FINAL Meeting Notes
Lewis River License Implementation
Aquatic Coordination Committee (ACC) Meeting
August 12, 2010
Ariel, WA

ACC Participants Present (12)

Jeremiah Doyle, PacifiCorp Energy
Pat Frazier, WDFW
Shane Hawkins, WDFW
LouEllyn Jones, USFWS (teleconference)
Eric Kinne, WDFW
Erik Lesko, PacifiCorp Energy
Jim Malinowski, Fish First (teleconference)
Kimberly McCune, PacifiCorp Energy
Todd Olson, PacifiCorp Energy
Frank Shrier, PacifiCorp Energy
John Weinheimer, WDFW
Shannon Wills, Cowlitz Indian Tribe (teleconference)

WDFW
Calendar:

September 9, 2010	ACC Meeting	Merwin Hydro
October 14, 2010	ACC Meeting	Merwin Hydro

Assignments from August 12, 2010 Meeting:	**Status:**
McCune: Mail copies of Trout Identification brochure to Shannon Wills and LouEllyn Jones.	**Complete – 7/13/10**

Assignments from April 8, 2010 Meeting:	**Status:**
Haspiel: Present more detailed design of the Pine Creek Instream aquatic fund project to the ACC when available.	**Pending**

Assignments from April 9, 2009 Meeting:	**Status:**
ACC: Further investigate WDFW carcass survey methods established in 1978 and determine "next step" regarding modifications needed, if any, to the 1978 methods.	**Complete –8/12/10**

Opening, Review of Agenda and Meeting Notes

Frank Shrier (PacifiCorp Energy) called the meeting to order at 9:20am, reviewed the agenda for the day and requested any changes/additions. PacifiCorp informed the ACC attendees that they would like to add discussion about the Monitoring and Evaluation Effort Matrix, which was emailed to the ACC on August 11, 2010.

Shrier requested comments and/or changes to the ACC Draft 7/18/10 meeting notes. No changes were requested. The meeting notes were approved without change at 9:25am.

Carcass Survey Methods Presentation - Washington Department of Fish & Wildlife

Shane Hawkins (WDFW) presented a PowerPoint titled, "North Fork Lewis River Fall Chinook" (**Attachment A**) addressing WDFW carcass survey methods. Hawkins communicated to the ACC attendees that through a cooperative effort with PacifiCorp mark and recapture studies have been conducted continuously since 1983. The annual survey methods include juvenile seineing from late May to early July to collect a goal of 100,000 juvenile fish and tag with Coded Wire Tags (CWT). Hawkins explained the use of CWT's in estimating population size and escapement during adult surveys to recover the tags. With the use of photos, Hawkins illustrated capture of fry, collection and transport to Lewis River Hatchery to be tagged with a CWT.

Hawkins reviewed the history of adult carcass surveys. Spawning surveys started in the 1940s, and he addressed adult sampling goals. He pointed out that some carcasses are removed from the bottom of the river with the use of a gaff but that many are already on the bank. Approximately 41% of the carcasses sampled are brought to the bank and sampled for biological information. Carcasses maybe collected above the high water mark and biologically sampled on the beach below the normal water level where they are left. As the flows increase the sampled carcasses are washed back into the river, decomposing into nutrients for juveniles. Biological data collected includes length, sex, scales and fin marks, etc. Hawkins further illustrated the weekly summary of *average* river conditions, species sampled and flow requests.

Hawkins also described the purposes of a river drawdown which are to sample 50% of spawned out carcasses; make a peak live count and to increase opportunity to recover CWT's. He also provided summary tables to show Lewis River fall Chinook escapement by week as a percentage of the total and percentage of escapement sampled.

General discussion took place regarding the complexity of nutrient systems, natural process of adult fish decomposition, river drawdown during surveys, and velocity of water to move carcasses on the gravel bar back into the water which ultimately move nutrients back into the system for juveniles.

And lastly, Hawkins identified the key to successful estimations include having a greater percentage of returning adults with CWTs which provides more adult CWT snouts recovered resulting in tighter confidence interval on the spawning population estimate and a corresponding estimate of the Juvenile population estimate that contributed to the adult return. .

Jim Malinowski (Fish First) asked if Hawkins would be willing to make this same presentation to Coastal Conservation Alliance (CCA). Shane replied that he had given one presentation before but was willing to give it again with some updates. Shrier asked Malinowski that when folks take pictures of carcasses to indicate a date and time so that he could relate the photo to the flow at the time the picture was taken.

If interested parties want to see what Hawkins and his team is doing during a survey, WDFW is willing to coordinate participation/observation of surveying activities. The best time to participate is mid to late October according to Hawkins.

Shane Hawkins (WDFW) and John Weinheimer (WDFW) departed

Implementation Monitoring and Evaluation (M&E) Effort Matrix

Shrier provided a handout "Implementation M&E Effort Matrix", (**Attachment B**) dated August 12, 2010 which reflects the timing for each effort including when each objective begins. For the sake of an example Shrier pointed out the collection of juvenile ODS data will begin near year end of 2012. Some of the objectives are labeled "to be determined" or "potential to continue" depending upon the outcome of the passage facilities when the ACC determines the evaluation is complete.

Shrier indicated that he would like ACC comments in order to finalize the schedule by the September 9, 2010 ACC meeting.

Study Updates

Erik Lesko (PacifiCorp Energy) and Shrier provided the following study updates:

Hatchery Upgrades –

Lewis River Hatchery Ponds 13 & 14 – Construction is underway and on schedule, contractor is putting up pond walls now.

Merwin Rearing Ponds – Only 2 of 4 ponds will be modified this year; completion date is set for September 23, 2010. Completion of second set of ponds will be in 2011.

Merwin Smolt Release Ponds – Completion is expected in 2010.

Speelyai Burrows Pond – Have yet to award construction contractor; completion of project is expected by November 1, 2010.

Speelyai Kokanee Weir – 30% design complete

Swift Net Pens – Cowlitz County permit is still pending; install is planned immediately upon receipt of permit.

Hatchery & Supplementation Plan – The H&S Subgroup met on August 4, 2010 to discuss format for the annual operation plan. The Subgroup decided to combine all the AOPs into one document. In addition, the Subgroup discussed monitoring and evaluation components and are pushing to finalize the 2011 AOP for all species by year end 2010.

Release Ponds – FERC (and the ACC) received a preliminary design in June 2009. PacifiCorp is required to submit final approved designs to the FERC by September 30, 2010. In process of negotiating a land transaction with the Church of Woodland. An offer has been presented to the Church. PacifiCorp will get 60% engineering design to

ACC on or before August 23, 2010 for a 2-week review. NMFS' approval is required prior to submission of final designs to FERC. PacifiCorp is working to provide the final designs to the FERC by the submittal deadline.

PacifiCorp continues to keep Washington Department of Transportation (WDOT) informed regarding its concern of aviation/bird strikes.

Acclimation Pond Plan – Meeting with the Forest Service and nearly ready for plant and animal species surveys. Contractor on board and they are conducting some work now such as surveying for listed biota, sensitive species, cultural sites, etc.

Noxious weeds, etc are all evaluations that need to be completed at each site (Crab Creek, Clear Creek and Muddy) and by Spring, 2012. PacifiCorp is submitting its water right application for each site. 30% design will be ready for distribution to the ACC for comment around early September. Next meeting with the USFS is August 16, 2010. Project is on schedule.

A consultant has been selected to complete the resource surveys specific to preparing the National Environmental Policy Act (NEPA) document and permitting issues.

New Topics

- *Trout Identification Brochure* (**Attachment C**): Shrier notified the ACC attendees that the Bull Trout brochures were made available to the public and we have copies today if the ACC attendees would like to have them. Shannon Wills (Cowlitz Indian Tribe) and LouEllyn Jones (USFWS) both asked for copies which Kim McCune (PacifiCorp) will mail to their attention.
- *Aquatic Fund Projects*: PacifiCorp is working with counsel to complete the needed collection agreements for the 2009/2010 funding cycle. Announcement letters for the 2010/2011 funding cycle will be send on September 3, 2010.
- *Log availability for stream enhancement* (**Attachment D***)*: Washington State Department of Natural Resources (DNR) provided an email notifying all those interested that they have available logs with root wads attached for stream enhancement projects.

Agenda items for September 9, 2010

- Review August 12, 2010 Meeting Notes
- Aquatic Fund 2010/2011 Announcement Letter
- Release Pond 30% Designs
- Monitoring and Evaluation Effort Matrix
- Study/Work Product Updates

Public Comment
None

Next Scheduled Meetings

September 9, 2010	October 14, 2010
Merwin Hydro Control Center	Merwin Hydro Control Center
Ariel, WA	Ariel, WA
9:00am – 3:00pm	9:00am – 3:00pm

Meeting Adjourned at 11:05 a.m.

Handouts

- Final Agenda
- Draft ACC Meeting Notes 7/8/2010
- **Attachment A** – North Fork Lewis River Fall Chinook PowerPoint, presented by WDFW
- **Attachment B** - Implementation M&E Effort Matrix", dated August 12, 2010
- **Attachment C** – Trout Identification Brochure
- **Attachment D** – Email from Washington State Department of Natural Resources (DNR), dated August 2, 2010

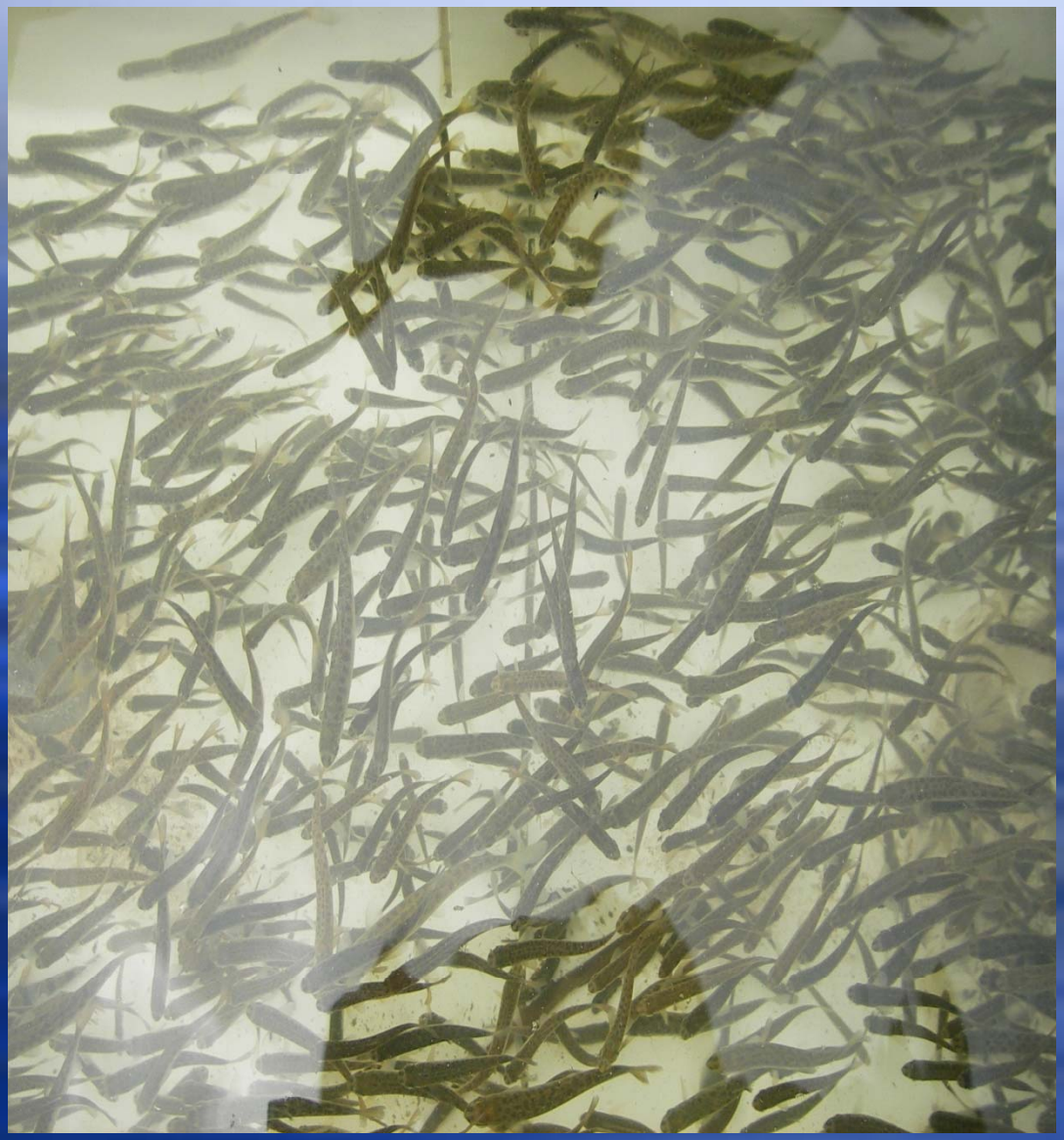
North Fork Lewis River Fall Chinook

Shane Hawkins

Washington Department of Fish and Wildlife

Monitoring is a joint effort with PacifiCorp

CWT Mark-Recapture Study



- Continuously since 1983
- Seine from late May - early July
- Use Coded Wire Tag (CWT) codes
- Tagging goal = 100,000 fish
- Harvest
- Escapement

Why the Tagging and Recovery Project is Necessary…

KEY:
Lower River Bright Wild Fall Chinook

- Escapement estimate of +/- 5%
- CWT tagging goal: 100,000 Chinook fry
- PST ocean harvest model

The set, capture, and collection of fry

Transferring captured fry into a 5 gallon bucket

5 gallon buckets are used to transport fry to the boat

Fry are transferred into garbage cans in the boat

Fry are taken to Lewis River Hatchery to be clipped and tagged with a CWT

Lewis River Juvenile Fall Chinook

Brood Year	# of CWT Juveniles Released	Total Adults Sampled	Juvenile Population Estimate	Tag Rate	Adult Ocean Abundance	Smolt to Adult Survival
1977	35,780	3,069	2,614,000	1.37%		
1978	78,083	1,615	2,801,000	2.79%		
1979	103,807	2,980	2,379,000	4.36%		
1982	96,443	2,833	2,846,000	3.39%	28,000	0.98%
1983	101,270	4,198	4,887,000	2.07%	49,700	1.02%
1984	69,611	6,370	3,384,000	2.06%	47,300	1.40%
1985	84,774	5,280	2,664,000	3.18%	41,600	1.56%
1986	83,154	4,128	1,525,000	5.45%	27,000	1.77%
1987	100,735	2,040	1,511,000	6.67%	12,000	0.79%
1988	98,049	2,656	2,528,000	3.88%	17,249	0.68%
1989	10,422	750	868,000	1.20%	4,748	0.55%
1990	100,912	4,683	5,027,000	2.01%	31,784	0.63%
1991	97,143	1,986	2,607,000	3.73%	12,343	0.47%
1992	58,019	3,391	3,513,000	1.65%	16,227	0.46%
1993	63,688	2,470	4,916,000	1.30%	13,585	0.28%
1994	98,465	549	2,702,000	3.64%	3,128	0.12%
1995	0	140				
1996	96,670	1,925	10,945,000	0.88%	6,906	0.06%
1997	102,285	4,695	5,108,000	2.00%	19,476	0.38%
1998	99,782	8,076	6,014,000	1.66%	29,352	0.49%
1999	98,949	7,743	2,402,000	4.12%	24,518	1.02%
2000	62,756	3,478	2,079,000	3.02%	10,204	0.49%
2001	98,563	7,354	5,941,000	1.66%	28,516	0.48%
2002	95,876	1,998	3,421,000	2.80%	13,808	0.40%
2003	64,367	791	3,916,000	1.64%		
2004	99,066	345	17,089,000	0.58%		
2005	88,660	52	4,610,000	1.92%		

Adult Project History

- Spawning surveys started in the 40's
- Expanded adult surveys in 1982
  - Improve precision of data
  - PacifiCorp participation
- Survey October - January
- Used an estimated expansion rate

Adult Sampling Goals

Sample 50% of spawned out carcasses

- Purpose of Spawning Ground Surveys
  - Carcasses Recoveries
  - CWT Recoveries

Fall Chinook carcasses sampled in the Lewis River

Some carcasses are gaffed off the bottom of the river, many are already on the bank.

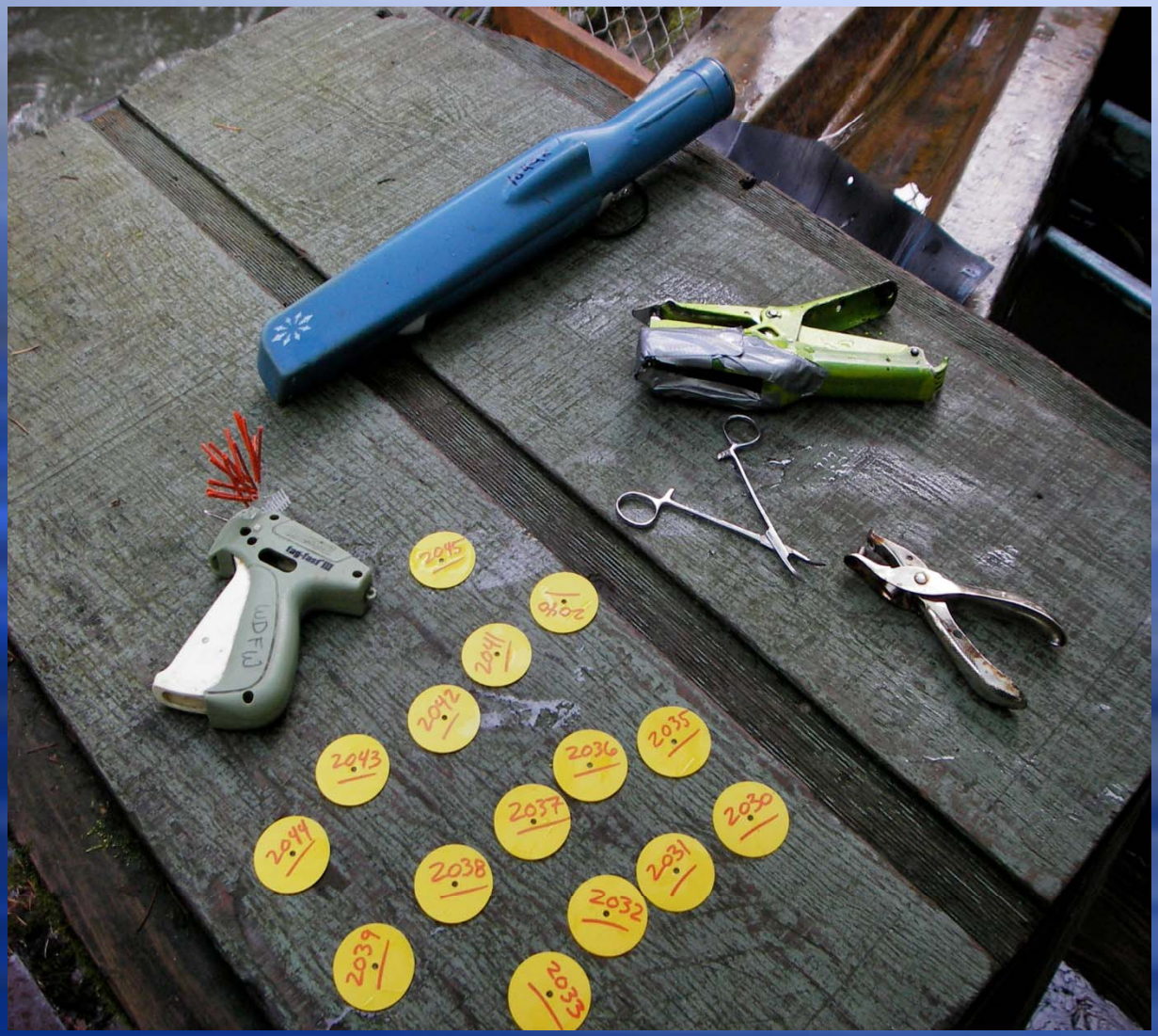
41%

of the carcasses sampled are brought to the bank and sampled for age.

Carcasses are collected above the high water mark and biologically sampled below the normal water level.

As the flows increase the sampled carcasses are washed into the river, decomposing into nutrients for juveniles

Bio Data Collected



- Length
- Sex
- Scales
- Fin marks
- Wand snout for CWT
- DNA 2003 – 2004
- Carcass Tags 2000-2002

Weekly Summary of AVERAGE River Conditions, Species Sampled and Flow Requests

Week	Lewis Wild CWT Recoveries	Majority of Species being Sampled	# of Boats	Average Flows (CFS)	Flow Request
29-Sep	0.70%	Tule Fall Chinook	1	2110	None
6-Oct	2.57%	Tule Fall Chinook	1	2120	2-3,000 CFS
13-Oct	4.59%	Tule Fall Chinook	1	2320	2-3,000 CFS
20-Oct	3.92%	Tule Fall Chinook	1	3330	2-3,000 CFS
27-Oct	3.89%	Tule Fall Chinook	2	3080	2-3,000 CFS
3-Nov	5.69%	Lewis Wild Chinook	2	3920	1200 CFS
10-Nov	10.21%	Lewis Wild Chinook	3	5190	1200 CFS
17-Nov	13.68%	Lewis Wild Chinook	3	5260	1200 CFS
23-Nov	15.38%	Lewis Wild Chinook	3	5380	1200 CFS
1-Dec	14.34%	Lewis Wild Chinook	3	6540	2-3,000 CFS drop
8-Dec	10.06%	Lewis Wild Chinook	3	6970	2-3,000 CFS drop
15-Dec	5.92%	Lewis Wild Chinook	2	8740	2-3,000 CFS drop
22-Dec	3.68%		2	6100	2-3,000 CFS drop
29-Dec	2.82%		1	7180	2-3,000 CFS drop
5-Jan	1.42%		1	7430	
12-Jan	0.75%		1	9250	
19-Jan	0.33%		1	7560	
26-Jan	0.04%		1	7210	

Purpose of the Draw Down

Sample 50% of spawned out carcasses

- Make a peak live count
  - Flows at 1200 CFS once between 2nd week of November and 2nd week of December
- Increase opportunity to recover CWT's
  - Decrease flows between 2nd week of October and 2nd week of January

Lewis River Fall Chinook Escapement Estimates 1984 - 2007

Ages based on scale pattern analysis

Return Year(s) Average	2	3	4	5	6&7	Total Escapement	Hatchery Strays	Lewis Rv. Wild CWT
1964 - 73	3,103	2,060	6,803	2,130		14,096	NA	NA
1974 - 83	1,155	2,026	6,332	1,911	2	11,425	NA	NA
1984 - 93	1,833	1,978	4,808	4,187	296	13,102	971	12,132
1994 - 98	594	959	4,689	4,218	207	10,667	878	9,790
1999	183	1,118	1,337	942	46	3,626	1,031	2,595
2000	1,260	1,393	3,622	549	2	6,826	560	3,068
2001	1,124	1,878	5,616	1,537	13	10,168	1,459	6,419
2002	1,198	1,895	8,483	4,634	34	16,244	2,371	10,265
2003	1,064	1,009	8,247	8,084	175	18,579	3,031	11,751
2004	523	2,087	3,881	7,063	428	13,982	757	11,469
2005	365	1,235	7,132	2,731	249	11,712	1,021	9,872
2006	351	352	2,973	9,820	316	13,812	757	10,742
2007	301	796	1,567	1,428	178	4,270	129	3,116

Lewis River fall chinook escapement by week as a percentage of the total

Week	2000	2001	2002	2003	2004	2005	2007	7-Year Average	
28-Sep	0.53%	1.30%	0.88%	0.00%	0.88%	1.35%	0.00%	0.70%	
05-Oct	1.72%	3.42%	3.43%	4.37%	1.86%	3.21%	0.00%	2.57%	
12-Oct	3.70%	6.88%	5.75%	7.10%	1.99%	3.22%	3.49%	4.59%	15.7%
19-Oct	3.91%	7.05%	5.58%	4.97%	1.73%	2.14%	2.05%	3.92%	
26-Oct	3.74%	6.90%	4.55%	3.83%	2.82%	3.20%	2.16%	3.89%	
02-Nov	4.11%	8.18%	7.03%	4.51%	7.04%	5.76%	3.20%	5.69%	
09-Nov	7.91%	15.44%	7.52%	7.67%	12.48%	12.07%	8.39%	10.21%	
16-Nov	12.55%	11.47%	12.11%	11.61%	17.66%	15.41%	14.97%	13.68%	63.7%
22-Nov	19.82%	7.73%	13.16%	12.89%	15.30%	19.09%	19.66%	15.38%	27.8%
30-Nov	17.49%	14.31%	14.66%	15.07%	11.30%	14.45%	13.13%	14.34%	
07-Dec	11.33%	6.88%	10.93%	10.28%	11.23%	9.21%	10.59%	10.06%	
14-Dec	6.71%	3.32%	5.77%	6.25%	6.64%	5.86%	6.88%	5.92%	
21-Dec	3.58%	2.43%	3.44%	3.89%	4.00%	3.08%	5.33%	3.68%	
28-Dec	1.46%	2.51%	1.90%	3.57%	2.33%	1.45%	6.53%	2.82%	15.0%
04-Jan	0.79%	1.38%	1.24%	2.20%	1.79%	0.51%	2.07%	1.42%	
11-Jan	0.52%	0.45%	1.17%	1.23%	0.75%	0.00%	1.11%	0.75%	
18-Jan	0.15%	0.36%	0.74%	0.43%	0.22%	0.00%	0.42%	0.33%	

Harvest distribution of Lewis River CWTs as a percent of total ocean abundance

Brood	Alaska	Canada	OR/WA Coast	Columbia Inside	Escapement
1982	6.57%	17.18%	2.65%	30.43%	43.17%
1983	12.92%	20.62%	9.44%	31.07%	25.95%
1984	2.90%	15.28%	7.09%	18.88%	55.85%
1985	5.05%	10.10%	9.42%	21.40%	54.03%
1986	3.68%	14.87%	7.23%	13.71%	60.51%
5 yr Average	6.22%	15.61%	7.17%	23.10%	47.90%
1987	2.92%	12.29%	5.83%	14.32%	64.64%
1988	2.66%	14.92%	7.53%	18.32%	56.57%
1989	0.00%	7.02%	5.26%	28.07%	59.65%
1990	5.24%	8.90%	0.70%	16.93%	68.23%
1991	9.64%	5.78%	1.50%	6.21%	76.87%
5 yr Average	4.09%	9.78%	4.16%	16.77%	65.19%
1997	13.33%	14.36%	3.59%	5.38%	63.33%
1998	13.35%	9.45%	10.06%	13.14%	54.00%
1999	17.52%	15.94%	7.13%	9.50%	49.90%
2000	4.22%	18.51%	3.57%	13.31%	60.39%
2001	16.95%	21.61%	2.54%	12.50%	46.40%
5 yr Average	13.08%	15.97%	5.38%	10.77%	54.81%

Percentage of the Total Escapement Sampled

	Carcasses Sampled for Age based on Scale Analysis							
Year	2	3	4	5	6	Total Sampled	Escapement Estimate	% of Escapement Sampled
2001	1.1%	3.4%	10.6%	3.1%	0.0%	9261	10,168	91.08%
2002	2.1%	10.6%	54.9%	32.1%	0.2%	4530	16,244	27.89%

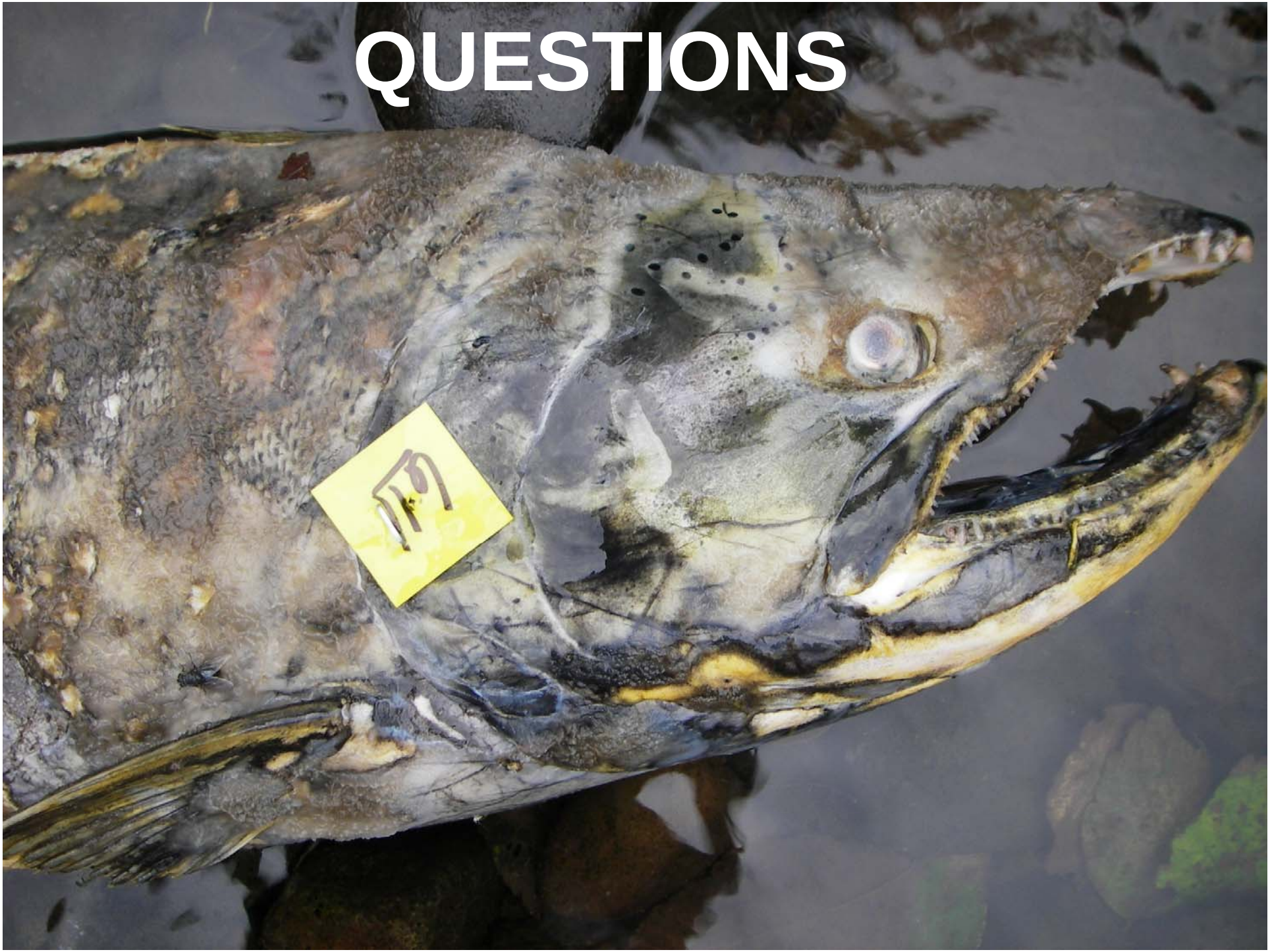
Percentage of the Total Escapement Sampled

	Carcasses Sampled for Age based on Scale Analysis							
Year	2	3	4	5	6	Total Sampled	Escapement Estimate	% of Escapement Sampled
2001	6.2%	18.6%	57.9%	17.0%	0.2%	9261	10,168	91.08%
2002	2.1%	10.6%	54.9%	32.1%	0.2%	4530	16,244	27.89%

Key to Success

- More juveniles CWT=
  - **Greater percentage of returning adults will be CWT**
- More adult CWT snouts recovered =
  - **Tighter confidence interval on the population estimate**

QUESTIONS



Lewis River juvenile fall chinook population estimates and confidence intervals

Brood Year	Year Tagged	# Tagged Juveniles Released	Total Adults Sampled	Juvenile Population Estimate	95% Confidence (+/-)	C.I. as % of Pop. Est.	Mark Rate	Ocean Abundanc	Smolt to Adult Survival
1977	1978	35,780	3,069	2,614,000	801,000	31	0.0137		
1978	1979	78,083	1,615	2,801,000	823,000	29	0.0279		
1979	1980	103,807	2,980	2,379,000	408,000	17	0.0436		
1982	1983	96,443	2,833	2,846,000	571,000	20	0.0339	28,000	0.98%
1983	1984	101,270	4,198	4,887,000	1,036,000	21	0.0207	49,700	1.02%
1984	1985	69,611	6,370	3,384,000	585,000	17	0.0206	47,300	1.40%
1985	1986	84,774	5,280	2,664,000	404,000	15	0.0318	41,600	1.56%
1986	1987	83,154	4,128	1,525,000	198,000	13	0.0545	27,000	1.77%
1987	1988	100,735	2,040	1,511,000	250,000	17	0.0667	12,000	0.79%
1988	1989	98,049	2,656	2,528,000	488,000	19	0.0388	17,249	0.68%
1989	1990	10,422	750	868,000	575,000	66	0.0120	4,748	0.55%
1990	1991	100,912	4,683	5,027,000	1,026,000	20	0.0201	31,784	0.63%
1991	1992	97,143	1,986	2,607,000	594,000	23	0.0373	12,343	0.47%
1992	1993	58,019	3,391	3,513,000	931,000	27	0.0165	16,227	0.46%
1993	1994	63,688	2,470	4,916,000	1,726,000	35	0.0130	13,585	0.28%
1994	1995	98,465	549	2,702,000	1,186,000	44	0.0364	3,128	0.12%
1995	1996	0	140						
1996	1997	96,670	1,925	10,945,000	5,285,000	48	0.0088	6,906	0.06%
1997	1998	102,285	4,695	5,108,000	1,043,000	20	0.0200	19,476	0.38%
1998	1999	99,782	8,076	6,014,000	1,030,000	17	0.0166	29,352	0.49%
1999	2000	98,949	7,743	2,402,000	263,000	11	0.0412	24,518	1.02%
2000	2001	62,756	3,478	2,079,000	399,000	19	0.0302	10,204	0.49%
2001	2002	98,563	7,354	5,941,000*	1,066,000	18	0.0166	28,516	0.48%
2002	2003	95,876	1,998	3,421,000*	901,000	26	0.0280	13,808	0.40%
2003	2004	64,367	791	3,916,000*	2,154,000	55	0.0164		
2004	2005	99,066	345	17,089,000*	24,097,000	141	0.0058		
2005	2006	88,660	52	4,610,000*	9,131,000	198	0.0192		

Project Methodology Evaluation

- Convert to using carcass recoveries to make an escapement estimate

Instead of

- Using the traditional peak live counts which requires a draw down to 1200 CFS during the fall rainy season.

License Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Objective 1 - Quantify Juvenile ODS			Begin with Swift										Begin with Yale				Begin with Merwin				Potential to continue depending on results			
Objective 2 - Estimate SDF collection Efficiency			Begin With Swift			Potential to continue depending on results																		
Objective 3 - Determine % juveniles that enter turbines																	Begin							
Objective 4 - Juvenile and adult collection survival			Begin																		Continue through life of license			
Objective 5 - Determine juvenile injury and mortality rates at the SDF			Begin																		Continue through life of license			
Objective 6 - Quantify No. of juvenile and adult fish collected at the SDF			Begin																		Continue through life of license			
Objective 7 - Estimate No. of juveniles entering Swift reservoir			Begin																					
Objective 8 - Determine juvenile migration timing			Begin																		Continue through life of license			
Objective 9 - Quantify adult upstream passage survival			Begin																		Continue through life of license			

Objective 10 - Estimate Merwin ATE			Begin	End or….. Continue until ATE standard is satisfied															
Objective 11 - Quantify No. of adults collected at the projects			Begin															Continue through life of license	
Objective 12 - Estimate Ocean recruits				Begin														Continue through life of license	
Objective 13 - Determine performance measures for index stocks			Begin															Continue through life of license	
Objective 14 - Determine compliance with hydraulic design criteria			Begin															Continue through life of license	
Objective 15 - Determine spawn timing, distribution and abundance of transported adults		Begin			TBD														
Objective 16 - Evaluate fall Chinook and chum	Ongoing																	Continue through life of license	

Objective 17 - Monitoring objectives for wild winter steelhead, spring Chinook and coho	Ongoing																							Continue through life of license
Objective 18 - Monitoring objectives for bull trout populations	Ongoing																							Potential to continue depending on results
Objective 19 - Determine interactions betw. Reintrod. Anadromous salmonids and resident fish	For resider	Begin adult salmon/STHD interactions with resident fish	TBD																					
Objective 20 - Document project compliance with flow, ramp rate and plateau requirements	Ongoing																							Continue through life of license
Objective 21 - Determine when Outcome Goals are achieved		Begin		TBD																				
Objective 22 - Develop a H&S Plan to support Lewis River native anad. Fish	Complete	Subject to Annual operating plan																						

Trout identification

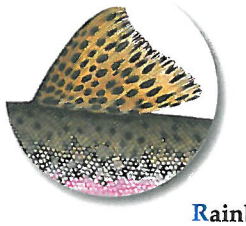
PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

Rainbow Trout, Cutthroat Trout & Bull Trout

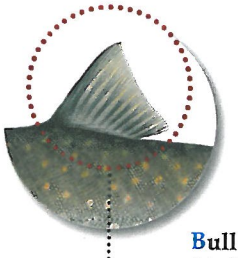
Bull trout, rainbow and cutthroat trout are native to Washington waters. Bull trout are listed as threatened under the Endangered Species Act. Bull trout, rainbow and cutthroat trout look very much alike and often live in the same waters. Rainbow and cutthroat trout may be harvested in most waters, but bull trout harvest is illegal in the Lewis River basin.

Here is how you can tell them apart. Rainbow and cutthroat trout have black spots or marks on the dorsal fin, while bull trout have no distinct spots.

So remember, for the Lewis River, tributaries and reservoirs:



Rainbow Trout
Oncorhynchus mykiss



Bull Trout
Salvelinus confluentus

No Black, put it back!

General fishing essentials

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

Contact numbers

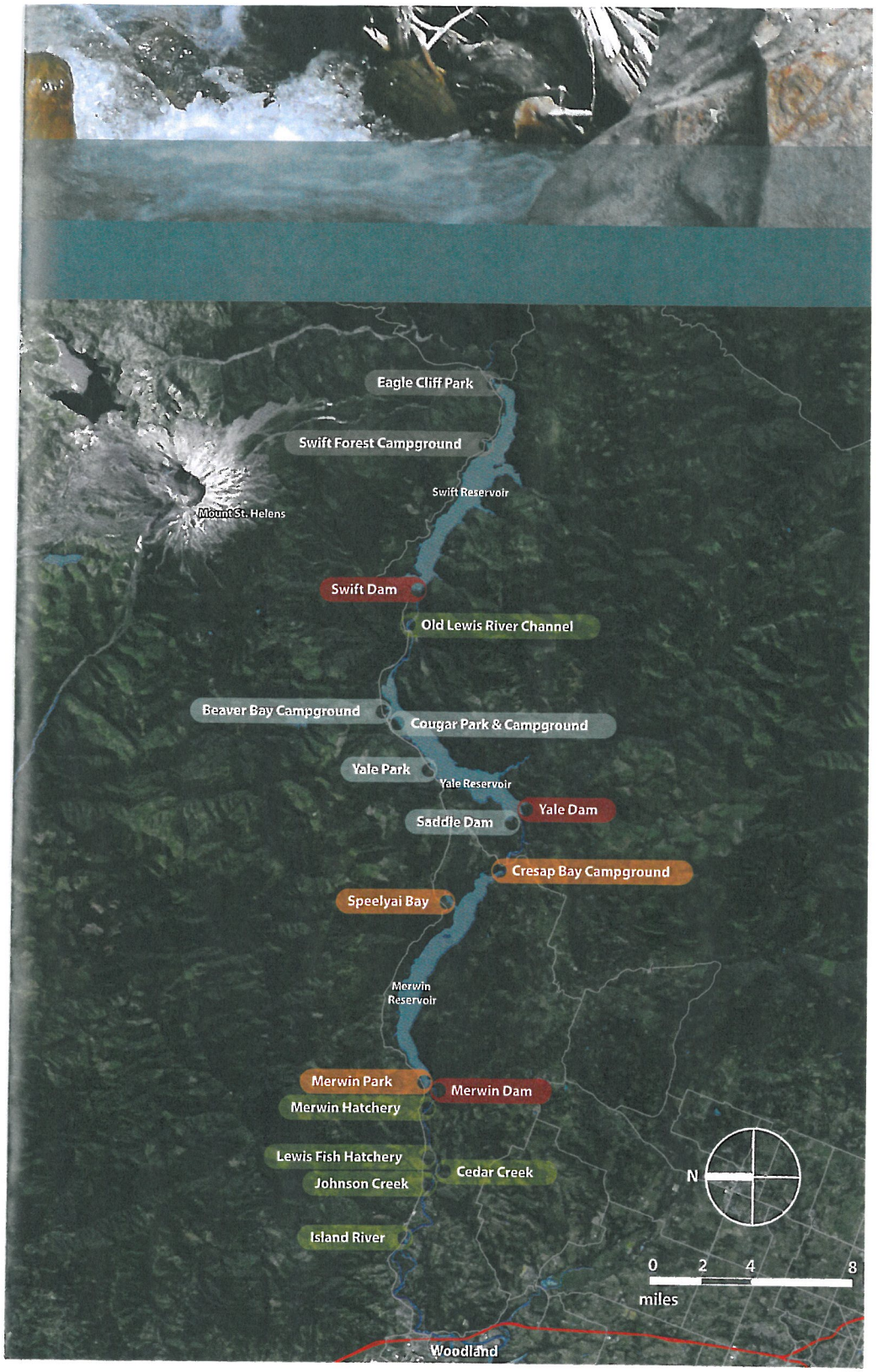
Washington Department of Fish & Wildlife (local) 360·696·6211

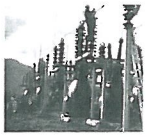
Poaching hotline 800·477·6224

Regulations

Please review current regulations before fishing. Fishing for or targeting bull trout is illegal.

Area & season (Listed from east to west)	Species Found: Bull trout	Chinook, Coho salmon	Steelhead	Cutthroat trout	Mountain whitefish	Northern pikeminnow	Kokanee	Rainbow trout	Tiger musky
Upstream of Eagle Cliff Bridge	●	●	●	●	●			●	
Eagle Cliff Bridge to Boundary Markers	●	●	●	●	●			●	
Swift Reservoir	●	●	●	●	●			●	
Cougar Creek	●	●	●	●			●	●	
Swift Power Canal	●	●	●	●	●			●	
Yale	●	●	●	●	●	●	●	●	
Old Lewis River Channel	No Fishing Allowed								
Merwin Reservoir	●	●	●	●	●	●	●	●	●
Canyon Creek				●	●	●		●	


Eagle Cliff Park
Swift Forest Campground
Swift Reservoir
Mount St. Helens
Swift Dam
Old Lewis River Channel
Beaver Bay Campground
Cougar Park & Campground
Yale Park
Yale Reservoir
Yale Dam
Saddle Dam
Cresap Bay Campground
Speelyai Bay
Merwin Reservoir
Merwin Park
Merwin Dam
Merwin Hatchery
Lewis Fish Hatchery
Cedar Creek
Johnson Creek
Island River
N
0 2 4 8
miles
Woodland



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Eagle Cliff Bridge to Boundary Markers	●	●	●	●	●			●	
Swift Reservoir	●	●	●	●	●			●	
Cougar Creek	●	●	●	●			●	●	
Swift Power Canal	●	●	●	●	●			●	
Yale	●	●	●	●	●	●	●	●	
Old Lewis River Channel	No Fishing Allowed								
Merwin Reservoir	●	●	●	●	●	●	●	●	●
Canyon Creek				●	●	●		●	

McCune, Kimberly

From: Naylor, Kirk
Sent: Monday, August 02, 2010 9:49 AM
To: McCune, Kimberly; Olson, Todd; Shrier, Frank
Subject: FW: Riparian Restoration Logs Available for Purchase

FYI,

You may want to tell the ~~TEC~~ ACC that PacifiCorp has completed its 2010 obligation of providing logs with root wads attached from reservoir cleanup operations. These logs went to the Forest Service for projects on Pine Creek and PacifiCorp used its $2000 to assist with transporting these logs as well.

However, the DNR has provided me with the following information were additional trees can be purchased for stream enhancement projects.

Kirk

From: SIEBOLD, RYAN (DNR) [mailto:RYAN.SIEBOLD@dnr.wa.gov]
Sent: Monday, August 02, 2010 8:42 AM
To: McCormick, John W; Naylor, Kirk; Lindsay Cornelius
Subject: FW: Riparian Restoration Logs Available for Purchase

Stream enhancement trees for sale.

Ryan Siebold

Yacolt District Unit Forester

Pacific Cascade Region

Washington Department of Natural Resources

ryan.siebold@dnr.wa.gov

360-584-4658

From: RASOR, CHRIS (DNR)
Sent: Thursday, July 29, 2010 4:10 PM
To: JOHNS, MARCUS (DNR); DNR DL PC SL UF; DNR DL PC SL DM; WILLIAMS, KELLIE (DNR); JOHNSON, GREG (DNR); COMISKY, MATT (DNR)
Cc: 'benr@lewiscounty.com'
Subject: Riparian Restoration Logs Available for Purchase

To all,

We received an inquiry recently of anyone interested in buying some large logs for stream enhancement: (40 logs with root wads attached min. diameter of 18 inches @ 31 FT. ABOVE ROOT COLLAR!). They are a mixture

of DF and a few WH. Please forward to anyone that may be in need of this kind of material and have them contact:

Ben Davis

North Fork Resources

253-219-0651

benr@lewiscounty.com

Chris

Chris Rasor
Reforestation Coordinator
Pacific Cascade Region

Washington State Department of Natural Resources (DNR)
360.880.8288 Mobile
360.575.5058 Office
360.274.4196 Fax
chris.rasor@dnr.wa.gov

www.dnr.wa.gov