

Fish Barrier Removal Board

Technical Review Team

Stacy Polkowske

January 17, 2017

Technical Review Team (TRT) Overview

- Purpose
- Roles & Responsibilities
- Project Review Process
- Project Development Process
- Fish Passage Standards & Expectations

TRT Purpose

- Funded projects meet fish passage criteria and FBRB expectations.
- Provide technical assistance for developing projects.

Roles & Responsibilities

- Primary
 - WDFW Fish Passage Biologist
 - WDFW Habitat Engineer
 - WDFW Area Habitat Biologist
- Secondary
 - WDFW FBRB Program Manager
 - RCO FBRB Grant Manager

Funded Project Review Process

- Initial site visit
 - Discuss and confirm preferred alternative design
- 30% design review
- 60% design review
- 90% design review (optional)

Project Development Process

- Technical assistance requested by project sponsors or other nominating entities
- May include:
 - Site visits
 - Culvert assessment
 - Project identification & prioritization
 - Conceptual design alternates
 - Cost estimation
 - Site & stream information

Fish Passage Standards & Expectations

- Alternative Preference:
 - Abandonment
 - Full-span Bridge
 - Stream simulation culvert
 - Other designs considered in extraordinary circumstances (no slope, hydraulic, alternative)
- Must meet applicable WAC rules and Water Crossing Design Guidelines recommendations

Purpose

The FBRB Technical Review Team (TRT) will ensure that funded projects meet fish passage design standards and the expectations of the FBRB grant program. Since most of the funded projects for the 2017-19 biennium were at a conceptual design level at the time of board approval, it is necessary to have a TRT in place to provide project sponsors technical assistance and review of project designs prior to permitting and implementation. The TRT will also be available to provide technical assistance to project sponsors during project development and solicitation.

Roles and Responsibilities of the TRT

The TRT will consist of the following WDFW and RCO staff:

- WDFW Fish Passage Biologist – Each FBRB project will have an assigned fish passage biologist.
- WDFW Habitat Engineer – Each FBRB project will have an assigned habitat engineer.
- WDFW Area Habitat Biologist – This will be the habitat biologist assigned to the project area.
- WDFW FBRB Program Manager
- RCO FBRB Grant Manager

The WDFW Fish Passage Biologist will be the primary TRT contact for the project sponsor from project development and scoping during solicitation thru project ranking and implementation. The Fish Passage Biologist will coordinate with the other TRT members accordingly for site visits, design review and providing comments. They will be the statewide FBRB program representative assigned to specific Salmon Recovery Regions and Coordinated Pathway projects. They will maintain clear and open communication about project status with the project sponsors, TRT members, the FBRB members and other invested stakeholders.

The WDFW Area Habitat Biologist will be responsible for issuing the HPA permit for the FBRB projects. At a minimum, they will be involved in the initial TRT site visit to discuss and confirm a preferred alternative for the site, and the 30% design review and commenting period. For more complicated or controversial projects, they may also be involved in the 60% and/or 90% review.

The WDFW Habitat Engineer will provide technical design review to ensure the preferred alternative meets fish passage design criteria and expectations. At a minimum, they will be involved in the initial TRT site visit to discuss and confirm a preferred alternative for the site, and the 30% and 60% design review and commenting periods. For more complicated or controversial projects, the Habitat Engineer will provide additional technical assistance and review at the request of the Fish Passage Biologist.

The WDFW FBRB Program Manager will provide general support and guidance for TRT members as needed. The Program Manager will track progress of all funded projects, review designs and comments, and troubleshoot any design/permitting or funding issues that may arise. They will help ensure statewide consistency and success in meeting programmatic expectations. They will also be the lead liaison between the WDFW Fish Passage Division and the FBRB, including program reporting and overseeing implementation of FBRB policies.

The RCO Grant Manager will administer all the FBRB grant agreements as described in the FBRB Operations Manual. At a minimum, they will be invited to participate in the initial TRT site visit to discuss and confirm a preferred alternative for the site, and the 30% design review and commenting period. Their level of TRT participation is at their discretion and preference. Their inclusion in the TRT will help facilitate a better understanding of the project they are administering and overall program communication and success.

Funded Project Review Process

Funded Project Review - The TRT will provide technical assistance to sponsors to ensure that funded projects meet the required fish passage design criteria of the WAC, the recommendations of the WCDG, and the expectations of the FBRB grant program. Once the project is selected and awarded funding, the TRT will meet with the project sponsor on site to discuss project alternatives and confirm a preferred alternative for the project site. The TRT will review project design plans and provide comments at 30% and 60% design levels. Given the aggressive implementation timeline for these projects, the TRT will strive to review and submit design comments to the project sponsor within two weeks of receiving the design plans. For more complicated or controversial projects a 90% design review may be requested by the TRT. Project coordination with the TRT will ensure streamlined HPA permitting. It is the responsibility of the project sponsor to notify and request a TRT review of design plans when they are available. The primary TRT contact for project sponsors will be the assigned WDFW Fish Passage Biologist. The Fish Passage Biologist will coordinate with the other TRT members.

Project Development Process

The TRT will be available upon request to provide technical assistance to project sponsors during project development and solicitation. Technical assistance may include: site visits, culvert assessment, project identification and prioritization, conceptual design alternatives, cost estimation, and site and stream information. The primary TRT contact for sponsors will be the assigned WDFW Fish Passage Biologist. The WDFW Fish Passage Biologist will then coordinate with the other appropriate TRT members.

Fish Passage Standards and Expectations

It is the expectation of the FBRB that the fish passage barrier correction projects will meet the applicable provisions of the WAC and the recommendations of the WCDG. In order of preference, the FBRB prefers: A) the crossing to be abandoned, B) the barrier to be replaced with a full-span bridge, C) the barrier to be replaced with a stream simulation culvert, D) in extraordinary circumstances other design methodologies (no slope, hydraulic, etc.) may be approved by the TRT on a case-by-case basis.

Governor's Budget Request

Fish Barrier Removal Board

January 17, 2017

Budget Request Discussion

- Overview of the Governor's Budget Request
- Potentially funded projects
 - Refresher
 - Project issues

Budget Request Overview

- Proposed 2017-19 and 2017 Supplemental Capital Appropriations Bill, Section 3211
- Appropriation: \$19,747,000
 - Direct & Indirect Costs
- 13 Projects
 - 2 Coordinated
 - 11 Watershed
 - 42.8 miles of linear gain

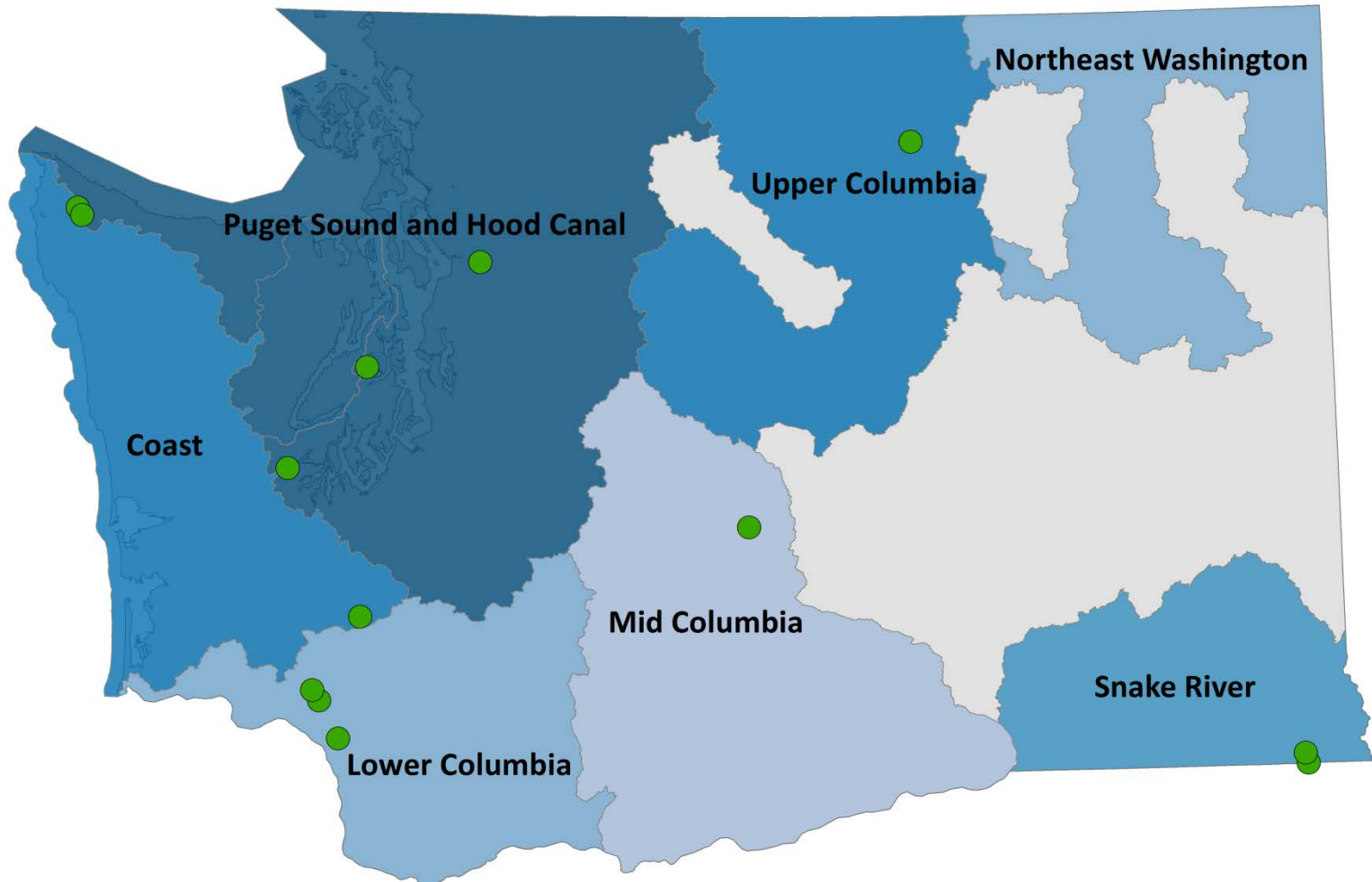
1	Prior Biennia (Expenditures)	\$0
2	Future Biennia (Projected Costs)	\$16,000,000
3	TOTAL	\$20,000,000
4	<u>NEW SECTION.</u> Sec. 3210. FOR THE RECREATION AND CONSERVATION	
5	FUNDING BOARD	
6	Washington Coastal Restoration Initiative (30000420)	
7	Appropriation:	
8	State Building Construction Account—State	\$12,500,000
9	Prior Biennia (Expenditures)	\$0
10	Future Biennia (Projected Costs)	\$45,000,000
11	TOTAL	\$57,500,000
12	NEW SECTION. Sec. 3211. FOR THE RECREATION AND CONSERVATION	
13	FUNDING BOARD	
14	Fish Barrier Removal Board (30000421)	
15	The appropriation in this section is provided solely for the	
16	following list of projects:	
17	Chico Creek, Suquamish Tribe	\$3,785,000
18	Johnson Creek, North Olympic Salmon Coalition	\$3,008,000
19	Buford Creek, Nez Perce Tribe or Asotin C.D.	\$4,721,000
20	Middle Fork Newaukum, Lewis County	\$572,000
21	Unnamed Tributary to Arkansas Creek, Cowlitz County	\$285,000
22	Coleman Creek, Kittitas Conservation District	\$771,000
23	Catherine Creek, Sound Salmon Solutions	\$566,000
24	Coffee Creek, Mason County	\$327,000
25	Johnson Creek, Trout Unlimited/CCT	\$544,000
26	Baxter Creek, Cowlitz County	\$2,181,000
27	Turner Creek, Cowlitz County	\$1,090,000
28	Cottonwood Creek, Asotin Conservation District	\$62,000
29	Unnamed Tributary to Johnson Creek, Clallam County	\$1,835,000
30	Appropriation:	
31	State Building Construction Account—State	\$19,747,000
32	Prior Biennia (Expenditures)	\$0
33	Future Biennia (Projected Costs)	\$40,000,000
34	TOTAL	\$59,747,000

List of 13 Projects

- Chico Creek
- Johnson Cr
- Buford Cr
- Middle Fork Newaukum
- Trib to Arkansas Cr
- Coleman Cr
- Catherine Cr
- Coffee Cr
- Johnson Cr
- Baxter Cr
- Turner Cr
- Cottonwood Cr*
- Trib to Johnson Cr

* Funding request for design only during 2017-19 Biennium

Map of the Top 13



Chico Creek



- Ownership: Kitsap County
- Passability: 67% / Drop
- BFW: 31 ft
- Gain to next barrier: 10.8 miles
- Allocated Cost: \$3,472,000
 - \$3.8 million for all restoration actions
 - Hard to distinguish what is for fish passage vs other restoration
- Current proposal notches multiple weirs and leaves some in place
 - Potential for them to become barriers in the future?

Johnson Creek (Upper Hoko)



- Ownership: Private (Hawthorn Timberlands LLC)
- Passability: 33% / drop
- BFW: 32 ft
- Gain to next barrier: 6.2 miles
- Cost: \$2,759,000

Buford Creek



- Ownership: State
- Passability: 67% / Velocity
- BFW: 30 ft
- Gain to next barrier: 3.5 miles
- Cost: \$3,100,000

Middle Fork Newaukum River



- Ownership: County
- Passability: 33%
- BFW: 16.8 ft
- Gain to next barrier: 2.5 miles
- Cost: \$525,000

Unnamed to Arkansas Creek



- Ownership: County
- Passability: 0%
- BFW: 10.6 ft
- Gain to next barrier: 2.2 miles
- Cost: \$261,000

Coleman Creek



- Ownership: State
- Passability: 33% / Drop
- BFW: 29 ft
- Gain to next barrier: 1.75 Miles
- Cost: \$606,762

Catherine Creek



- Ownership: City of Lake Stevens
- Passability: 33% / Velocity
- BFW: 20 ft
- Gain to next barrier: 1.3 miles
- Cost: \$519,500

Coffee Creek



- Ownership: Mason County
- Passability: 0% / Slope
- BFW: 10.8 ft
- Gain to next barrier: 1.1 miles
- Cost: \$300,000

Johnson Creek (Upper Columbia)



- Ownership: City
- Passability: 33% / Slope
- BFW: 13.5 ft
- Gain to next barrier: 0.17 miles
- Cost: \$499,000

Baxter Creek



- Ownership: Cowlitz County
- BFW: 19 ft
- Passability: 0% / Slope, Drop, and Velocity
- Gain to next barrier: 6 Miles
- Cost: \$2,001,000
- Previous issues with easements from adjacent landowners

Turner Creek



- Ownership: Cowlitz County
- Passability: 0% / Slope and Drop
- BFW: 18 ft
- Gain to next barrier: 2.6 Miles
- Cost: \$1,000,000

Cottonwood Creek



- Ownership: Asotin County
- Passability: 0% / Slope
- BFW: 17.4 ft
- Gain to next barrier: 2.5 miles
- Cost: \$572,000

Unnamed Trib to Johnson Cr (Upper Hoko)



- Ownership: Clallam County
- Passability: 0% / Drop
- BFW: 20 ft
- Gain to next barrier: 2.1 miles
- Cost: 1,683,000

Questions & Discussion

Johnson Creek trib to Okanogan River

Site #1, Copper St



- Ownership: City of Riverside
- Passability: 33% / Slope
- BFW: 13.5 ft
- Gain to next barrier: 0.17 miles
- Cost: \$499,000

Johnson Creek trib to Okanogan River

Site #2, State St



- Ownership: City of Riverside
- Passability: 33% / Slope
- BFW: 17 ft
- Gain to next barrier: 0.07 miles
- Cost: \$550,951

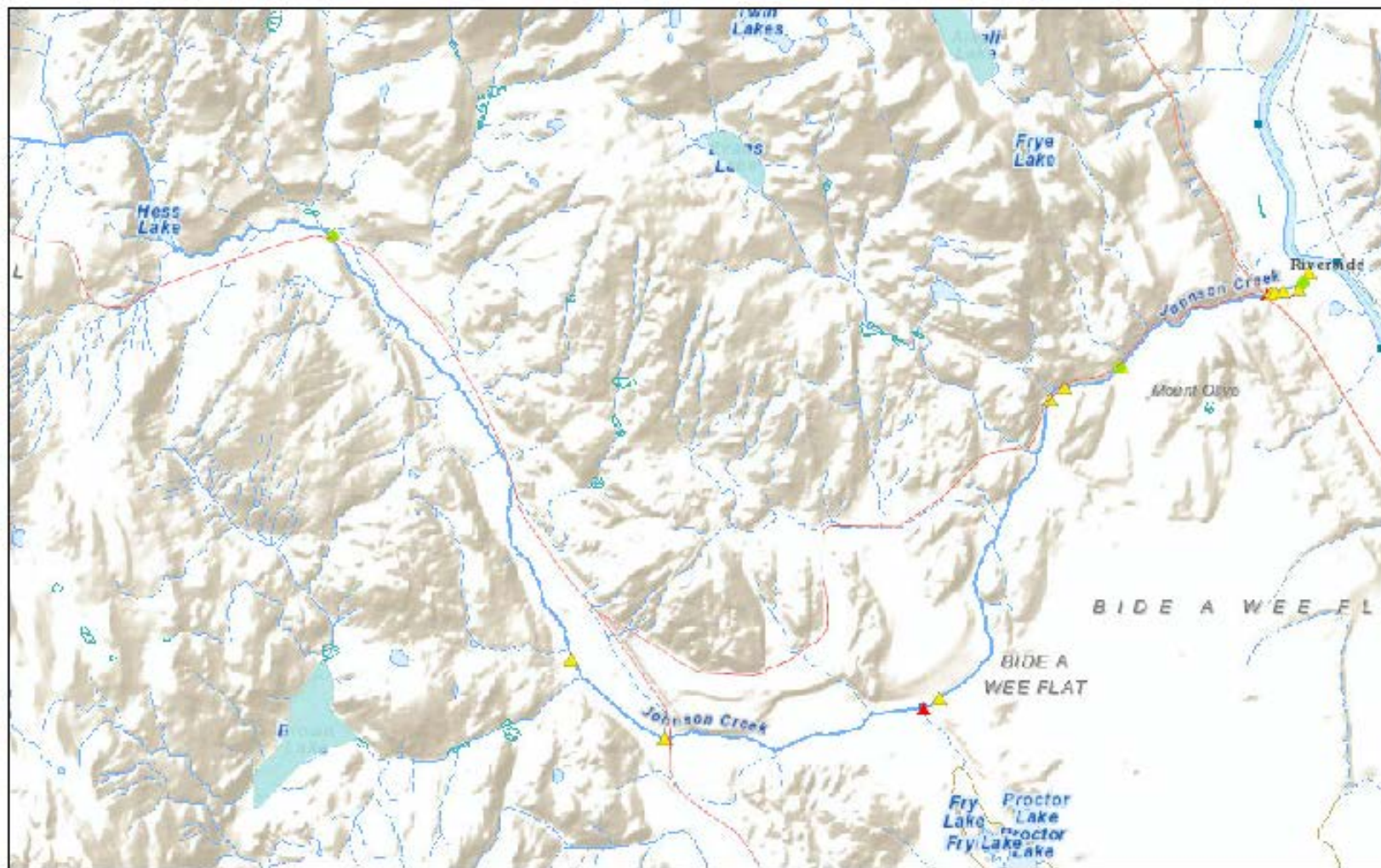
Johnson Creek trib to Okanogan River

Site #3, US 97



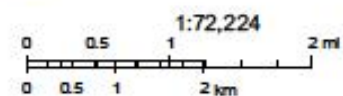
- Ownership: State
- Passability: 33% / Slope
- BFW: 19 ft
- Gain to next barrier: 1 mile
- Cost: \$973,851

Johnson Cr Watershed



January 13, 2017

- | | | |
|---------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------|
| ● Not a barrier | ▲ Barrier, Unknown Percent Passable | ⊙ Corrected Barriers |
| ▲ Partial Fish Passage Blockage | ■ Diversion | |
| ▲ Total Fish Passage Blockage | ● Unknown | |



USGS/NHD
Washington Department of Fish and Wildlife, Habitat Program, Restoration

Lower Johnson Cr



January 13, 2017

Lines

— Override 1

● Not a barrier



Partial Fish Passage Blockage



Total Fish Passage Blockage



Barrier, Unknown Percent Passable



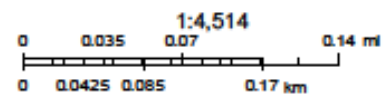
Diversion



Unknown



Corrected Barriers




USGS/NHD
Washington Department of Fish and Wildlife, Habitat Program, Restoration



**LOWER JOHNSON
CREEK PROFILE**

DESIGNED BY:	.	.
DRAWN BY:	W CORNWALL, PE	1/9/17
CHECKED BY:	.	.

<p>Colville Confederated Tribes Fish & Wildlife Department 25B Mission Road Omak, WA 98841</p> 	STREAM PROFILE VIEW_PRELIMINARY	1 of 1
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WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID: 114JC001	Stream: Johnson Cr	WRIA: 49.0202
Latitude: 48.502171	Tributary To: Okanogan R	Fish Use Potential: Yes
Longitude: -119.504691		

Data Source: Okanogan CD
Field Crew: Collins/Kistler
Review Date: 4/13/2016

Culvert Details							Level A Parameters					
ID	Shape	Material	Span	Rise	Length	WDIC	Apron	WSDrop	Location	Countersunk	Backwater	Slope (%)
1.1	RND	CST	1.68	1.68	13.60	0.31	NO	0.00		No	0	3.20

All dimensions in meters

Channel Description	
Toe Width (m):	<input type="text" value="2.24"/>
Average Width (m):	<input type="text" value="4.10"/>
Culvert/Stream Width Ratio:	<input type="text" value="0.41"/>
Plunge Pool	
Length (m):	<input type="text" value="0.00"/>
Max Depth (m):	<input type="text" value="0.00"/>
OHW Width (m):	<input type="text" value="0.00"/>
Road	
Fill Depth (m):	<input type="text" value="1.00"/>



Assessment Results			
Barrier:	<input type="text" value="Yes"/>	Passability (%):	<input type="text" value="33"/>
Reason:	<input type="text" value="Slope"/>	Fishway Present:	<input type="text" value="No"/>
		Method:	<input type="text" value="Level A"/>
		Recheck:	<input type="text"/>

Comments

Potential Habitat Gain			
Survey Type:	<input type="text" value="FS"/>	Spawning (sq m):	<input type="text" value="87"/>
Significant Reach:	<input type="text" value="Yes"/>	Rearing (sq m):	<input type="text" value="161"/>
		Length (m):	<input type="text" value="146"/>
		PI Total:	<input type="text" value="4.50"/>

WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID: 992055	Stream: Johnson Cr	WRIA: 49.0202
Latitude: 48.5008612	Tributary To: Okanogan R	Fish Use Potential: Yes
Longitude: -119.5058594		

Data Source: WDFW
Field Crew: Collins/Kistler
Review Date: 4/13/2016

Culvert Details							Level A Parameters					
ID	Shape	Material	Span	Rise	Length	WDIC	Apron	WSDrop	Location	Countersunk	Backwater	Slope (%)
1.1	RND	CST	1.73	1.73	15.30	0.31	NO	0.00		No	0	2.40

All dimensions in meters

Channel Description	
Toe Width (m):	<input type="text" value="3.2"/>
Average Width (m):	<input type="text" value="5.16"/>
Culvert/Stream Width Ratio:	<input type="text" value="0.34"/>
Plunge Pool	
Length (m):	<input type="text" value="-999.99"/>
Max Depth (m):	<input type="text" value="-99.99"/>
OHW Width (m):	<input type="text" value="-999.99"/>
Road	
Fill Depth (m):	<input type="text" value="1.00"/>



Assessment Results			
Barrier:	<input type="text" value="Yes"/>	Passability (%):	<input type="text" value="33"/>
Reason:	<input type="text" value="Slope"/>	Fishway Present:	<input type="text" value="No"/>
		Method:	<input type="text" value="Level A"/>
		Recheck:	<input type="text"/>

Comments

Potential Habitat Gain			
Survey Type:	<input type="text" value="TD"/>	Spawning (sq m):	<input type="text" value="-999"/>
Significant Reach:	<input type="text" value="Yes"/>	Rearing (sq m):	<input type="text" value="-999"/>
		Length (m):	<input type="text" value="-999"/>
		PI Total:	<input type="text"/>

WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID: 990217	Stream: Johnson Cr	WRIA: 49.0202
Latitude: 48.50066	Tributary To: Okanogan R	Fish Use Potential: Yes
Longitude: -119.50893		

Data Source: WDFW
Field Crew: Collins/Kistler
Review Date: 4/16/2016

Culvert Details							Level A Parameters					
ID	Shape	Material	Span	Rise	Length	WDIC	Apron	WSDrop	Location	Countersunk	Backwater	Slope(%)
1.1	SQSH	CST	1.87	1.07	29.50	0.08	NO	0.40	Outlet	No	0	4.30

All dimensions in meters

Channel Description	
Toe Width (m):	-99.99
Average Width (m):	5.72
Culvert/Stream Width Ratio:	0.33
Plunge Pool	
Length (m):	-999.99
Max Depth (m):	-99.99
OHW Width (m):	-999.99
Road	
Fill Depth (m):	3.00



Assessment Results			
Barrier:	Yes	Passability (%):	33
Reason:	WS Drop	Fishway Present:	No
Method:	Level A		
Recheck:			

Comments
Trash rack upstream. Hess Lake at headwaters.

Potential Habitat Gain			
Survey Type:	ETD	Spawning (sq m):	1,929
Significant Reach:	Yes	Rearing (sq m):	10,566
		Length (m):	11,104
		PI Total:	10.22

**PROPOSED 2017-19 AND
2017 SUPPLEMENTAL CAPITAL
APPROPRIATIONS BILL**

**Governor Jay Inslee
December 14, 2016**

1	Prior Biennia (Expenditures)	\$0
2	Future Biennia (Projected Costs)	\$16,000,000
3	TOTAL	\$20,000,000

4 NEW SECTION. **Sec. 3210. FOR THE RECREATION AND CONSERVATION**
5 **FUNDING BOARD**

6 Washington Coastal Restoration Initiative (30000420)

7 Appropriation:

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32	Prior Biennia (Expenditures)	\$0
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Fish Barrier Removal Board
2017-2019 Funding Proposal

Rank	Strategy	Rank w/in Package	Recovery Region	Stream Name	Legislative District	Watershed (HUC 10)	County	Project Sponsor	Site ID	Ownership	Linear Gain (miles)	Project Cost	Budget Request	All Projects Running Total
1	Coordinated 1	1	Puget Sound	Chico Creek	35	Jllala Valley Fronta	Kitsap	Suquamish Tribe	15.0229 1.00	County	10.8	\$3,472,000	\$3,784,978	\$3,784,978
2	Watershed 1	1	Puget Sound	Johnson Creek	24	Upper Hoko	Clallam	North Olympic Salmon Coalition	R261020014604	Private	6.2	\$2,759,000	\$3,007,706	\$6,792,684
3	Watershed 1	1	Snake River	Buford Creek	9	Grande Ronde	Asotin	Nez Perce Tribe or Asotin C.D.	990048	State	3.5	\$4,515,417	\$4,720,452	\$11,513,136
4	Watershed 1	1	WA Coast	Middle Fork Newaukum	20	Newaukum	Lewis	Lewis County	021(45011)(07070)	County	2.5	\$525,000	\$572,325	\$12,085,461
5	Watershed 1	1	Lower Columbia	Unnamed Tributary to Arkansas C	19	Lower Cowlitz	Cowlitz	Cowlitz County	106c0042	County	2.2	\$261,000	\$284,527	\$12,369,989
6	Watershed 1	1	Mid Columbia	Coleman Creek	12	Wilson/Cherry	Kittitas	Kittitas Conservation District	Col03.41	State	1.8	\$706,762	\$770,472	\$13,140,461
7	Watershed 1	1	Puget Sound	Catherine Creek	44	Little Pilchuck	Snohomi	Sound Salmon Solutions	993471	City	1.3	\$519,500	\$566,330	\$13,706,791
8	Watershed 1	1	Puget Sound	Coffee Creek	35	Goldsborough	Mason	Mason County	115 MC182	County	1.1	\$300,000	\$327,043	\$14,033,834
9	Watershed 1	1	Upper Columbia	Johnson Creek	7	Okanogan	Okanoga	Trout Unlimited/CCT	114JC001	City	0.2	\$499,000	\$543,982	\$14,577,815
10	Watershed 1	2	Lower Columbia	Baxter Creek	19	Lower Cowlitz	Cowlitz	Cowlitz County	106c0048	County	6.0	\$2,001,000	\$2,181,377	\$16,759,192
11	Coordinated 1	2	Lower Columbia	Turner Creek	20	Coweeman	Cowlitz	Cowlitz County	106c0152	County	2.6	\$1,000,000	\$1,090,144	\$17,849,336
12	Watershed 1	2	Snake River	Cottonwood Creek	9	Grande Ronde	Asotin	Asotin Conservation C	602004	County	2.5	\$57,200	\$62,356 *	\$17,911,692
13	Watershed 1	2	Puget Sound	Unnamed Tributary to Johnson Cr	24	Upper Hoko	Clallam	Clallam County	80001263	County	2.1	\$1,683,000	\$1,834,712	\$19,746,404

* Funding request for design only during 2017-19 Biennium