



PUBLIC UTILITY DISTRICT NO. 1 of CHELAN COUNTY

P.O. Box 1231, Wenatchee, WA 98807-1231 • 327 N. Wenatchee Ave., Wenatchee, WA 98801
(509) 663-8121 • Toll free 1-888-663-8121 • www.chelanpud.org

January 11, 2010

Honorable Kimberly D. Bose, Secretary
Nathaniel J. Davis, Sr., Deputy Secretary
FEDERAL ENERGY REGULATORY COMMISSION
888 First Street, NE
Washington, DC 20426

Re: Lake Chelan Hydroelectric Project No. 637
License Article 407, Recreation Resources Management Plan
Whitewater Boating on the Chelan River Monitoring Study
Annual Report for 2009 Activities

Dear Secretary Bose and Deputy Secretary Davis:

The Federal Energy Regulatory Commission (Commission) issued the "Order Approving Recreation Resources Management Plan under Article 407" for the Lake Chelan Hydroelectric Project (Project) on April 14, 2008. License Article 407 and Appendix A, Agreement Article 11(5) requires the Public Utility District No. 1 of Chelan County, Washington (Chelan PUD or Licensee), to file an annual Whitewater Boating Monitoring Study report to the Commission on or before June 1 for the previous year's whitewater boating monitoring study in the Chelan River for the initial three years.

On September 2, 2008, the Commission granted Chelan PUD's request to begin the Whitewater Boating Monitoring Study in 2009. Additionally, due to work that needed to be completed as part of the Chelan River habitat restoration project, the 2009 whitewater boating study would only occur during the month of July.

Chelan PUD hereby files its first annual report with the Commission. This report includes activities conducted under the implemented Recreation Resources Management Plan for calendar year 2009. Chelan PUD consulted with American Whitewater and copies of comments and recommendations are included in Appendix C of the report.

Please contact me or Kris Pomianek at (509) 661-4186 regarding any questions or comments regarding this report.

Sincerely,

Michelle Smith
Licensing & Compliance Manager
(509) 661-4180
michelle.smith@chelanpud.org

Enclosure: Annual Report for 2009 Activities

**WHITEWATER BOATING ON THE
CHELAN RIVER
MONITORING STUDY: YEAR ONE
JULY 11, 12, 25, 26, 2009**

Final Report

**LAKE CHELAN HYDROELECTRIC PROJECT
FERC Project No. 637**

January 8, 2010



**Public Utility District No. 1 of Chelan County
Wenatchee, Washington**

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

SECTION 1: INTRODUCTION..... 2

SECTION 2: ANNUAL SCHEDULE 2

SECTION 3: SPILL VOLUME..... 3

SECTION 4: RESERVATION SYSTEM AND LIABILITY REQUIREMENTS 5

SECTION 5: PARTICIPATION 6

SECTION 6: SURVEY TOOL 6

SECTION 7: EVALUATION OF SURVEY RESULTS..... 6

APPENDIX A: DESCRIPTION OF THE CHELAN RIVER

APPENDIX B: SURVEY RESULTS

APPENDIX C: CONSULTATION WITH AMERICAN WHITEWATER

APPENDIX D: PHOTOS

EXECUTIVE SUMMARY

The Public Utility District No. 1 of Chelan County (Chelan PUD) owns and operates the Lake Chelan Hydroelectric Project, FERC No. 637, (Project) on the Chelan River in north central Washington. The Project is near the city of Chelan, in Chelan County. The Chelan River is about 3.9 miles long and extends from the dam downstream to the Columbia River. For ease of description, Chelan PUD divides the Chelan River into four reaches based upon gradient, confinement, and fluvial geomorphologic characteristics (see Appendix A).

Chelan PUD operates the Project in accordance with a License issued by the Federal Energy Regulatory Commission (FERC) on November 6, 2006. As required under License Article 407, Chelan PUD submitted a recreation resources management plan (RRMP) which included a three-year whitewater boating monitoring study plan (Plan) on November 7, 2007. FERC approved the RRMP on April 14, 2008. In the RRMP, the annual schedule in 2008 was tentative based on habitat restoration work being done in the lower reaches of the Chelan River. Because of this habitat restoration work, it was determined that spills for whitewater boating on the scheduled two weekends in July and two weekends in September would not occur until 2009. On June 2, 2008, Chelan PUD requested approval of the revised schedule. On September 2, 2008, FERC notified Chelan PUD that the deadline for starting the whitewater boating study was extended to July, 2009.

The Plan was developed in consultation with American Whitewater and the Lake Chelan Recreation Forum. The Plan provides for an annual schedule of whitewater releases for hard-shelled kayaks in the Chelan River on the second and fourth weekends in July and September during the three-year period beginning in 2009. Kayaker surveys are required at the end of each release date to solicit input from whitewater boaters utilizing the Chelan River whitewater releases. The survey tool shall, at a minimum, query boaters on the suitability of the following: whitewater release dates, daily schedule, whitewater difficulty, spill volumes, access, carrying capacity, reservation system and real time flow information. A whitewater boating report must then be completed in consultation with American Whitewater and submitted to the FERC annually.

Following completion of the three-year whitewater boating monitoring study, a final report will be submitted to the FERC that will include information on the dates and volumes of each release for the three-year study period, annual use patterns, and an analysis of user preferences based on survey data. The report shall, at a minimum, include information on the dates and volumes of each release for the three year study period, annual use patterns, and an analysis of user preferences based on survey data. The report shall also include recommendations for providing whitewater releases, if any, for the remainder of the New License term. The report shall also make recommendations regarding, at a minimum, an annual schedule of releases (including volume and timing), a reservation system, the minimum number of boaters required to trigger a release, and a mechanism for liability protection.

This document contains Chelan PUD's report of the first year whitewater boating monitoring study (2009). First year survey results and documentation of consultation are included in the appendices.

SECTION 1: INTRODUCTION

Article 407 of the License Order and 11(h)(1) – (9) of the Settlement Agreement require Chelan PUD conduct a three-year whitewater boating monitoring study. The Plan for the whitewater boating monitoring study was approved by the FERC on April 14, 2008 and was developed in consultation with American Whitewater and the Lake Chelan Recreation Forum.

The Plan requires that an annual report be developed in consultation with American Whitewater and be submitted to the FERC on or before June 1 each year. The annual report is intended to evaluate and provide for any adjustments to the flow release schedule, spill volumes, reservation, and liability requirements based on input from American Whitewater and on the evaluation of the surveys collected from participants in the previous year's study.

The whitewater boating monitoring study report summarizes and evaluates the following information:

1. Annual schedule
2. Spill volumes
3. Reservation system and mechanism for liability protection
4. Threshold number of participants and use patterns
5. Effectiveness of the survey tool
6. Survey results
7. Consultation with American Whitewater

SECTION 2: ANNUAL SCHEDULE

License Order and Settlement Agreement Requirement

During the three-year whitewater boating monitoring study, Chelan PUD will release flows on the second and fourth weekends in July and September. Flows on Saturdays will be between 300 cfs and 375 cfs, and flows on Sundays will be between 400 cfs and 450 cfs. Chelan PUD will begin the ramping up of releases to meet these flows at 11:00 am and will begin ramping down no sooner than 6:00 pm each day. Chelan PUD will not be obligated to provide whitewater boating flow releases in the Chelan River when the previous day's average Stehekin River inflow is less than 333 cfs, or when the Mid-Columbia Index is greater than \$150/MWh (\$2001) as adjusted pursuant to section 19.1 of the Settlement Agreement.

Whitewater Boating Schedule Change

In the RRMP, the annual schedule in 2008 was tentative based on habitat restoration work being done in the lower reaches of the Chelan River. On June 2, 2008, Chelan PUD requested approval of a revised schedule. On September 2, 2008, FERC notified Chelan PUD that the deadline for starting the whitewater boating study was extended to July, 2009.

July 2009 Schedule

The 2009 whitewater boating monitoring study was conducted on July 11, 12, 25, 26 (second and fourth weekends).

September 2009 Schedule

In a letter dated July 2, 2009, Chelan PUD notified the FERC that the September 2009 flow releases would not occur due to a conflict with final Chelan River stream enhancement and restoration work needing to take place during that same timeframe. This schedule revision was made in coordination and consultation with American Whitewater.

SECTION 3: SPILL VOLUME

The License Order and Settlement Agreement requires the release of flows in the Chelan River between 300 cfs to 375 cfs on Saturday and 400 cfs to 450 cfs on Sunday. Spill releases during the first weekend's whitewater boating study were 340 cfs and 420 cfs on July 11 and 12, respectively. Survey information received following the first day's run indicated that at 340 cfs paddlers found it difficult to maneuver through the gorge. It was recommended by kayakers that the Saturday flow be increased.

The second weekend whitewater boating study was held on July 25 and 26. Saturday's flow was increased to 360 cfs and Sunday's flow remained at 420 cfs.

Survey results from the July 11 (340 cfs) whitewater boating study included:

- 340 cfs was slightly to moderately acceptable to nine of the boaters and acceptable to one boater.
- Three of the ten boaters portaged Entrance Exam and all boaters portaged the Class VI Pinnacle.
- Rock Garden, an area within the Gorge, was reported as slow moving and difficult to maneuver due to low flows.

Survey comments included the following:

- Flow of 340 cfs was a bit low for some rapids
- Flow was a bit low, 400 cfs would be more ideal
- I think more water would be better
- Good flows, maybe a hair more water
- 340 was good for the gorge however the Fat Lady rapid was a little low
- 375 would be an ideal flow for Saturday
- The lower section is safer with flows over 400 cfs. Less than 400 cfs is not ideal

Survey results from the July 12 (420 cfs) whitewater boating study included:

- 420cfs was acceptable to three boaters and moderately acceptable to two boaters.
- Three of the five boaters portaged Entrance Exam and all boaters portaged the Class VI Pinnacle.

Comments included the following:

- Little more water could be good
- Sunday's flow was a better flow

Survey results from the July 25 (360 cfs) whitewater boating study included:

- 360 cfs was slightly unacceptable to two boaters, marginal to one, slightly acceptable to four, moderately acceptable to nine and totally acceptable to six.
- Eight of the 22 boaters portaged Entrance Exam and all boaters portaged the Class VI Pinnacle. Paddlers indicated that Rock Garden was much easier to paddle at this flow.

Comments included the following:

- Easy, but we followed people who knew where they were going
- 360 cfs was good, medium level, challenging, but forgiving flow
- It would be nice to get at least 375-390 cfs for Saturday and 420-440 for Sunday
- More water
- Higher flows needed
- More water than today, but not much more

Survey results from the July 26 (420 cfs) whitewater boating study included:

- 420 cfs was slightly acceptable by one boater, moderately acceptable to eight boaters and acceptable to fourteen boaters.
- Nine of the 23 boaters portaged Entrance Exam and all boaters portaged the Class VI Pinnacle.

Comments included the following:

- Higher is cleaner, maybe try a release of 475 cfs
- Sunday 400 to 450 is great. Flow less than that would be worse
- Would not recommend less than 400 cfs

Mid-Columbia Index and Stehekin Flows (Information provided by Scott Buehn, PE, Power Resource Engineer, Chelan PUD)

License Order and Settlement Agreement Requirement

Chelan PUD shall not be obligated to provide whitewater boating flow releases in the Chelan River when the previous day's average Stehekin River inflow is less than 333 cfs, or when the Mid-Columbia Index is greater than \$150/mwh (\$2001), as adjusted pursuant to section 19.1 of the Agreement.

July 9 The average Stehekin flow was 1695 cfs. The Mid-Columbia Index price for energy was \$22.71/mwh for heavy load hours and \$18.70/mwh for light load hours.

July 21 The average Stehekin flow was 1700 cfs. The Mid-Columbia Index price for energy was \$48.27/mwh for heavy load hours and \$32.35/mwh for light load hours.

SECTION 4: RESERVATION SYSTEM AND LIABILITY REQUIREMENTS

License Order and Settlement Agreement Requirement

Water releases are made only if six or more kayakers make a reservation with Chelan PUD either in-person at Chelan PUD office in Chelan or Wenatchee or via the Chelan PUD website, www.chelanpud.org by 5:00 pm on the Thursday prior to the scheduled release date. In addition, all reserved participants must be physically present at the designated kayak put-in location by 10:00 am on the date of the release. No kayaker less than 18 years of age will be allowed. It is recommended that all participants scout the river ahead of time and watch a 20 minute video of kayaking in the Chelan River Gorge which is available on American Whitewater's or Chelan PUD's website. Each kayaker will be required to sign a liability waiver prior to launching his or her kayak in the Chelan River. Only non-motorized, hard shelled kayaks suitable for Class V whitewater will be allowed.

Registration

Participants in the whitewater boating experience on the Chelan River signed up on-line. Chelan PUD created a link on its home page where information could be found regarding every aspect of the run including a video and a link directly to American Whitewater's website for further information. Paddlers registered on line using this website. Chelan PUD acknowledged the registration and forwarded it on to American Whitewater. No registrations were received from kayakers under 18 years of age.

Check-in

All paddlers checked in at the registration area before 10:00 am each day. Each person was given a badge and a liability waiver form to sign, if the form had not previously been received by Chelan PUD.

Paddlers left the check-in area and traveled up along the Chelan River to the put-in area which allowed them the opportunity to scout the river from the road along the way. All paddlers had non-motorized, hard shelled kayaks suitable for this run.

Put-in

All kayakers put in at the designated area just below the Project dam. Although originally agreed that boaters would enter the water at 11:00 am, the time was modified to accommodate the number of boaters, allowing some boaters to begin the run by 10:30 am.

Run duration

The run from put-in to take-out took approximately 3 to 4 ½ hours. Boaters were asked to finish the kayaking run by 6:00 pm although all boaters completed the run and were off the river by 5:00 pm.

Take-out

All paddlers took out at the check-in area and filled out a survey.

SECTION 5: PARTICIPATION

Between May 28 and July 9, 30 reservations for the first weekend's run on the Chelan River were received. On Saturday July 11, 10 boaters paddled the river and on Sunday, 5 participated. Between July 13 and July 23, 35 additional boaters pre-registered for the second weekend. On Saturday, 22 paddlers ran the river and on Sunday, 23 participated. Overall, 44 different boaters participated in the whitewater boating experience on the Chelan River.

SECTION 6: SURVEY TOOL

License Order and Settlement Agreement Requirement

Each kayaker will be asked to fill out a survey at the end of the run. This survey tool will provide important information that will be compiled and submitted in a report to the FERC. The survey will query the whitewater boaters on the suitability of the following: whitewater release dates, daily schedule, whitewater difficulty, spill volumes, access, carrying capacity, reservation system and real time flow information.

The survey tool (Attachment B) developed in cooperation with American Whitewater was filled out by all participants following each run. The survey tool provided valuable feedback. It helped to determine appropriate flows, timing of the event, use and understanding of the reservation system, the appropriateness of the run for each boater's level of experience, and it was an indication of future interest in the run as well.

SECTION 7: EVALUATION OF SURVEY RESULTS

The survey results indicated that this run is a difficult Level V+ kayaking experience that should only be considered by those having several hours of Level V experience. Results also indicated that the reservation system worked well, the information provided on the website was informative and concise and access to the put-in and take-out areas were convenient and well marked.

There was significant information provided by boaters on their preference of flows for each day. Throughout the three year monitoring study however, flows will remain within the ranges indicated in the License Order and Settlement Agreement, 300 to 375 cfs on Saturday and 400 to 450 cfs on Sunday.

Comments on the time of day for the release of flows were also mentioned in the survey. Chelan PUD will work with American Whitewater to remain flexible on put-in time, but will continue to require that all paddlers be off the river by 6:00 pm.

When the three year monitoring study is complete, a discussion on the number and timing of releases will occur between Chelan PUD and American Whitewater and a recommendation will be made in the final report to the FERC.

APPENDIX A: DESCRIPTION OF THE CHELAN RIVER

Description of the Chelan River

The Chelan River begins below the dam and continues for approximately 4 miles until it joins the tailrace of the powerhouse near the Columbia River (Figure 1). For planning purposes, Chelan PUD has divided the bypass reach into four distinct sections, as shown on the map.

Section 1 is 2.29 miles long, and is characterized by a relatively wide flood plain, low gradient (approximately 55 feet/mile), and substrate comprised of large cobble and boulders.

Section 2 is 0.75 mile long and is a transition zone between the wider floodplain and the Gorge. It is characterized by a narrow channel, canyon walls, moderate gradient (approximately 57 feet/mile), and larger cobble and boulder substrate than Section 1.

Section 3 is “Chelan Gorge,” and is 0.38 mile long. The canyon walls in this section are very steep and narrow, and the gradient of the channel is steep (approximately 480 feet/mile). The channel is characterized by cataracts from 5 to 20 feet high, numerous cascades, bedrock chutes, and large, deep pools. The substrate is very large, with some boulders exceeding 20 feet in diameter.

The Gorge (Section 3) has been further divided into three areas based on the type of specific rapids:

Entrance Exam (a complex, multi-drop rapid at the start of the Gorge)

Central Gorge (the series of drops downstream)

Lower Gorge (the lower gradient boulder gardens at the end of the Gorge)

Section 4 is located below the Gorge area and is 0.49 mile long. It is characterized by a wide flood plain, gravel/cobble/boulder substrate, and low gradient (approximately 22 feet/mile). This section extends from the bottom of the Gorge downstream approximately 2,600 feet to the confluence of the powerhouse tailrace.

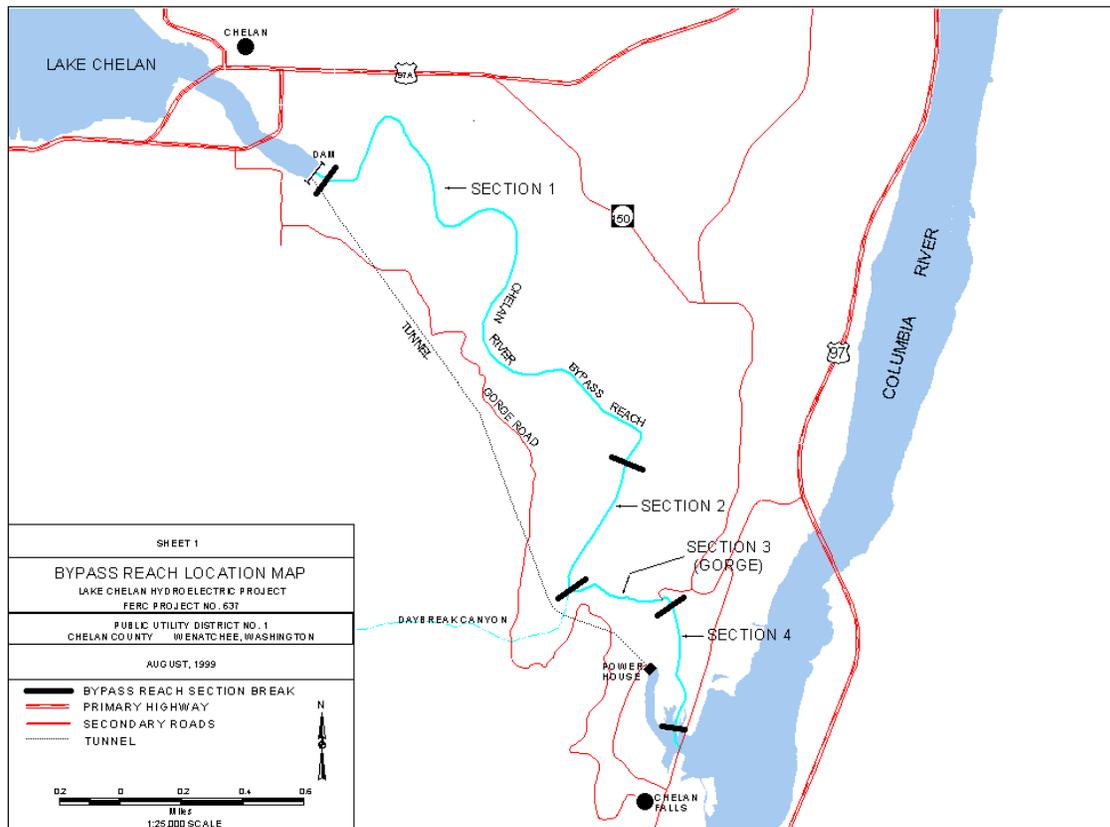


Figure 1: Chelan River And Vicinity

Launch and Take Out Facilities

Put-in. Just below the dam on river-left, an undeveloped road and short trail approach the river. The trail ends on a wide gravel bar that provides a suitable staging area for kayaks and other similar craft. There are parking and restroom facilities at a nearby City park.

Mid-river take-out. For boaters interested in avoiding the Gorge (or starting their trip immediately at the top of the Gorge), it is possible to leave the bypass reach at the mouth of Daybreak Canyon. There is an eddy above the Entrance Exam, and at observed flows there is a relatively flat area on rocks next to the river. However, there is no established trail or access, and the climb from the river to the Gorge Road is steep and potentially hazardous.

Take-out. There are developed boat launches at both Chelan Falls and Powerhouse Parks at the confluence of the Chelan and the Columbia. These parks have extensive parking, restrooms, a large picnic shelter, and an extensive lawn for organizing/drying gear.

Specific Descriptions of Major Rapids in the Chelan River Gorge

Entrance Exam (Class V). This rapid has a series of four drops in short succession at the start of the Gorge. It is identified by a large rock about 100 feet upstream of a sharp left bend at the mouth of Daybreak Canyon. There is a large pool at the top of the reach, allowing boaters to scout and portage the entire rapid, as well as a smaller eddy downstream of the first drop where boaters can also get out of the river. However, once boaters commit themselves to the second drop in the series, they probably have to run the rest as a group.

First Drop. This initial challenge is a short waterfall with a strong hydraulic at the bottom. The hole appears weaker in the center, and was weaker at the lower two flows (273 cfs and 391 cfs). This hole is not the main problem in the rapid, but it requires a clean run because of the drops that lie ahead. Boaters pushed off line here face a more difficult run.

Second Drop/Punch Bowl. The second major challenge in this rapid features a steep, horseshoe shaped falls immediately above a turbulent re-circulating eddy (the “Punch Bowl”) that extends below an undercut rock. The more “clean” boating line at all three flows is just left of a distinct flatter rock on river-right.

Pile Up. The third challenge in the rapid is immediately downstream of the Punch Bowl, and features a river-wide hole. This hydraulic appears weaker in center-right. There is a small eddy on river right against the cliff after Pile-up.

Final Plunge. This last challenge is a sharp drop and hole between two pinching walls; much of the current is directed at the right hand wall, where there is also considerable turbulence. Boaters generally run it after catching the small eddy below Pile-up, moving strongly from right to left-center.

There are scouting and portage options along Entrance Exam from river-right. Boaters who portage can seal launch into the pool below Final Plunge. Boaters can access the area from the Gorge Road (via the steep route down Daybreak Canyon) as well as from the eddy upstream of the rapid. There are options for establishing safety along the rapid, particularly below Pile-up and Final Plunge, the two holes where boaters are more likely to become stuck or have to swim.

Central Gorge. A few hundred feet downstream of Entrance Exam are a series of five major rapids in the Central Gorge. Unlike Entrance Exam, each of these are separated by pools with less turbulent water, and each can be scouted or portaged independently.

Double Slide (Class V). The first major rapid in the Central Gorge is “Double Slide,” which features a boulder field and swift currents leading to side-by-side chutes. The river-left slide is longer, more gradual, and ends in a less turbulent pool. The river-right slide (labeled “Chelan Chute”) is more abrupt and concentrated, and ends in turbulence against the mid-channel dividing rock, which is undercut. A short drop and hole, followed by an exposed rock and the right-to-left current, make access to the river-left slide more difficult.

There are good scouting options for this rapid on the river-right side. There is a portage route on river-left, well upstream of the entrance into the left hand slide. The portage option on river-right would involve a very difficult seal launch into the pool below.

Super Boof Falls (Class IV/V). The next rapid is a pour-over falls directly downstream of Double Slide; during an on-land assessment it was named “Car Wreck Falls” after an abandoned car in the cliffs (this has since slid into the river and is out of sight). All boaters ran this rapid “boofing” off a rock at the top of the falls on river-left to avoid heavy turbulence at the bottom of the falls. There are scouting options on both sides of the falls. There are portage options on river-left.

Throne Falls (Class V). This is another steep drop with strong turbulence at the bottom; the rapid is named for a distinctive boulder shaped like a throne downstream of the falls. Boaters generally run center-right but with varying bow angles. There is heavy turbulence on both the right and left sides of the falls.

Pinnacle Falls (the pool before the falls). The pool between Throne and Pinnacle Falls can be smaller narrowing the margin of error if boaters fail to have a clean run. Scouting and portaging options are on river-right. There is a good eddy upstream of the falls. Portage options are available from river-right that ends with a short seal launch.

Pinnacle Falls (Class VI). This falls is immediately downstream of the Throne and is identified by a tall pillar of rock on river-right. The falls is steep and high (probably over 20 feet), concentrating the entire flow of the river through a single slot. The bottom of the falls is very turbulent. Boaters often portage this area. The portage is rated “slightly difficult” by all boaters and involves a short carry over the saddle between the pinnacle and right canyon wall, and then a short seal launch into the pool below. There are good scouting options from the river-right eddy above the falls.

Boulder Sieve. The final major rapid in the Central Gorge occurs downstream of Pinnacle Falls, and is identified by several large boulders that act as a sieve in the river; there are at least two distinct chutes through undercut rocks; the total drop is about fifteen feet. Boaters generally do not run this rapid, choosing instead to ground themselves on a rock on river-left, then seal launch down a partially wetted incline to the side of the slots and their heavier turbulence. One boater often gets out of his boat to assist the other kayakers onto the rock and then shove them over the other side. As a result, many boaters do not even get out of their boats for this portage. The ride down the incline on the other side is steep and bumpy and ends in turbulent water that masks rocks that can easily be hit by boaters. Scouting appears best from the left side. A longer portage to avoid the seal launch may be possible on the left side as well, but might require ropes to bypass larger boulders.

Lower Gorge (Class IV/V). Downstream of Boulder Sieve, the river becomes less constricted and has a slightly lower gradient. There are several significant drops and boulders in this reach, but the rapids generally have less powerful hydraulics than those upstream. The rapids above the Old Highway Bridge have been collectively labeled “Extra Credit,” while the series of larger boulders and constricted routes downstream of the bridge have been collectively labeled “Fat

Lady,” a reference to the colloquialism, “the opera isn’t over until the fat lady sings.” There were at least two routes in Fat Lady that were very constricted and cause boaters to hit large rocks as they passed by. One opening was less than the width of a kayak and stopped some boaters’ momentum. At another drop at the very end of the run, all boaters chose to avoid the center route (where most of the water went) in favor of narrow, shallower routes on the sides because of a sieve with potential pinning hazards.

In Extra Credit, kayakers found at least one good play hole for rodeo maneuvers (endos, cartwheels, pirouettes, etc.) There are numerous opportunities for boaters to get out and scout either Extra Credit or Fat Lady from the various boulders, and numerous portage and rescue options are also available if needed.

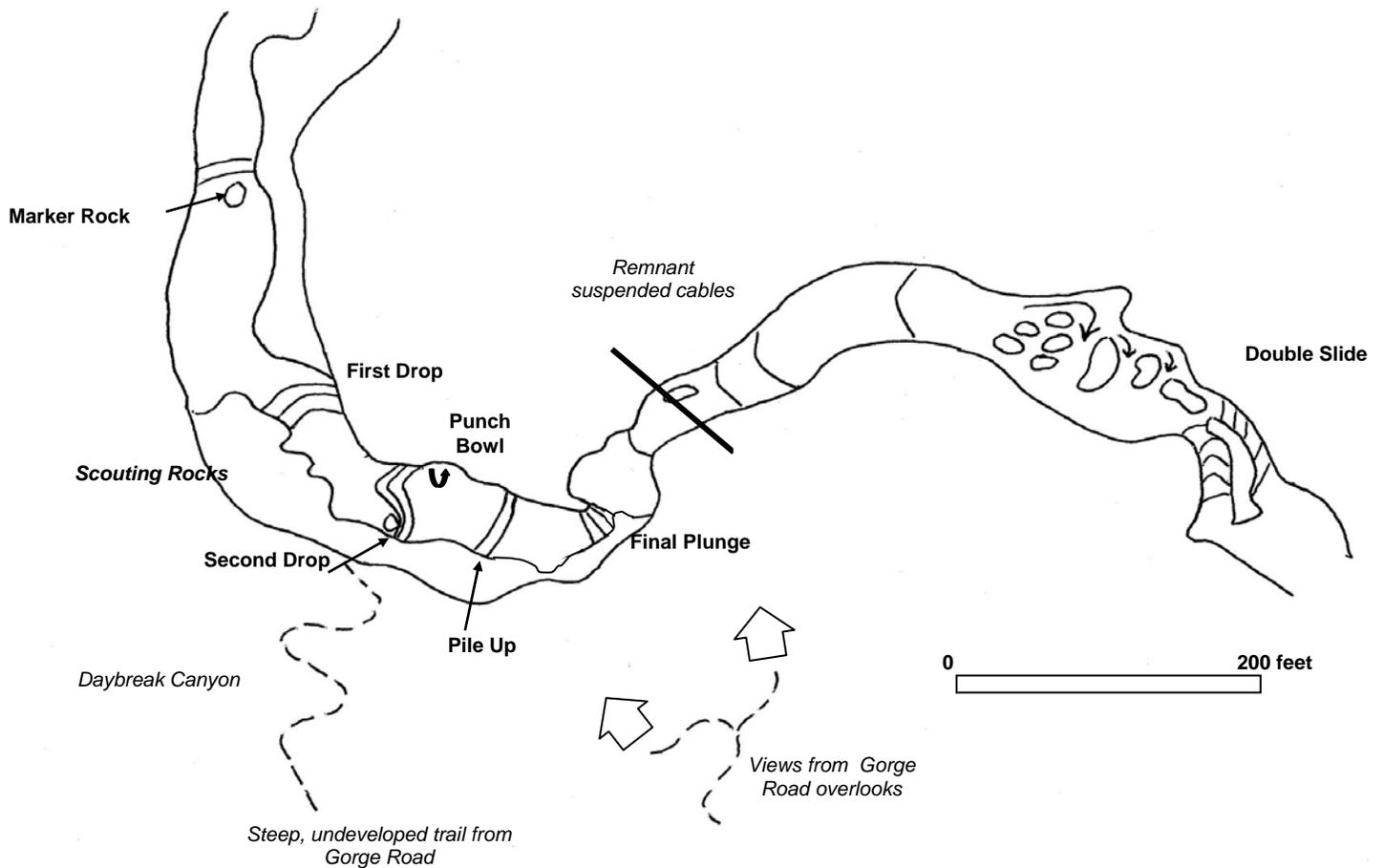


Figure 2: Map Of Key Rapids In The Central Gorge In Section 3 (Chelan Gorge).

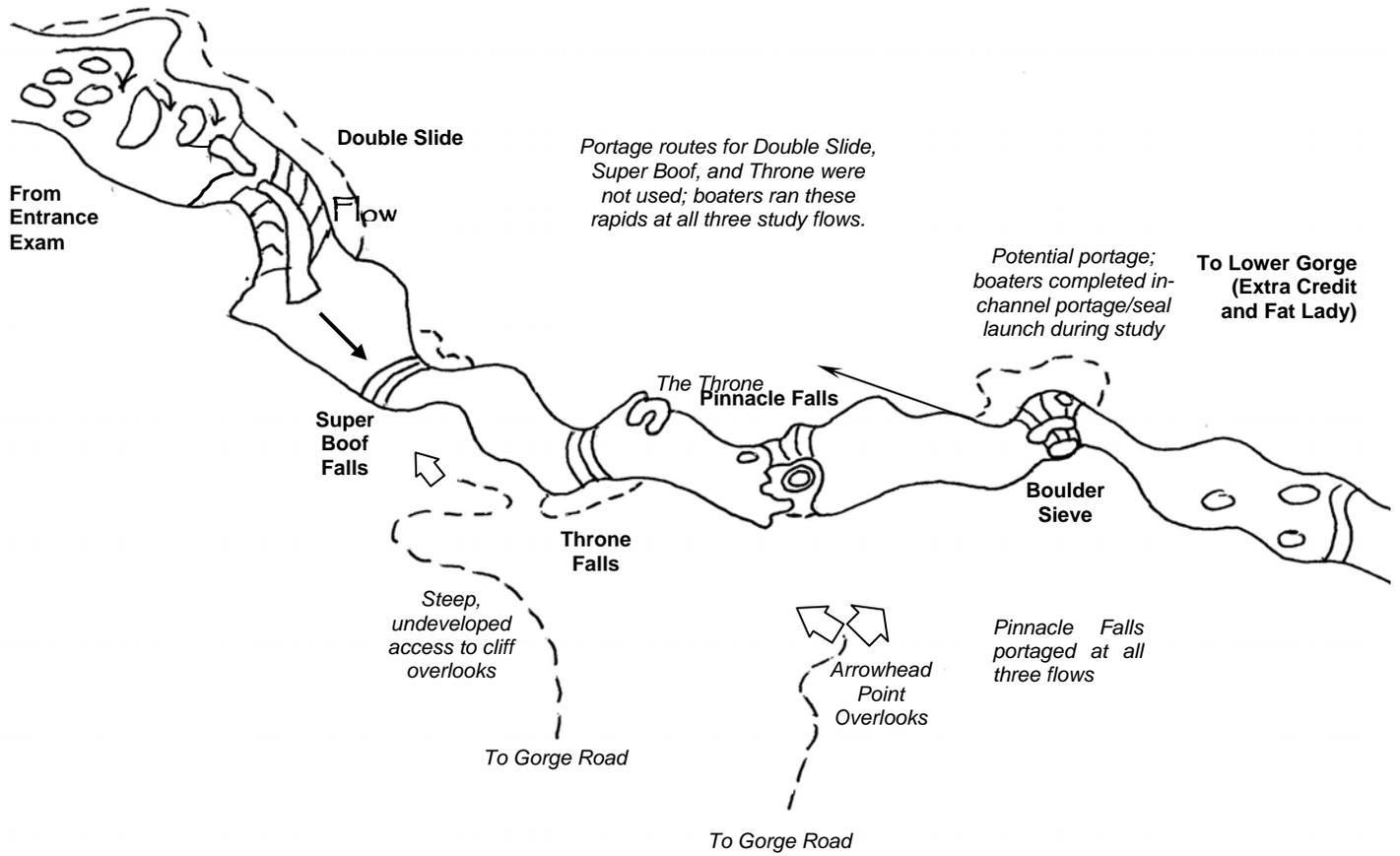
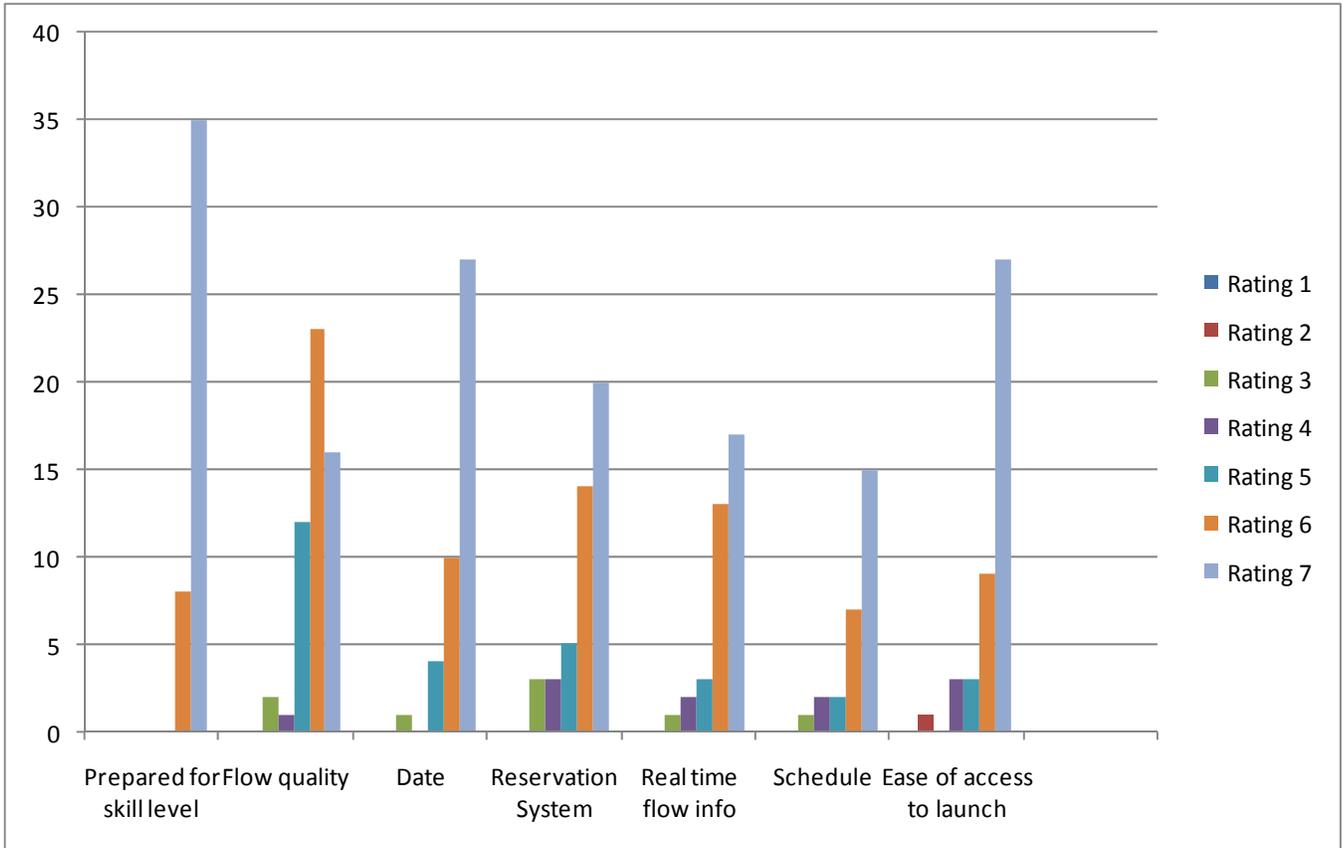


Figure 3: Map Of Key Rapids In The Central Gorge In Section 3 (Chelan Gorge).

APPENDIX B: SURVEY RESULTS

SURVEY RESULTS



Vertical axis represents number of people responding

- Rating 1 totally unacceptable
- Rating 2 moderately unacceptable
- Rating 3 slightly unacceptable
- Rating 4 marginal
- Rating 5 slightly acceptable
- Rating 6 moderately acceptable
- Rating 7 totally acceptable

Flow in "cfs" 375 400 425 450 475 500 600 (average "cfs": 420.5
with a
standard deviation of 36.31284)

Flow preferred 4 20 16 7 1 1 1
(# of people responding)

Would you recommend this run to others? Yes 48 No 0

Post Run Survey

July 11, 12

10 boaters on Saturday and 5 on Sunday – 340 cfs on Saturday and 420 cfs on Sunday

July 25, 26

22 boaters on Saturday and 23 on Sunday – 360 cfs on Saturday and 420 cfs on Sunday

1-totally unacceptable, 2 moderately unacceptable, 3 slightly unacceptable, 4 marginal, 5 slightly acceptable, 6 moderately acceptable, 7 totally acceptable

The dates scheduled for the release (2nd and 4th weekends in July)

Rating	# of Responses
3	1
5	4
6	10
7	27

Comments

- Maybe August and September when it's hot
- Would prefer August and September
- Add August, please.
- August may be even better
- Add August in
- Would be nice to be able to combine Chelan and middle Icicle a couple of weekends earlier.
- August and September would be more ideal
- I think September will prove better and maybe two days in May would be better than July.

Daily schedule (11 am to 6 pm)

Rating	# of Responses
3	1
4	2
5	2
6	7
7	15

Comments

- I would prefer earlier.
- Would prefer until 8 pm (it's still light)
- A little earlier would be nice.
- Allow earlier
- Increased time bracket may be necessary to accommodate increased visitors in a single day. ie 5 groups of 6 people ea (30) may require a 9:00 to 6:00 window.

Convenience, ease of use and understanding of reservation system

Rating	# of Responses
4	3
5	5
6	14
7	20

Comments

- A lot of paperwork. Could be more simplistic.
- Could be an easier/shorter process
- Simplified would be better. Maybe just a reservation and no check-in

Use and easy access to real-time flow information

Rating	# of Responses
2	1
4	2
5	3
6	13
7	17

Comments

- Never looked
- Not sure where it is available on-line
- Unsure if flow information was available online
- Need more information online
- I just knew the flow because of the release

Based on your skill level, were you provided enough information to be prepared for the difficulty of this run?

Rating	# of Responses
6	8
7	35

Comments

- More than enough

Score the quality of flow that you experienced.

Rating	# of Responses
3	2
4	1
5	12
6	23
7	16

Comments

- 360 cfs was a good medium level – challenging, but forgiving flow
- A little more might be nice
- Higher is cleaner. Maybe try a release of 475
- Sunday 400 to 450: great flow – less would be worse
- Flow of 340 cfs was a bit low for some of the rapids
- 375 would be an ideal low flow for Saturday. 425 to 450 is a good higher flow for Sunday
- Sunday’s flow was a better flow @ 420 cfs
- I think more water would be better than 340. We’ll see tomorrow.
- A little more water would be better than 340 cfs

If you could select an optimal flow for boating on this reach given your craft and skill level, what flow would you prefer?

Flow Preferred (cfs)	# of Responses
600	1
500	1
475	1
400 – 450	8
450	7
425	8
400	20
375 - 400	3
375	1

Comments

- 420 cfs was good. Too high – scary, tight and dangerous eddys. Too low, bump and not fun.
- 600 cfs would be a harder flow
- 420 was good
- 1st and only time at 420, great medium level
- More than today (Saturday), but not much more.
- For me personally, 375-420 is a good range. I like both flows for different reasons.
- 340 cfs was good for the gorge. Fat Lady Rapid was a little low on Saturday, better on Sunday

Was access to the beginning of the run easy to find and satisfactory to launching?

Rating	# of Responses
2	1
4	3
5	3
6	9
7	27

Comments

- Access was not well marked. More signage would be helpful.
- Little bit of “boat abuse” on the way in. If there were another launch spot closer to the start of the Gorge, I would prefer it.
- Easy, but we followed people who knew where they were going.
- Signage was better on Sunday
- Very easy

If you were with someone, or you yourself did not complete the run, how difficult was it to get out and back to the start of the run?

Rating	# of Responses
N/A	N/A

Comments

- Would be difficult to attain out and/or back to put-in.
- Substantially difficult
- Not difficult compared to similar runs.
- It’s a canyon. You know going in you can’t get out until you are done.
- Unknown, probably difficult to get out in some places

Would you recommend this whitewater boating experience through the Chelan Gorge to others?

Rating	Response
Yes	48
No	0

Please provide any additional comments or suggestions on access to information about the run, flows provided, access or any other issues you have.

- Earlier take-out might be nice.
- There are additional photos/video available on-line that are not linked from the PUD website.
- This is a very demanding run, and only those with the pre-requisite skills should attempt it.
- This river is NOT for part time class V paddlers. Rapids are within the class V level, but the consequences of error are very high.
- At the 7-25 flow, the river has small pools and sieved out rapids.
- At the 7-25 flow, the paddle in and out was discouraging and would likely turn lots of repeat boaters away.
- Some further studies of the flow with professional kayakers and not an open invitation to research flows at above 500 cfs.
- More water and higher flows are needed
- This run is every bit of class V. It is not for casual or weekend class V paddlers.
- Thanks guys!
- Fantastic run!
- Would be a Washington classic
- The cookies were awesome
- Would not recommend less than 400 cfs
- Put in gate can remain closed. Kayakers can easily park by baseball fields and walk down
- Thank you!
- A planned place to camp!
- Off-river activities, possibly a horseshoe competition
- Camping access near town that would allow socializing in Chelan without driving afterward
- Thanks for having us, I had a blast!
- September, October releases would be sweet when all other runs are done. Thanks!!!
- Try to keep the free camping for the releases

- Thanks for a great time
- Information on camp sites, preferably free would be helpful.
- PUD employees have been amazingly friendly!
- Thank you!
- Perfect run!
- Thank you for your support! PUD has been great!
- I think you should do 4 weekends a year. Let it be known. It's fun, it's serious and it's beautiful in there.
- Thank you!
- Access was good at put in – take out was closer and much less of a flat water paddle out. Thank you!
- It would be nice to get at least 375-390 cfs for Saturday and 420-440 for Sunday.
- It was a beautiful canyon with amazing drops, stout in nature.
- Thanks again for the hospitality. Cookies at the end of the run was 1st class.
- 360 was again a little low for the run out and paddle in
- More often!
- This run is incredibly unique in this part of the country. I would definitely like to be able to run this in the future. It is well worth the drive!
- We all appreciate this...PUD ROCKS...
- Great river! Great area! Great town! Very worthwhile.
- The map on the PDF e-mail was poor.
- Suitable camp sites could be recommended
- There was confusion as to the meeting point. It was not on the map. Also, "Chelan Falls Park" is opposite to "Chelan Falls Powerhouse Park".
- The hospitality from Chelan PUD was outstanding.
- Thank you.
- My preferred flow is 420 and mainly because the paddle in and out is scrapey.
- After watching 20+ folks navigate the Class V, I think that 420 is harder. Paddlers appeared to have a much more difficult time on Sunday than Saturday.
- To me having different flows on the 2 days is a good idea.
- Thanks again and we'll see you next year!

- Seems like we could take out sooner and potentially put in closer to the Gorge.
- Thank you very much for organizing the flow/kayak event. This will be an August/September destination for many Class V boaters.
- Great run, maybe a hair more water. Take-out at the confluence would be preferable.
- Good flows provided good access at put-in. Some paddlers may prefer to take out further upstream, but the Powerhouse Park would suffice.
- Information prior to our arrival was informative and concise. All of the relevant information was detailed without being ambiguous.
- I would recommend this only to Expert Class V paddlers who I know personally and have seen them paddle in Class V environs.
- I would be interested to find out if there are any other possibilities for putting in further downstream near the entrance to the Gorge. Also, would be great to take out further upstream.
- It's great that the study is late in season when most runs have no water left.
- The hospitality was excellent. Thank you. A suggestion. I forgot to mention that it would be good to have more information on camping. After talking with folks, we found a good spot at the put-in, but Friday night coming into town late, we did not find a good spot. Information beforehand would help others coming in late on Friday. Overall, my experience was excellent. Thanks again.
- I think July dates should be replaced with May dates. I think one weekend per month and maybe 4 months instead of 4 day/two months would be preferable. Also, October and November might be good months.
- This is a classic run. An amazing boatable section of whitewater.
- Take out access could be closer. Park take-out today had too much flat water
- The lower section is safer with flows over 400 cfs, less than 400 cfs is not ideal.
- I think all class V boaters in the NW should have the opportunity to see this short Gorge.
- Take out at the Chelan Falls "swimming hole" on river right just downstream of riparian restoration area! Beautiful water, unbelievable clarity usually associated with cold snowmelt.
- 375 to 390 on Saturday would be good and 420-450 on Sunday having the lower flow on Saturday is good because paddlers can familiarize themselves with the run. A low flow on Saturday is a good option for those who prefer slow current. A higher flow on Sunday is good for those already familiar as some of the big drops are more boatable.

- Thank you so much. It was a fantastic weekend. What a great experience. Beautiful area, great whitewater and perfect weather, what else could you ask for.
- Flow was a bit low on Saturday, 400 CFS would be idea. Access needs better signage to put-in.
- An established take-out before Columbia River would be more ideal.
- I would only recommend this to those who are Class V Boaters. The run was great and an amazing experience, but also difficult.
- Put-in and take-outs are great. Access to the Gorge Road is important for pre-scout. Lots of on-line river information.

APPENDIX C: CONSULTATION WITH AMERICAN WHITEWATER

Consultation with American Whitewater

The Draft Final Whitewater Boating Monitoring Study was sent to Tom O'Keefe at American Whitewater on October 15, 2009. The following e-mail string outlines communication with American Whitewater concerning this document.

From: Pomianek, Kris
Sent: Friday, November 06, 2009 2:19 PM
To: (okeefe@amwhitewater.org)
Cc: Sokolowski, Rosana; Smith, Michelle
Subject: Whitewater Boating Monitoring Study

Hi Tom -

I wanted to follow-up with you to see if you have had a chance to review the whitewater boating study that I sent to you. I was hoping to get it submitted to FERC soon, so I wanted to check and see how "reviewing progress" was going on your end. Just let me know if you have any questions or if there is any additional information that you might need from me - Hope all is going well!

Thanks Tom - I look forward to hearing back from you soon -

Kris

Kris Pomianek
Recreation Resource Advisor
Chelan County PUD
PO Box 1231
Wenatchee, WA 98801
509-661-4186 work
509-679-0813 cellular
kris.pomianek@chelanpud.org

From: Thomas O'Keefe [okeefe@amwhitewater.org]
Sent: Friday, November 13, 2009 8:27 AM
To: Pomianek, Kris
Cc: Sokolowski, Rosana; Smith, Michelle
Subject: Re: Whitewater Boating Monitoring Study

Kris,

Just pulled this up. I was called to DC to testify last week and came back with whatever bug was going around the plane.

I will go through it.

Best,

Tom

-----Original Message-----

From: Thomas O'Keefe [mailto:okeefe@amwhitewater.org]

Sent: Tuesday, November 24, 2009 9:09 PM

To: Pomianek, Kris

Subject: Re: Whitewater Boating Monitoring Study

Kris,

I have reviewed and don't have any major suggestions aside from a few typos I found. I have asked Shane to review as well so let me bug him once more and we'll see if we can get the formal feedback to you relatively soon. I am in DC next week but if you don't hear back from me by Dec 7 please bug me and I can commit to wrapping this up that week.

At some point when we check in prior to next year's events I would like to get a better sense from you and others there on the range of possible changes we could make. My take home from this year's report is that what we did worked and it may not be necessary to make any changes. However the results do present some ideas for slight modifications in flows or timing and it would be helpful for me to know the needs on your end and what may be possible (or not possible).

For example could one of the weekends be shifted to August if there were a desire to do that? If we have a sense of the range of options then I can help with a couple questions we can ask to further refine and quantify a couple things.

Best,

Tom

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director
American Whitewater
3537 NE 87th St.
Seattle, WA 98115
425-417-9012
okeefe@amwhitewater.org
<http://www.americanwhitewater.org>

From: Pomianek, Kris
Sent: Wednesday, November 25, 2009 8:34 AM
To: 'Thomas O'Keefe'
Cc: Smith, Michelle
Subject: RE: Whitewater Boating Monitoring Study

Thanks so much, Tom! As far as changes, I see no problem in sitting down and discussing. Obviously we may have some constraints, but I would welcome talking more about the opportunities for change. I look forward to hearing back from you in the first part of December and to working with you on possible adjustments to "the plan" after the first of the year. My best to you and your family for a wonderful Thanksgiving! Kris

From: Pomianek, Kris
Sent: Monday, December 14, 2009 1:42 PM
To: 'Thomas O'Keefe'
Subject: Checking in.....

Hi Tom - I wanted to check with you and see how things are going with the whitewater boating monitoring study - You had asked me to "remind you" this week to follow-up with Shane. Can you Let me know how things are progressing? I look forward to hearing back from you. Thanks Tom and my apologies for "bugging you"! Hope all is well – Kris

Kris Pomianek
Recreation Resource Advisor
Chelan County PUD
PO Box 1231
Wenatchee, WA 98801
509-661-4186 work
509-679-0813 cellular
kris.pomianek@chelanpud.org

From: Thomas O'Keefe [okeefe@amwhitewater.org]
Sent: Monday, December 14, 2009 1:51 PM
To: Pomianek, Kris
Subject: Re: Checking in.....

Yes. I had a whole string of post it notes above my computer and am down to the last 3 and this is one of them. One advantage of having all the agency folks I deal with on annual leave with the end of the year approaching is I can actually catch up on everything.

I should have this done tomorrow.

From: Thomas O'Keefe [okeefe@amwhitewater.org]
Sent: Tuesday, December 15, 2009 5:26 PM
To: Pomianek, Kris
Subject: Re: Whitewater Boating Report
Attachments: chelan_2009_stats.xls; ATT00001..txt

Kris,

A couple minor typos and then a more significant issue related to data report

TYPOS

Page 1 typo missing "be"

A whitewater boating report must then BE completed in consultation with American Whitewater and submitted to the FERC annually.

Paragraph spacing on last paragraph

PAGE 3 typo not plural [do a search replace on Pinnacles to Pinnacle] Class VI PINNACLE

DATA REPORTING

My major concern here is that we are not actually reporting the quantitative results from the survey in the body of the report. This information really needs to be in there in the form of summary statistics. As you have it now you have some of the comments and qualitative feedback. While these comments are helpful to provide some perspective, just having the qualitative information in absence of any of the quantitative information we collected means we are leaving out the basis for those perspectives.

See the attached spreadsheet where I put some of this together from the data in the appendix. You can report the mean for different questions and the standard deviation provides a metric for the variance. For example the question on prep has a mean of 6.8 with very low standard deviation illustrating that we have that one pretty well covered. As I would expect flow has the greatest variability and this reflects the fact that a lot of people have opinions on what the perfect flow is. On that one it would be important to break out by different days but I am not able to do that from the data in the appendix. When you do that you can then report this information in section 3 on spill volume. At present you only have a few qualitative statements which are less useful without the quantitative findings for the different flows.

One additional issue is with the tables in Appendix B. It is inappropriate to have a data table and then have the comments in the same table. It gets confusing because the comments are not related to the data on the same row (at

least that's my assumption but I'm not sure). You should have a table with the data and then provide the comments underneath.

For next year I would recommend that we collect some more detailed information on seasonal timing and I have some ideas on how to structure a question on that. I have an idea on another way to structure the flow question to get some better information there.

Let me know your thoughts on how to proceed here. We can address all this stuff and now that I have taken a dive into the data I can provide more useful feedback.

Best,

Tom

From: Pomianek, Kris
Sent: Tuesday, December 22, 2009 11:53 AM
To: 'Thomas O'Keefe'
Subject: Post run survey information
Attachments: Doc1.docx

Tom - I put together an informational chart that displays all of the responses received on the survey. Using a standard deviation, I put them in order of importance. I liked your suggestion of having everything summarized on one sheet. Is this what you were thinking about? If not, could you send me something that you think might work better?

I also have revised the "raw data" to show comments following the rating and # of responses rather than beside them because I agree, that is a bit confusing. I also have made the few small changes that you requested in the body of the document as well.

I would appreciate your letting me know what you think.

And, if I don't hear back from you this week, I hope you have a wonderful holiday week - maybe you can take some time off? I hope you and your family will ENJOY!

Thanks for the suggestions - I look forward to hearing back from you.

Kris

From: Pomianek, Kris
Sent: Thursday, January 07, 2010 9:18 AM
To: 'Thomas O'Keefe'
Subject: RE: Post run survey information

Thank you so much, Tom! I know that you live life in the fast lane and no apologies nor excuses are necessary - I completely understand - I will let you know when we send things off to FERC and I'll be back in touch in the next month or so in preparation for this year's runs. My best - Kris

-----Original Message-----

From: Thomas O'Keefe [mailto:okeefe@americanwhitewater.org]
Sent: Thursday, January 07, 2010 12:07 AM
To: Pomianek, Kris
Cc: 'Thomas O'Keefe'
Subject: Re: Post run survey information

Kris,

This looks good to me. I really have no good excuse for taking so long to look at this other than the sheer volume of stuff I have coming in.

I would be interested in taking a look at the whole package but I think we're good.

Best,

Tom

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director
American Whitewater
3537 NE 87th St.
Seattle, WA 98115
425-417-9012
okeefe@amwhitewater.org
<http://www.americanwhitewater.org>

APPENDIX D: PHOTOS

Registration



At registration each morning, paddlers checked-in, received participation badges, and signed liability waiver forms. In addition, maps of the run were available for all participants to view, and Tom O'Keefe from American Whitewater spoke to the group about the purpose of the event, the difficulty of the paddle and the logistics of the day.



Paddlers put-in just below the Chelan Dam and meandered their way through Class II, III and IV waters before reaching the Chelan Gorge. Up above, spectators sought out viewing locations along the Gorge Road. At Daybreak Canyon, paddlers got out of their boats to scout the first of the V+ waters, Entrance Exam.



Entrance Exam



Super Boof



Double Slide



Cheers of Success!



No run would be complete without a "swim". Paddlers demonstrated their rescue skills



Paddlers portaged around the Class VI Pinnacle Falls as spectators awaited their arrival into the Sieve and the Fat Lady before finding a calm water paddle to the take-out location at Chelan Falls Park. The total run took between 3 to 4 ½ hours depending on familiarity with the run.