

Request for Input on Walla Walla Basin Pump Exchange

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Indian Reservation

CRPAG Meeting
October 3, 2024



Agenda

1. Introductions and Meeting Objectives
2. Walla Walla Basin Background and Context
3. Bi-State Flow Study Recap
4. Project Overview and Pump Exchange Summary
5. Exchange and Mitigation Considerations
6. Stakeholder Feedback
7. Questions and Discussion

Meeting Objectives for Today

1. Walla Walla Basin Planning Overview
2. Recap of Bi-State Flow Study
3. Present an informal briefing on a potential new future Water Right Application for Withdrawal for Columbia River Pump Exchange
4. Provide an opportunity to raise preliminary questions and provide input related to proposal

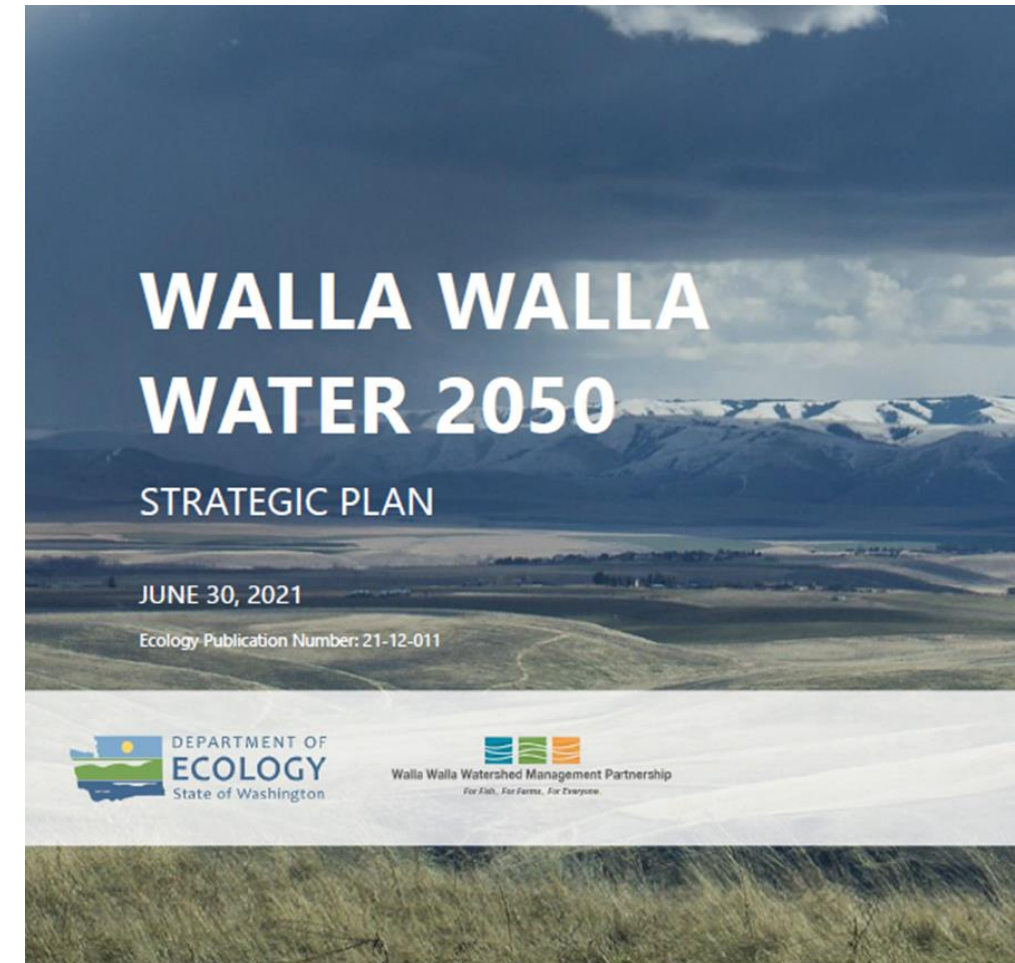
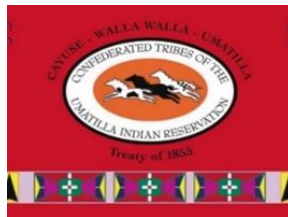
Walla Walla Basin Planning Overview

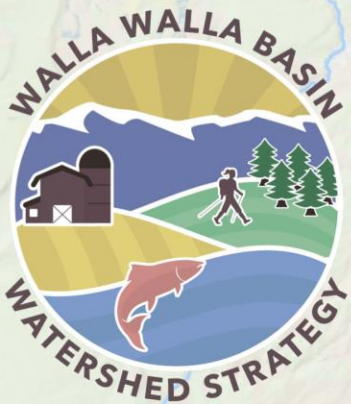


Walla Walla Basin Planning

Walla Walla Basin Strategic Plan

- 30-year effort to improve streamflow and water supplies in the Walla Walla watershed
- Employs an integrated water resource management approach
- Integrates goals and solutions from the basin's diverse stakeholders in both Washington and Oregon





WALLA WALLA BASIN WATERSHED STRATEGY

2020-2050

Near-Term Priority Strategies

FLOODPLAINS AND HABITAT

- Reconnect floodplain and restore channel complexity
- Improve fish passage in Mill Creek
- Protect and improve fish passage at Nursery Bridge on the WW river
- Improve flow and timing of fish passage through Hofer Dam on the Touchet

MONITORING AND METERING

- Develop an overarching monitoring strategy and adaptive management plan
- Expand and fund streamflow gages
- Improve water use metering and reporting

WATER POLICY

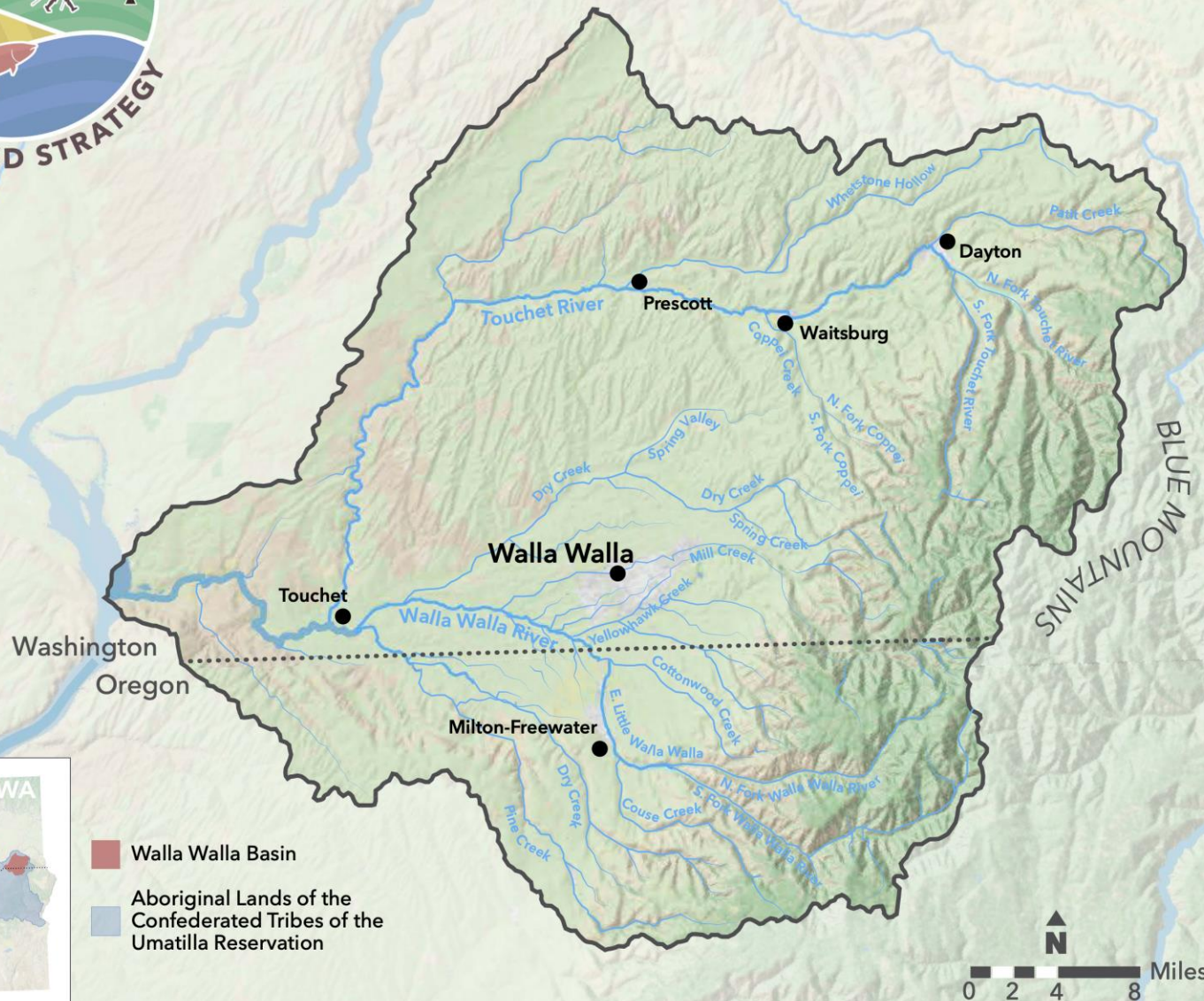
- Improve drought management
- Increase coordination of regulation and management
- Additional Bi-State coordination on water management

STREAMFLOW, GROUNDWATER AND WATER SUPPLY

- Ongoing analyses of the Bi-State Flow Study toward a preferred alternative
- Substitute for basalt wells during low flow periods
- Water rights acquisitions to restore streamflows
- Improve and expand managed aquifer recharge
- Expand and support aquifer storage and recovery

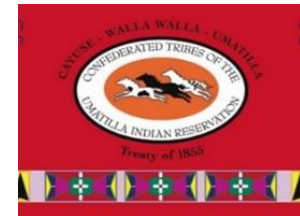
WATER QUALITY

- Increase infiltration of stormwater
- Upgrade Dayton wastewater treatment plant
- Implement conservation tillage and soil erosion Best Management Practices



Walla Walla Basin Planning

- **Strategic Plan implementation**
 - **Bi-State Flow Study**
 - Primary focus on restoring flow in the Walla Walla River
- US BOR Basin Study
 - Development of a Riverware model
 - Evaluate water supply projects to ensure goals are met
 - Bi-State Flow Study to be incorporated with the BOR Study
- USGS Groundwater Basin Study
 - Data collection currently underway
 - Final report scheduled to be published in early 2026
- Bi-State water management framework



Bi-State Flow Study Project Recap



Bi-State Flow Study Recap



Objective of the Bi-State Flow Study

The primary objective of the Flow Study is to improve streamflow in the Walla Walla River mainstem to support harvestable populations of native fish species, while maintaining the long-term viability of agricultural, municipal, commercial, and residential uses of water.

Bi-State Flow Study Recap

Why are we doing this?

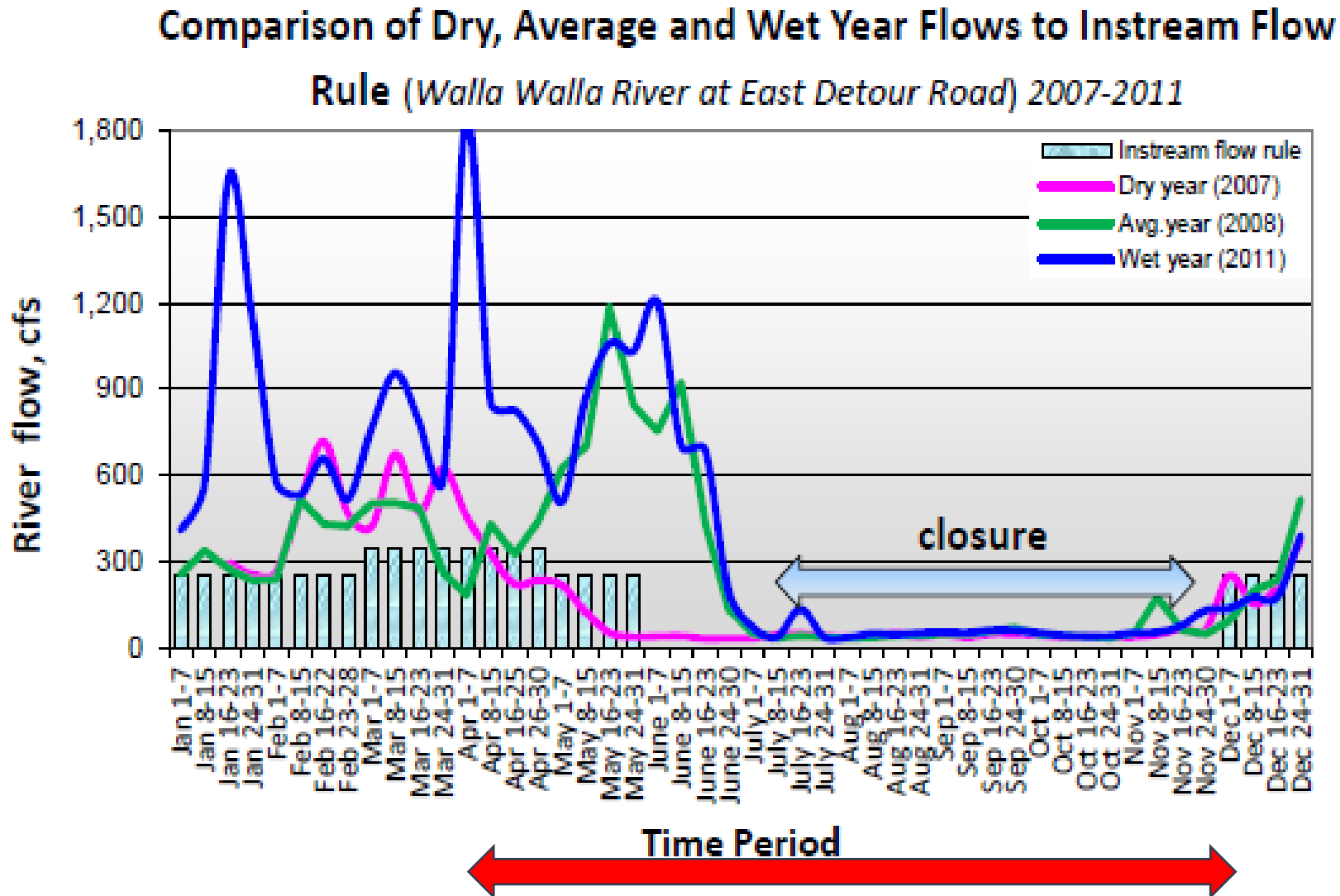
- For the past 100 years, flows in the Walla Walla River have been reduced significantly and some reaches of the river are dry.
- Spring Chinook Salmon were extirpated in the early 1900s.
- Bull Trout and Steelhead were listed as threatened under the Endangered Species Act in the late 1990s.
- The CTUIR have built and are operating a fish hatchery on the South Fork Walla Walla to reintroduce salmon, and more water is needed instream.
- Existing agriculture is central to local communities and the regional economy.

Bi-State Flow Study Recap

How are we doing this?

- The Bi-State Flow Study has been a multiple-year planning project in the Walla Walla Basin.
- The primary objective of the project is to increase and protect water instream from the City of Milton Freewater to the Columbia River.
- This would be accomplished by 'exchanging' water with two irrigation districts in Oregon – the districts would receive water from the Columbia River and, in exchange, would leave their senior surface water in the Walla Walla River.
- Recently, legislation in both states will allow for this water to be protected in Oregon and Washington.

Bi-State Flow Study Recap



New Target Flows

- April 1 – June 15 = 150 cfs
- June 16 – June 30 = 100 cfs
- July 1 – November 30 = 65 cfs

Pump Exchange Project Overview



Columbia River Pump Exchange Project Overview

Columbia River Pump Exchange

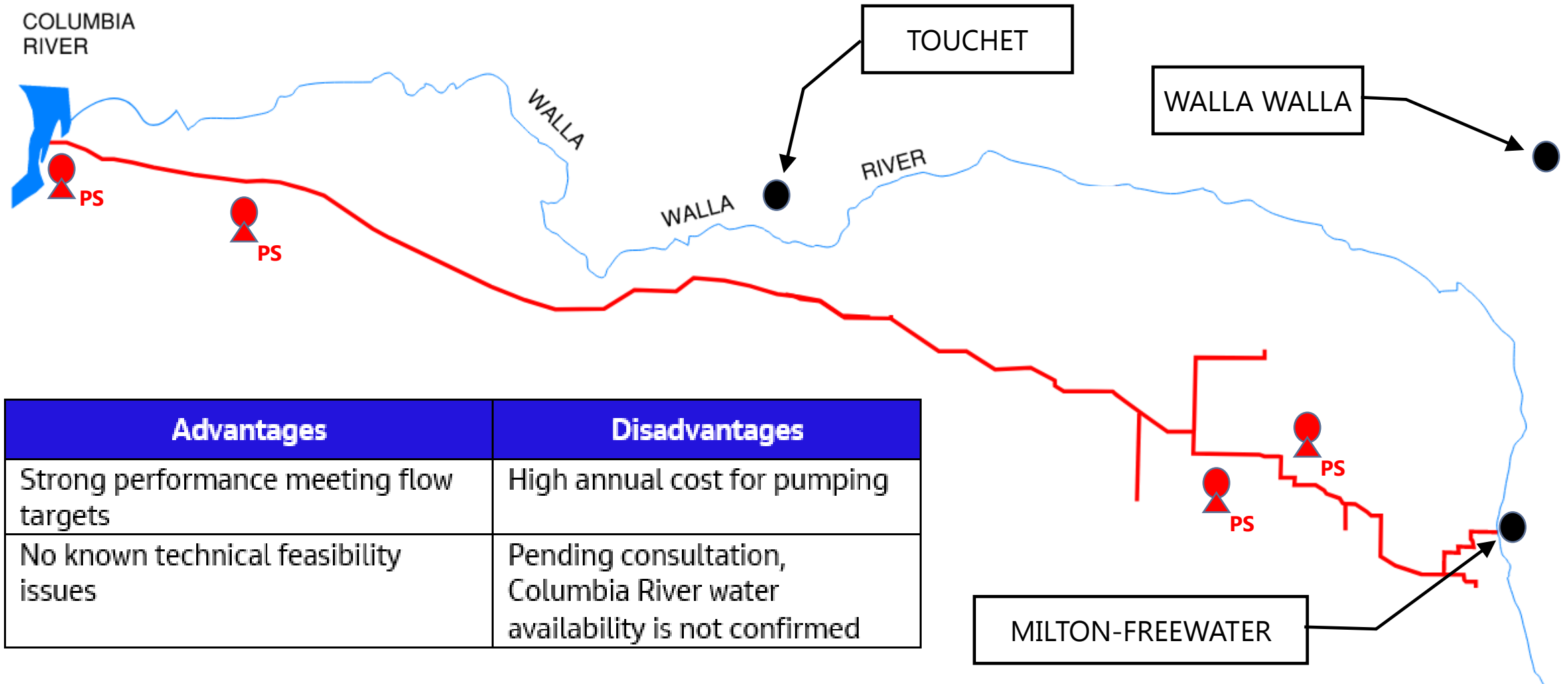
- Concept modeled after Umatilla River Basin Project
- Instead of diverting Walla Walla River water, irrigators would utilize Columbia River Water
- Instream flows would be protected



Salmon swimming up stream in the Umatilla River. (credit: Lynn Ketchum)

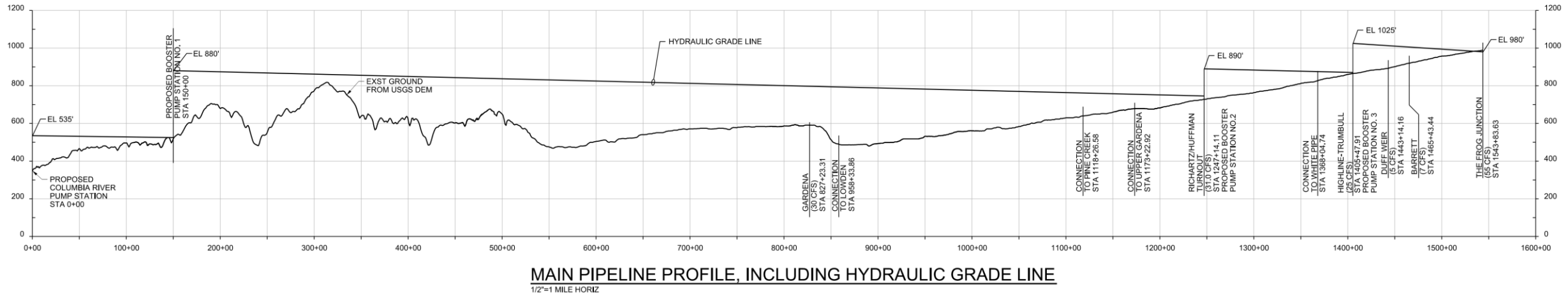


120 cfs Columbia River Pump Exchange



120 cfs Columbia River Pump Exchange

Project Overview



- 39.9 miles of pipeline from 18 – 60 inches in diameter
- One main pump station (3800 hp)
- Three booster pump stations (7600 hp, 2200 hp, 1200 hp)
- Fish screens and intake at the Columbia River
- Total dynamic head of ~880 feet
- Effectively replaces current irrigation flows to restore water to the mainstem WWR for ecological advancements

The System is Dynamic and Complex





We modeled how the pump exchange would perform over different hydrologic conditions.

Meets Target!

Almost Meets Target

Doesn't Meet Target

Project Performance w/ WWRID & HBDIC Replacement

Summary Comparison of Dry, Average, and Wet Stream Flows

In-Stream Attainable Flow Performance (WY 2015 - Dry)																		
Month	Instream Flow Targets (cfs)		Mgt Pt 1 - Milton-Freewater		Mgt Pt 2 - Nursery Bridge		Mgt Pt 3 - Pepper Bridge		Mgt Pt 4 - Beet Road		Mgt Pt 5 - Detour Road		Mgt Pt 6 - McDonald Road		Mgt Pt 7 - Touchet Confluence		Mgt Pt 8 - Pierce RV	
	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target
OCT	65	97	100%	73	100%	57	81%	67	83%	79	86%	63	97%	82	98%	18	98%	
OCT	65	103	100%	131	100%	109	100%	76	100%	101	100%	51	68%	113	82%	35	80%	
NOV	65	110	100%	239	100%	217	100%	101	100%	144	100%	65	98%	169	99%	97	99%	
NOV	65	162	100%	295	100%	273	100%	126	100%	226	100%	65	100%	356	100%	252	100%	
DEC	95	188	100%	320	100%	298	100%	178	100%	309	100%	49	51%	631	93%	371	91%	
DEC	95	258	100%	388	100%	366	100%	297	100%	508	100%	201	100%	1050	100%	892	100%	
JAN	95	330	100%	442	100%	420	100%	362	100%	584	100%	338	100%	1123	100%	1015	100%	
JAN	95	298	100%	434	100%	412	100%	333	100%	569	100%	345	100%	1118	100%	1016	100%	
FEB	120	653	100%	682	100%	660	100%	686	100%	1037	100%	692	100%	1799	100%	1707	100%	
FEB	120	290	100%	329	100%	307	100%	305	100%	471	100%	447	100%	948	100%	875	100%	
MAR	150	188	100%	113	80%	175	86%	129	82%	211	88%	231	89%	432	94%	361	95%	
MAR	150	296	100%	154	100%	178	100%	153	100%	294	100%	241	100%	752	100%	676	100%	
APR	150	226	100%	176	100%	191	100%	151	100%	271	100%	241	100%	615	100%	593	100%	
APR	150	192	100%	186	100%	154	100%	150	99%	219	100%	183	100%	396	100%	361	100%	
MAY	150	164	100%	150	98%	129	100%	136	100%	164	100%	134	89%	242	94%	84	94%	
MAY	150	146	100%	140	98%	120	100%	127	100%	156	100%	135	89%	239	94%	50	93%	
JUN	150	120	100%	109	98%	90	100%	97	100%	117	100%	103	91%	154	94%	-22	93%	
JUN	100	102	100%	82	100%	72	100%	85	100%	96	100%	75	88%	91	90%	-10	90%	
JUL	65	98	100%	73	87%	54	93%	72	95%	76	96%	61	93%	65	93%	4	93%	
JUL	65	101	100%	73	89%	54	96%	76	97%	74	98%	58	88%	59	88%	-1	89%	
AUG	65	100	100%	73	90%	54	96%	70	97%	72	97%	59	86%	55	85%	-1	87%	
AUG	65	102	100%	73	91%	54	93%	71	95%	76	96%	59	89%	58	89%	-6	89%	
SEP	65	116	100%	73	86%	57	87%	84	91%	92	91%	86	100%	88	100%	27	100%	
SEP	65	113	100%	73	86%	57	88%	75	90%	85	84%	65	93%	69	93%	17	94%	

DRY

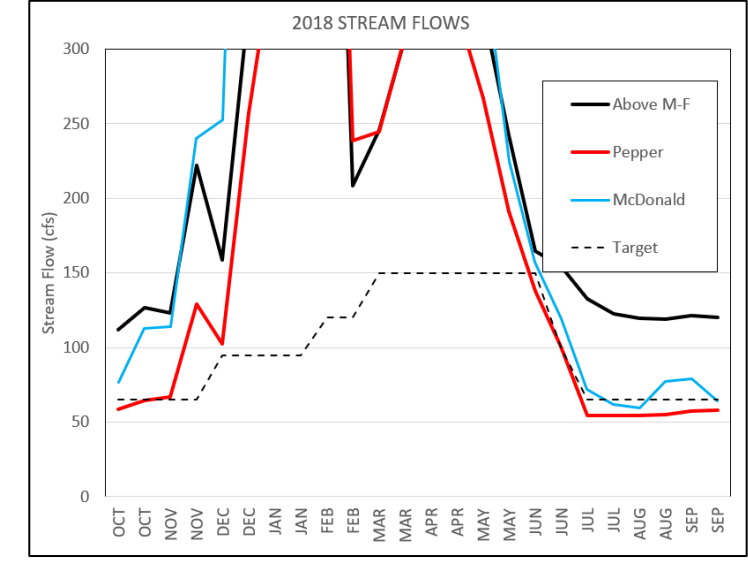
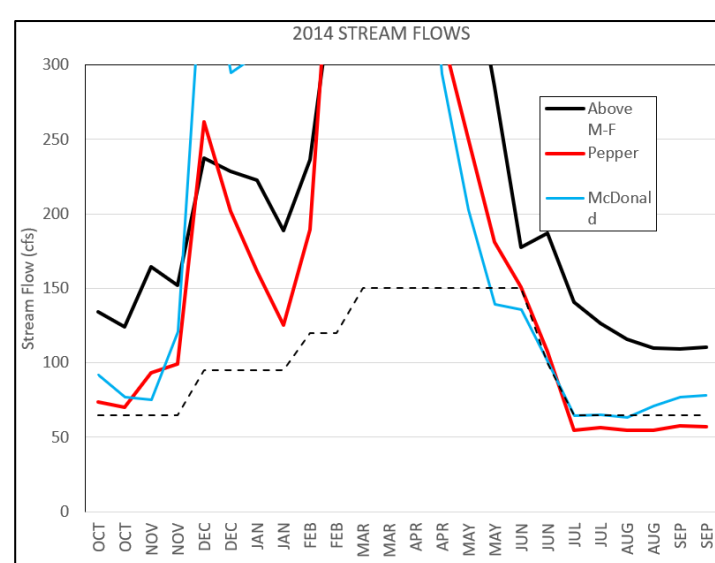
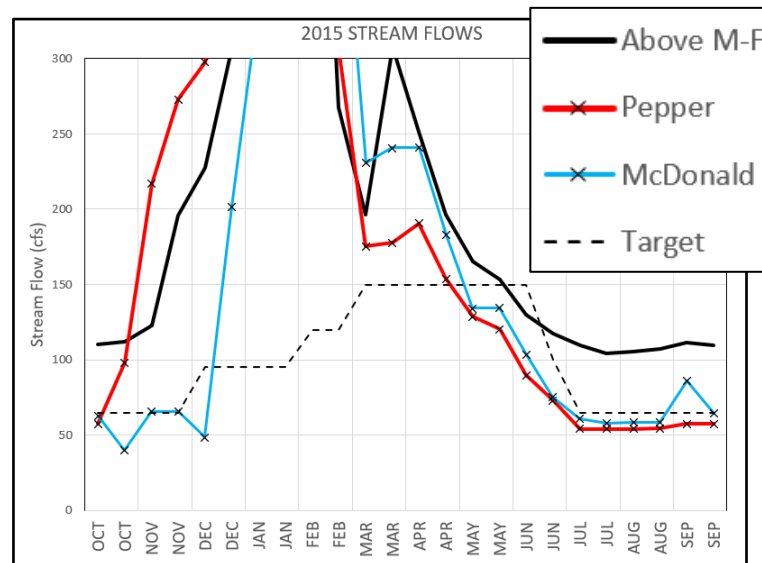
WY 2014 - Average)															
Mgt Pt 2 - Nursery Bridge		Mgt Pt 3 - Pepper Bridge		Mgt Pt 4 - Beet Road		Mgt Pt 5 - Detour Road		Mgt Pt 6 - McDonald Road		Mgt Pt 7 - Touchet Confluence		Mgt Pt 8 - Pierce R			
WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target		
87	100%	74	100%	67	100%	115	100%	92	100%	195	100%	62	100%		
85	100%	70	100%	62	94%	92	97%	77	100%	127	100%	48	100%		
115	100%	93	100%	65	99%	108	99%	75	99%	162	100%	61	100%		
121	100%	99	100%	65	99%	145	100%	121	100%	307	100%	129	100%		
284	100%	262	100%	232	100%	378	100%	393	100%	758	100%	1071	100%		
224	100%	202	100%	208	100%	293	100%	295	100%	618	100%	391	100%		
183	100%	161	100%	197	100%	316	100%	307	100%	747	100%	451	100%		
147	100%	125	100%	168	100%	259	100%	318	100%	581	100%	367	100%		
211	100%	189	100%	291	100%	393	100%	466	100%	832	100%	547	100%		
468	100%	446	100%	519	100%	639	100%	877	100%	1771	100%	1637	100%		
847	100%	825	100%	1018	100%	1381	100%	1418	100%	2996	100%	2888	100%		
431	100%	409	100%	446	100%	659	100%	581	100%	1562	100%	1202	100%		
468	100%	443	100%	385	100%	586	100%	494	100%	1342	100%	1040	100%		
344	100%	319	100%	271	100%	439	100%	294	100%	1000	100%	601	100%		
274	100%	249	100%	247	100%	372	100%	203	100%	815	100%	416	100%		
150	100%	181	100%	193	100%	236	100%	139	93%	449	98%	195	97%		
158	100%	151	100%	145	96%	168	97%	136	90%	219	94%	59	93%		
115	100%	107	100%	112	100%	139	100%	101	100%	203	100%	86	100%		
73	85%	54	83%	76	87%	80	88%	64	98%	97	98%	53	99%		
73	100%	57	85%	79	89%	69	88%	65	99%	79	99%	16	99%		
73	100%	55	90%	70	92%	69	91%	64	96%	66	97%	10	97%		
73	100%	55	99%	78	99%	86	98%	71	100%	90	100%	25	100%		
73	100%	57	97%	81	98%	89	97%	77	100%	89	100%	29	100%		
73	100%	57	88%	85	92%	92	91%	78	100%	85	100%	22	100%		

AVERAGE

WY 2018 - Wet															
Month	Mgt Pt 2 - Nursery Bridge		Mgt Pt 3 - Pepper Bridge		Mgt Pt 4 - Beet Road		Mgt Pt 5 - Detour Road		Mgt Pt 6 - McDonald Road		Mgt Pt 7 - Touchet Confluence		Mgt Pt 8 - Pierce RV		
	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	WWR Flow (cfs)	% Min Target	
OCT	73	100%	58	89%	56	86%	103	92%	77	100%	105	100%	24	100%	
NOV	77	100%	64	97%	59	89%	126	95%	113	100%	196	100%	106	100%	
DEC	80	100%	67	100%	60	90%	140	96%	114	100%	228	100%	140	100%	
JAN	113	100%	129	100%	130	100%	240	100%	240	100%	569	100%	446	100%	
FEB	103	100%	102	100%	150	100%	215	100%	252	100%	473	100%	380	100%	
MAR	111	100%	257	100%	486	100%	684	100%	744	100%	1360	100%	1110	100%	
APR	261	100%	372	100%	647	100%	877	100%	1193	100%	1976	100%	1904	100%	
MAY	364	100%	342	100%	586	100%	747	100%	853	100%	1704	100%	1580	100%	
JUN	762	100%	740	100%	808	100%	1286	100%	1699	100%	2486	100%	2415	100%	
JUL	260	100%	238	100%	213	100%	493	100%	463	100%	1113	100%	917	100%	
AUG	266	100%	244	100%	238	100%	504	100%	482	100%	1190	100%	910	100%	
SEP	330	100%	308	100%	423	100%	438	100%	633	100%	1423	100%	1189	100%	
OCT	448	100%	423	100%	750	100%	837	100%	1086	100%	2053	100%	1729	100%	
NOV	352	100%	327	100%	609	100%	703	100%	824	100%	1544	100%	1310	100%	
DEC	151	100%	267	100%	326	100%	406	100%	365	100%	847	100%	631	100%	
JAN	151	100%	191	100%	192	100%	249	100%	225	100%	475	100%	337	100%	
FEB	154	98%	138	100%	137	91%	174	93%	157	96%	267	97%	127	97%	
MAR	118	97%	101	98%	109	100%	134	100%	119	100%	192	100%	100	100%	
APR	73	81%	54	83%	74	87%	89	89%	72	100%	103	100%	52	100%	
MAY	73	80%	54	83%	69	86%	76	88%	62	95%	72	95%	12	96%	
JUN	73	82%	55	83%	67	86%	70	79%	59	89%	60	90%	-3	90%	
JUL	73	83%	55	84%	69	87%	78	87%	77	100%	83	100%	15	100%	
AUG	73	86%	58	88%	67	89%	74	81%	79	100%	87	100%	34	100%	
SEP	73	87%	58	88%	56	85%	65	88%	64	97%	70	98%	2	97%	

WET

STREAM FLOW



Pump Exchange Considerations



Pump Exchange Summary

1. **Proposed new Columbia River Pump Exchange**

- In exchange for existing Walla Walla River irrigation water rights (Oregon)
- Bypass streamflow at Walla Walla River / Little Walla Walla River diversion
- Bypassed streamflow protected to Columbia River
- Pump Columbia River water up into Walla Walla Basin

2. **Approximate Proposed Columbia River Water Right Elements**

- Instantaneous withdrawal of up to 120 cubic feet per second (cfs)
- Annual volume of 35,000 acre-feet (ac-ft)
- Purpose of Irrigation (continuous supply)
- Point of Diversion near Wallula Junction (below Walla Walla River mouth)

Exchange and Mitigation Considerations



Existing Water Rights

Exchange Considerations

1. Further Columbia/Walla Walla River Impact Analysis

- Refined seepage analysis part of the USGS Groundwater Study
- BOR Basin Study to refine potential outcomes and assumptions
- Exchange is at the existing water right POD – some losses due to seepage and evaporation expected from POD to Columbia River
- Significant uplift in river function and condition in the Walla Walla River

2. Washington State Mitigation Standards

- Supreme Court Case Sara Foster v. Ecology, City of Yelm, WA PCHB (2015)
- Ecology can't waive impacts for typical instream flow rule impacts
- Columbia River rule is different because of consultation requirements
- WAC 173-563-020: "The department will consult with appropriate local, state, and federal agencies and Indian tribes in making this evaluation."

Discussion and Sequencing

1. Request for initial feedback within 60 days (October 28th)
2. Parallel storage project evaluation on-going
3. Informal outreach (ongoing)
4. BOR Basin Study Integration and Programmatic Environmental Impact Statement (PEIS) pending
 - a. Scoping and outreach
 - b. Selection of a Preferred Alternative
5. File water right application
6. Formal consultation on application

Questions and Discussion

