

Modeling and Analyses Relevant to Columbia River Fisheries
Provided by the Oregon and Washington Department of Fish and Wildlife Staffs
For the Columbia River Fisheries Working Group
October 18, 2012

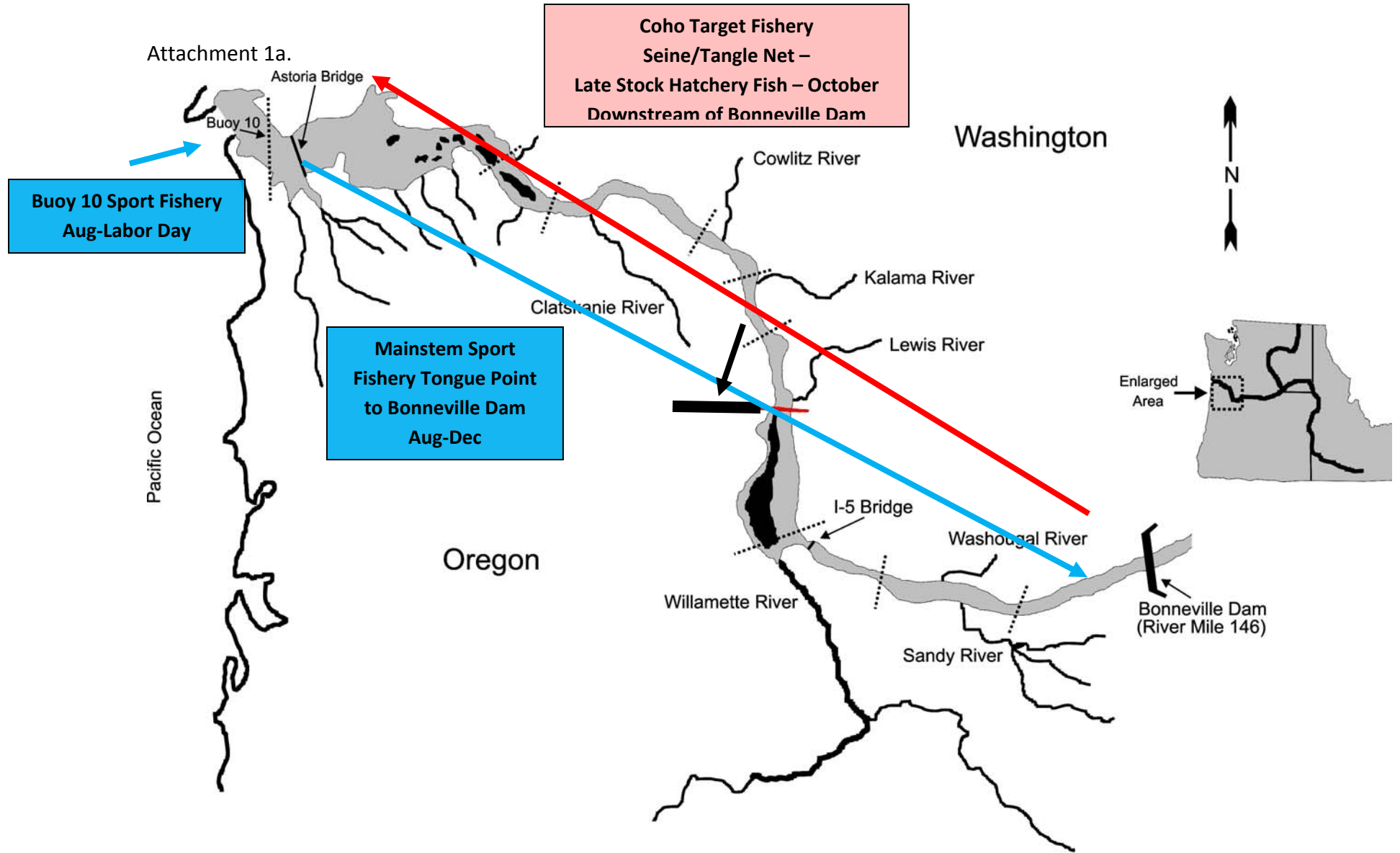
- Attachment 1. Fall fishery strategies (with two maps)
- Attachment 2. Alternative commercial gear evaluations – 2009-2012 summary
- Attachment 3. Alternative commercial gear results (Table)

Attachment 1.

Fall Fishery Strategies

Goals/Objectives

- Manage consistent with conservation objectives
 - Reasonable sport fishery objectives
 - Increase harvest of surplus fall Chinook and coho
1. Conservation Objectives
 - a. Harvest within ESA impacts
 - b. Progress toward hatchery reform objectives for lower river fall Chinook and coho
 2. Reasonable sport fishery objectives
 - a. Buoy 10 Chinook retention through Labor Day
 - b. Non mark-selective (MSF) Chinook fishery August 1 through December 31 above the Lewis River
 - c. Chinook retention downstream of the Lewis River through mid-September
 - i. Combination of MSF and non-MSF
 - d. Full MSF opportunity for Buoy 10 and mainstem Columbia River for coho
 3. Commercial – Increased harvest of surplus fall Chinook and coho
 - a. MSF seine fishery downstream of the Lewis River – August and September
 - b. Upriver bright Chinook target fishery upstream of Lewis River – August and September
 - c. Tangle net/seine MSF hatchery coho fishery in October – Zones 1-5 (whole river)



Attachment 1a.

Astoria Bridge

Buoy 10

**Buoy 10 Sport Fishery
Aug-Labor Day**

**Mainstem Sport
Fishery Tongue Point
to Bonneville Dam
Aug-Dec**

**Coho Target Fishery
Seine/Tangle Net -
Late Stock Hatchery Fish - October
Downstream of Bonneville Dam**

Washington

Cowlitz River

Kalama River

Clatskanie River

Lewis River

Pacific Ocean

Oregon

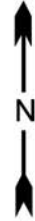
I-5 Bridge

Washougal River

Willamette River

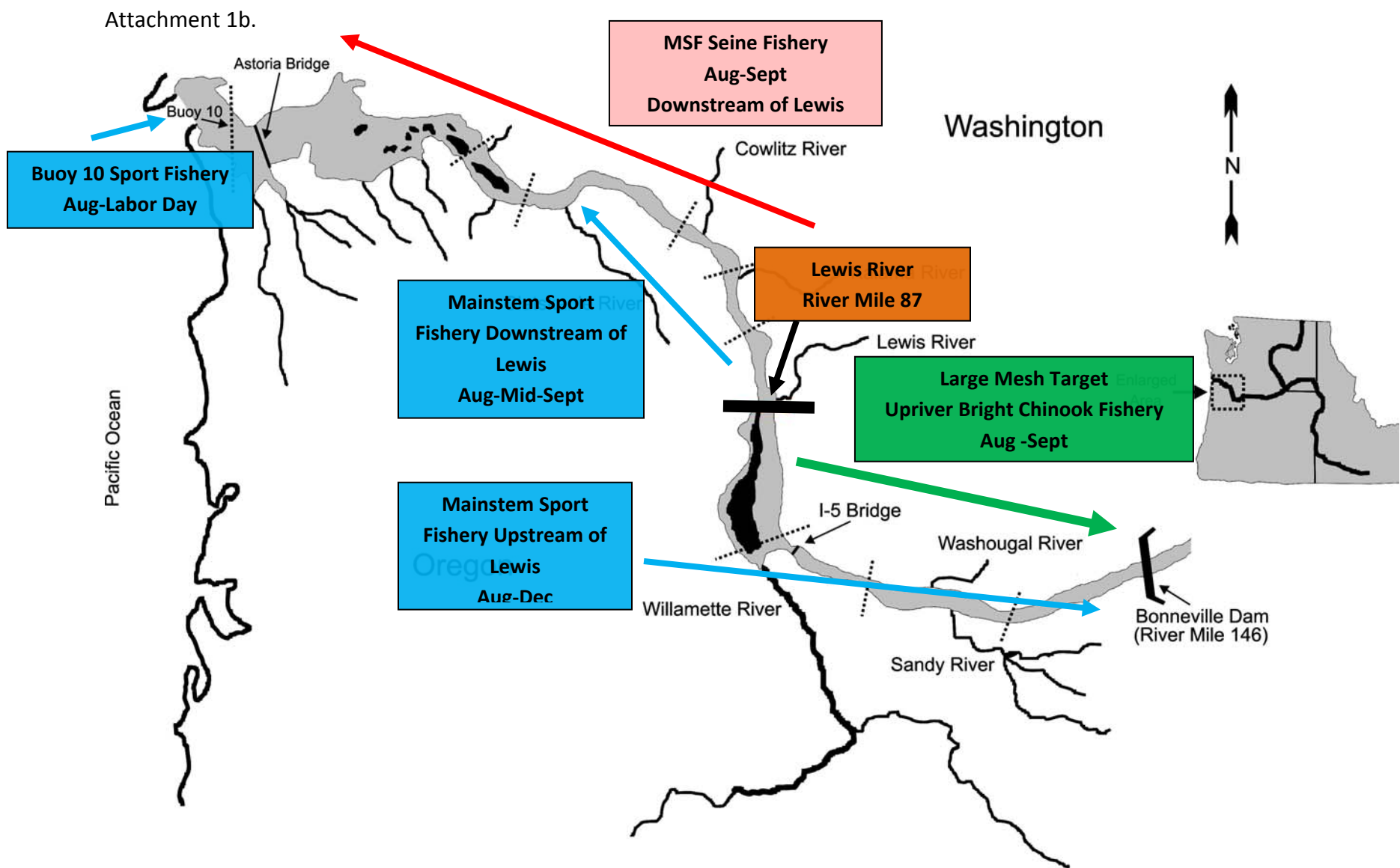
Sandy River

Bonneville Dam
(River Mile 146)



Enlarged
Area





Attachment 1b.

MSF Seine Fishery
Aug-Sept
Downstream of Lewis

Buoy 10 Sport Fishery
Aug-Labor Day

Mainstem Sport Fishery Downstream of Lewis
Aug-Mid-Sept

Lewis River River Mile 87

Large Mesh Target Upriver Bright Chinook Fishery
Aug -Sept

Mainstem Sport Fishery Upstream of Lewis
Aug-Dec

Washington



Pacific Ocean

Astoria Bridge

Buoy 10

Cowlitz River

Lewis River

I-5 Bridge

Washougal River

Willamette River

Sandy River

Bonneville Dam (River Mile 146)

Oregon

ODFW and WDFW Alternative Commercial Gear Evaluations 2009-2012

Summary of Results and Findings

Late Spring – Purse Seine

- Catch rates of shad in purse seines were high enough (200-500/set) to justify a fishery

Summer – Beach and Purse Seines

- Lower Chinook densities and higher flows in June make an economically viable fishery challenging
- Sockeye catch can be very high
- Sockeye tend to wedge in nets. Using a smaller mesh size to reduce this will increase net drag and likely further reduce fishing efficiency
- High flows reduce suitable beach seining sites

Fall – Beach and Purse Seines

- Chinook and coho catches were moderately high during the peak abundance but considerably lower early and late in the season
- Mark rates were relatively low (~40-50% for Chinook and ~60% for coho)
- Catch rates among test fishers varied considerably
- Steelhead handle was fairly high
- Observed immediate mortality rates were low; longer-term post-release mortality rates are not yet available
- Availability of good beach seining locations may limit opportunity, especially in the lower river
- Requires 3-4 fishers per beach seine and 4-5 fishers per purse seine

Fall – Trap

- Catch rates for floating fish traps were extremely low; however, some gear configurations were not fully tested

Fall – Tangle Net

- Use limited to October (coho target) due to high water temperatures earlier in the fall
- Drift times need to be short to maximize survival of released fish
- Coho catch rates were moderate and varied with run size; mark rates relatively high (77%)
- Catch of non-target stocks was very low
- Immediate survival rates were approximately 90%; longer-term post-release mortality has not been tested

Fall – Troll

- Low catch rates using traditional ocean trolling vessel and gear configurations
- Unable to troll slow enough to be effective; not enough gear on bottom on ebb
- Trolling with recreational-style gear with multiple poles from a smaller vessel may be a feasible alternative

General

- Any gear type requiring pilings (fish wheel, fixed traps) will be expensive and require numerous permits
- Initial gear investment costs for beach seining are approximately \$15K in addition to a main vessel (needed) and skiff (fisher/site specific)
- Initial gear/rigging investment costs for purse seines are approximately \$30-50K in addition to a main seine vessel and seine skiff (both needed)

Summary of Alternative Commercial Gear Testing in the Lower Columbia River, 2009-2012

All Data Preliminary																						
					Effort			Adult Chinook				Adult Coho				Other Catch						
Gear	Season	Year	Date Range	State	# Fishers	Fisher days	# Sets	Catch	Mark Rate	Marked Catch	Average Marked Catch / Set	Catch	Mark Rate	Marked Catch	Average Marked Catch / Set	Steel-head	Sockeye	Chum	Pink	White Sturgeon	Adult Shad	
Purse	Late-Spring	2011	5/31-6/15	OR	2	8	29	269	60%	161	5.6	0	0	0	0.0	5	116	0		7	6668	
		2012	5/31-6/10	OR	1	9	40	324	64%	207	5.2	0	0	0	0.0	69	388	0	1	14	18839	
	Sum				3	17	69	593	62%	368	5.3	0	0	0	0.0	74	504	0	1	21	25507	
Purse	Summer	2011	6/17-7/13	OR	3	30	120	364	55%	202	1.7	0	0	0	0.0	71	495			18	4195	
		2012	6/16-6/29	OR	1	12	48	298	60%	178	3.7	0	0	0	0.0	63	3148	0	0	13	1735	
	Sum					168	662	57%	380	2.3	0	0	0	0.0	134	3643	0	0	31	5930		
Beach	Summer	2011	6/16-7/25	OR	2	22	84	172	59%	102	1.2	0	0	0	0.0	107	141	0		13	245	
		2012	6/16-7/11	OR	3	28	110	166	76%	126	1.1	0	0	0	0.0	79	921	0	1	1	16	
	Sum					194	338	67%	228	1.2	0	0	0	0.0	186	1062	0	1	14	261		
Purse	Fall	2009	8/25-10/20	WA	1	15	70	163	29%	48	0.7	372	58%	215	3.1	54	0	1	1	21	0	
		2010	8/18-11/4	WA	5	151	481	6900	40%	2760	5.7	6085	59%	3590	7.5	975	0	26	0	373	0	
		2011	8/17-10/30	WA	6	181	858	8503	39%	3333	3.9	7667	63%	4838	5.6	1164	1	2	25	80	2	
		2011	9/21-10/31	OR	1	15	60	83	29%	24	0.4	170	80%	136	2.3	7	0	0	1	13	11	
		2012	8/7-Ongoing	OR	2	26	108	557	41%	228	2.1	110	45%	50	0.5	82						
		Sum				15	388	1577	16206	39%	6394	4.1	14404	61%	8829	5.6	2282	1	29	27	487	13
Beach	Fall	2009	8/26-9/26	WA	1	11	44	32	34%	11	0.3	110	61%	67	1.5	17	0	0	0	0	0	
		2010	8/21-10/27	WA	6	181	557	4717	57%	2689	4.8	2724	62%	1689	3.0	1315	0	21	0	3	0	
		2011	8/20-11/4	WA ¹	10	263	1246	5999	51%	3029	2.4	4327	57%	2475	2.0	1728	2	7	17	56	0	
		2011	9/7-10/28	OR	3	30	101	144	41%	59	0.6	117	73%	85	0.8	14	1	4	1	28	3	
		2012	8/7-Ongoing	OR	4	52	217	1509	49%	739	3.4	548	52%	285	1.3	269						
		Sum				24	537	2165	12401	53%	6528	3.0	7826	59%	4601	2.1	3343	3	32	18	87	3
Tangle Net	Fall	2009	10/13-10/27	OR	2	14	56	4	0%	0	0.0	292	79%	232	4.1	2	0	7		5	8	
		2010	10/7-10/30	OR	5	50	204	16	19%	3	0.0	617	76%	467	2.3	5	0	26		51	13	
		2011	10/3-10/22	OR	4	40	155	25	24%	6	0.0	304	76%	231	1.5	7	0	1			4	
		Sum				11	104	415	45	20%	9	0.0	1213	77%	930	2.2	14	0	34	0	56	25
Trap	Fall	2009	8/29-10/25	WA/OR	1	15	15	1	0%	0	0.0	34	78%	26	1.8	0	0	0		0	0	
		2010	8/12-10/29	WA/OR	2	60	100	25	56%	14	0.1	61	74%	45	0.5	4	0	1	0	1	0	
		Sum				3	75	115	26	54%	14	0.1	95	75%	72	0.6	4	0	1	0	1	0
Troll	Fall	2010		OR	2	30	55	18	76%	14	0.2	21	71%	15	0.3	1	0	0	0	0	0	

¹ Some 2011 Oregon beach seine data included in Washington totals