FINAL Meeting Notes
Lewis River License Implementation
Aquatic Coordination Committee (ACC) Meeting
May 14, 2009
Conference Call

ACC Participants Present (15)

Jeremiah Doyle, PacifiCorp Energy
Adam Haspiel, USDA Forest Service
Bernadette Graham-Hudson, LCFRB
David Hu, US Forest Service
LouEllyn Jones, US Fish and Wildlife Service
Eric Kinne, WDFW
George Lee, Yakama Nation
Erik Lesko, PacifiCorp Energy
Diana Gritten-MacDonald, Cowlitz PUD
Jim Malinowski, Fish First
Kimberly McCune, PacifiCorp Energy
Todd Olson, PacifiCorp Energy
Frank Shrier, PacifiCorp Energy
Richard Turner, NMFS
Jeff Chan, USFWS

Calendar:

June 11, 2009	ACC Meeting	Conference Call
July 9, 2009	ACC Meeting	Merwin Hydro

Assignments from May 14, 2009 Meeting:	**Status:**
Lesko: Create an H&S Plan review schedule for the ACC in order to stay on task for submittal to the Services by October 1, 2009.	**Complete – 6/8/09**
Chan/Jones: Provide the ACC a map which identifies current critical habitat and proposed critical habitat.	**Complete – 5/22/09**
PacifiCorp will submit the Yale Spillway Modifications document to the Services in hard copy and to the ACC via email for an additional 30-day review and comment period,	**Complete – 5/15/09**

Assignments from April 9, 2009 Meeting:	**Status:**
McCune: Mail CD of Merwin Upstream 60% Design Report to George Lee, Yakama Nation.	**Complete – 4/8/09**
McCune: Schedule a follow-up conference call week of 4/13/09 to further discuss the Aquatic Funding Proposals Selection.	**Complete – scheduled for 4/15/09**
ACC: Further investigate WDFW carcass survey methods established in 1978 and determine "next step" regarding modifications needed, if any, to the 1978 methods.	**Pending – Per Pat Frasier could take 1 – 2 months to put together**

Opening, Review of Agenda and Meeting Notes

Frank Shrier (PacifiCorp Energy) called the meeting to order at 9:05am. Shrier reviewed the agenda for the day and requested any changes/additions. LouEllyn Jones (USFWS) would like to add discussion about the use of Web conferencing for future ACC meetings, when appropriate. In addition, Diana Gritten-MacDonald (Cowlitz PUD) would like to briefly ask the ACC a question about any trees needed for restoration projects.

Shrier requested comments and/or changes to the ACC Draft 4/9/09 meeting notes.

Jim Malinowski (Fish First) requested the following clarifications on page four titled, Carcass Survey and Drawdown. Modify the first paragraph to read as follows:

Jim Malinowski (Fish First) expressed to the ACC attendees the Fish First board concerns regarding Fall Chinook adult carcass survey draw downs and why place the adult carcasses out of the water when they would provide nutrients for the offspring of those adults if returned to where they were collected, as more fully detailed in an email to PacifiCorp, dated April 8, 2009 (Attachment G).

Add the following sentence to the third paragraph:

He further asked NMFS to comment on survey protocol regarding flow and carcass placement.

The meeting notes were approved with the changes referenced above at 9:15am.

Gritten-MacDonald asked the ACC attendees if they needed any trees for restoration projects and the participants confirmed that they did not need any trees of the size she had available.

Federal Energy Regulatory Commission (FERC) Update

Todd Olson (PacifiCorp Energy) informed the ACC attendees that the Lewis River Aquatics Fund – Administrative Procedures document was submitted to the FERC on April 22, 2009 followed by the 2009 Aquatics Fund Annual Report on April 27, 2009. The Utilities requested review and approval from the FERC by the end of May 2009. The Utilities will continue to keep the ACC informed of the status.

Release Pond Update and Discussion

Shrier informed the ACC attendees that PacifiCorp has received approval from WDFW to enter the subject release pond site to begin survey and engineering work relative to design. The plan is to announce the contract engineer at the June ACC meeting and begin distribution of designs for ACC review.

A pre-bid meeting was conducted (6 bidders responded); only one contractor put in a proposal. PacifiCorp procurement is considering if they can proceed with only one response.

Richard Turner joined

Hatchery and Supplementation Plan (H & S Plan) Review and Discussion

Erik Lesko (PacifiCorp Energy) informed the ACC attendees that at the most recent H&S Plan Subgroup meeting on May 13, 2009 minor modifications were made which the ACC at large needs to review and approve.

David Hu joined

The Settlement Agreement calls for a 60-day review and comment period. The goal is to submit the final document to the FERC on or before December 31, 2009. Lesko proposed providing segments of the H&S Plan to the ACC for review rather than the entire plan at once. Each modified segment will be sent out for a 30-day review. Once each segment has been reviewed the Utilities will provide a draft of the entire document to the ACC and Services for a 60-day review and comment period.

Lesko will create an H&S Plan review schedule for the ACC in order to stay on task for submittal to the Services in October 2009.

Lesko also provided a PowerPoint presentation titled, "Hatchery and Supplementation Plan – Spring Chinook North Fork Lewis River" detailing requirements, goals, components, strategy and timeline (Attachment A).

Section 8.1 of the Lewis River Settlement Agreement further describes certain guidelines of the H&S Plan as follows:

The Hatchery and Supplementation Program shall be consistent with the ESA, applicable state and federal fisheries policies, and regional recovery plans, and should be consistent with recommendations of the Hatchery Science Review Group (HSRG) and the Northwest Power Planning Council's Hatchery Review (Artificial Production Review and Evaluation) to the extent practical"…

The goal is to:

To achieve genetically viable, self-sustaining, naturally reproducing, harvestable populations upstream of Merwin Dam greater than minimum viable populations"

H&S Plan Components include:

- Broodstock and Supplementation Source: Hatchery Origin Stock
- Juvenile Supplementation: 100,000 uniquely marked to upriver acclimation sites (65 broodstock)
- Adult Supplementation Goal: 2,000 (HOR)
- Juvenile Hatchery Production: 1.35 million (878 broodstock)

- Target Size at Release: 8-12 fish per pound

- Hatchery Target Escapement: *12,800 (segregated)*
  Natural Production Threshold: 2,977 (integrated)

Lesko further reviewed the supplementation strategy over a minimum of a 15-year program. Spring Chinook trapping numbers from 1998 – 2008 was also discussed relative to the minimum program needs.

Eric Kinne (WDFW) asked whether the spring chinook program should begin this year and interpreted the Settlement Agreement to mean that broodstock collection should occur in 2009. Erik Lesko indicated that according to the Settlement Agreement there is no obligation to begin the program this year as the Agreement states that the company shall provide for the production of spring chinook beginning in Year 1 of the Hatchery and Supplementation Plan (2010). The Hatchery and Supplementation Plan is scheduled to be submitted to the FERC by December 31, 2009. For this to occur the ACC will need to review any changes to the plan prior to this date and Lesko will provide a review schedule to the ACC to ensure that the H&S plan will be submitted to the federal agencies for approval in time to meet the FERC deadline.

Late Wild Winter Steelhead Program

Eric Kinne (WDFW) informed the ACC attendees that they have trapped four additional females in the Merwin trap and one female during the in river netting in the last week, Depending on the outcome of the genetics analysis, these female will be used to increase the current egg take.

George Lee (Yakama Nation) asked what will happen with strays now if not being used, and if not being used then why not? Lee was informed that broodstock collection and protocols in this year's Annual Operating Plan will be discussed in a June 2009 debrief meeting regarding implementation of the wild winter steelhead program. George questioned whether or not unused steelhead were being out-planted to lakes. Kinne responded that genetically pure North Fork or Cedar Creek are selected; if the fish are not pure strain, then the strays are returned to the lower portion of the river and released. No fish collected per this program have been out-planted to lakes.

USFWS – request for suggestions from ACC regarding critical Bull Trout habitat (Jeff Chan)

Chan requested the ACC attendees provide suggestions, if any, regarding any new areas of bull trout distribution and/or critical habitat.

At the request of the ACC, Chan will provide a map which identifies current critical habitat and proposed critical habitat.

Yale Spillway Modification Discussion

Shrier reviewed and discussed a handout provided to the ACC via email on May 6, 2009 titled, "Yale Spillway Modifications, dated May 2009 (Attachment B).

The Lewis River Settlement Agreement (SA) calls for modifications to the Yale Spillway for fish protection. Article 5.1 was adopted by the new FERC License (Article 12). The SA Article reads:

5.1 Yale Spillway Modifications. PacifiCorp shall design, permit, and construct improvements to the Yale spillway by six months after the fourth anniversary of the Issuance of the New License for the Yale Project to improve fish survival over the spillway during spill events. PacifiCorp shall design the improvements in Consultation with the ACC and shall provide preliminary designs to the ACC within six months after Issuance of the New License for the Yale Project. PacifiCorp shall provide the ACC with 60 days to review and comment on the preliminary design. Pursuant to Section 15.14, the Licensee shall submit final designs to the Commission upon approval by the Services, but not later than the first anniversary of the Issuance of the New License for the Yale Project.

Shrier reviewed illustrations depicting the conceptual design of Yale spillway modification looking downstream through the rock outcrop. Shrier informed the ACC attendees that the Washington Department of Ecology has raised concerns about increasing total dissolved gas if the spillway is modified by way of creating a plunge situation if a slot is cut through the outcrop. The handout also provides argument that a net system should be the preferred alternative for biological reasons and for maintenance (the initial design of a spillway barrier net system is provided as Attachment A in the handout).

Olson pointed out that PacifiCorp needs to respond to the FERC on or before June 26, 2009 in accordance with the license. The USFWS expressed that they are comfortable with PacifiCorp's approach of the Yale spillway modifications.

PacifiCorp will submit the Yale Spillway Modifications document to the Services in hard copy and to the ACC via email for an additional 30-day review and comment period and request formal approval prior to the FERC submittal next month.

Study Updates

Lesko and Shrier provided the following study updates:

Swift Constructed Channel Concept Design and Swift Upper Release Design – A contractor has been selected however the contract is not yet in place. All necessary work actions are nearly complete to allow construction to begin in June.

Hatchery Upgrades
Lewis River Pond 15 – Workers are currently constructing the raceway floors and walls and will soon start building the collection facility structure, project is on track for functional completion by September 1, 2009.

Speelyai Pond – A contractor for construction and modification of the Burrow's Pond Bank No. 1 has been selected. On site work is expected to begin in June as soon as Procurement awards the contract.

Acclimation Pond Plan – Consultant selected pending Procurement Dept. approval. PacifiCorp will set up meeting on site once contract is signed. Meeting will be coordinated with Yakama biologists and is open to others who want to join.

Water Quality Management Plan – Currently still under Washington Department of Ecology review.

Monitoring and Evaluation Plan (ACC Review Draft) – Consultants working on updates; expect draft to be issued to the ACC by June 2009; ACC will have a 90-day comment period.

Baseline Monitoring Plan – Draft to ACC for 30-day review and comment period on April 6, 2009. Comments were due on or before May 6, 2009. A coordination meeting has been set for May 29, 2009 to schedule a plan for field work.

ACC/TCC 2008 Annual Report – Submitted final document to the FERC on May 8, 2009. No comments were received from the ACC during the 30-day review and comment period.

Public Comment
None

New Topics

Jones requested the ACC consider the use of web conferencing as of more efficient means of viewing and exchanging meeting materials at future ACC meetings. PacifiCorp responded that they have the capabilities to set up web conferencing and will do so when appropriate and if ACC desires to do so.

Agenda items for June 11, 2009

- Review May 14, 2009 Meeting Notes
- Update from H&S Plan Subgroup
- Sorting Facility Review and Discussion
- Study/Work Product Updates

Next Scheduled Meetings

June 11, 2009	July 9, 2009
Conference Call	Merwin Hydro Control Center
	Ariel, WA
9:00am – 12:00pm	9:00am – 3:00pm

Meeting Adjourned at 10:45 a.m.

Handouts

- Final Agenda
- Draft ACC Meeting Notes 4/9/09
- Attachment A - Hatchery and Supplementation Plan – spring Chinook North Fork Lewis River, dated May 14, 2009
- Attachment B – Yale Spillway Modifications, dated May 2009

HATCHERY AND SUPPLEMENTATION PLAN

Spring Chinook
North Fork Lewis River

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Settlement Agreement - Section 8.1
H&S Plan

..."The Hatchery and Supplementation Program shall be consistent with the ESA, applicable state and federal fisheries policies, and regional recovery plans, and should be consistent with recommendations of the Hatchery Science Review Group (HSRG) and the Northwest Power Planning Council's Hatchery Review (Artificial Production Review and Evaluation) to the extent practical"...

Reintroduction Goal

(Figure 1-3. H&S Plan, page 5)

"To achieve genetically viable, self-sustaining, naturally reproducing, harvestable populations upstream of Merwin Dam greater than minimum viable populations"

H&S Plan Components

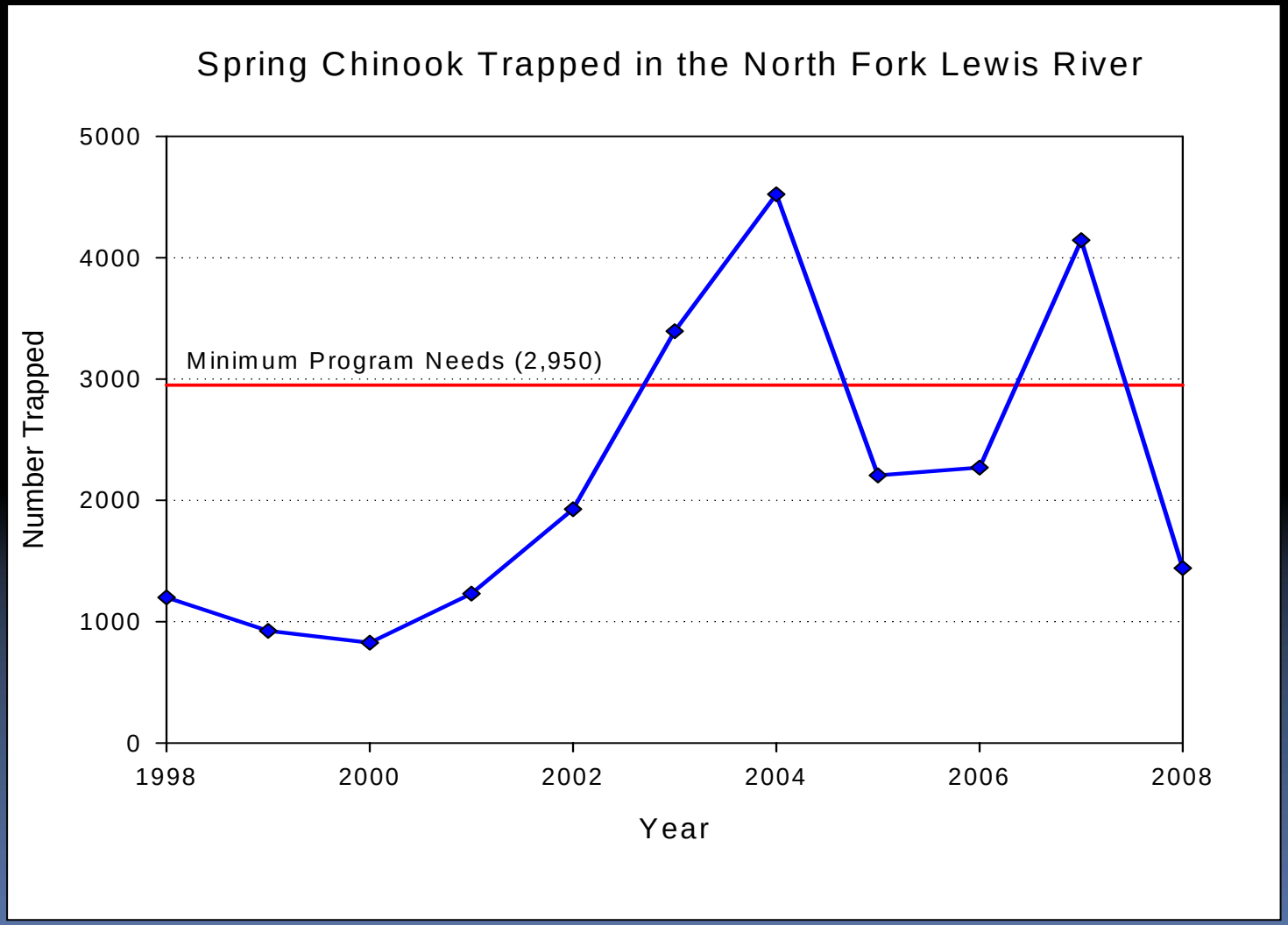
- Broodstock and Supplementation Source: Hatchery Origin Stock
- Juvenile Supplementation: 100,000 uniquely marked to upriver acclimation sites (65 broodstock)
- Adult Supplementation Goal: 2,000 (HOR)
- Juvenile Hatchery Production: 1.35 million (878 broodstock)
- Target Size at Release: 10-12 fish per pound
- Hatchery Target Escapement: *12,800 (segregated)*
  Natural Production Threshold: 2,977 (integrated)

Supplementation Strategy

1. Two life stages will be used: 2,000 adults and 100,000 juveniles
2. Be conducted as a 15-year experiment
3. Use of hatchery origin adults for both strategies to be used initially
4. Priority for supplementation efforts
    - Fish supplemented as adults
    - Fish supplemented as juveniles
    - Hatchery Origin Adults
5. Priority for returns of adults from adult supplementation (NOR)
    - Broodstock for juvenile supplementation
    - For adult supplementation efforts.

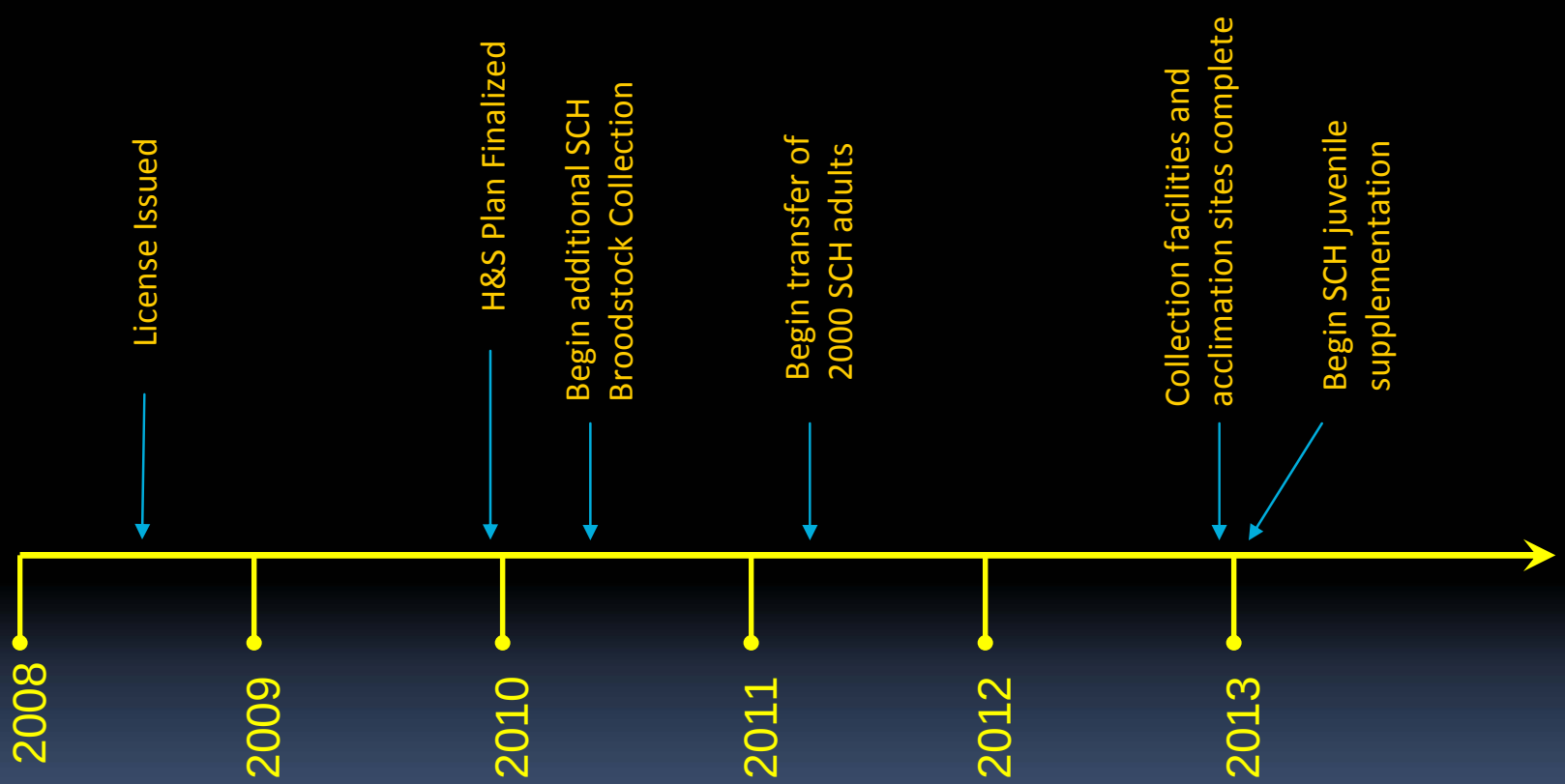
Spring Chinook Trapping Numbers

North Fork Lewis River



Spring Chinook Timeline

(upstream of Swift dam)



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Questions for H&S implementation
(Spring Chinook)

- What marking strategy is recommended for supplementation juveniles?
- What marking strategy, if any, is recommended for juveniles collected at the Swift downstream collector?
- Impacts of resident rainbow plants into Swift reservoir on growth and survival of reintroduced fish communities.
- What is the schedule for development of Annual Operation Plan and HGMP?

Yale Spillway Modification

The Lewis River Settlement Agreement (SA) calls for modifications to the Yale Spillway for fish protection. This article was adopted by the new FERC License. The SA Article reads:

5.1 Yale Spillway Modifications. PacifiCorp shall design, permit, and construct improvements to the Yale spillway by six months after the fourth anniversary of the Issuance of the New License for the Yale Project to improve fish survival over the spillway during spill events. PacifiCorp shall design the improvements in Consultation with the ACC and shall provide preliminary designs to the ACC within six months after Issuance of the New License for the Yale Project. PacifiCorp shall provide the ACC with 60 days to review and comment on the preliminary design. Pursuant to Section 15.14, the Licensee shall submit final designs to the Commission upon approval by the Services, but not later than the first anniversary of the Issuance of the New License for the Yale Project.

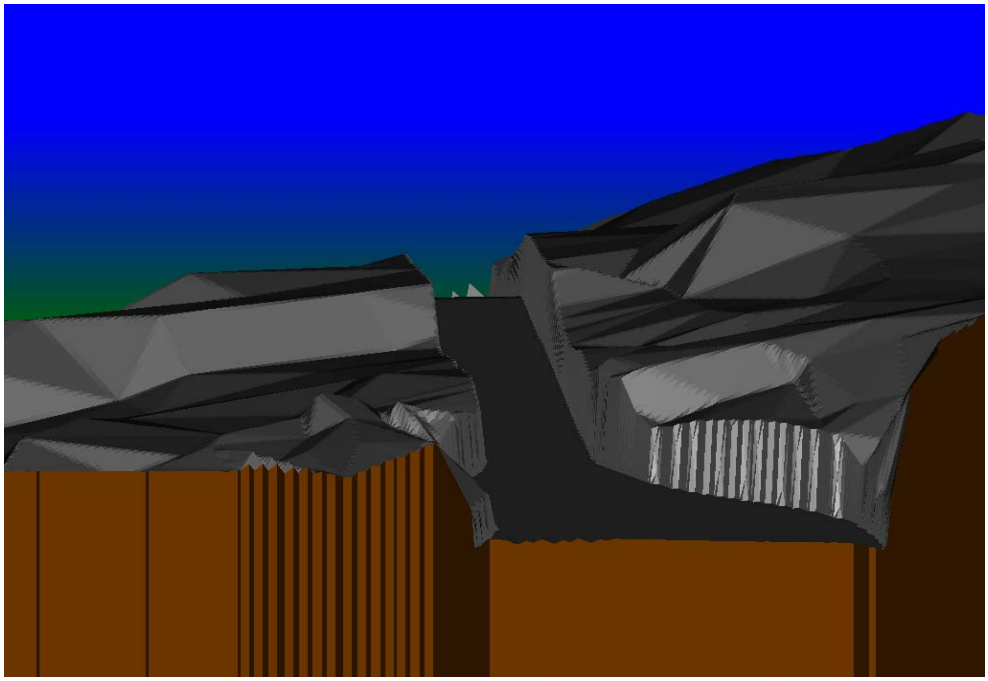
During settlement discussions there was an assumption made by the USFWS that the spillway could cause harm to bull trout if they passed from Yale reservoir into Lake Merwin via the Yale Spillway. Figure 1 shows the Yale spillway in its present form.

Figure 1. Yale spillway.

The concern arose based on the rock outcrop on the end of the spillway that could potentially harm fish especially at lower spill flows. So the Parties agreed to include SA Article 5.1 to assure that an action was taken to reduce the potential harm to fish.

An initial concept was floated during relicensing studies in a September 2000 document titled, "Fish Passage Study Working Notebook." The concept depicted a slot that was excavated through the rock outcrop that had the capacity to carry 6,000 cfs which was the 20-year average spill volume for Yale (Figure 2).

Figure 2. Conceptual design of Yale spillway modification looking downstream through the rock outcrop.



There were no other active discussions with the Aquatics Resource Group or the Settlement Team. However, several discussions occurred between the USFWS (Gene Stagner) and PacifiCorp (Frank Shrier and Holly Harwood) regarding the concept.

When PacifiCorp began pursuing an entrainment reduction net for the Yale Turbine intakes, the idea was raised with the ACC to also use a barrier net structure for the spillway rather than excavating a slot. There were several reasons for this new idea:

1) Washington Department of Ecology has repeatedly raised concerns that if we modify the Yale spillway, it may create a total dissolved gas issue;
2) PacifiCorp has concerns regarding the rock cliff that continually sloughs large rock into the spillway area, the new slot may need to be cleaned out on a frequent basis;

3) PacifiCorp staff nets bull trout in the Yale tailrace every year (two of which were recaptured in the Yale tailrace) and this would continue without some means of restricting their downstream movement (i.e. if the net barrier were successful the net and haul could be terminated or at least reduced in frequency); and,
4) There is less assurance of fish protection with the proposed spillway slot than a net could provide.

The following provides a brief discussion of each of these reasons.

Total Dissolved Gas

PacifiCorp staff has always thought the Yale spillway did not have a total dissolve gas (TDG) issue because the rock outcrop at the bottom breaks up the spill and aerates the water before it enters the Yale tailrace thus releasing entrained gases. Figure 3 shows the Yale spillway with about 4,000 cfs. The proposed spillway slot would essentially cut right through the center outcrop that helps break up the flow.

Figure 3. Yale spillway passing 4,100 cfs.

Recently, a large spill occurred in January 2009 where Yale released 12,000 cfs. During that spill, TDG did not exceed 105% saturation (WA State standard is 110%). Washington Department of Ecology is concerned that, by modifying this spillway with a slot, we could create elevated TDG during spill. This would compromise the Yale tailrace conditions for fish residing there and create an additional compliance point for PacifiCorp with potentially irresolvable conditions.

Rock Cliff

Figure 1 shows the Yale spillway. On the left side of the spillway, just upstream of the bridge, there is a basalt cliff. Large rock from that cliff continually calves-off and falls into the spillway. Currently the rock is left in place, unless there is too much of it, and washed out of the spillway during spill. PacifiCorp staff is concerned that this rock would continue to fall into the spillway and would eventually fill the excavated slot thus creating a maintenance issue.

Bull Trout Collect and Transport

PacifiCorp staff have been working with WDFW for the past fourteen years to net bull trout from the Yale tailrace and transport them to Yale Lake at Cougar Creek. These fish are tagged so that they can be identified on the spawning ground. This program was implemented because bull trout spawning habitat does not exist in tributaries to Lake Merwin. Bull trout enter Lake Merwin either through turbines as juveniles or through the spillway. There is a general pattern that, when Yale spills, the number of bull trout captured in the Yale tailrace is high although there is not consistent correlation with that hypothesis. To date 99 bull trout have been transported to Cougar Creek and several of those fish have been observed on the spawning grounds in Cougar Creek.

Net vs. Spillway Slot

The following provides an argument that a net system should be the preferred alternative.

- A slotted spillway could potentially create a periodic spillway TDG compliance issue and compromise water quality conditions for fish in the tailrace during times of low spill amounts. This would not be an issue with leaving the spillway as is and using a barrier net system.
- The spillway slot location is in question because there is no certainty as to whether all the spill water would actually collect in the slot to provide the perceived benefit. In addition, the cliff rock fall could place debris into the slot and diminish the benefit. These would not be issues with a barrier net structure.
- With a spillway slot, the issue of bull trout leaving Yale Lake and needing to be transported back upstream still exists. A net system could significantly reduce this outmigration. For the future, when anadromous fish are introduced into Yale Lake, this spillway net system would assure that fewer fish would move down into Lake Merwin and would have a greater chance of being captured in the Yale Downstream Collector.

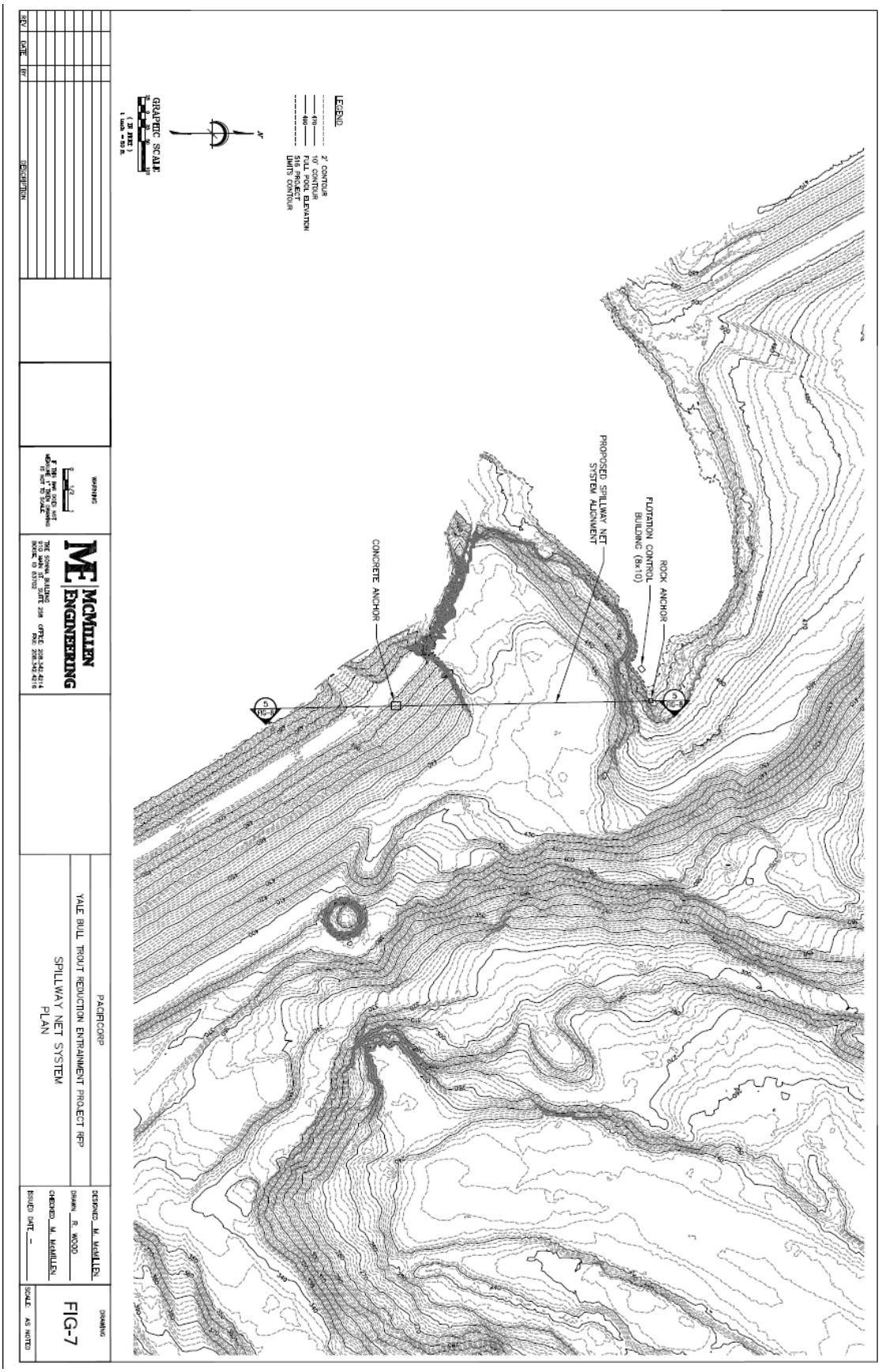
Initial Design of the Spillway Net System

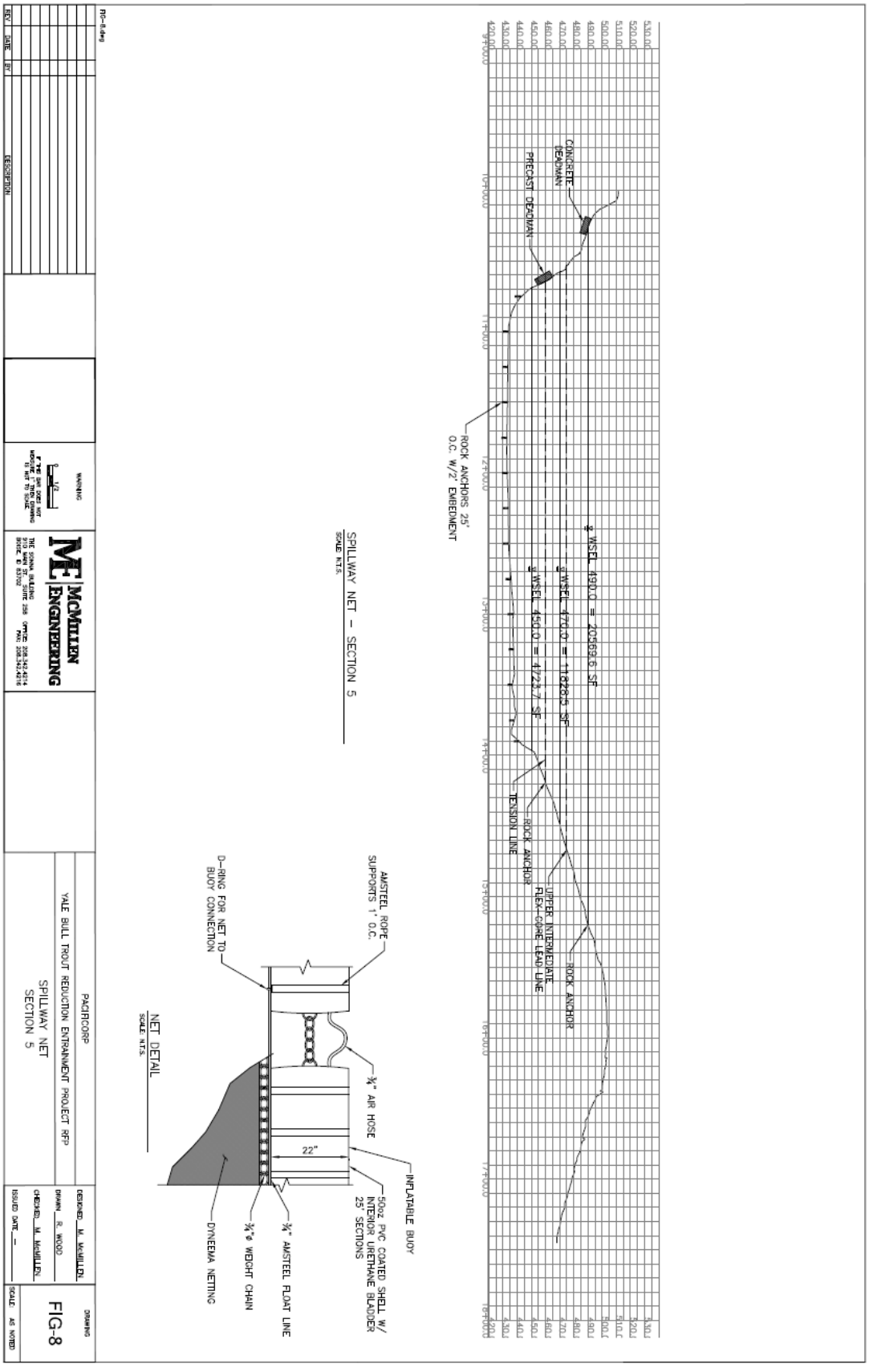
The initial design of a spillway barrier net system is shown in the attachments. The concept is that a net would be installed upstream of the spillway that would span from the

dam at an angle across to the rock promontory on the west side of the dam between the main Yale dam and Saddle Dam. This net would have a floating submersible section that would sink during flows higher than 6,000 cfs at which time any fish could exit Yale through the spillway. With flows higher than 6,000 cfs there is most likely enough flow to cushion fish from the rock structure at the base of the spillway. So, essentially fish will be protected from any spill that is less than 6,000 cfs and protected by spill volume at flows higher than that as fish pass down the spillway. The spillway barrier net system would be installed by 2012.

In discussions with the USFWS staff, they have expressed a general acceptance of the net system as a means of protecting bull trout. PacifiCorp believes this a viable means for meeting the intent of the Settlement Agreement and is requesting that the ACC review this document and provide feedback on this concept.

Attachments


LEGEND
2' CONTOUR
10' CONTOUR
FULL POOL ELEVATION
SITE PROJECT LIMITS CONTOUR
GRAPHIC SCALE
1 INCH = 100 FT.
PROPOSED SPILLWAY NET SYSTEM ALIGNMENT
FLOTATION CONTROL BUILDING (8x10)
ROCK ANCHOR
CONCRETE ANCHOR
WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
McMILLEN ENGINEERING
THE SIGNAL BUILDING
810 MAIN ST. SUITE 209
BOISE, ID 83702
OFFICE 208.345.4214
FAX 208.345.4216
PACIFICORP
YALE BULL TROUT REDUCTION ENTRAINMENT PROJECT RFP
SPILLWAY NET SYSTEM
PLAN
DESIGNED M. McMILLEN
DRAWN R. WOOD
CHECKED M. McMILLEN
ISSUED DATE --
SCALE AS NOTED
DRAWING
FIG-7
NO. DATE BY DESCRIPTION



McMILLEN ENGINEERING	PACIFICORP	DESIGNED M. McMILLEN	DRAWING
	YALE BULL TROUT REDUCTION ENTRAINMENT PROJECT RFP	DRAWN R. WOOD	FIG-8
	SPILLWAY NET SECTION 5	CHECKED M. McMILLEN	
		ISSUED DATE —	SCALE: AS NOTED