal standard flow definition~~to maximize participation~~, within the constraints of the water budget (firm and reserve). The District intends to coordinate whitewater flows with process flows to the extent possible. If, in order to meet whitewater boating interests the duration of the peak release of a scheduled whitewater event is scheduled to be longer than three daylight hours excluding time for downramping, the event will be counted as two events. The District intends that, where possible, scheduled whitewater events will be scheduled in conjunction with process flow component events (pursuant to A-LA 8). However, if a whitewater event is scheduled for less than three hours, but the District provides a process flow on that same day for longer than three hours, the whitewater event will only be counted as one event. If the whitewater event is scheduled to be longer than three hours, it will be counted as two events, regardless of the length of the process flow.

~~In order to make efficient use of the water supply and Whitewater Boating Water Budget, an unscheduled viable event may be cancelled under a single highly specific situation.This situation occurs when an unscheduled event is deficient in flow magnitude to be deemed a viable event requiring supplementation by a release from Culmback Dam.If, in such a situation, the minimum number of registrants requirement as defined in section 3.3 below is not met, the District may cancel the event to ensure that water is not released for recreational flows when demand is non-exist~~Any scheduled event cancelled due to insufficient reservations (as identified in section 3.3 below) will be counted as if the event has occurred (with a proportional reduction from the water budget), and the District will be under no obligation to reschedule the whitewater event. ~~An unscheduled event needing supplementation with a release from Culmback Dam that is cancelled due to insufficient reservations (via online registration by 5:00 p.m. the day prior) will be counted as if the event has occurred (without a proportional reduction from the water budget), and the District will be under no obligation to reschedule the whitewater event.~~

If a portion of the 2,100 acre-feet water budget remains after the ~~12~~ 9 whitewater events have been provided, the balance of the water budget will be available for additional releases during that three-year period. The District will discuss water budget balance and appropriate uses at the March meeting of Year 3. If by March 30 of water budget Year 3 the remaining portion is above 200 acre-feet, an additional scheduled viable whitewater event will be provided in the April/May timeframe. If by March 30 of water budget Year 3 the remaining portion is below 200 acre-feet, no additional whitewater events will be provided.

2.5. Access

General access provisions are provided in the Recreation Resource Management Plan. For scheduled events, the District will allow AW special access to the gates at the Diversion Dam Road and Olney Pass to facilitate shuttling boaters to drop-off and pick-up locations. Special access could be either providing AW with a set of keys to a unique lock for the gates put in place for these scheduled events~~-~~, or having the gates unlocked by District personnel or the patrolmen on scheduled event dates. AW will coordinate any shuttles for the scheduled events.

Under certain circumstances, special access for whitewater boaters may be restricted. Such circumstances will include heightened security needs due to threats to facilities or national security, road maintenance or repair activities, hazardous road conditions, heavy rains or similar. The District will notify AW as soon as possible of access restrictions during scheduled ~~or unscheduled~~ whitewater events.

2.6. Dangerous Conditions/Liability

Whitewater boating is an inherently dangerous sport and participation in this sport presents significant risks of bodily harm. Numerous hazards, both natural and man-made, may be present throughout the Sultan River, some of which may be difficult to detect. The Sultan River canyon is remote with few access points making a search and rescue mission extremely difficult if not impossible. Furthermore, river conditions can change rapidly and the District is not required by this plan to monitor the river for conditions that may be dangerous to boaters. Therefore, boaters must have a strong knowledge of their skill level and capabilities, and take the appropriate precautions. Although the District may post signs near put-in, take-out, and/or other locations to warn recreationists of the risks of boating the Sultan River, the District is not responsible for the safety or rescue of the boaters.

3. NOTIFICATIONS

~~-~~Notifications for all events ~~(scheduled and unscheduled)~~, including process flow events, will be posted to the Jackson Project web site.

3.1. Scheduled Events

For scheduled events, the District will post the information (date, start time, duration and magnitude) to its web site as soon as the event is scheduled or at least two weeks in advance. At the same time, up to two representatives of the whitewater boating community (as identified by AW) will be notified by the District via phone or email of the scheduled event for dissemination of the information to interested whitewater boaters. Mining claimants will also be contacted via phone or email. The District will issue a press release for each scheduled event to notify boaters, and other river recreationists, of the planned flow releases.

~~3.2. Unscheduled Events~~

~~For unscheduled events, the web site posting (date, approximate start time, duration, magnitude) will take place at least 48 hours prior to the event. At the same time, up to two representatives of the whitewater boating community (as identified by AW) will be notified by the District via phone or email of the unscheduled event for dissemination of the information to interested whitewater boaters. Mining claimants will also be contacted via phone or email.~~

~~3.3.~~3.2. Registration

Boaters should pre-register on the District's web site prior to each event. To ensure that water is not released for recreational flows when demand for the flows is below a minimum level, a scheduled water release may be canceled if less than six whitewater boaters make a reservation by 5:00 p.m. on the Thursday prior to the scheduled event. ~~For an unscheduled event, if reservations are made by six or more whitewater boaters by 5:00 p.m. on the night before the event, the event will proceed.~~

~~3.4.~~3.3. Cancellation/Postponement

For any reason a scheduled event is cancelled or postponed, the District on the day following the reservation deadline or as soon as known, will update its web site, notify registered boaters and provide notification to up to two AW representatives (as identified by AW) via phone or email of the cancellation/postponement. ~~For any reason an unscheduled event is cancelled or postponed, the District by 5:15p.m. the night before, will update its web site, notify registered boaters and provide notification to up to two AW representatives (as identified by AW) via phone or email of the cancellation/postponement.~~

4. MONITORING

4.1. Whitewater Release Monitoring Data Collection Method and Schedule

Boaters' satisfaction will be assessed using a data collection form after scheduled ~~and unscheduled~~ events. Boaters will have the option of providing feedback using an on-line survey posted to the District's web site. Although providing feedback will be optional, the District will

strongly encourage boaters to fill out the satisfaction survey to assist with future planning of whitewater events. See Appendix 5.

The District will count the number of whitewater boaters using the release for scheduled ~~and unscheduled~~ events. Counts will be recorded visually in-person or via cameras, and in combination with the completed boaters' satisfaction surveys. District staff will also record any safety incidents as they become known to the District. The cost of the event will be calculated using the previous year's average cost of power, amount of water released from Culmback Dam (including downramping), and staff time dedicated to providing the release. Sequencing with any Process Flow releases will be noted on the data collection form. See Appendix 6.

4.2. Resource Impacts Monitoring Data Collection Method and Schedule

4.2.1~~.~~ Aquatic Resources

While some minor, short term impacts to aquatic resources are possible with releases for whitewater recreation, they are not readily measureable. These impacts (disturbance of redds and fish, stranding of juveniles, water level and temperature fluctuation) may be from boaters presence or the releases. Several factors set the context in which these releases will occur. First, the magnitude (discharge), duration, and frequency of these releases will be similar to that associated with heavy rainfall events. Second, the impact of the short duration cool water releases from Culmback Dam will be negligible because these releases are timed to occur during spring and fall. Finally and most importantly, the scheduled events will intentionally occur at times that stimulate outmigration (spring) and upmigration (fall) to the benefit of the aquatic resources. ~~Unscheduled events will occur during natural periods of heavy rainfall.~~

~~As such, no separate monitoring will occur for impacts to aquatic resources.~~

4.2.2. Terrestrial Resources

Potential impacts to terrestrial resources related to whitewater events could result from human use of the area and from the changes in river flows. Impacts could include disturbance to wildlife or wildlife habitat, disturbance to vegetation, and soil erosion. Studies conducted during the relicensing process did not address whitewater events specifically, but also did not present any particular concerns.

Occupancy detections for marbled murrelets occurred from the existing trail to the Sultan River that is used by miners, whitewater boaters and sightseers. As a result of those and other detections a Marbled Murrelet Habitat Protection Plan (MMHPP) was prepared and accepted as part of the Settlement Agreement for the Jackson Project. The MMHPP addresses the new recreation site development and trail development, and includes construction timing restrictions and the use of wildlife-resistant garbage containers. Based upon the MMHPP, the impacts will be minimized or avoided.

Amphibians could be affected by changes in flows in the Sultan River. According to the amphibian study conducted for relicensing (DTA 2008), higher flows could increase usable habitat in some areas but would not be beneficial in areas where flow velocities are already higher than optimum for coastal giant salamanders and coastal tailed frogs, the stream-dwelling amphibians identified in the bypass reach of the Sultan River. Impacts to amphibians using wetlands or pools along the Sultan River are difficult to predict and could be negative or positive, depending on the time of year. In general "flows that recharge floodplain wetlands in winter or early spring are more likely to simulate natural river dynamics and be beneficial to amphibians than higher flows in summer."

Impacts to vegetation could include impacts to sensitive plant species or an increase in the spread of noxious weeds. In the area potentially affected by boaters, the study of sensitive plant species identified only one U.S. Forest Service USFS sensitive plant, the lichen Usnea longissima. Since this species grows on trees and shrubs, it is not likely that it will be affected by whitewater events.

The District, in consultation with U.S. Forest ServiceUSFS and U.S. Fish and Wildlife Service, plans to locate and construct a trail down to the Sultan River to minimize soil erosion and impacts to marbled murrelets. If boaters use the designated trail, impacts should be minimized.

Because implementation of the MMHMP and NWMP is directed by District wildlife biologists, at least one qualified terrestrial biologist will be present during the first two whitewater boating events. They will record observations and conduct photo documentation of potential impacts to terrestrial resources. A brief report will be prepared. If impacts are observed, the brief report will include recommendations for addressing/preventing those impacts during future whitewater boating events.

4.2.3. Cultural Resources

While some impacts (littering, looting) are possible with additional boater presence around the two historic properties located on the Sultan River (Horseshoe Bend Placer Claim, and the Diversion Dam facilities), the likelihood of actual impacts are minimal. The District will provide reminders to boaters and other recreationists of prohibitions against littering and looting to

protect the natural and cultural environment through the Interpretation and Education Program of the Recreation Resource Management Plan. Visual monitoring of the historic properties per the Historic Properties Management Plan will document any impacts to the cultural resources.

4.2.4. Flood Condition Monitoring[PD11]

~~As stated in Section 2 of the Whitewater Recreation Plan, whitewater events (in the 600 to 2,000 cfs flow range) will be provided either as: 1) scheduled events, or 2) viable unscheduled events.~~ The scheduled events will be arranged at least two (2) weeks in advance and be conducted on weekends during late-July through early September, the fall (September 1-15), and spring (April / May). The discrete timing of these events and the historic probability of flooding during these months limits the likelihood that they will exacerbate flooding in the C~~c~~ity of Sultan. These are highly regulated events. If there is a remote possibility of flooding in the ~~c~~City of Sultan occurring at the scheduled time of the event, the event will simply be cancelled. During planning purposes, the following is the process for identifying potential for exacerbating flooding.

~~In contrast, viable unscheduled events can occur between March 15 and November 30.These events are opportunistic and intentionally designed to capitalize on periods of heavy precipitation and inflow into the Sultan River downstream of Culmback Dam.As such, these events may occur during times of the year when flooding in the city of Sultan is historically known to occur – most notably late October and November.These events may occur under three possible scenarios with flow provided: 1) entirely from natural inflow, 2) through uncontrolled spill, or 3) through supplemental controlled releases from Culmback Dam.It is only under the third scenario that the operation could be deemed responsible for exacerbating downstream flooding by providing a whitewater eventThe key to avoiding this situation is through the monitoring of relevant stream gages as described below~~The City of Sultan is located at the confluence of the Sultan and Skykomish rivers. With regard to flooding in the City of Sultan, the Skykomish River is the primary driver because of its relative size, drainage area and the fact that it is unregulated. The U.S. Geological Survey operates a stream gage on the Skykomish River near Gold Bar, WA. This gage (Station No. 12134500) is approximately 8 river miles upstream of the confluence with the Sultan River and provides real time access to stream flow conditions via the internet at: http://waterdata.usgs.gov/wa/nwis/uv?12134500. This gaging station is a reliable indicator of flood conditions and is monitored on a regular basis by citizens in the Skykomish and Snohomish river valleys as well as numerous governmental entities including Snohomish County Surface Water Management, City of Sultan staff, and the District. The flood level at the gage is 15.0 feet which is the stage where minor flooding in the valley is observed. The corresponding discharge associated with this stage is roughly 40,000 cfs. The transition to moderate flooding occurs at 17.0 feet with a corresponding discharge of roughly 53,000 cfs. Based on recent events, stage values as high as 16.5 feet correlate to only minor flooding in downtown Sultan.

The District will rely on the National Weather Service's Advanced Hydrologic Prediction Service (AHPS) for Skykomish River trends and the associated probability of flooding in the City of Sultan. Figure A-1 presents an example of the predictive information available through AHPS. AHPS is accessed via the internet at: http://water.weather.gov/ahps2/hydrograph.php?wfo=sew&gage=glbw1&view=1,1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6).

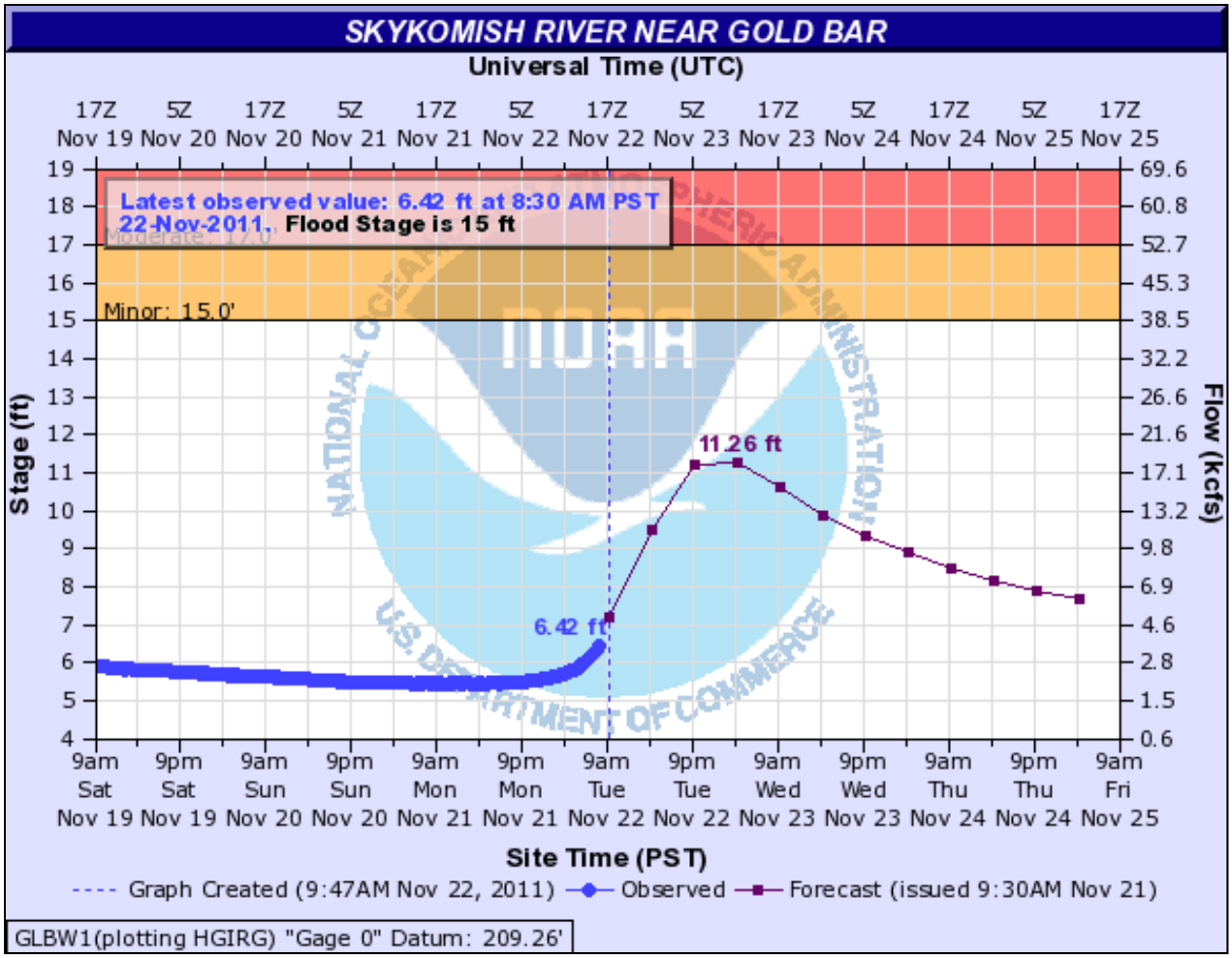


Figure A-1. Example of Predictive Information

4.2.4.1. Criteria to Identify Exacerbation of Flooding

Statistically, the weekly probability of exceeding a stage of 15.0 feet (Skykomish River at Gold Bar) and experiencing minor flooding is highest during the weeks of November 22 and November 29 (AHPS). Under these late November conditions, the area is typically experiencing heavy and intense precipitation primarily in the form of lowland rain. While conditions conducive to whitewater boating may be present during these weeks, they are on the tail end of the period for whitewater boating as described in the Whitewater Recreation Plan.

A ~~viable un~~scheduled whitewater event that involves the intentional release of water from the Howell Bunger valve at the base of Culmback Dam will be defined as the sole potential mechanism for exacerbating flooding in the City of Sultan. This type of release for recreational purposes will not occur during periods of high natural inflow[1] or during spill conditions at the Project. However, the criteria for "flooding" in the City of Sultan will be defined by stage values greater than 16.0 feet as measured at the Skykomish River at Gold Bar gage. Exacerbation shall be defined as the co-occurrence of an intentional release from the Howell Bunger valve with stage values of greater than 16.0 feet at the Skykomish River at Gold Bar gage. The District

[1] High Natural Inflow will be defined as flows greater than 1,000 cfs at USGS Station 12137800 downstream of the City of Everett's Diversion Dam located at RM 9.7.

would not implement supplemental controlled releases from Culmback Dam unless the stage at the Skykomish River at Gold Bar gage is below 16.0 feet and not ascending or likely to ascend above 16.0 feet during the duration of the release.

4.2.4.2. Curtailment of Flows

If already initiated whitewater recreation flows are deemed to be exacerbating flooding in the City of Sultan, the District will interrupt the release from Culmback Dam and immediately begin closing the Howell Bunger valve, in accordance with reach-specific downramping rates and return to normal operations. Boaters at the put-in, Diversion Dam and Powerhouse locations will be instructed of the curtailment of flows.

4.2.4.3. FERC Notification

The District will notify the Commission within two days of any whitewater release that exacerbates flooding in the City of Sultan.

5. REPORTING

5.1. Schedule and Content

Summarized event monitoring data from the previous year will be provided for consideration at the annual meetings. Data summaries will be provided at least two weeks before the first meeting of the water year. The summary will include for each event, but not be limited to: date, flow level, duration, number of boaters, safety incidents, and satisfaction ratings.

At least every six years, the District will compile the whitewater recreation data collected from License issuance (to coincide with Form 80 reporting and WR Plan review) into a brief report for stakeholder review. This report should help highlight the trend of usage, satisfaction level, flow preferences, resource impacts, or other collected data; thus, allowing the District, AW, and NPS to have insight into areas of consideration for program changes. The District will provide this report to the USFS, and file with ~~the~~ FERC as well.

FERC Form 80 reporting is addressed in the Recreation Resource Management Plan.

5.2. Plan Review and Updates

5.2.1. Periodic Review

~~Since this is a new PM&E for the Project, f~~Further refinement of the WR Plan may be needed as the District and interested Parties go through the License term implementing this measure. The District will review the WR Plan in full after Year 3 (2018), Year 6 (2021) and at least every 12 years thereafter ~~(to coincide with two cycles of FERC Form 80 reporting requirements)~~, seek input from interested Parties, and recommend, if needed, changes or modifications to the WR Plan. The WR Plan modifications will be implemented upon ~~the~~ FERC's approval.

5.2.2. Flow Suspension/Reduction

There may also be a time when it is necessary to reduce or suspend the annual flow program. Such times could be due to lack of meaningful whitewater boating experience based on boater satisfaction surveys, inadequate participation, major changes in the river channel morphology,

long lasting drought events, safety considerations, non-portable blockages that may prevent boating, or similar circumstances that preclude implementation of the program. The District will consult with the ARC and NPS as part of the annual meeting to determine if the WR program is providing a meaningful whitewater experience and if the program should be modified, within the constraints of the water budget. The District in consultation with the ARC may request that ~~the~~ FERC temporarily suspend or reduce the WR Program based upon a lack of meaningful whitewater boating experience. If the program is temporarily suspended or reduced, the District will consult annually with the ARC and NPS concerning whether the Program will be resumed.

5.2.3. Consultation

For any proposed revision to the WR Plan or recommended program suspension /reduction /reinstatement, the District will allow a 30-day period for members of the ARC and NPS to comment and make recommendations before submitting the proposed revision or recommendation to ~~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 and NPS are accommodated in the proposed change. If the District does not adopt a recommendation, the filing will include the District's reasons based upon Project-specific information. Upon ~~the~~ FERC's approval, the District will implement the changes.

6. REFERENCES

City of Everett. 2007. Drought Response Plan.

Confluence Research and Consulting. 2008. Flow-Recreation Study Technical Report. Report prepared for Public Utility District No. 1 of Snohomish County. July.

Devine Tarbell & Associates. 2008. Amphibian Survey Final Technical Report. Report prepared for Public Utility District No. 1 of Snohomish County. October.

EDAW. 2006. Informal Single Flow Whitewater Boating Opportunity Survey Summary Report. Report prepared for Public Utility District No. 1 of Snohomish County. January.

Snohomish County PUD. 2009. Settlement Agreement Recreation Resource Management Plan (RRMP). August.

Appendix 1
Proposed Aquatic License Article 4 (as part of Settlement Agreement)

EXAMPLE 3-Year Cycle = 7/1/2018 through 6/30/2021						
Event #	Magnitude (cfs)*	Duration (hours)	Date	Deduct	Balance	Notes
Starting Budget Amount					2,100	
1						
2						
3						
4						
5						
6						
7						
8						
9						
*As reported at compliance location						

~~WHITEWATER BOATING WATER BUDGET TRACKING~~

~~3-Year Cycle = 7/1/2012 through 6/30/2015~~

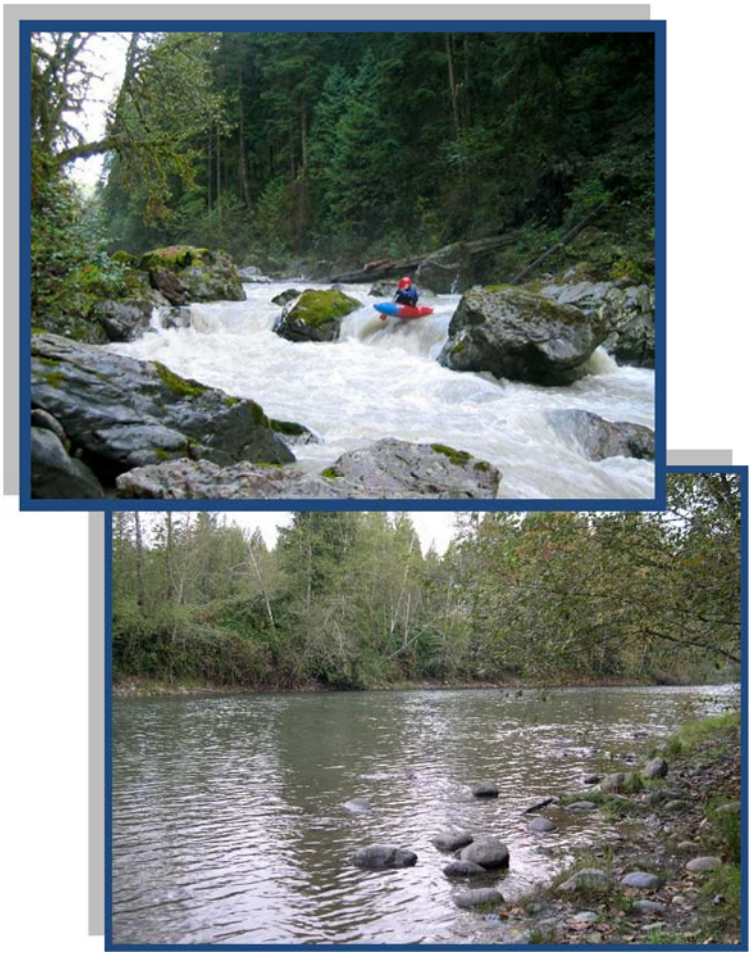
~~Event #~~	~~Magnitude (cfs)*~~	~~Duration (hours)~~	~~Date~~	~~Deduct (acre-ft)~~	~~Balance (acre-ft)~~	~~Sched~~	~~Unsched~~	~~Notes~~
~~Starting Budget Amount~~					~~2,100~~	-	-	-
~~1~~								
~~2~~								
~~3~~								
~~4~~								
~~5~~								
~~6~~								
~~7~~								
~~8~~								
~~9~~								
~~10~~								
~~11~~								
~~12~~								

~~*As reported at compliance location~~

~~Red - Taps into reserve budget of up to 1,200 acre-feet.~~

ATTACHMENT 2

Clean Version of Updated Whitewater Recreation Plan



Whitewater Recreation Plan

(License Article 412)

Henry M. Jackson Hydroelectric Project

(FERC No. 2157)

Public Utility District No. 1 of Snohomish County

February 2019

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APPENDICES

ACRONYMS

A-LA	Aquatic License Article
AHPS	Advanced Hydrologic Prediction Service
ARC	Aquatic Resource Committee
AW	American Whitewater
cfs	cubic feet per second
District	Public Utility District No. 1 of Snohomish County
FERC	Federal Energy Regulatory Commission
MMHPP	Marbled Murrelet Habitat Protection Plan
msl	mean sea level
NPS	National Park Service
PM&E	Protection, mitigation and enhancement
Project	Henry M. Jackson Hydroelectric Project, FERC No. 2157
RM	River Mile
RSP	Revised Study Plan
USFS	United States Forest Service, Department of Agriculture
USGS	United States Geological Survey
WDFW	Washington State Department of Fish and Wildlife
WR	Whitewater Recreation

1. INTRODUCTION

1.1. Background

Public Utility District No. 1 of Snohomish County (the District) is the sole Licensee for the Henry M. Jackson Hydroelectric Project (Project) under a New License issued on September 2, 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 1965, Culmback Dam construction was completed to create Spada Reservoir – the source of the majority of drinking water supplied to Snohomish County by the City of Everett. In 1984, the hydroelectric facilities construction was completed. The Project includes a 262-foot high rock-fill dam (Culmback Dam); a 1,870-acre reservoir (Spada Lake or Spada Reservoir) operated for City of Everett's water supply, fisheries habitat enhancement, hydroelectric power, and incidental flood control; a powerhouse and various other facilities; wildlife mitigation lands; and several developed and undeveloped recreation and river access sites. Under the original license, no whitewater recreational flow releases were required.

During the relicensing process, several stakeholders requested that the District conduct a recreation flow study to gage the demand and viability of whitewater boating opportunities on the Sultan River. The District conducted an informal flow study in December 2006 (EDAW 2006) and a formal Recreation Flow Study in 2007 and 2008 (Confluence Research 2008).

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 (USFS), United States Fish and Wildlife Service, United States National Park Service (NPS), Washington Department of Fish and Wildlife (WDFW), Washington Department of Ecology, the Tulalip Tribes of Washington, the City of Everett, Snohomish County, the City of Sultan, and American Whitewater (AW), 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, noxious weed management, recreation, historic properties and License term.

The Settlement Agreement requested that the Federal Energy Regulatory Commission (FERC) adopt, without material modification, the Proposed License Articles. These Proposed License Articles 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 mainly addressed 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. Included in the Proposed License Articles was the Aquatic License Article (A-LA) 4: Whitewater Boating Flows (Appendix 1).

FERC approved the Whitewater Recreation Plan (WR Plan) when it issued a new License to the Project on September 2, 2011. This WR Plan has been updated from the original plan filed with FERC on June 17, 2010, incorporating the amended WR Plan Addendum approved by FERC on July 30, 2012, and the recommendations after the first three-year cycle of implementation. The recommendation for this update to the WR Plan included removing the requirement for

unscheduled events and utilizing the existing water budget to increase the frequency of scheduled events, subject to meeting certain environmental conditions and Aquatic Resource Committee (ARC) concurrence. Upon agreement, the desire for an increased frequency of scheduled events will be met by offering a third scheduled event each year (during late-July through mid-September) for the potential of a total of 9 scheduled events over a three-year water budget cycle. This recommendation was discussed with NPS and AW during a meeting in July 2018, and subsequently with the ARC for review and comment. The WR Plan describes:

1. the frequency, magnitude, duration, and timing of possible whitewater events;
2. operational, biological, and other constraints upon whitewater events;
3. the ongoing involvement (including annual meetings) of the ARC and NPS in implementing the Program;
4. the mechanism for timing whitewater events to coincide with natural rainfall events or coordinate with Project generation or other License Article obligations to achieve greater flow volumes in desired reaches or habitats;
5. mechanism for notifying whitewater boating stakeholders of whitewater boating opportunities during scheduled whitewater events and other high flow events within the Sultan River;
6. mechanism for assessing the boaters' satisfaction during whitewater events and impacts to aquatic and terrestrial resources;
7. mechanism for recording the number of participants, safety incidents, and costs;
8. the timing and other restrictions necessary to minimize impacts to aquatic resources, to not exacerbate flood damage in the City of Sultan;
9. the method and schedule for monitoring flow releases and water budget accounting pursuant to the Plan;
10. the waiver of indemnity for participants in a scheduled flow release; and
11. the mechanism for providing and restricting the whitewater boating stakeholder representatives shuttle vehicle access to Culmback Dam and the Diversion Dam during scheduled whitewater events.

Documentation of consultation opportunities on the updated WR Plan is included in Appendix 2.

1.2. Coordination and Integration

1.2.1. District's Role

The District is responsible for implementing all aspects of the WR Plan including:

- providing the 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 recreational opportunities provided;
- consulting with appropriate stakeholders and FERC as needed;
- monitoring recreational use, resource impacts, vandalism; and
- reporting to FERC per Form 80 requirements.

1.2.2. ARC and NPS Involvement

As described in Section 2.3.1., the District will seek the input from NPS and the ARC annually when developing the time, duration, and magnitude of each scheduled whitewater event for that water year.

1.2.3. Resources

Due to the natural setting of the Project recreation facilities and access sites, other resources affect recreation resources and vice versa. The District will coordinate the actions of the WR Plan with the actions of the various Project resource management plans including the:

- Recreation Resource Management Plan – for cross reference to river web content and signage relevant to whitewater boating interests, FERC Form 80 reporting requirements, and recreation and river site maintenance guidelines.
- Noxious Weed Management Plan (NWMP) – for cross reference to types of noxious weeds that can be brought into the Project area.
- Marbled Murrelet Habitat Protection Plan (MMHPP) – for cross reference to sensitive areas and timing constraints.
- Historic Properties Management Plan – for cross reference to potential effects to the two historic properties along the Sultan River.
- Operating related License Articles – for cross reference to rule curves, minimum flow and downramping requirements.
- Process Flow Plan – for cross reference to sequencing potential with other flow releases.

The District's resource specialists will be consulted prior and post flow releases. Operational staff will be trained on the unique requirements of the WR Plan.

The WR Plan and scheduled flow releases need to take into account other resources that may be impacted by such recreational releases and associated activities – such as fish outmigration and spawning, water supply droughts, water temperatures, marbled murrelet roosting, and fishing and mining activities. The timing of events, to the extent possible, will take into account the timing of process flow releases or natural accretion events to maximize the use of the water being provided. Further information on how this will take place is discussed Section 2.3.2. below.

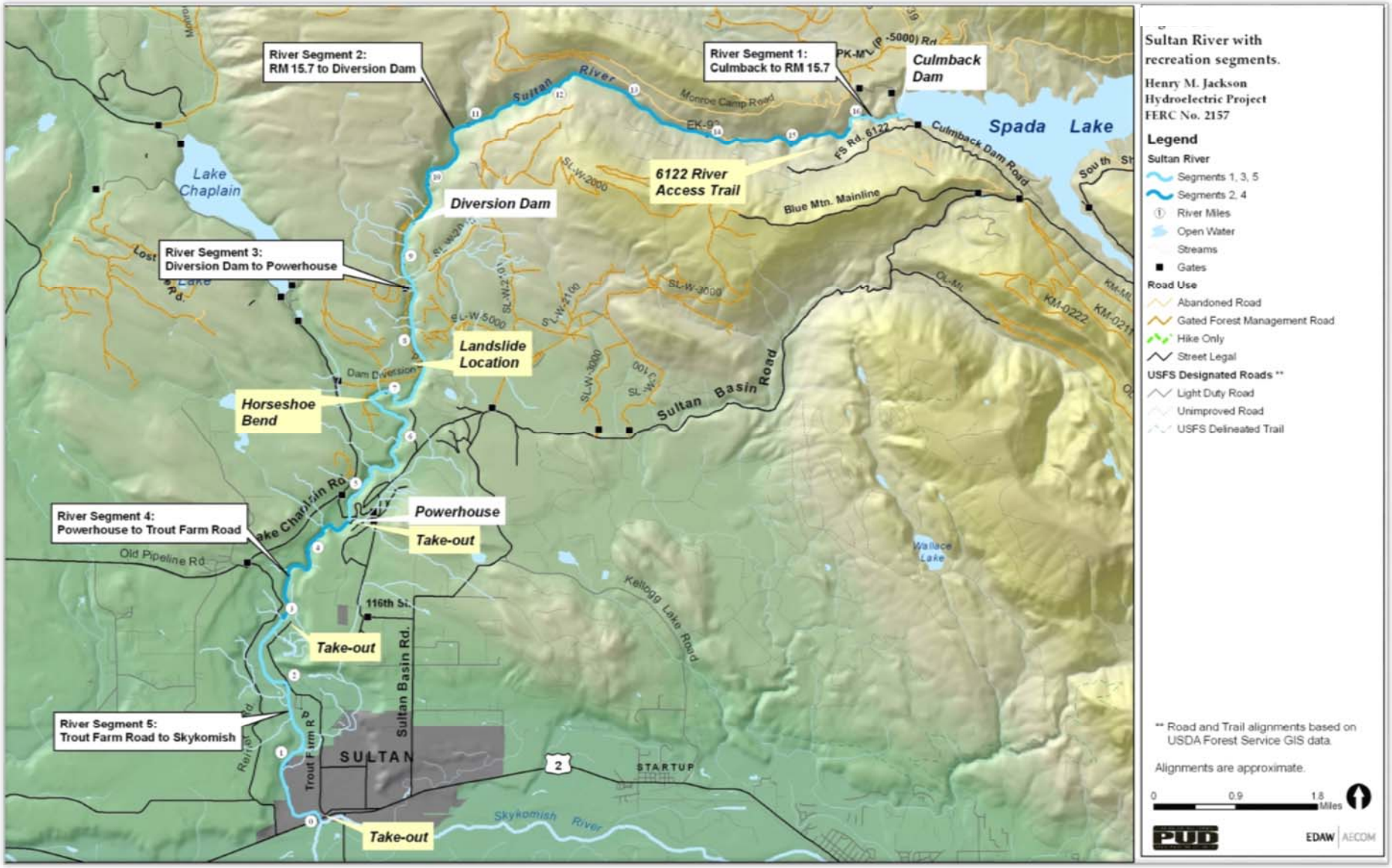

Figure 1. Whitewater boating segments on the Sultan River.

2. WHITEWATER FLOW RELEASES

2.1. Flow Releases

The District will provide flows for a minimum of six (6) and up to nine (9) viable whitewater boating events on the Sultan River every three years for the duration of the License with sufficient advance notice to whitewater boaters. The intent is to provide an average of three flows per year for the life of the License.

During each three-year period, the District will provide a firm water budget of 2,100 acre-feet of water (total, to be allocated over the three-year period) to ensure that a minimum of six and up to nine viable whitewater events occur. If the 2,100 acre-feet of water budget in combination with controlled and uncontrolled flow releases (i.e. spill) and accretion flows is not sufficient to achieve 9 viable whitewater events during each three-year period, the District will provide a reserve budget of 1,200 acre-feet to ensure that such events occur. The nine whitewater events will be provided as scheduled events.

This Plan does not restrict boaters' access to the Sultan River nor does it prescribe when a boater may boat the Sultan River.

Factors the District will consider when scheduling viable events include, but not limited to:

1. Real-time aquatic resource issues,
2. Input from the ARC and NPS,
3. Drought status,
4. Accretion flows,
5. Process flow releases,
6. Market conditions, and
7. Results of the Flow Recreation Study (Confluence Research and Consulting 2008, Key Findings are located in Appendix 3) and boater satisfaction surveys.

2.1.1. Scheduled Whitewater Events

Each year, three of the whitewater events will be scheduled at least two weeks in advance and will occur on weekends, with one occurring in late-July to mid-September based on approval from the ARC after discussing and weighing real-time conditions for water quality, water quantity or drought conditions, fish use, habitat conditions, and status of fall and summer runs, etc.; one occurring specifically between September 1 and 15; and one occurring in April or May. Each event will be between 600 cfs and 1,000 cfs and at times of the day that support whitewater boating. To maximize participation, the District intends to provide flows for these scheduled events that meet the optimal standard flow definition , within the constraints of the water budget. If the duration of a scheduled whitewater event is scheduled to be longer than three daylight hours, the event will be counted as two events. For purposes of determining compliance, the scheduled whitewater event's magnitude and duration will be measured at the flow gage immediately upstream of the City of Everett's Diversion Dam at River Mile (RM) 9.8 or alternatively by subtracting Project inflows at the Diversion Dam from the gage (USGS Gaging Station No. 12137800) operated by the U.S. Geological Survey, just downstream of the Diversion Dam at RM 9.6.

2.2. Constraints

When evaluating potential constraints, there are three fundamental considerations related to releases for whitewater recreation; volume (discharge), duration, and season. Constraints should be evaluated relative to a single event.

Seasonally, depending upon climatic and hydrologic conditions, late-July to mid-September whitewater event releases may adversely affect water supply. In addition to recreation, the September whitewater event release, in particular, is intended to be a multi-purpose release to also flush spawning habitats and encourage upstream fish migration. Despite these considerations, the drought provision within the License article is intended to address sensitivities associated with whitewater event releases during drought conditions. Interim modifications during drought conditions include flow reductions or postponement of releases.

Potential impacts to aquatic resources need consideration when scheduling whitewater events. Releases occurring from the base of Culmback Dam at reservoir elevation 1,220 feet msl are cold. Depending on the season, the increased discharge and release of cold water can have a significant impact on the thermal conditions within the entire river. While short in duration, the relative increase in discharge coupled with disruption to the thermal regime must be considered for both resident and anadromous species.

WDFW expressed concern over whitewater releases that are scheduled during periods when extreme climatic conditions are present. For instance, during a drought when flows in the un-regulated Skykomish River are low and water temperatures are warm, releases from the Sultan River that are relatively high and cool if not properly timed, may “attract” upstream migrating Skykomish River Chinook salmon into the Sultan River. This has been observed in the past when a higher proportion of Wallace Hatchery Chinook have been observed in the Sultan River on drought years than in non-drought years.

One way to assess the likelihood of whitewater events attracting hatchery Chinook into the Sultan River, is to incorporate the use a flow-weighted thermal mass calculation into the decision making and scheduling process. This tool standardizes discharge and water temperature between the Sultan River and the Skykomish River, immediately upstream (RM 14.1), and assigns a ratio between the two sites. The ratio of pre-release river conditions can be compared to a release scenario based on magnitude and water temperature in the Sultan River and RM 0.2. Realizing these releases are established two weeks in advance, looking ahead in the weather forecast will also shed light on the potential to attract hatchery Chinook into the Sultan River. Consultation with WDFW and the ARC will be essential to minimizing potential attraction related impacts. To minimize, discourage and/or prevent stranding of fish, downramping rates established in the License will be followed.

Crowding and safety is another important consideration during flow events. The Flow Study (Confluence 2008) identified a minimum of three to four hours needed for a release. The Settlement Agreement identified a maximum of three hours for an event to try to maximize water use. The duration of events could be shorter or longer depending on how long boaters need to get down the river, desires for trade-offs (i.e. increased duration for decreased flow) and crowding issues. If the duration of a scheduled event is longer than three hours, then it would count as two events (see Section 2.1.2).

The volume of water associated with a single whitewater event release will also have an impact on generation. The foregone generation associated with a single event is between 300 and 450 MWh depending on release magnitude and duration. Depending on variable market conditions, the financial implications tied to a whitewater event release can be significant and should be considered during scheduling.

2.3. Scheduling

The accounting year will begin on July 1 and extend to June 30 to coincide with the water year used at the Project.

The first accounting year for the Whitewater Boating Water Budget commenced on July 1, 2015, immediately following the completion of construction of the Sultan River Canyon Trail per the Recreation Resource Management Plan. For water budgeting purposes, the first 3-year accounting cycle was completed on June 30, 2018 and the second 3-year cycle began on July 1, 2018.

The flow budget accounting and event scheduling process for all whitewater recreation events will be dynamic throughout the year with conference calls when necessary. Due to coordination of whitewater recreational releases with process flows, input from AW and NPS, and real-time aquatic issues, selecting the magnitude, duration, and timing of whitewater events for this Plan's implementation is not possible at this time. Whitewater events will be provided and scheduled as discussed in this Plan.

During the first three years, the District attempted to maintain a consistent administrative approach for each viable whitewater event, including timing and length of releases, access provisions, notifications, etc. to establish a baseline for subsequent years. Prior to the fourth year of implementation of this Plan, the District shared with AW and NPS the results of the first three years of the whitewater releases and discussed recommendations to modify the program to minimize in subsequent years issues related to bottle-necks/crowding, shuttling, or scheduling. Based on this consultation and consultation with the ARC, the District proposed to remove the provisions for unscheduled events (as provided in the original WR Plan and settlement agreement) and provide one additional scheduled event per year (on average), as scheduled events were more widely used by whitewater boaters.

2.3.1. Annual Meetings

The District will seek the input of AW and NPS on the timing and flow levels for scheduled whitewater events as well as other issues related to the implementation of this Plan. Additionally, upon the request of any member of the ARC, the District will meet with the ARC concerning any issue related to the implementation of this Plan.

To ensure that AW and NPS can provide meaningful input on the implementation of this Plan, the District will meet at least twice annually with AW and NPS concerning this Plan. One of the meetings will occur in June and one of the meetings will occur in March. Additional meetings may be scheduled if necessary. These meetings may occur via teleconference call.

The purpose of the June meeting will be to share information and seek input on the (1) anticipated water conditions for the upcoming year (including the drought status), and (2) the

potential weekend date and flow levels for the September scheduled viable event. The June meeting will also include participation from the ARC. This will allow the ARC to discuss real-time conditions of the river system and fish use and decide the timing of the late-July to mid-September scheduled whitewater event that would be most likely compatible with protecting fish and aquatic resources. The District will tentatively schedule the date accordingly. However, the District will verify this event is still a "go" 1 week prior to the scheduled event with the ARC. If a member of the ARC decides that the potential impact to water supply, fish and/or aquatic resources is too great, then the event will be cancelled.

The June meeting will also include a review of the previous years' data, including:

1. Releases and flow levels to meet a variety of boating skill levels;
2. Boater satisfaction;
3. Crowding;
4. Safety incidents;
5. Resource impacts;
6. Budget tracking;
7. Desired flow ranges for each coming event;
8. Gage approximate synergies with process flows for that year; and
9. Plan to firm release schedules, among other things.

Within 30 days of the June/July meeting, the District will notify the ARC of the date, flow level, duration and shuttle coordination for the September Scheduled Whitewater Event.

The purpose of the March meeting will be to seek input on the (1) water conditions for the balance of the water year (including the drought status); and (2) the potential weekend date and flow levels for the spring scheduled viable event. Within thirty days of the March meeting (and at least two weeks in advance of the Schedule Whitewater Event), the District will notify the ARC of the date, flow level, duration and shuttle coordination for the April/May Scheduled Whitewater Event.

A basic understanding of event planning is as follows:

Timing	Action
July 1-June 30	Water year
June	Hold initial annual meeting for the water year, provide proposed potential date to the ARC for review
July/August	Select date and firm up details for late-July/early-September scheduled events
Late-July/Mid-September	Provide scheduled event #1
September 1 – 15	Provide scheduled event #2
March	Hold second annual meeting, provide proposed potential date to the ARC for review
March/April	Select date and firm up details for April/May scheduled event
April/May	Provide scheduled event #3

2.3.2. Sequencing with Releases and Accretion

The District intends to maximize the use of the water resource by sequencing whitewater flow releases with releases for other objectives such as upmigration, outmigration, and channel flushing. Additionally, using the ascending or descending limbs of the channel maintenance or forming flows may be a possibility. To the extent possible, this sequencing will occur by scheduling these whitewater events during the spring (April/May), late-July to mid-September, and early fall (by mid-September). Once scheduled, the dates for these multiple objective releases will be presented to the ARC.

On the day of the event if the accretion flow is insufficient to meet the criteria of a viable event, the District will release water from Culmback Dam in order to meet the requirements for a viable event and will reduce the Whitewater Boating Water Budget proportionately.

The District will monitor the water level at the Sultan River and Skykomish River confluence. If necessary to avoid exacerbating any flood damage to the City of Sultan during a whitewater event, the District may reduce the water release.

2.3.3. Drought Years

During the course of a water year, if necessary, the District in consultation with the ARC will develop a drought controlled flow release schedule for whitewater events when: (1) a drought event resulting in advisory reductions in domestic water consumption (as described by the 2007 City of Everett's Drought Response Plan as a Stage 1 response to a drought event is occurring; (2) the whitewater events described in this Plan require interim modification (including postponing or reductions in flow magnitude) to manage water supply during periods of weather related shortages; and (3) the drought release schedule will not undermine the purposes of this Plan (to provide whitewater boating events).

During the June meeting or as may be required, the District will meet with AW, NPS, and the City of Everett to determine if a temporary alternative plan for providing whitewater flows is warranted in order to ensure that the District provides priority use to the municipal water supply system and instream flows for fisheries where the use of water for recreational flows will conflict. Any drought release schedule developed for whitewater recreation will be proportionate to the severity of the drought. A drought release schedule may include one or more of the following provisions: reducing the magnitude and/or duration of an event, postponing a scheduled flow until later in the season when drought is no longer an issue, having a slightly longer event in lieu of one scheduled event, or other possible alternatives Scheduled releases could occur for the late-July to mid-September event provided temperature and flow in the Skykomish River meet certain non-drought conditions or criteria, for instance, an approach could tentative criteria such as a requirement that Skykomish River flows be over ~500 cfs and the temperature differential between the Sultan and Skykomish rivers not be greater than 4 to 5 degrees C.

The conditions associated with the 2015 Drought Declaration provide a good example of how decisions around the scheduling of an additional whitewater event could be made. During the latter part of August 2015 (August 15-28), the Sultan River daily discharge below the Jackson Powerhouse averaged 217 cfs. During the same period, daily discharge on the Skykomish River, at the gage below Gold Bar, averaged 350. During this timeframe, the average and maximum differences in the 7-day average of daily maximum metric between the two locations were 3.1

and 4.0 degrees C, respectively. Later, between August 29 – August 31, flows increased in the Skykomish and averaged 970 cfs while flows in the lower Sultan River remained low. During this timeframe, the 7DADM degree difference between the lower Sultan River (RM 0.2) and upstream on the Skykomish River (RM 14.1) decreased to an average of 1.3 in comparison to 3.1 from the earlier time-period. In this example if a whitewater release were to have occurred between August 15 and August 28, the potential of attracting hatchery Chinook into the Sultan River would have been greater than if the release was delayed until at least August 29, 2015. In reality, it is difficult to project when flows will increase and temperatures will decrease, especially considering the requirement of a two-week advanced notices to boaters. WDFW and ARC must weigh the cost and benefit of such releases during drought conditions and realize the potential of fish attraction during extreme low-flow conditions. Real-time coordination is imperative during times when environmental extremes are present or forecasted. The District will file a letter with FERC and will implement the drought release schedule within seven days of providing such notice, unless otherwise directed by FERC.

2.4. Water Budget

2.4.1. Budgeting

The table below indicates the approximate water budget needed to provide the indicated peak release flow over the indicated release time and downramping to 300 cfs. The actual amount of water released for the whitewater event will be deducted from the Whitewater Boating Water Budget.

Table 1. Approximate acre-feet of water needed to provide peak releases.

	Duration of peak release		
	2 hours	2.5 hours	3 hours
Peak Release (cfs)	(acre-feet)*		
600	156	181	206
650	184	211	238
700	199	228	257
750	228	259	290
800	244	277	311
850	274	309	344
900	292	329	366

* Includes downramping at 0.5" per hour to 300 cfs but does not include downramping below 300 cfs at 0.25" per hour because of variable seasonal minimum flows. This is to be used only as a general guide for preliminary planning purposes.

Planners may want to consider the amount of accretion flow that may be present when reviewing the budget and scheduling events. The table below provides the mean and medium accretion flow into the various river segments.

Table 2. Mean and medium accretion flow in the Sultan River.

	Q3*		Q4**		Q5***	
Yr. 1899 - 2008	Mean	Median	Mean	Median	Mean	Median
Jan 1-15	96.00	51.88	86.35	46.67	48.82	26.38
Jan 16-31	93.64	51.69	84.23	46.50	47.62	26.29
Feb 1-14	78.42	48.46	72.04	44.52	41.29	25.51
Feb 15-28/9	82.92	50.56	76.17	46.45	43.65	26.62
Mar 1-15	72.34	51.45	65.90	46.87	36.21	25.75
Mar 16-30	73.35	56.50	66.82	51.47	36.71	28.28
Apr 1-15	74.79	62.01	70.04	58.08	31.42	26.06
Apr 16-30	87.62	73.22	82.06	68.57	36.81	30.76
May 1-15	70.72	62.43	69.61	61.45	22.90	20.22
May 16-31	73.17	65.34	72.02	64.31	23.69	21.16
Jun 1-15	50.04	43.33	53.06	45.94	14.67	12.70
Jun 16-30	40.32	33.48	42.75	35.50	11.82	9.81
Jul 1-15	24.62	19.42	30.47	24.03	7.83	6.18
Jul 16-31	14.89	10.60	18.42	13.11	4.73	3.37
Aug 1-15	10.69	7.18	14.55	9.77	4.02	2.70
Aug 16-31	10.85	6.84	14.78	9.31	4.08	2.57
Sep 1-14	17.80	9.49	14.67	7.82	5.07	2.70
Sep 15-21	23.25	11.41	19.16	9.40	6.63	3.25
Sep 22-30	23.72	11.68	19.54	9.63	6.76	3.33
Oct 1-15	41.28	21.60	32.55	17.03	12.83	6.71
Oct 16-31	56.30	33.43	44.39	26.36	17.50	10.39
Nov 1-15	93.98	57.30	73.74	44.97	35.05	21.37
Nov 16-30	106.47	67.38	83.55	52.87	39.71	25.13
Dec 1-15	108.80	62.42	93.31	53.54	47.65	27.34
Dec 16-31	94.39	53.92	80.95	46.25	41.34	23.62

*Inflow between Culmback Dam and Diversion Dam (the bypass reach) - Does not include 20 cfs release

** Inflow between Diversion Dam and Chaplain Creek - Does not include releases at Diversion Dam

***Inflow between Chaplain Creek and Powerhouse - Does not include releases from Diversion Dam

Additionally, planners should also review the minimum instream flow schedule approved by the ARC. Even though the minimum flows will not be deducted from the Whitewater Boating Water Budget, the flows should be taken into account when planning the overall whitewater event experience. Minimum flows downstream of the Diversion Dam also impact the duration of downramping in the reach upstream.

For purposes of determining compliance, the magnitude and duration will be measured at the flow gage immediately upstream of the City of Everett's Diversion Dam at River Mile (RM) 9.8 or alternatively by subtracting Project inflows at the Diversion Dam from the gage (USGS Gaging Station No. 12137800) operated by the U.S. Geological Survey, just downstream of the Diversion Dam at RM 9.6.

2.4.2. Tracking

The District will maintain an accounting of the events for stakeholder review as requested. The tracking will include data such as: budget balance, budget used, dates, flow, and total number of events. The Whitewater Boating Water Budget will be reduced by the amount of water released (including downramping releases) from Culmback Dam. See Appendix 4 for blank form.

Table 3. Example of Whitewater Boating Water Budget accounting log.

EXAMPLE 3-Year Cycle = 7/1/2018 through 6/30/2021						
Event #	Magnitude (cfs)*	Duration (hours)	Date	Deduct	Balance	Notes
Starting Budget Amount					2,100	
1						
2						
3						
4						
5,6						
7						
8						
9						
*As reported at compliance location						

So long as the whitewater recreation flow occurs on the noticed day for the whitewater event, the scheduled magnitude and duration of a whitewater event may be achieved through any combination of controlled (including releases to achieve process flow components pursuant to the Process Flow Plan) and uncontrolled flow releases (i.e. spill) and accretion flow. However, only water (above scheduled minimum flows) released from Culmback Dam pursuant to a noticed viable whitewater recreation flow event and any downramping associated with such release (as required by the downramping requirements of the License) will be deducted from the 2,100 acre-feet water budget.

To maximize participation, the District intends to provide flows for these scheduled events that meet the optimal standard flow definition, within the constraints of the water budget (firm and reserve). The District intends to coordinate whitewater flows with process flows to the extent possible. If, in order to meet whitewater boating interests the duration of the peak release of a scheduled whitewater event is scheduled to be longer than three daylight hours excluding time for downramping, the event will be counted as two events. The District intends that, where possible, scheduled whitewater events will be scheduled in conjunction with process flow component events (pursuant to A-LA 8). However, if a whitewater event is scheduled for less than three hours, but the District provides a process flow on that same day for longer than three hours, the whitewater event will only be counted as one event. If the whitewater event is scheduled to be longer than three hours, it will be counted as two events, regardless of the length of the process flow.

Any scheduled event cancelled due to insufficient reservations (as identified in section 3.3 below) will be counted as if the event has occurred (with a proportional reduction from the water budget), and the District will be under no obligation to reschedule the whitewater event.

If a portion of the 2,100 acre-feet water budget remains after the 9 whitewater events have been provided, the balance of the water budget will be available for additional releases during that three-year period. The District will discuss water budget balance and appropriate uses at the March meeting of Year 3. If by March 30 of water budget Year 3 the remaining portion is above 200 acre-feet, an additional scheduled viable whitewater event will be provided in the April/May timeframe. If by March 30 of water budget Year 3 the remaining portion is below 200 acre-feet, no additional whitewater events will be provided.

2.5. Access

General access provisions are provided in the Recreation Resource Management Plan. For scheduled events, the District will allow AW special access to the gates at the Diversion Dam Road and Olney Pass to facilitate shuttling boaters to drop-off and pick-up locations. Special access could be either providing AW with a set of keys to a unique lock for the gates put in place for these scheduled events, or having the gates unlocked by District personnel or the patrolmen on scheduled event dates. AW will coordinate any shuttles for the scheduled events.

Under certain circumstances, special access for whitewater boaters may be restricted. Such circumstances will include heightened security needs due to threats to facilities or national security, road maintenance or repair activities, hazardous road conditions, heavy rains or similar. The District will notify AW as soon as possible of access restrictions during scheduled whitewater events.

2.6. Dangerous Conditions/Liability

Whitewater boating is an inherently dangerous sport and participation in this sport presents significant risks of bodily harm. Numerous hazards, both natural and man-made, may be present throughout the Sultan River, some of which may be difficult to detect. The Sultan River canyon is remote with few access points making a search and rescue mission extremely difficult if not impossible. Furthermore, river conditions can change rapidly and the District is not required by this plan to monitor the river for conditions that may be dangerous to boaters. Therefore, boaters must have a strong knowledge of their skill level and capabilities, and take the appropriate precautions. Although the District may post signs near put-in, take-out, and/or other locations to warn recreationists of the risks of boating the Sultan River, the District is not responsible for the safety or rescue of the boaters.

3. NOTIFICATIONS

Notifications for all events, including process flow events, will be posted to the Jackson Project web site.

3.1. Scheduled Events

For scheduled events, the District will post the information (date, start time, duration and magnitude) to its web site as soon as the event is scheduled or at least two weeks in advance. At the same time, up to two representatives of the whitewater boating community (as identified by AW) will be notified by the District via phone or email of the scheduled event for dissemination of the information to interested whitewater boaters. Mining claimants will also be contacted via phone or email. The District will issue a press release for each scheduled event to notify boaters, and other river recreationists, of the planned flow releases.

3.2. Registration

Boaters should pre-register on the District's web site prior to each event. To ensure that water is not released for recreational flows when demand for the flows is below a minimum level, a scheduled water release may be canceled if less than six whitewater boaters make a reservation by 5:00 p.m. on the Thursday prior to the scheduled event.

3.3. Cancellation/Postponement

For any reason a scheduled event is cancelled or postponed, the District on the day following the reservation deadline or as soon as known, will update its web site, notify registered boaters and provide notification to up to two AW representatives (as identified by AW) via phone or email of the cancellation/postponement.

4. MONITORING

4.1. Whitewater Release Monitoring Data Collection Method and Schedule

Boaters' satisfaction will be assessed using a data collection form after scheduled events. Boaters will have the option of providing feedback using an on-line survey posted to the District's web site. Although providing feedback will be optional, the District will strongly encourage boaters to fill out the satisfaction survey to assist with future planning of whitewater events. See Appendix 5.

The District will count the number of whitewater boaters using the release for scheduled events. Counts will be recorded visually in-person or via cameras, and in combination with the completed boaters' satisfaction surveys. District staff will also record any safety incidents as they become known to the District. The cost of the event will be calculated using the previous year's average cost of power, amount of water released from Culmback Dam (including downramping), and staff time dedicated to providing the release. Sequencing with any Process Flow releases will be noted on the data collection form. See Appendix 6.

4.2. Resource Impacts Monitoring Data Collection Method and Schedule

4.2.1. Aquatic Resources

While some minor, short term impacts to aquatic resources are possible with releases for whitewater recreation, they are not readily measureable. These impacts (disturbance of redds and fish, stranding of juveniles, water level and temperature fluctuation) may be from boaters presence or the releases. Several factors set the context in which these releases will occur. First, the magnitude (discharge), duration, and frequency of these releases will be similar to that associated with heavy rainfall events. Second, the impact of the short duration cool water releases from Culmback Dam will be negligible because these releases are timed to occur during spring and fall. Finally and most importantly, the scheduled events will intentionally occur at times that stimulate outmigration (spring) and upmigration (fall) to the benefit of the aquatic resources.

4.2.2. Terrestrial Resources

Potential impacts to terrestrial resources related to whitewater events could result from human use of the area and from the changes in river flows. Impacts could include disturbance to wildlife or wildlife habitat, disturbance to vegetation, and soil erosion. Studies conducted during the relicensing process did not address whitewater events specifically, but also did not present any particular concerns.

Occupancy detections for marbled murrelets occurred from the existing trail to the Sultan River that is used by miners, whitewater boaters and sightseers. As a result of those and other detections a MMHPP was prepared and accepted as part of the Settlement Agreement for the Jackson Project. The MMHPP addresses the new recreation site development and trail development, and includes construction timing restrictions and the use of wildlife-resistant garbage containers. Based upon the MMHPP, the impacts will be minimized or avoided.

Amphibians could be affected by changes in flows in the Sultan River. According to the amphibian study conducted for relicensing (DTA 2008), higher flows could increase usable habitat in some areas but would not be beneficial in areas where flow velocities are already higher than optimum for coastal giant salamanders and coastal tailed frogs, the stream-dwelling amphibians identified in the bypass reach of the Sultan River. Impacts to amphibians using wetlands or pools along the Sultan River are difficult to predict and could be negative or positive, depending on the time of year. In general "flows that recharge floodplain wetlands in winter or early spring are more likely to simulate natural river dynamics and be beneficial to amphibians than higher flows in summer."

Impacts to vegetation could include impacts to sensitive plant species or an increase in the spread of noxious weeds. In the area potentially affected by boaters, the study of sensitive plant species identified only one USFS sensitive plant, the lichen Usnea longissima. Since this species grows on trees and shrubs, it is not likely that it will be affected by whitewater events.

The District, in consultation with USFS and U.S. Fish and Wildlife Service, plans to locate and construct a trail down to the Sultan River to minimize soil erosion and impacts to marbled murrelets. If boaters use the designated trail, impacts should be minimized.

Because implementation of the MMHMP and NWMP is directed by District wildlife biologists, at least one qualified terrestrial biologist will be present during the first two whitewater boating events. They will record observations and conduct photo documentation of potential impacts to terrestrial resources. A brief report will be prepared. If impacts are observed, the brief report will include recommendations for addressing/preventing those impacts during future whitewater boating events.

4.2.3. Cultural Resources

While some impacts (littering, looting) are possible with additional boater presence around the two historic properties located on the Sultan River (Horseshoe Bend Placer Claim, and the Diversion Dam facilities), the likelihood of actual impacts are minimal. The District will provide reminders to boaters and other recreationists of prohibitions against littering and looting to protect the natural and cultural environment through the Interpretation and Education Program of

the Recreation Resource Management Plan. Visual monitoring of the historic properties per the Historic Properties Management Plan will document any impacts to the cultural resources.

4.2.4. Flood Condition Monitoring

The scheduled events will be arranged at least two (2) weeks in advance and be conducted on weekends during late-July through early September, the fall (September 1-15), and spring (April / May). The discrete timing of these events and the historic probability of flooding during these months limits the likelihood that they will exacerbate flooding in the City of Sultan. These are highly regulated events. If there is a remote possibility of flooding in the City of Sultan occurring at the scheduled time of the event, the event will simply be cancelled. During planning purposes, the following is the process for identifying potential for exacerbating flooding.

The City of Sultan is located at the confluence of the Sultan and Skykomish rivers. With regard to flooding in the City of Sultan, the Skykomish River is the primary driver because of its relative size, drainage area and the fact that it is unregulated. The U.S. Geological Survey operates a stream gage on the Skykomish River near Gold Bar, WA. This gage (Station No. 12134500) is approximately 8 river miles upstream of the confluence with the Sultan River and provides real time access to stream flow conditions via the internet at: http://waterdata.usgs.gov/wa/nwis/uv?12134500. This gaging station is a reliable indicator of flood conditions and is monitored on a regular basis by citizens in the Skykomish and Snohomish river valleys as well as numerous governmental entities including Snohomish County Surface Water Management, City of Sultan staff, and the District. The flood level at the gage is 15.0 feet which is the stage where minor flooding in the valley is observed. The corresponding discharge associated with this stage is roughly 40,000 cfs. The transition to moderate flooding occurs at 17.0 feet with a corresponding discharge of roughly 53,000 cfs. Based on recent events, stage values as high as 16.5 feet correlate to only minor flooding in downtown Sultan.

The District will rely on the National Weather Service's Advanced Hydrologic Prediction Service (AHPS) for Skykomish River trends and the associated probability of flooding in the City of Sultan. Figure A-1 presents an example of the predictive information available through AHPS. AHPS is accessed via the internet at: http://water.weather.gov/ahps2/hydrograph.php?wfo=sew&gage=glbw1&view=1,1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6).

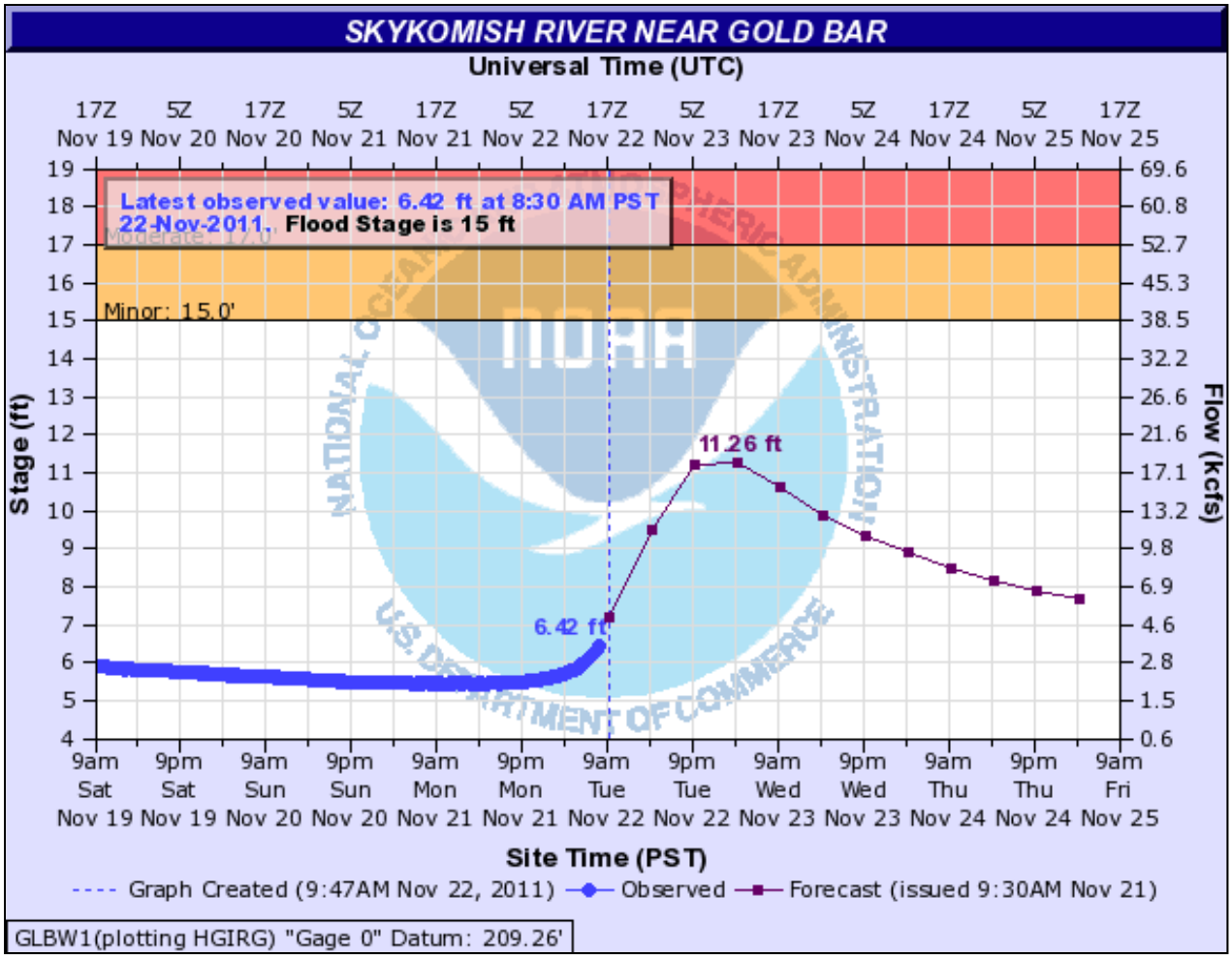

Figure A-1. Example of Predictive Information

4.2.4.1. Criteria to Identify Exacerbation of Flooding

Statistically, the weekly probability of exceeding a stage of 15.0 feet (Skykomish River at Gold Bar) and experiencing minor flooding is highest during the weeks of November 22 and November 29 (AHPS). Under these late November conditions, the area is typically experiencing heavy and intense precipitation primarily in the form of lowland rain. While conditions conducive to whitewater boating may be present during these weeks, they are on the tail end of the period for whitewater boating as described in the Whitewater Recreation Plan.

A scheduled whitewater event that involves the intentional release of water from the Howell Bunger valve at the base of Culmback Dam will be defined as the sole potential mechanism for exacerbating flooding in the City of Sultan. This type of release for recreational purposes will not occur during periods of high natural inflow[1] or during spill conditions at the Project. However, the criteria for "flooding" in the City of Sultan will be defined by stage values greater than 16.0 feet as measured at the Skykomish River at Gold Bar gage. Exacerbation shall be defined as the co-occurrence of an intentional release from the Howell Bunger valve with stage values of greater than 16.0 feet at the Skykomish River at Gold Bar gage. The District would not

[1] High Natural Inflow will be defined as flows greater than 1,000 cfs at USGS Station 12137800 downstream of the City of Everett's Diversion Dam located at RM 9.7.

implement supplemental controlled releases from Culmback Dam unless the stage at the Skykomish River at Gold Bar gage is below 16.0 feet and not ascending or likely to ascend above 16.0 feet during the duration of the release.

4.2.4.2. Curtailment of Flows

If already initiated whitewater recreation flows are deemed to be exacerbating flooding in the City of Sultan, the District will interrupt the release from Culmback Dam and immediately begin closing the Howell Bunger valve, in accordance with reach-specific downramping rates and return to normal operations. Boaters at the put-in, Diversion Dam and Powerhouse locations will be instructed of the curtailment of flows.

4.2.4.3. FERC Notification

The District will notify the Commission within two days of any whitewater release that exacerbates flooding in the City of Sultan.

5. REPORTING

5.1. Schedule and Content

Summarized event monitoring data from the previous year will be provided for consideration at the annual meetings. Data summaries will be provided at least two weeks before the first meeting of the water year. The summary will include for each event, but not be limited to: date, flow level, duration, number of boaters, safety incidents, and satisfaction ratings.

At least every six years, the District will compile the whitewater recreation data collected from License issuance (to coincide with Form 80 reporting and WR Plan review) into a brief report for stakeholder review. This report should help highlight the trend of usage, satisfaction level, flow preferences, resource impacts, or other collected data; thus, allowing the District, AW, and NPS to have insight into areas of consideration for program changes. The District will provide this report to the USFS, and file with FERC as well.

FERC Form 80 reporting is addressed in the Recreation Resource Management Plan.

5.2. Plan Review and Updates

5.2.1. Periodic Review

Further refinement of the WR Plan may be needed as the District and interested Parties go through the License term implementing this measure. The District will review the WR Plan in full after Year 3 (2018), Year 6 (2021) and at least every 12 years thereafter, seek input from interested Parties, and recommend, if needed, changes or modifications to the WR Plan. The WR Plan modifications will be implemented upon FERC's approval.

5.2.2. Flow Suspension/Reduction

There may also be a time when it is necessary to reduce or suspend the annual flow program. Such times could be due to lack of meaningful whitewater boating experience based on boater satisfaction surveys, inadequate participation, major changes in the river channel morphology, long lasting drought events, safety considerations, non-portable blockages that may prevent

boating, or similar circumstances that preclude implementation of the program. The District will consult with the ARC and NPS as part of the annual meeting to determine if the WR program is providing a meaningful whitewater experience and if the program should be modified, within the constraints of the water budget. The District in consultation with the ARC may request that FERC temporarily suspend or reduce the WR Program based upon a lack of meaningful whitewater boating experience. If the program is temporarily suspended or reduced, the District will consult annually with the ARC and NPS concerning whether the Program will be resumed.

5.2.3. Consultation

For any proposed revision to the WR Plan or recommended program suspension /reduction /reinstatement, the District will allow a 30-day period for members of the ARC and NPS to comment and make recommendations before submitting the proposed revision or recommendation to FERC. The District will include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from the ARC and NPS are accommodated in the proposed change. If the District does not adopt a recommendation, the filing will include the District's reasons based upon Project-specific information. Upon FERC's approval, the District will implement the changes.

6. REFERENCES

City of Everett. 2007. Drought Response Plan.

Confluence Research and Consulting. 2008. Flow-Recreation Study Technical Report. Report prepared for Public Utility District No. 1 of Snohomish County. July.

Devine Tarbell & Associates. 2008. Amphibian Survey Final Technical Report. Report prepared for Public Utility District No. 1 of Snohomish County. October.

EDAW. 2006. Informal Single Flow Whitewater Boating Opportunity Survey Summary Report. Report prepared for Public Utility District No. 1 of Snohomish County. January.

Snohomish County PUD. 2009. Settlement Agreement Recreation Resource Management Plan (RRMP). August.

Appendix 1
Proposed Aquatic License Article 4 (as part of Settlement Agreement)

A-LA 4: Whitewater Boating Flows

The Licensee shall provide flows for twelve (12) viable whitewater boating events every three (3) years for the duration of the License with sufficient advance notice to whitewater boaters. During each three-year period, the Licensee shall provide a firm water budget of 2,100 acre-feet of water (total, to be allocated over three (3) years) to ensure that twelve (12) viable whitewater events occur. If the 2,100 acre-feet of water budget in combination with controlled and uncontrolled flow releases (i.e. spill) and accretion flows is not sufficient to achieve twelve (12) viable whitewater events during each three (3) year period, the License shall provide a reserve budget of 1,200 acre-feet to ensure that such events occur.

1. Whitewater Recreation Plan

Within ninety (90) days after issuance of the License, the Licensee shall file with the Commission, for approval, a Whitewater Recreation Plan (WR Plan). This WR Plan shall document how the Licensee shall implement a program to provide annual higher flows in the Sultan River below Culmback Dam for whitewater boating for the duration of the License.

1.1 The WR Plan shall include the following provisions that describe: (1) the frequency, magnitude, duration, and timing of each whitewater event during the first three-year period and the mechanism for determining such parameters during subsequent years; (2) operational, biological, and other constraints upon whitewater events; (3) the ongoing involvement (including annual meetings) of the Aquatic Resource Committee (ARC) and American Whitewater in implementing the Program; (4) the mechanism for timing whitewater events to coincide with natural rainfall events or coordinate with Project generation or other License Article obligations to achieve greater flow volumes in desired reaches or habitats; (5) mechanism for notifying whitewater boating stakeholders of whitewater boating opportunities during scheduled whitewater events and other high flow events within the Sultan River; (6) mechanism for assessing the boaters' satisfaction during whitewater events and impacts to aquatic and terrestrial resources; (7) mechanism for recording the number of participants, safety incidents, and costs; (8) the timing and other restrictions necessary to minimize impacts to aquatic resources, to not exacerbate flood damage in the City of Sultan; (9) the method and schedule for monitoring flow releases and water budget accounting pursuant to the Plan; (10) the waiver of indemnity for participants in a scheduled flow release; and (11) the mechanism for providing and restricting the whitewater boating stakeholder representatives shuttle vehicle access to Culmback Dam and the Diversion Dam during scheduled whitewater events

1.2 The Licensee shall develop the WR Plan in consultation with the ARC, American Whitewater and National Park Service (NPS). The Licensee shall allow a minimum of thirty (30) days for members of the ARC, American Whitewater and NPS to comment and make recommendations before submitting the WR Plan to the Commission. When filing the WR 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, American Whitewater, and NPS are accommodated by the WR 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, the Licensee shall implement the WR Plan.

2. Whitewater Events

2.1 The twelve (12) whitewater events will be provided either as (1) scheduled events (Section 2.3), or (2) viable unscheduled whitewater events (Section 2.2).

2.2 Viable Unscheduled Whitewater Events: A viable unscheduled whitewater event is defined as a calendar day (a) occurring between March 15 and November 30 or at times agreed to by the Licensee and American Whitewater in consultation with the ARC, (b) with controlled and uncontrolled flow releases (i.e. spill) and accretion flows between 600 and 2000 for at least three (3) hours, (c) during a time of day that supports whitewater boating, at conditions that allow access to the reach, and (d) with at least 48 hours notice to boaters.

2.3 Scheduled Whitewater Events: Each year, at a minimum two (2) of the whitewater events will be scheduled at least two (2) weeks in advance and shall occur on weekends, with one (1) occurring in September and one (1) occurring in April or May. Each event shall be between 600 cfs and 2000 cfs and at times of the day that support whitewater boating. If the duration of a scheduled whitewater event is scheduled to be longer than three (3) daylight hours, the event will be counted as two (2) events. For purposes of determining compliance, the scheduled whitewater event's magnitude and duration will be measured at the flow gage immediately upstream of the City of Everett's Diversion Dam at River Mile (RM) 9.8.

2.4 So long as the whitewater recreation flow occurs on the noticed day for the whitewater event, the scheduled magnitude and duration of a whitewater event may be achieved through any combination of controlled (including releases to achieve process flow components pursuant to A-LA 8) and uncontrolled flow releases (i.e. spill) and accretion flow. However, only water (above scheduled minimum flows) released from Culmback Dam pursuant to a scheduled whitewater recreation flow event and any downramping associated with such release (as required by A-LA 5) shall be deducted from the 2,100 acre-feet water budget. If a portion of the 2,100 acre-foot water budget remains after the twelve (12) events have been provided, the balance of the water budget is available for additional releases during that three (3) year period.

2.5 So long as the whitewater recreation flow occurs on the scheduled day, the scheduled magnitude and duration of a whitewater event may be achieved through any combination of controlled (including releases to achieve process flow components pursuant to A-LA 8) and uncontrolled flow releases (i.e. spill) and accretion flow. However, only water released from Culmback Dam pursuant to a scheduled whitewater recreation flow event and any downramping associated with such release (as required by A-LA 5) shall be deducted from the water budget provided in Section 1.1.

2.6 The Licensee shall consult with the ARC, NPS and American Whitewater on an annual basis to determine if the WR program is providing a meaningful whitewater experience and if the program should be modified, within the constraints of the water budget. The Licensee in consultation with the ARC and American Whitewater, may request that the Commission temporarily suspend or reduce the WR Program based upon lack of meaningful whitewater boating experience. In the event that the program is temporarily suspended or reduced, the Licensee will consult annually with the ARC, NPS and American Whitewater concerning whether the Program shall be resumed.

3. Drought Events

During the course of a water year, if necessary, the Licensee in consultation with the ARC shall develop a drought controlled flow release schedule for whitewater events when: (1) a drought event resulting in advisory reductions in domestic water consumption (as described by the 2007 City of Everett's Drought Response Plan as a Stage 1 response to a drought event) is occurring; (2) the whitewater events described in this LA require interim modification (including postponing or reductions in flow magnitude) to manage water supply during periods of weather related shortages; and (3) the drought release schedule shall not undermine the purposes of this License Article. The Licensee shall notify the Commission and shall implement the drought release schedule within seven (7) days of providing such notice, unless otherwise directed by the Commission.

4. Reservation System

The Licensee shall develop a reservation system for the weekend whitewater events, a scheduled water release may be canceled if less than six (6) whitewater boaters makes a reservation by 5:00 p.m. on the Thursday prior to the scheduled event. Any event cancelled due to insufficient reservations shall be counted as if the event has occurred (with a proportional reduction from the water budget provided in A-LA 4), and the Licensee shall be under no obligation to reschedule the whitewater event.

The following text is an excerpt of the Joint Explanatory Statement regarding the Proposed License Article above:

D. Article A-LA 4: Whitewater Boating Flows

The proposed whitewater boating flows proposed within License Article 4 (A-LA 4) are more robust than the whitewater boating flow PM&E that was presented in the License Application.

A-LA 4 specifies that the District will provide flows for twelve (12) viable whitewater boating events every three years for the duration of the License with sufficient advance notice to whitewater boaters. The intent is to provide an average of four flows per year for the life of the License. The whitewater events will be provided either as scheduled events or viable unscheduled whitewater events. A minimum of two whitewater events each year will be scheduled events, with one event occurring in April or May and one occurring in September. The Settlement Parties intend to prioritize higher flows for these scheduled events to provide for

optimal standard flow to maximize participation, within the constraints of the water budget. If, in order to meet whitewater boating interests the duration of a scheduled whitewater event is scheduled to be longer than three daylight hours excluding time for downramping, the event will be counted as two events.

The Settlement Parties intend that, where possible, scheduled whitewater events will be scheduled in conjunction with process flow component events (pursuant to A-LA 8). However, if a whitewater event is scheduled for less than three hours, but the District provides a process flow on that same day for longer than three hours, the whitewater event will only be counted as one event. If the whitewater event is scheduled to be longer than three hours, it will be counted as two events, regardless of the length of the process flow.

The Parties recognize that given the length of the boating reach, it is not possible to complete two runs in a single day. The Parties believe that three hours is enough time to provide a viable whitewater opportunity and to accommodate the number of users that may be present for those events. The whitewater plan will address the potential for crowding and the duration of boater travel time.

It is the goal of the Parties to plan coordination of whitewater boating and process flows annually through the ARC.

The License Article defines the minimum amount of notice that needs to be provided for scheduled and unscheduled whitewater events, although the District will strive to provide greater advanced notice to whitewater boaters.

A viable unscheduled whitewater event is defined as a calendar day (a) occurring between March 15 and November 30 or at times agreed to by the District and American Whitewater in consultation with the ARC, (b) with controlled and uncontrolled flow releases (i.e. spill) and accretion flows between 600 and 2,000 for at least three hours, (c) during a time of day that supports whitewater boating, at conditions that allow access to the reach (as defined by the WR Plan), and (d) with at least 48 hours notice. The Parties recognize that weekend days are preferred by whitewater boaters. The Settlement Parties intend that the maximum number of viable unscheduled whitewater events per year will be addressed in the Whitewater Recreation Plan (“WR Plan”).

To ensure that twelve (12) viable whitewater events occur, during each three-year period, the Licensee will provide a firm water budget of 2,100 acre-feet of water to be available to release, an increase of 1,200 acre-feet from the water budget identified in the License Application. In addition, a reserve budget of 1,200 acre-feet will be available if the 2,100 acre-feet is inadequate to ensure that a total of twelve (12) viable whitewater boating events are conducted over the three-year period.

The District will consult with the ARC, NPS and American Whitewater on an annual basis to determine if the Whitewater Recreation Program (“WR Program”) is providing a meaningful whitewater experience (as further defined in the WR Plan) and if the program should be modified, within the constraints of the water budget. The District, in consultation with the ARC and American Whitewater, may request that the Commission temporarily suspend or reduce the WR Program based upon lack of meaningful whitewater boating experience. In the event that the

WR Program is temporarily suspended or reduced, the District will consult annually with the ARC, NPS and American Whitewater concerning whether the WR Program shall resume. The Settlement Parties included provisions that allow for the temporary suspension or reduction of the WR Program to take into account inadequate participation, safety considerations, or non-portable blockages that may prevent boating.

The greatest benefit of the larger water budget and reserve water budget is to provide an opportunity to conduct more flow events during each year of the three-year period. This will give the District and the stakeholders more options to provide different levels of flows at different times of the year, to evaluate seasonal demand for flow events on the river, and identify flow levels that provide opportunities for boaters of different skill levels. The WR Plan will guide the evaluation of these opportunities.

The License provisions that define drought or weather-related water shortages are beneficial to ensure that the District provides priority use to the municipal water supply system and instream flows for fisheries where the use of water for recreational flows will conflict. The Settlement Parties intend that any drought release schedule be proportionate to the severity of the drought.

The reservation system as described in A-LA 4 will ensure that water is not released for recreational flows when demand for the flows is below a minimum level. In the event that a whitewater event is cancelled, the District will notify people with reservations. The Settlement Parties intend that the WR Plan include the mechanism for proportional reduction of the water budget for cancelled events.

The District will consult with American Whitewater and NPS in developing an appropriate amount of whitewater boating information to post to the District's web site. Information will include flow data, rain data, reservoir elevation data, river segment, skill level, put-in and take-out locations, date/time of flow releases, flow announcements and cancellations, and reservation information.

Appendix 2
Consultation on
Updated WR Plan (February 2019)

Presler, Dawn

From: Rosebrough-Jones, Susan <susan_rosebrough@nps.gov>
Sent: Saturday, January 26, 2019 3:24 PM
To: Thomas O'Keefe
Cc: Presler, Dawn
Subject: Re: [EXTERNAL] Re: JHP (FERC No. 2157) - updated WR Plan for your review and comments

I apologize for the delay in response, I am just returning from the government shutdown. I concur with the proposed edits.

Thanks,
Susan

On Mon, Jan 7, 2019 at 1:44 PM Thomas O'Keefe <okeefe@americanwhitewater.org> wrote:

> Dawn,
>
> Sorry for not responding sooner. This edit looks fine and aligned with our interest to ensure that we have a positive public message around these opportunities.
>
> Tom
>
> Thomas O'Keefe, PhD
> Pacific Northwest Stewardship Director
> American Whitewater
> 3537 NE 87th St.
> Seattle, WA 98115
> 425-417-9012
> okeefe@americanwhitewater.org
> @AmerWhitewater
>
> On Jan 7, 2019, at 8:13 AM, Presler, Dawn <DJPresler@snopud.com> wrote:
>
> > Dear Tom and Susan,
> >
> > Do you concur or have objection to the City of Everett's modifications to the WR Plan? Please let me know so I can include in the consultation documentation for the plan update when I submit it to FERC.
> >
> > Thanks.
> >
> > Dawn

From: Presler, Dawn
Sent: Tuesday, December 04, 2018 9:27 AM
To: 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'Asman, Lindsy' <lindsy_asman@fws.gov>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov>; 'brock.applegate@dfw.wa.gov' (brock.applegate@dfw.wa.gov) <brock.applegate@dfw.wa.gov>; 'James (ECY) Pacheco' (JPAC461@ECY.WA.GOV) <JPAC461@ECY.WA.GOV>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; 'Jim Miller (JMiller@everettwa.gov)' <JMiller@everettwa.gov>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>
Cc: Binkley, Keith <KMBinkley@SNOPUD.com>; Julie Sklare <JSklare@everettwa.gov>
Subject: FW: JHP (FERC No. 2157) - updated WR Plan for your review and comments

Dear ARC and NPS,

I received the additional comment from the City of Everett in the email below. Please review and let me know if you have any objection to adding these edits to the updated WR Plan by Friday December 21, 2018. If there are no objections, I will add these to the WR Plan and send to FERC by January 9, 2019, for their review and approval. If there are objections, we can clarify approach and finalize at the ARC meeting on Wednesday January 9, 2019, for sending to FERC by the end of January. (I will be on vacation from Dec 7-21, so please contact Keith if you have any questions on the plan in the meanwhile.) Thanks again for your review.

Happy Holidays!

Dawn

From: Jim Miller [mailto:JMiller@everettwa.gov]
Sent: Tuesday, December 04, 2018 8:52 AM
To: Presler, Dawn <DJPresler@SNOPUD.com>
Cc: Binkley, Keith <KMBinkley@SNOPUD.com>; Julie Sklare <JSklare@everettwa.gov>
Subject: JHP (FERC No. 2157) - updated WR Plan for your review and comments

Dawn:

The City of Everett has two comments on the updated Whitewater Recreation Plan:

1. Since the added scheduled event is proposed to occur during late July to mid-September, which is the most critical period for water supply, the wording in the last sentence of the third paragraph of 2.3.1 Annual Meetings should be changed as follows:

   a. "If a member of the ARC decides that the potential impact to **water supply,** fish and/or aquatic resources is too great, then the event will be cancelled. "

2. The table at the end of section 2.3.1 should be modified to reflect the text in 2.1.1. that states that one event would be in late-July to mid-September based on approval from the ARC and one occurring specifically between September 1 and 15.

Sincerely,

Jim

<image003.jpg>**James W. Miller, P.E.**

Engineering Superintendent, Public Works Department

P: 425-257-8880 | **C:** 425-418-5630 | 3200 Cedar St., Everett, WA 98201

everettwa.gov/publicworks | Facebook | Twitter

From: Presler, Dawn <DJPresler@SNOPUD.com>
Sent: Wednesday, November 14, 2018 11:36 AM
To: 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov>; 'brock.applegate@dfw.wa.gov' (brock.applegate@dfw.wa.gov) <brock.applegate@dfw.wa.gov>; 'James (ECY) Pacheco' (JPAC461@ECY.WA.GOV) <JPAC461@ECY.WA.GOV>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; Jim Miller <JMiller@everettwa.gov>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>

Cc: Binkley, Keith <KMBinkley@SNOPUD.com>
Subject: JHP (FERC No. 2157) - updated WR Plan for your review and comments

Dear Aquatic Resource Committee and National Park Service,

Attached is the updated Whitewater Recreation Plan per the last discussion at the Aquatic Resource Committee meeting. I yellow-highlighted the changes that were made since your last review in July. Please take the next 15 days to review the WR Plan and provide comments, if any, back to me with cc: to Keith by November 30 end of day. If you need a full 30 days to review and provide comments by December 14, just let me know.

If you concur with the edits, an email stating so would be greatly appreciated.

Thanks!

Dawn Presler

Sr. Environmental Coordinator

Generation – Natural Resources

(425) 783-1709

PUD No. 1 of Snohomish County

PO Box 1107

Everett, WA 98206-1107

--
Susan Rosebrough
Project Manager
National Park Service
Rivers, Trails & Conservation Assistance Program (RTCA)

Presler, Dawn

From: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>
Sent: Friday, December 21, 2018 2:30 PM
To: Presler, Dawn; 'Vacirca, Richard -FS'; 'Janet Curran - NOAA Federal'; 'Asman, Lindsy'; 'Anne Savery'; Pacheco, James (ECY); 'Rustay, Michael'; 'Jim Miller (JMiller@everettwa.gov)'; 'nate.morgan@ci.sultan.wa.us'; 'okeefe@americanwhitewater.org'; 'susan_rosebrough@nps.gov'
Cc: Binkley, Keith; Julie Sklare
Subject: RE: JHP (FERC No. 2157) - updated WR Plan for your review and comments

Hi Dawn, WDFW has no objections to the change.

Sincerely, Brock

From: Presler, Dawn <DJPresler@SNOPUD.com>
Sent: Tuesday, December 4, 2018 9:27 AM
To: 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'Asman, Lindsy' <lindsy_asman@fws.gov>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov>; Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>; Pacheco, James (ECY) <JPAC461@ECY.WA.GOV>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; 'Jim Miller (JMiller@everettwa.gov)' <JMiller@everettwa.gov>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>
Cc: Binkley, Keith <KMBinkley@SNOPUD.com>; Julie Sklare <JSklare@everettwa.gov>
Subject: FW: JHP (FERC No. 2157) - updated WR Plan for your review and comments

Dear ARC and NPS,
I received the additional comment from the City of Everett in the email below. Please review and let me know if you have any objection to adding these edits to the updated WR Plan by Friday December 21, 2018. If there are no objections, I will add these to the WR Plan and send to FERC by January 9, 2019, for their review and approval. If there are objections, we can clarify approach and finalize at the ARC meeting on Wednesday January 9, 2019, for sending to FERC by the end of January. (I will be on vacation from Dec 7-21, so please contact Keith if you have any questions on the plan in the meanwhile.) Thanks again for your review.

Happy Holidays!

Dawn

From: Jim Miller [mailto:JMiller@everettwa.gov]
Sent: Tuesday, December 04, 2018 8:52 AM
To: Presler, Dawn <DJPresler@SNOPUD.com>
Cc: Binkley, Keith <KMBinkley@SNOPUD.com>; Julie Sklare <JSklare@everettwa.gov>
Subject: JHP (FERC No. 2157) - updated WR Plan for your review and comments

---

Dawn:

The City of Everett has two comments on the updated Whitewater Recreation Plan:

1. Since the added scheduled event is proposed to occur during late July to mid-September, which is the most critical period for water supply, the wording in the last sentence of the third paragraph of 2.3.1 Annual Meetings should be changed as follows:
    a. "If a member of the ARC decides that the potential impact to **water supply,** fish and/or aquatic resources is too great, then the event will be cancelled. "
2. The table at the end of section 2.3.1 should be modified to reflect the text in 2.1.1. that states that one event would be in late-July to mid-September based on approval from the ARC and one occurring specifically between September 1 and 15.

Sincerely,
Jim

James W. Miller, P.E.
Engineering Superintendent, Public Works Department
P: 425-257-8880 | **C:** 425-418-5630 | 3200 Cedar St., Everett, WA 98201
everettwa.gov/publicworks | Facebook | Twitter

From: Presler, Dawn <DJPresler@SNOPUD.com>
Sent: Wednesday, November 14, 2018 11:36 AM
To: 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov>; 'brock.applegate@dfw.wa.gov' (brock.applegate@dfw.wa.gov) <brock.applegate@dfw.wa.gov>; 'James (ECY) Pacheco' (JPAC461@ECY.WA.GOV) <JPAC461@ECY.WA.GOV>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; Jim Miller <JMiller@everettwa.gov>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>
Cc: Binkley, Keith <KMBinkley@SNOPUD.com>
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Thanks!

Dawn Presler
Sr. Environmental Coordinator
Generation – Natural Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Presler, Dawn

From: Asman, Lindsy <lindsy_asman@fws.gov>
Sent: Tuesday, December 04, 2018 10:46 AM
To: Presler, Dawn
Cc: Vacirca, Richard -FS; janet curran; Anne Savery; Applegate, Brock A (DFW); 'James (ECY) Pacheco' (JPAC461@ECY.WA.GOV); Rustay, Michael; Jim Miller (JMiller@everettwa.gov); nate.morgan@ci.sultan.wa.us; Thomas O'Keefe; Rosebrough, Susan; Binkley, Keith; JSklare@everettwa.gov
Subject: Re: [EXTERNAL] FW: JHP (FERC No. 2157) - updated WR Plan for your review and comments
Attachments: image002.jpg

I have no objections. Thank you.

Lindsy A. Asman (Wright) M.E.S.
U.S. Fish and Wildlife Service
Conservation and Hydropower Planning
510 Desmond Drive SE, Lacey, WA 98503
360-753-6037 lindsy_asman@fws.gov

"There is a principle which is a bar against all information, which cannot fail to keep a man in everlasting ignorance-that principle is contempt prior to investigation"
Herbert Spencer

On Tue, Dec 4, 2018 at 9:27 AM Presler, Dawn <DJPresler@snopud.com> wrote:

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> Happy Holidays!
>
> Dawn

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Cc: Binkley, Keith <KMBinkley@SNOPUD.com>; Julie Sklare <JSklare@everettwa.gov>
Subject: JHP (FERC No. 2157) - updated WR Plan for your review and comments

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Dawn:

The City of Everett has two comments on the updated Whitewater Recreation Plan:

1. Since the added scheduled event is proposed to occur during late July to mid-September, which is the most critical period for water supply, the wording in the last sentence of the third paragraph of 2.3.1 Annual Meetings should be changed as follows:

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Sincerely,

Jim

James W. Miller, P.E.

Engineering Superintendent, Public Works Department

P: 425-257-8880 | **C:** 425-418-5630 | 3200 Cedar St., Everett, WA 98201

everettwa.gov/publicworks | Facebook | Twitter

From: Presler, Dawn <DJPresler@SNOPUD.com>
Sent: Wednesday, November 14, 2018 11:36 AM
To: 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov>; 'brock.applegate@dfw.wa.gov' (brock.applegate@dfw.wa.gov) <brock.applegate@dfw.wa.gov>; 'James (ECY) Pacheco' (JPAC461@ECY.WA.GOV) <JPAC461@ECY.WA.GOV>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; Jim Miller <JMiller@everettwa.gov>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>
Cc: Binkley, Keith <KMBinkley@SNOPUD.com>
Subject: JHP (FERC No. 2157) - updated WR Plan for your review and comments

Dear Aquatic Resource Committee and National Park Service,

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If you concur with the edits, an email stating so would be greatly appreciated.

Thanks!

Dawn Presler

Sr. Environmental Coordinator

Generation – Natural Resources

(425) 783-1709

PUD No. 1 of Snohomish County

PO Box 1107

Everett, WA 98206-1107

Presler, Dawn

From: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>
Sent: Friday, November 30, 2018 3:28 PM
To: Presler, Dawn; 'Vacirca, Richard -FS'; 'Janet Curran - NOAA Federal'; 'lindsy_asman@fws.gov'; 'Anne Savery'; Pacheco, James (ECY); 'Rustay, Michael'; 'Jim Miller (JMiller@everettwa.gov)'; 'nate.morgan@ci.sultan.wa.us'; 'okeefe@americanwhitewater.org'; 'susan_rosebrough@nps.gov'
Cc: Binkley, Keith
Subject: RE: JHP (FERC No. 2157) - updated WR Plan for your review and comments

Hi Dawn, I have quickly reviewed the edits to the Whitewater Recreation Plan. You have captured the conversation that we had during the last conference call. Thank you, I appreciate that you have included an annual ARC consultation to discuss the scheduling late summer whitewater events. We hope to schedule an event when we can minimize chances of attracting hatchery fish into the Sultan River.

WDFW concurs with the edits to the Whitewater Recreation Plan.

Sincerely, Brock

From: Presler, Dawn <DJPresler@SNOPUD.com>
Sent: Wednesday, November 14, 2018 11:36 AM
To: 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov>; Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>; Pacheco, James (ECY) <JPAC461@ECY.WA.GOV>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; 'Jim Miller (JMiller@everettwa.gov)' <JMiller@everettwa.gov>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>
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Thanks!

Dawn Presler
Sr. Environmental Coordinator
Generation – Natural Resources
(425) 783-1709

Presler, Dawn

From: Asman, Lindsy <lindsy_asman@fws.gov>
Sent: Monday, December 03, 2018 9:28 AM
To: Presler, Dawn
Cc: Vacirca, Richard -FS; janet curran; Anne Savery; Applegate, Brock A (DFW); 'James (ECY) Pacheco' (JPAC461@ECY.WA.GOV); Rustay, Michael; Jim Miller (JMiller@everettwa.gov); nate.morgan@ci.sultan.wa.us; Thomas O'Keefe; Rosebrough, Susan; Binkley, Keith
Subject: Re: [EXTERNAL] JHP (FERC No. 2157) - updated WR Plan for your review and comments

Hello Dawn, the revised plan looks good. Thank you for the opportunity to review it.

Lindsy A. Asman (Wright) M.E.S.
U.S. Fish and Wildlife Service
Conservation and Hydropower Planning
510 Desmond Drive SE, Lacey, WA 98503
360-753-6037 lindsy_asman@fws.gov

"There is a principle which is a bar against all information, which cannot fail to keep a man in everlasting ignorance-that principle is contempt prior to investigation"
Herbert Spencer

On Wed, Nov 14, 2018 at 11:37 AM Presler, Dawn <DJPresler@snopud.com> wrote:

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>
> If you concur with the edits, an email stating so would be greatly appreciated.
>
> Thanks!
>
> *Dawn Presler*

Presler, Dawn

From: Rosebrough-Jones, Susan <susan_rosebrough@nps.gov>
Sent: Monday, December 03, 2018 4:52 PM
To: Presler, Dawn
Cc: Thomas O'Keefe; Binkley, Keith
Subject: Re: [EXTERNAL] FW: JHP (FERC No. 2157) - updated WR Plan for your review and comments

I don't have any additional changes. Thank you, Susan

On Mon, Dec 3, 2018 at 11:44 AM Presler, Dawn <DJPresler@snopud.com> wrote:

> Hi Tom and Susan,
>
> I wasn't sure if you are planning on providing comments on the updated Whitewater Recreation Plan. Please let me know if you are or if you approve of the modifications, that way I can hopefully get it filed with FERC prior to my vacation (I will be gone Dec 7-25) and get them started on their process for approval.
>
> Happy Holidays!
>
> Dawn

From: Presler, Dawn
Sent: Wednesday, November 14, 2018 11:36 AM
To: 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov>; 'brock.applegate@dfw.wa.gov' (brock.applegate@dfw.wa.gov) <brock.applegate@dfw.wa.gov>; 'James (ECY) Pacheco' (JPAC461@ECY.WA.GOV) <JPAC461@ECY.WA.GOV>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; 'Jim Miller (JMiller@everettwa.gov)' <JMiller@everettwa.gov>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>
Cc: Binkley, Keith <KMBinkley@SNOPUD.com>
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Thanks!

Dawn Presler

Sr. Environmental Coordinator

Generation – Natural Resources

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Everett, WA 98206-1107

--
Susan Rosebrough
Project Manager
National Park Service
Rivers, Trails & Conservation Assistance Program (RTCA)
Hydropower Assistance Program
Wild and Scenic Rivers Program

Office: 206.220.4121
Cell: 206.851.1657
susan_rosebrough@nps.gov
909 1st Ave
Seattle, WA 98104
www.nps.gov/rtca

Presler, Dawn

From: Janet Curran - NOAA Federal <janet.curran@noaa.gov>
Sent: Monday, December 03, 2018 7:55 AM
To: Presler, Dawn
Cc: Vacirca, Richard; lindsy_asman@fws.gov; Anne Savery; Applegate, Brock A (DFW); Pacheco, James (ECY); mike.rustay@co.snohomish.wa.us; JMiller@everettwa.gov; nate.morgan@ci.sultan.wa.us; okeefe@americanwhitewater.org; Rosebrough, Susan; Binkley, Keith
Subject: Re: JHP (FERC No. 2157) - updated WR Plan for your review and comments

Dawn,

NMFS agrees with the edits to the Whitewater Recreation Plan.

Thank you.

Janet Curran
Professional Wetland Scientist
North Puget Sound Natural Resource Specialist
NOAA Fisheries West Coast Region
U.S. Department of Commerce
Office: Seattle 206-526-4452
janet.curran@noaa.gov
www.westcoast.fisheries.noaa.gov

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Generation – Natural Resources

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PUD No. 1 of Snohomish County

PO Box 1107

Everett, WA 98206-1107

Presler, Dawn

From: Presler, Dawn
Sent: Monday, December 03, 2018 11:42 AM
To: 'okeefe@americanwhitewater.org'; 'susan_rosebrough@nps.gov'
Cc: Binkley, Keith
Subject: FW: JHP (FERC No. 2157) - updated WR Plan for your review and comments
Attachments: 201811 Whitewater Recreation Plan DRAFT.docx

Hi Tom and Susan,
I wasn't sure if you are planning on providing comments on the updated Whitewater Recreation Plan. Please let me know if you are or if you approve of the modifications, that way I can hopefully get it filed with FERC prior to my vacation (I will be gone Dec 7-25) and get them started on their process for approval.

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Dawn Presler
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Generation – Natural Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Presler, Dawn

From: Presler, Dawn
Sent: Wednesday, August 01, 2018 10:47 AM
To: 'Anne Savery'; 'Applegate, Brock A (DFW)'; 'Whitney, Jennifer L (DFW)'; 'Vacirca, Richard -FS'; 'Janet Curran - NOAA Federal'; 'lindsy_asman@fws.gov'; 'okeefe@americanwhitewater.org'; 'nate.morgan@ci.sultan.wa.us'; 'Jim Miller (JMiller@everettwa.gov)'; 'Rustay, Michael'; 'Pacheco, James (ECY)'; 'susan_rosebrough@nps.gov'
Cc: Lowe, Larry; McDonnell, Andrew; 'Verhey, Peter A (DFW)'; 'Eleazer, Edward J (DFW)'; Binkley, Keith
Subject: RE: Jackson HP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31
Attachments: 201807 Whitewater Recreation Plan.docx

Dear ARC, Jenni (WDFW), and Susan (NPS),
Attached is the consolidated redlined WR Plan (combines the WR Plan and the Addendum) to update the plan based on the recommendations below. Keith and Andrew provided further background information (in sections 2.2 and 2.3.3) to address Jenni 's concern. Please take the linked doodle poll by August 8, so we can schedule to discuss further. https://doodle.com/poll/e6bb6e4prq3k8amr

Dawn

-----Original Message-----
From: Presler, Dawn
Sent: Thursday, July 26, 2018 7:44 AM
To: 'Anne Savery' <asavery@tulaliptribes-nsn.gov>; Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>; Binkley, Keith <KMBinkley@SNOPUD.com>; Whitney, Jennifer L (DFW) <Jennifer.Whitney@dfw.wa.gov>
Cc: Lowe, Larry <LGLowe@SNOPUD.com>; McDonnell, Andrew <AWMcdonnell@SNOPUD.com>; Verhey, Peter A (DFW) <Peter.Verhey@dfw.wa.gov>; Eleazer, Edward J (DFW) <Edward.Eleazer@dfw.wa.gov>; 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'Jim Miller (JMiller@everettwa.gov)' <JMiller@everettwa.gov>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; Pacheco, James (ECY) <JPAC461@ECY.WA.GOV>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>
Subject: RE: Jackson HP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

Dear ARC,
July 31 is not a hard date for submitting the proposed modification to FERC so we can take additional time without requesting an extension. I am working on putting in the redlines to the original plan and addendum to remove the references to "unscheduled" events, change references from "12" events to "9 " events, and add Jenni's suggestion below in the constraints section of the Plan (section 2.2). I hope to send that to you early next week for review after Keith reviews it. At that time, I will also send a poll for having a conference call to discuss the redlines. (If there is someone else from your organization that needs to be on the conference call, please forward me her/his email address and I will send poll to that person as well.)

Hope you are enjoying the warm weather and sunshine!

Dawn

-----Original Message-----
From: Anne Savery [mailto:asavery@tulaliptribes-nsn.gov]
Sent: Wednesday, July 25, 2018 7:36 PM
To: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>; Binkley, Keith <KMBinkley@SNOPUD.com>; Whitney, Jennifer L (DFW) <Jennifer.Whitney@dfw.wa.gov>
Cc: Lowe, Larry <LGLowe@SNOPUD.com>; McDonnell, Andrew <AWMcdonnell@SNOPUD.com>; Presler, Dawn <DJPresler@SNOPUD.com>; Verhey, Peter A (DFW) <Peter.Verhey@dfw.wa.gov>; Eleazer, Edward J (DFW) <Edward.Eleazer@dfw.wa.gov>; 'Vacirca, Richard -FS' <rvacirca@fs.fed.us>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us>; 'Jim Miller (JMiller@everettwa.gov)' <JMiller@everettwa.gov>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us>; Pacheco, James (ECY) <JPAC461@ECY.WA.GOV>; 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov>
Subject: Re: Jackson HP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

Keith

I think this change presents a very good opportunity to introduce newer ARC members, and to remind longer serving ARC members, of the whitewater plan obligations. I agree with Brock's suggestion to convene the ARC.

Is July 31 a hard date for the PUD with respect to filing with FERC? As a group we could write to FERC and let them know we need more time to review and discuss.

Anne

Anne Savery
Hydrologist
503-984-0667

_____

From: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>
Sent: Wednesday, July 25, 2018 10:58:14 AM
To: Binkley, Keith; Whitney, Jennifer L (DFW)
Cc: Lowe, Larry; McDonnell, Andrew; Presler, Dawn; Verhey, Peter A (DFW); Eleazer, Edward J (DFW); 'Vacirca, Richard - FS'; 'Janet Curran - NOAA Federal'; 'lindsy_asman@fws.gov'; 'okeefe@americanwhitewater.org'; Anne Savery; 'nate.morgan@ci.sultan.wa.us'; 'Jim Miller (JMiller@everettwa.gov)'; 'Rustay, Michael'; Pacheco, James (ECY); 'susan_rosebrough@nps.gov'
Subject: RE: Jackson HP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

Hi Keith, Thank you, I appreciate that you have contacted WDFW Fish Program. WDFW will need to review the proposed language change in the Whitewater Plan. We see many details and caveats that the language will need to address, in particular details that have impacts on fish and aquatic resources of the State. WDFW would prefer to interact and work with SnoPUD directly about the details of specific plan changes, rather than the need to respond to a plan amendment that SnoPUD files with FERC. The ARC and SnoPUD have a good history of working together collaboratively and creating common sense approaches to management activities and projects.

WDFW recommends that SnoPUD has the ARC review all specific changes to management plan language. If SnoPUD has a limited time window, WDFW recommends that SnoPUD file for a time extension with FERC.

As always, WDFW appreciates the discussion with SnoPUD and the dialog amongst the ARC members.

Sincerely, Brock

From: Binkley, Keith <KMBinkley@SNOPUD.com>
Sent: Wednesday, July 25, 2018 9:20 AM
To: Whitney, Jennifer L (DFW) <Jennifer.Whitney@dfw.wa.gov>
Cc: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>; Lowe, Larry <LGLowe@SNOPUD.com>; McDonnell, Andrew <AWMcdonnell@SNOPUD.com>; Presler, Dawn <DJPresler@SNOPUD.com>; Verhey, Peter A (DFW) <Peter.Verhey@dfw.wa.gov>; Eleazer, Edward J (DFW) <Edward.Eleazer@dfw.wa.gov>
Subject: RE: Jackson HP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

Thank you Jenni – we so appreciate your wise perspective.

Keith

From: Whitney, Jennifer L (DFW) [mailto:Jennifer.Whitney@dfw.wa.gov]
Sent: Tuesday, July 24, 2018 3:45 PM
To: Binkley, Keith <KMBinkley@SNOPUD.com<mailto:KMBinkley@SNOPUD.com>>
Cc: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov<mailto:Brock.Applegate@dfw.wa.gov>>; Lowe, Larry <LGLowe@SNOPUD.com<mailto:LGLowe@SNOPUD.com>>; McDonnell, Andrew <AWMcdonnell@SNOPUD.com<mailto:AWMcdonnell@SNOPUD.com>>; Presler, Dawn <DJPresler@SNOPUD.com<mailto:DJPresler@SNOPUD.com>>; Verhey, Peter A (DFW) <Peter.Verhey@dfw.wa.gov<mailto:Peter.Verhey@dfw.wa.gov>>; Eleazer, Edward J (DFW) <Edward.Eleazer@dfw.wa.gov<mailto:Edward.Eleazer@dfw.wa.gov>>
Subject: RE: Jackson HP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

Hi Keith and Brock, I don't know all of the background on this change in whitewater release schedule on the Sultan but in general I think that moving the whitewater releases to before September 15th would be a good thing for Chinook as there are more Chinook spawning the second half of September than the first half. It's good to hear that you are thinking about a drought provision as my primary concern would be that if the Sultan is high and cool and the Skykomish is low and hot fish that otherwise would not get drawn into the Sultan will get drawn in with the flush of cool water. For example, we have seen a higher proportion of Wallace Hatchery Chinook in the Sultan on drought years than non-drought years. Perhaps the drought provision could be that scheduled releases would occur provided temperature and flow in the Skykomish meet certain non-drought conditions, something along the lines of Skykomish flows over ~500 CFS and a temp differential not more that 4 or 5 degrees C between the Sultan and the Skykomish. If this change in whitewater release schedule could be proposed as a pilot it I think it would be good to be able to reevaluate and revise if needed. I'm happy to discuss further if you would like. Jenni

Jennifer Whitney - District 13 Fish Biologist Washington Department of Fish and Wildlife
16018 Mill Creek Blvd.
Mill Creek, WA 98012-1296
(425) 775-1311 Ext. 107
jennifer.whitney@dfw.wa.gov<mailto:jennifer.whitney@dfw.wa.gov>

From: Binkley, Keith <KMBinkley@SNOPUD.com<mailto:KMBinkley@SNOPUD.com>>
Sent: Tuesday, July 24, 2018 12:19 PM
To: Whitney, Jennifer L (DFW) <Jennifer.Whitney@dfw.wa.gov<mailto:Jennifer.Whitney@dfw.wa.gov>>; Verhey, Peter A (DFW) <Peter.Verhey@dfw.wa.gov<mailto:Peter.Verhey@dfw.wa.gov>>
Cc: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov<mailto:Brock.Applegate@dfw.wa.gov>>; Lowe, Larry <LGLowe@SNOPUD.com<mailto:LGLowe@SNOPUD.com>>; McDonnell, Andrew

<AWMcdonnell@SNOPUD.com<mailto:AWMcdonnell@SNOPUD.com>>; Presler, Dawn <DJPresler@SNOPUD.com<mailto:DJPresler@SNOPUD.com>>
Subject: FW: Jackson HP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

Hi Jenni and Pete – Brock requested that we bring you two into the discussion on a matter related to the Jackson Project and our Whitewater Recreation Plan. I think that is a great idea. In a nutshell, this relates to the scheduling of our annual whitewater releases. We are talking about doing an additional release in the latter half of August of each year (excluding drought years). We would do away with scheduling any recreation releases after September 15th. In summary, it would be one release in April or May, another between August 15 and 31, and another between September 1 and 15. I would be more than happy to discuss with you in person or over the phone.

Keep cool,

Keith

From: Applegate, Brock A (DFW) [mailto:Brock.Applegate@dfw.wa.gov]
Sent: Tuesday, July 24, 2018 10:47 AM
To: Presler, Dawn <DJPresler@SNOPUD.com<mailto:DJPresler@SNOPUD.com>>; 'Vacirca, Richard -FS' <rvacirca@fs.fed.us<mailto:rvacirca@fs.fed.us>>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov<mailto:janet.curran@noaa.gov>>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov<mailto:lindsy_asman@fws.gov>>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org<mailto:okeefe@americanwhitewater.org>>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov<mailto:asavery@tulaliptribes-nsn.gov>>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us<mailto:nate.morgan@ci.sultan.wa.us>>; 'Jim Miller (JMiller@everettwa.gov<mailto:JMiller@everettwa.gov>)' <JMiller@everettwa.gov<mailto:JMiller@everettwa.gov>>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us<mailto:mike.rustay@co.snohomish.wa.us>>; Pacheco, James (ECY) <JPAC461@ECY.WA.GOV<mailto:JPAC461@ECY.WA.GOV>>
Cc: 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov<mailto:susan_rosebrough@nps.gov>>; Binkley, Keith <KMBinkley@SNOPUD.com<mailto:KMBinkley@SNOPUD.com>>
Subject: RE: Jackson HP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

CAUTION: THIS EMAIL IS FROM AN EXTERNAL SENDER.
Do not click on links or open attachments if the sender is unknown or the email is suspect.

_____

Hi Dawn, WDFW would like to review the modified language in the Whitewater Plan that SnoPUD will send to FERC. WDFW supports the change as proposed in concept, but would want to make sure that the release will coordinate with SnoPUD Fisheries program. Have the chinook runs started to come back sooner than historically and do we have a trend? WDFW has heard about past comments about the chinook may sometimes take a hit, but chinook may have taken too many hits with the more current flow, temperature, and habitat impacts.

WDFW proposes an electronic discussion, so that we can engage WDFW Fish Program. The whole discussion may take more than 30 days or not, but the actual details to the modified language in the Whitewater Plan would help understand the discussion that the ARC will need to have.

WDFW proposes that SnoPUD provide a modified plan language to review as details will have importance in the discussion.

Sincerely, Brock

From: Presler, Dawn <DJPresler@SNOPUD.com<mailto:DJPresler@SNOPUD.com>>
Sent: Friday, July 20, 2018 10:55 AM

To: 'Vacirca, Richard -FS' <rvacirca@fs.fed.us<mailto:rvacirca@fs.fed.us>>; 'Janet Curran - NOAA Federal' <janet.curran@noaa.gov<mailto:janet.curran@noaa.gov>>; 'lindsy_asman@fws.gov' <lindsy_asman@fws.gov<mailto:lindsy_asman@fws.gov>>; 'okeefe@americanwhitewater.org' <okeefe@americanwhitewater.org<mailto:okeefe@americanwhitewater.org>>; 'Anne Savery' <asavery@tulaliptribes-nsn.gov<mailto:asavery@tulaliptribes-nsn.gov>>; 'nate.morgan@ci.sultan.wa.us' <nate.morgan@ci.sultan.wa.us<mailto:nate.morgan@ci.sultan.wa.us>>; 'Jim Miller (JMiller@everettwa.gov<mailto:JMiller@everettwa.gov>)' <JMiller@everettwa.gov<mailto:JMiller@everettwa.gov>>; 'Rustay, Michael' <mike.rustay@co.snohomish.wa.us<mailto:mike.rustay@co.snohomish.wa.us>>; Pacheco, James (ECY) <JPAC461@ECY.WA.GOV<mailto:JPAC461@ECY.WA.GOV>>; Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov<mailto:Brock.Applegate@dfw.wa.gov>>
Cc: 'susan_rosebrough@nps.gov' <susan_rosebrough@nps.gov<mailto:susan_rosebrough@nps.gov>>; Binkley, Keith <KMBinkley@SNOPUD.com<mailto:KMBinkley@SNOPUD.com>>
Subject: JHP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

Dear ARC Members,

On July 1, the District entered into a new 3-year accounting cycle for the whitewater recreation program under the Jackson Project's Whitewater Recreation Plan. As mentioned at the recent Aquatic Resource Committee meeting, the intent of the program was to strive for a total of 12 (6 scheduled and 6 unscheduled) events over the 3-year period. The District had accomplished 7 events (5 scheduled and 2 unscheduled) at the completion of the cycle given postponements due to construction at the Diversion Dam and drought declarations. Through discussions with Tom O'Keefe (American Whitewater) and Susan Rosebrough (National Park Service) on July 12, we are proposing a modification to the program to bring it closer to meeting the objectives of providing meaningful whitewater opportunities within the allocated water budget while balancing fishery/aquatic resources needs and lost generation.

Modification Proposal:
Utilizing the same budget of 2,100 acre-feet, we are proposing to increase the number of scheduled events and reduce/eliminate the unscheduled events. (We are able to entertain this idea because of efficiencies in how users access the river.) The proposed increase in scheduled events would be from 2 per year to 3 per year, with the same drought year provision that is in place under the current program. The current program has one scheduled release in the April / May timeframe and another in early September. We are proposing the additional scheduled release occur in late August. As a final point, scheduled events are far more popular than unscheduled ones. Scheduled events occur on weekends and with at least two weeks of advanced notice. Unscheduled events occur with a 48-hour notice and we have had to "cancel" these because of poor turn out. The mining community is also not particularly fond of the short notice associated with unscheduled events. We are soliciting your input on this proposed modification to the whitewater recreation program as identified in this paragraph.

An updated Whitewater Recreation Plan will be submitted to FERC based on this consultation. In an effort to get this plan in place as soon as possible (in order to start this water year), please respond by July 31 with a concurrence or no objection email or emailed comments (with a cc: to Keith Binkley). If you need the full 30 days for consultation as indicated in the WR Plan, please let us know. Thank you.

Dawn Presler
Sr. Environmental Coordinator
Generation Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Presler, Dawn

From: Lindsy Asman <lindsy_asman@fws.gov>
Sent: Monday, July 23, 2018 10:01 AM
To: Presler, Dawn
Cc: Binkley, Keith
Subject: Re: [EXTERNAL] JHP (FERC No. 2157) - modification proposal to Whitewater Recreation Plan - comment by July 31

The USFWS does not object to this proposal because there will also be a potential benefit to fish migration upstream.

Thank you.

Lindsy A. Asman (Wright) M.E.S.
U.S. Fish and Wildlife Service
Division of Conservation and Hydropower Planning
510 Desmond Drive SE
Lacey, Washington 98503
360-753-6037
lindsy_asman@fws.gov

On Fri, Jul 20, 2018 at 10:55 AM Presler, Dawn <DJPresler@snopud.com> wrote:

> Dear ARC Members,
>
> On July 1, the District entered into a new 3-year accounting cycle for the whitewater recreation program under the Jackson Project's Whitewater Recreation Plan. As mentioned at the recent Aquatic Resource Committee meeting, the intent of the program was to strive for a total of 12 (6 scheduled and 6 unscheduled) events over the 3-year period. The District had accomplished 7 events (5 scheduled and 2 unscheduled) at the completion of the cycle given postponements due to construction at the Diversion Dam and drought declarations. Through discussions with Tom O'Keefe (American Whitewater) and Susan Rosebrough (National Park Service) on July 12, we are proposing a modification to the program to bring it closer to meeting the objectives of providing meaningful whitewater opportunities within the allocated water budget while balancing fishery/aquatic resources needs and lost generation.
>
> **Modification Proposal:**
>
> Utilizing the same budget of 2,100 acre-feet, we are proposing to increase the number of scheduled events and reduce/eliminate the unscheduled events. (We are able to entertain this idea because of efficiencies in how users access the river.) The proposed increase in scheduled events would be from 2 per year to 3 per year, with

the same drought year provision that is in place under the current program. The current program has one scheduled release in the April / May timeframe and another in early September. We are proposing the additional scheduled release occur in late August. As a final point, scheduled events are far more popular than unscheduled ones. Scheduled events occur on weekends and with at least two weeks of advanced notice. Unscheduled events occur with a 48-hour notice and we have had to “cancel” these because of poor turn out. The mining community is also not particularly fond of the short notice associated with unscheduled events. We are soliciting your input on this proposed modification to the whitewater recreation program as identified in this paragraph.

An updated Whitewater Recreation Plan will be submitted to FERC based on this consultation. In an effort to get this plan in place as soon as possible (in order to start this water year), **please respond by July 31** with a concurrence or no objection email or emailed comments (with a cc: to Keith Binkley). If you need the full 30 days for consultation as indicated in the WR Plan, please let us know. Thank you.

Dawn Presler

Sr. Environmental Coordinator

Generation Resources

(425) 783-1709

PUD No. 1 of Snohomish County

PO Box 1107

Everett, WA 98206-1107

Appendix 3
Key Findings of Whitewater Boater Preferences Identified in the Flow-Recreation Study Technical Report (Revised Study Plan 14)

Excerpts of Whitewater Boater Preferences from the Flow-Recreation Study Technical Report (Confluence 2008).

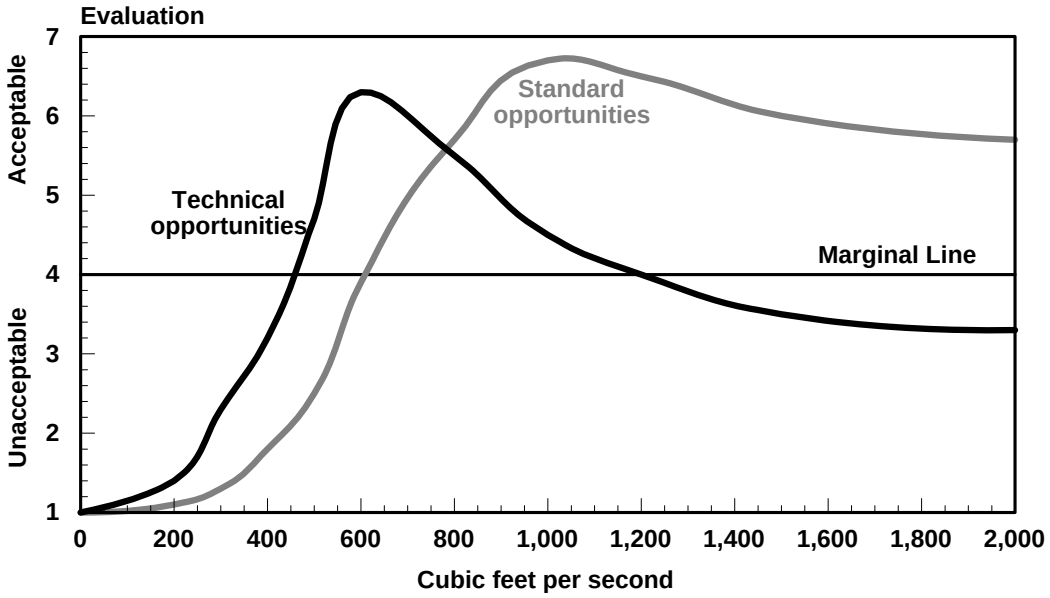


Figure 4-1. Flow Evaluation Curves for Segment 2.

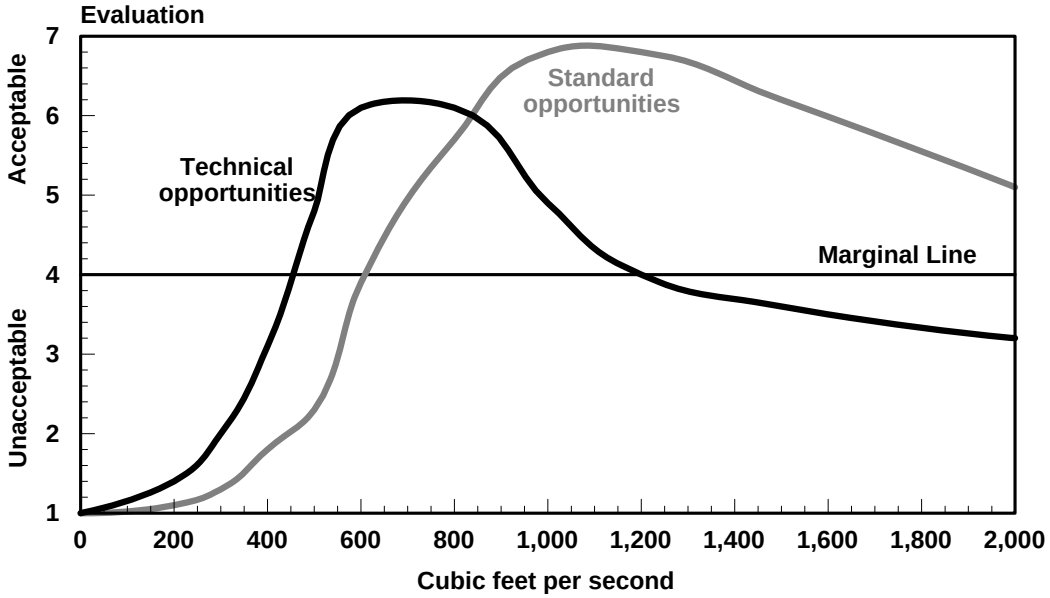


Figure 4-2. Flow Evaluation Curves for Segment 3.

Table 4-2. "Specified Flows" for Segments 2 and 3.

Segment / specified flow	Median	Mean	Inter-quartile range
Segment 2			
Lowest boatable flow	300	291	250 to 300
Lowest acceptable technical trip	450	429	300 to 600
Lowest optimal technical trip	600	604	600 to 700
Transition between technical and standard trip	750	746	700 to 800
Lowest optimal standard trip	900	885	800 to 1,000
Transition between standard and big water boating	1,000	1,108	1,000 to 1,250
Lowest optimal big water boating	1,200	1,233	1,000 to 1,500
Highest safe flow	2,000	1,978	1,350 to 2,500
Single flow preference	1,000	1,023	900 to 1,150
Lowest of "two flow" preference	900	873	700 to 1,000
Highest of "two flow" preference	1,200	1,227	950 to 1,450
Segment 3			
Lowest boatable flow	300	329	300 to 400
Lowest acceptable technical trip	500	469	400 to 520
Lowest optimal technical trip	650	658	600 to 725
Transition between technical and standard trip	750	758	675 to 800
Lowest optimal standard trip	950	931	825 to 1,025
Transition between standard and big water boating	1,200	1,169	800 to 1,250
Lowest optimal big water boating	1,350	1,300	1,200 to 1,400
Highest safe flow	2,000	1,756	1,350 to 2,000
Single flow preference	1,000	1,023	800 to 1,200
Lowest of "two flow" preference	900	861	750 to 1,000
Highest of "two flow" preference	1,100	1,196	1,050 to 1,200

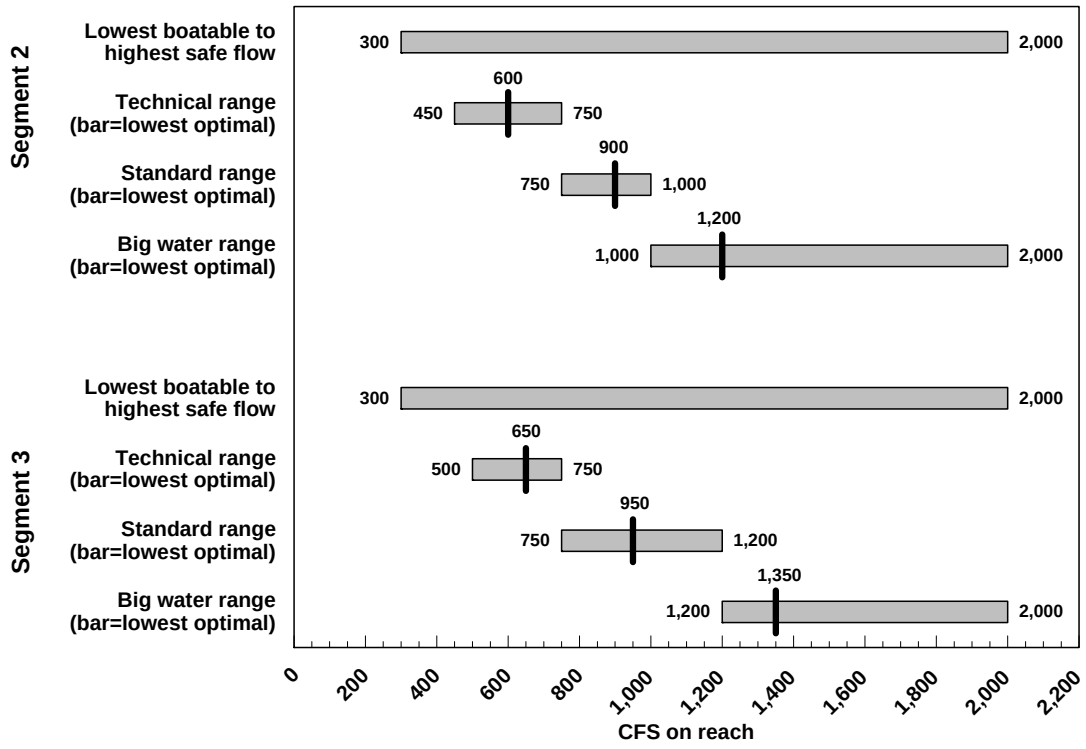


Figure 4-3. Summary of Flow Ranges Defined by Specified Flow Medians.

Table 4-3. "Specified Flows" for Segment 4.

Specified flow	Median	Mean	Inter-quartile range
Lowest boatable flow	400	418	300 to 500
Lowest acceptable technical trip	500	536	400 to 850
Lowest optimal technical trip	600	658	500 to 800
Transition between technical and standard trip	850	819	650 to 975
Lowest optimal standard trip	1,000	1,022	812 to 1,175
Transition between standard and big water boating	1,150	1,308	990 to 1,590
Lowest optimal big water boating	1,600	1,602	1,100 to 2,000
Highest safe flow	2,000	1,900	1,200 to 2,500
Single flow preference	1,000	1,118	912 to 1,350

Lowest of "two flow" preference	1,000	1,034	750 to 1,200
Highest of "two flow" preference	1,400	1,473	1,000 to 2,000

Table 4-4. Trade-offs in Lengths/Amounts of Flows.

If water for boating releases were limited, would you prefer…	Percent
…one day with an optimal flow all day	28
…two days with an acceptable but not optimal flows	15
…two days with optimal flows but for fewer hours	57

Table 4-5. Preferences for Optimal vs. Acceptable Flow Segment Trade-offs.

If water for boating releases were limited, would you prefer…	Percent
…acceptable but not optimal flows provided on Segments 2 and 3	50
…optimal flows provided only on Segment 3	50

Appendix 4
Whitewater Boating Water Budget Tracking

EXAMPLE 3-Year Cycle = 7/1/2018 through 6/30/2021						
Event #	Magnitude (cfs)*	Duration (hours)	Date	Deduct	Balance	Notes
Starting Budget Amount					2,100	
1						
2						
3						
4						
5						
6						
7						
8						
9						
*As reported at compliance location						

Appendix 5
Boater Experience Satisfaction Survey

Henry M. Jackson Hydroelectric Project
FERC Project No. 2157

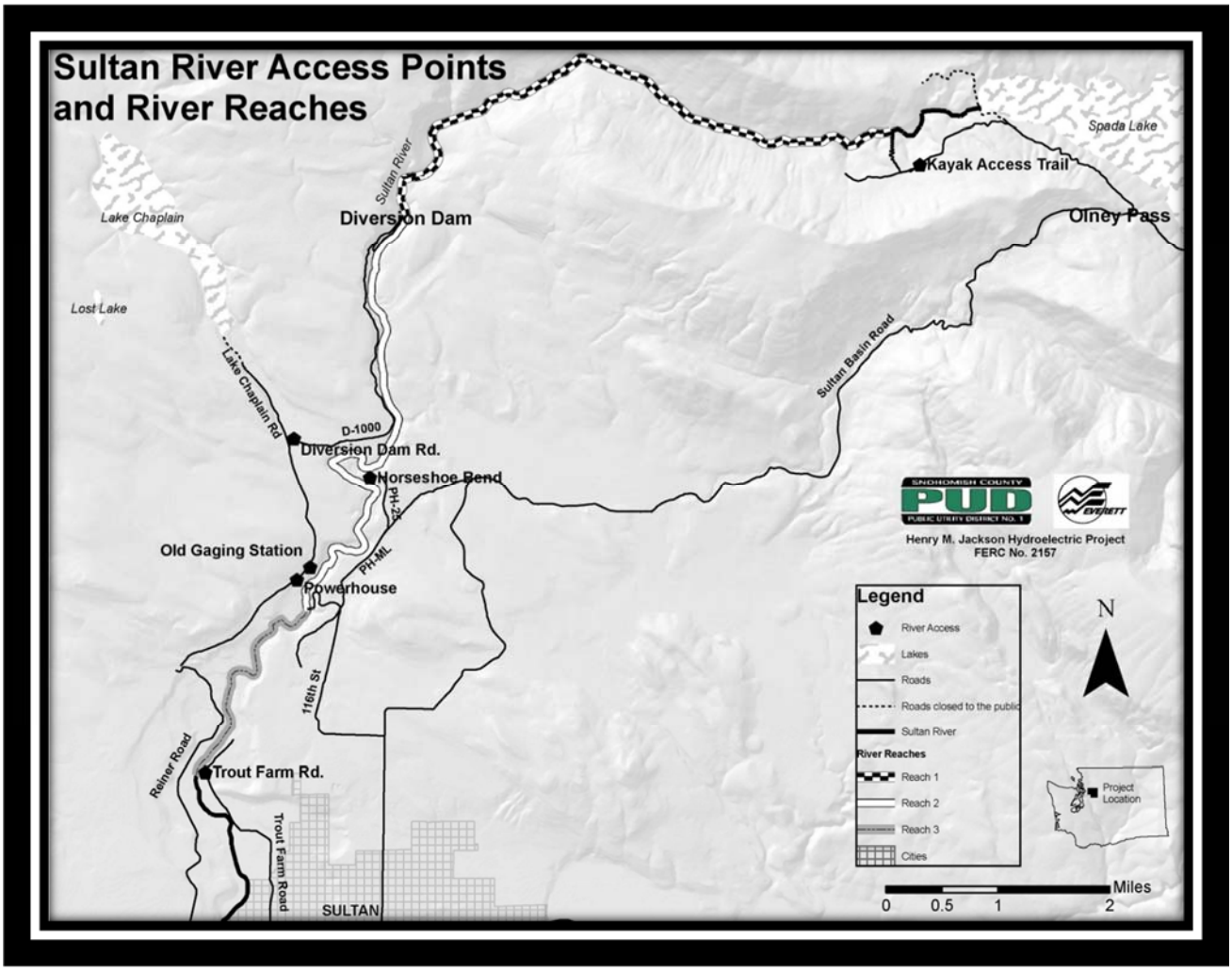
Sultan River
Whitewater Boating Survey

Snohomish County Public Utility District (PUD) is providing whitewater release to enhance whitewater recreation on the Sultan River as part of its License obligations for the Jackson Hydro Project. The map provided shows the Sultan River from below Culmback Dam to the Trout Farm Road River Access. Your answers are greatly appreciated, will provide important insight into whitewater boating opportunities and help guide ongoing and future management decision-making regarding whitewater boating on the Sultan River.

BOATER SATISFACTION SURVEY

Date:
Name:
Email:

1. In general, which difficulty class of river do you prefer running? (*check ✓ one*)



- ❑ Class I - Fast moving with riffles and small waves; few or no obstructions.
- ❑ Class II - Straightforward rapids with waves up to 3 feet; wide, clear channels evident without scouting.
- ❑ Class III - Rapids with moderate, irregular waves that can swamp open canoes; strong eddies and currents.
- ❑ Class IV - Powerful, turbulent and predictable rapids; large, unavoidable waves and holes or constricted passages.
- ❑ Class V - Extremely long, obstructed or violent rapids with exposure to added risk; possible large, unavoidable waves and holes or steep, congested chutes.
- ❑ Class VI - These runs have almost never been attempted and often exemplify the extremes of difficulty, unpredictability and danger.

2. Which put-in site did you use today (*Refer to map provided***)?** *(mark ✓ one)*

1. ❑ Below Culmback Dam (walk-in via Olney Pass)
2. ❑ Diversion Dam Road (walk-in river right)
3. ❑ Horseshoe Bend (walk-in river left)
4. ❑ Old Gaging Station River Access (river right)
5. ❑ Powerhouse River Access (river right)
6. ❑ Other _____

3. Which take-out site did you use today (*Refer to map provided***)?** *(mark ✕ one)*

1. ❑ Diversion Dam Road (walk-in river right)
2. ❑ Horseshoe Bend (walk-in river left)
3. ❑ Old Gaging Station River Access (river right)
4. ❑ Powerhouse River Access (river right)
5. ❑ Trout Farm Road
6. ❑ Other _____

4. How long did it take you to boat the river (from put-in to take-out)?

1. ❑ <3 hours
2. ❑ 3-4 hours
3. ❑ 4-5 hours
4. ❑ 5-6 hours
5. ❑ 6-7 hours
6. ❑ >7 hours _____

5. What was your mode of transportation to the put-in location?

1. ❑ Used a shuttle van/bus
2. ❑ Carpooled with other whitewater boaters
3. ❑ Drove own vehicle
4. ❑ Other _____

6. In general, would you prefer a flow/water level that was higher, lower, or about the same as today on each reach of the Sultan River?

	Much lower	Slightly lower	About the same	Slightly higher	Much higher
Reach 1	❑	❑	❑	❑	❑
Reach 2	❑	❑	❑	❑	❑
Reach 3	❑	❑	❑	❑	❑

7. Releases that are shorter in duration may allow us to provide more boating opportunities and higher flows. Recognizing this inherent trade-off between flow volume and length of release, what is your overall satisfaction with today's release?

Much too short	A bit too short	Just right	A bit too long	Much too long
❑	❑	❑	❑	❑

8. Overall, how satisfied are you with your whitewater boating experience on the Sultan River today?

❑ Very Dissatisfied ❑ Dissatisfied ❑ Neutral ❑ Satisfied ❑ Very Satisfied

9. Please use this space to provide any additional comments regarding your whitewater boating trip on the Sultan River today. (Including perceived crowding, shuttle experience, trade-offs with flow level and time length of release).

_____

_____

_____

_____

Thank you for providing us with valuable information about your whitewater boating experience on the Sultan River.

Appendix 6
Whitewater Boating Event Data Form

Whitewater Boating Event Data Form

Event Info		
	Cycle Date:	Release #:
	Date of Event:	
	Time of Event:	Notification:
	Event Day Description:	
	Sequenced with other process flow event? No or Yes,_____	

Use		
	Number of Reservations:	Number of Boaters:
	Number of Waivers Collected:	Number of Safety Incidents*:

Flow		
	Release at Culmback Dam (minus minimum instream flows)	cfs
	Accretion	cfs
	TOTAL Flow Experience (as measured immediately upstream of Diversion Dam)	cfs
		acre-feet
	Downramping (acre-feet)	acre-feet
	Length of release	minutes

Cost		
	Release cost (including downramp):	
	(@ $ /MWH)	
	Staff time cost:	
	Misc. cost:	
	TOTAL cost to District:	

*Safety Incidents	**Description:**

Completed By:_____

Date:_____