

Fishway Notes - FBRB Meeting January 15, 2019

WDFW Definition: Fishways are human-made fish passage improvement structures, constructed to facilitate passage of fish over, through, or around a barrier. The term “fishway” includes, but is not limited to, fish ladders, baffles, ramps/chutes, roughened channels, and weirs.

Degree of Passage: Fishways may be able to provide some level of upstream passage for some adult salmon/steelhead during a certain range of flows. However, juvenile fish and other species also must move about in the stream year-round. State law requires that passage be provided for all species of fish.

Water, Sediment, and Wood: It’s not just fish that need to move through the culvert and fishway - it’s also water, sediment, and wood. The addition of a fishway often decreases capacity for the movement of water, sediment, and wood. State law requires that all water crossings retain upstream and downstream connection in order to maintain expected channel processes - these processes include the movement and distribution of wood and sediment.

Capacity: Baffles have a tendency to recruit sediment behind them and end up acting like bed load retention sills in a lot of cases. This results in an undersized culvert where the streambed is artificially held in place by the baffles. This makes the baffles ineffective and creates excessive velocities and difficult swimming conditions for fish attempting to migrate upstream.

Maintenance: Fishways require frequent maintenance. For some types of fishways (e.g., baffles) maintenance access can be difficult due to the loss of headroom within the culvert. Also, equipment access may be difficult, if not impossible, for larger fishway cleanout and repair projects.

Application: The 2013 Water Crossing Design Guidelines (WCDG) state that fishways “have limited application in exceptional circumstances where constraints prevent the use of bridges, no-slope, and stream simulation culverts”. The 2013 WCDG are the design standard for water crossing structures in Washington State. State law provides that fishways may be approved “where extreme and unusual site conditions prevent a person from complying with the provisions in [WAC 220-660-190], provided associated impacts are adequately mitigated”.

Material: Washington streams are very dynamic and have the capability to move large volumes of sediment and wood during high flow events. If a baffle installation is to be attempted, the baffles must be robust and constructed of heavy gauge materials. Typical baffle materials include concrete sills or curbing, 6”x6” or 8”x8” untreated lumber bolted to the culvert floor, or 3/8” steel angle iron sections bolted or attached to the culvert with a waterproof adhesive. Even with the heavy gauge material, baffles require frequent reattachment and replacement to ensure the facility continues to function as designed. Example on Grader Cr near Forks, WA:



2019-21 - Brian Abbott Fish Barrier Removal Board

40000012

[View Description](#)

Salmon populations have been in decline, with recent years being among the worst on record for salmon population abundance, and for the impact on commercial, tribal and recreational fishing opportunities. Human-made migratory barriers have caused habitat fragmentation and are a major contributor to this decline. The Legislature established the Brian Abbott Fish Barrier Removal Board to develop a coordinated fish barrier removal strategy that maximizes the habitat recovery value of other fish passage investments that have been made by public and private entities statewide. The Brian Abbott Fish Barrier Removal Board (BAFBRB) grant program, administered jointly by the Washington Department of Fish and Wildlife and the Recreation and Conservation Office, distributes funding to fish barrier removal projects that match the principles provided in RCW 77.95.180. This funding provides grants for fish barrier removal projects prioritized by the BAFBRB.

Prior Biennium	Current Biennium	Reappropriations	Appropriations	Future Cost	Total Costs
0	0	0	25,082,000	0	25,082,000
Funds: State Building Construction Account - State					25,082,000

2019-21 - Brian Abbott Fish Barrier Removal Board
OFM Capital Document No. 2019-4
 Developed December 13, 2018

RCO #	Project Name	Project Sponsor	Funding Level
1	Johnson Cr	Clallam County	\$ 199,060
2	MF Newaukum R	Lewis County	\$ 97,730
3	NF Ostrander Cr	Cowlitz Indian Tribe	\$ 530,893
4	Johnson Cr (2 barriers)	Trout Unlimited	\$ 1,294,908
5	Coleman Cr	Kittitas Co CD	\$ 1,306,080
6	Cottonwood Cr	Asotin Co CD	\$ 445,300
7	Dayton Cr	Mason County	\$ 420,304
8	Catherine Cr	Wild Fish Conservancy	\$ 89,611
9	Chumstick Cr (2 barriers)	Chelan County	\$ 488,286
10	Little Pilchuck Cr	Tulalip Tribe	\$ 197,633
11	Uncle Johns Cr	Mason County	\$ 339,788
12	Mill Cr	Tri-State Steelheaders	\$ 1,667,912
13	Cooke Cr (2 barriers)	Kittitas Co CD	\$ 688,543
14	Johnson Cr	Trout Unlimited	\$ 489,673
15	NF Ostrander Cr	Cowlitz County	\$ 322,150
16	Trib to MF Newaukum R	Lewis County	\$ 68,200
17	Railroad Cr	North Olympic Salmon Coalition	\$ 103,779
18	Thorndyke Cr	Jefferson County	\$ 198,313
19	Lower Hoko Wetland Complex	Clallam County	\$ 199,960
20	Delameter Cr	Cowlitz County	\$ 242,250
21	Johnson Cr	Trout Unlimited	\$ 480,670
22	Caribou Cr (2 barriers)	Kittitas Co CD	\$ 355,334
23	Mill Cr (2 barriers)	Snake R Salmon Rec Board	\$ 117,729
24	Uncle Johns Cr	Mason County	\$ 420,304
25	Trib to Little Pilchuck Cr	Snohomish Co CD	\$ 224,459
26	Mill Cr	Chelan County Nat Res	\$ 494,599
27	Parke Cr (2 barriers)	Kittitas Co CD	\$ 302,953
28	Talbot Cr	Clallam County	\$ 197,060
29	Mason Cr	Clark County	\$ 155,200
30	Seabeck Cr	Kitsap County	\$ 2,066,837
31	Kenney Cr	Whatcom County	\$ 442,500
32	Squalicum Cr	City of Bellingham	\$ 447,268
33	Fisher Cr (2 barriers)	Skagit County	\$ 332,000
34	Spurgeon Cr (2 barriers)	Thurston County	\$ 1,700,000
35	Naylors Cr (2 barriers)	Jefferson County	\$ 198,850
36	Geissler Cr (3 barriers)	Chehalis Basin Task Force	\$ 590,408
37	Scammon Cr	Lewis Co CD	\$ 147,227
38	Scammon Cr	Lewis County	\$ 561,560
39	Dickerson Cr	Kitsap Co CD	\$ 494,500
40	Minter Cr	Pierce County	\$ 90,000
41	George Davis Cr (3 barriers)	City of Sammamish	\$ 722,350
42	Langlois Cr	Snoqualmie Vall Water Impr Dist	\$ 65,200
43	Ebright Cr	City of Sammamish	\$ 352,100
44	Kristoferson Cr	Island Co DNR	\$ 544,718
45	Starbird Cr	Skagit County	\$ 46,500
46	Scammon Cr (2 barriers)	Lewis County	\$ 160,100
47	Sexton Cr	Snohomish County	\$ 141,780
48	King Cr	Lewis Co CD	\$ 200,076
49	King Cr	Lewis County	\$ 371,678
50	Willows Cr	City of Redmond	\$ 400,000
51	Ravensdale Cr (2 barriers)	King County Parks and Rec	\$ 1,834,289
52	Trib to MF Quilceda Cr	City of Marysville	Alternate
53	Secret Cr	Snohomish County	Alternate
54	Trib to Grader Cr	Pacific Coast Salmon Coalition	Alternate
55	Trib to Starbird Cr	Skagit County	Alternate
56	Williams Cr	Snohomish County	Alternate

57	Lyon Cr	City of Lake Forest Park	Alternate
58	Secret Cr	Snohomish County	Alternate
59	Secret Cr	Snohomish County	Alternate
60	Trib to Silver Lk	City of Everett	Alternate
61	Ennis Cr (2 barriers)	City of Port Angeles	Alternate
62	Panther Cr	City of Renton	Alternate
63	Erick Cr	Cowlitz County	Alternate
64	Trib to Little Pilchuck Cr	Snohomish County	Alternate
65	Trib to Little Pilchuck Cr	Snohomish County	Alternate
66	Trib to Little Pilchuck Cr	Sound Salmon Solutions	Alternate



**BRIAN ABBOTT
FISH BARRIER
REMOVAL BOARD**

2019 - 2021 FUNDING PROPOSAL

Rank	Stream Name	County	Project Sponsor	Scope*	Budget Request	All Projects Running Total
1	Johnson Cr	Clallam	Clallam County	Planning	\$199,060	\$199,060
2	MF Newaukum R	Lewis	Lewis County	Planning	\$97,730	\$296,790
3	NF Ostrander Cr	Cowlitz	Cowlitz Indian Tribe	Restoration	\$530,893	\$827,683
4	Johnson Cr (2 barriers)	Okanogan	Trout Unlimited	Restoration	\$1,294,908	\$2,122,591
5	Coleman Cr	Kittitas	Kittitas Co CD	Restoration	\$1,306,080	\$3,428,671
6	Cottonwood Cr	Asotin	Asotin Co CD	Restoration	\$445,300	\$3,873,971
7	Dayton Cr	Mason	Mason County	Restoration	\$420,304	\$4,294,275
8	Catherine Cr	Snohomish	Wild Fish Conservancy	Planning	\$89,611	\$4,383,886
9	Chumstick Cr (2 barriers)	Chelan	Chelan County	Restoration	\$488,286	\$4,872,172
10	Little Pilchuck Cr	Snohomish	Tulalip Tribe	Planning	\$197,633	\$5,069,805
11	Uncle Johns Cr	Mason	Mason County	Planning	\$339,788	\$5,409,593
12	Mill Cr	Walla Walla	Tri-State Steelheaders	Restoration	\$1,667,912	\$7,077,505
13	Cooke Cr (2 barriers)	Kittitas	Kittitas Co CD	Restoration	\$688,543	\$7,766,048
14	Johnson Cr	Okanogan	Trout Unlimited	Restoration	\$489,673	\$8,255,721
15	NF Ostrander Cr	Cowlitz	Cowlitz County	Planning	\$322,150	\$8,577,871
16	Trib to MF Newaukum R	Lewis	Lewis County	Planning	\$68,200	\$8,646,071
17	Railroad Cr	Clallam	North Olympic Salmon Coalition	Restoration	\$103,779	\$8,749,850
18	Thorndyke Cr	Jefferson	Jefferson County	Planning	\$198,313	\$8,948,163
19	Lower Hoko Wetland Complex	Clallam	Clallam County	Planning	\$199,960	\$9,148,123
20	Delameter Cr	Cowlitz	Cowlitz County	Planning	\$242,250	\$9,390,373
21	Johnson Cr	Okanogan	Trout Unlimited	Restoration	\$480,670	\$9,871,043
22	Caribou Cr (2 barriers)	Kittitas	Kittitas Co CD	Restoration	\$355,334	\$10,226,377
23	Mill Cr (2 barriers)	Walla Walla	Snake R Salmon Rec Board	Planning	\$117,729	\$10,344,106
24	Uncle Johns Cr	Mason	Mason County	Restoration	\$420,304	\$10,764,410
25	Trib to Little Pilchuck Cr	Snohomish	Snohomish Co CD	Restoration	\$224,459	\$10,988,869
26	Mill Cr	Chelan	Chelan County Nat Res	Restoration	\$494,599	\$11,483,468
27	Parke Cr (2 barriers)	Kittitas	Kittitas Co CD	Restoration	\$302,953	\$11,786,421
28	Talbot Cr	Clallam	Clallam County	Planning	\$197,060	\$11,983,481
29	Mason Cr	Clark	Clark County	Planning	\$155,200	\$12,138,681
30	Seabeck Cr	Kitsap	Kitsap County	Restoration	\$2,066,837	\$14,205,518
31	Kenney Cr	Whatcom	Whatcom County	Planning	\$442,500	\$14,648,018
32	Squalicum Cr	Whatcom	City of Bellingham	Restoration	\$447,268	\$15,095,286
33	Fisher Cr (2 barriers)	Skagit	Skagit County	Planning	\$332,000	\$15,427,286
34	Spurgeon Cr (2 barriers)	Thurston	Thurston County	Restoration	\$1,700,000	\$17,127,286
35	Naylor Cr (2 barriers)	Jefferson	Jefferson County	Planning	\$198,850	\$17,326,136
36	Geissler Cr (3 barriers)	Grays Harbor	Chehalis Basin Task Force	Restoration	\$590,408	\$17,916,544
37	Scammon Cr	Lewis	Lewis Co CD	Restoration	\$147,227	\$18,063,771
38	Scammon Cr	Lewis	Lewis County	Restoration	\$561,560	\$18,625,331
39	Dickerson Cr	Kitsap	Kitsap Co CD	Restoration	\$494,500	\$19,119,831
40	Minter Cr	Pierce	Pierce County	Planning	\$90,000	\$19,209,831
41	George Davis Cr (3 barriers)	King	City of Sammamish	Planning	\$722,350	\$19,932,181
42	Langlois Cr	King	Snoqualmie Vall Water Impr Dist	Planning	\$65,200	\$19,997,381
43	Ebright Cr	King	City of Sammamish	Planning	\$352,100	\$20,349,481
44	Kristoferson Cr	Island	Island Co DNR	Restoration	\$544,718	\$20,894,199
45	Starbird Cr	Skagit	Skagit County	Planning	\$46,500	\$20,940,699
46	Scammon Cr (2 barriers)	Lewis	Lewis County	Planning	\$160,100	\$21,100,799
47	Sexton Cr	Snohomish	Snohomish County	Planning	\$141,780	\$21,242,579
48	King Cr	Lewis	Lewis Co CD	Restoration	\$200,076	\$21,442,655
49	King Cr	Lewis	Lewis County	Restoration	\$371,678	\$21,814,333
50	Willows Cr	King	City of Redmond	Restoration	\$400,000	\$22,214,333
51	Ravensdale Cr (2 barriers)	King	King County Parks and Rec	Restoration	\$2,513,614	\$24,727,947
52	Trib to MF Quilceda Cr	Snohomish	City of Marysville	Restoration	\$162,740	\$24,890,687
53	Secret Cr	Snohomish	Snohomish County	Planning	\$122,230	\$25,012,917
54	Trib to Grader Cr	Clallam	Pacific Coast Salmon Coalition	Restoration	\$68,931	\$25,081,848
55	Trib to Starbird Cr	Skagit	Skagit County	Planning	\$64,000	\$25,145,848
56	Williams Cr	Snohomish	Snohomish County	Planning	\$63,750	\$25,209,598
57	Lyon Cr	King	City of Lake Forest Park	Planning	\$200,000	\$25,409,598
58	Secret Cr	Snohomish	Snohomish County	Planning	\$144,755	\$25,554,353
59	Secret Cr	Snohomish	Snohomish County	Restoration	\$694,025	\$26,248,378
60	Trib to Silver Lk	Snohomish	City of Everett	Planning	\$188,000	\$26,436,378
61	Ennis Cr (2 barriers)	Clallam	City of Port Angeles	Planning	\$200,000	\$26,636,378
62	Panther Cr	King	City of Renton	Planning	\$424,150	\$27,060,528
63	Erick Cr	Cowlitz	Cowlitz County	Restoration	\$1,099,050	\$28,159,578
64	Trib to Little Pilchuck Cr	Snohomish	Snohomish County	Planning	\$200,000	\$28,359,578
65	Trib to Little Pilchuck Cr	Snohomish	Snohomish County	Planning	\$200,000	\$28,559,578
66	Trib to Little Pilchuck Cr	Snohomish	Sound Salmon Solutions	Restoration	\$190,000	\$28,749,578
Program Administration (8.90%)					\$2,558,712	\$31,308,290
Funding for Planning/Restoration of FBRB-approved projects					\$18,691,710	\$50,000,000

*SCOPE: Planning projects are funded for design-only; Restoration projects are funded for construction

Project Rank	Stream Name	Project Sponsor	Requested Amount	Scope	Page #s
1	Johnson Cr	Clallam County	\$199,060	Planning	3
2	MF Newaukum R	Lewis County	\$97,730	Planning	4
3	NF Ostrander Cr	Cowlitz Indian Tribe	\$530,893	Restoration	5
4	Johnson Cr (2 barriers)	Trout Unlimited	\$1,294,908	Restoration	6,7
5	Coleman Cr	Kittitas Co CD	\$1,306,080	Restoration	8
6	Cottonwood Cr	Asotin Co CD	\$445,300	Restoration	9
7	Dayton Cr	Mason County	\$420,304	Restoration	10
8	Catherine Cr	Wild Fish Conservancy	\$89,611	Planning	11
9	Chumstick Cr (2 barriers)	Chelan County	\$488,286	Restoration	12,13
10	Little Pilchuck Cr	Tulalip Tribe	\$197,633	Planning	14
11	Uncle Johns Cr	Mason County	\$339,788	Planning	15
12	Mill Cr	Tri-State Steelheaders	\$1,667,912	Restoration	16
13	Cooke Cr (2 barriers)	Kittitas Co CD	\$688,543	Restoration	17,18
14	Johnson Cr	Trout Unlimited	\$489,673	Restoration	19
15	NF Ostrander Cr	Cowlitz County	\$322,150	Planning	20
16	Trib to MF Newaukum R	Lewis County	\$68,200	Planning	21
17	Railroad Cr	North Olympic Salmon Coal	\$103,779	Restoration	22
18	Thorndyke Cr	Jefferson County	\$198,313	Planning	23
19	Low. Hoko Wetland Complex	Clallam County	\$199,960	Planning	24
20	Delameter Cr	Cowlitz County	\$242,250	Planning	25
21	Johnson Cr	Trout Unlimited	\$480,670	Restoration	26
22	Caribou Cr (2 barriers)	Kittitas Co CD	\$355,334	Restoration	27,28
23	Mill Cr (2 barriers)	Snake R Salmon Rec Board	\$117,729	Planning	29,30
24	Uncle Johns Cr	Mason County	\$420,304	Restoration	31
25	Trib to Little Pilchuck Cr	Snohomish Co CD	\$224,459	Restoration	32
26	Mill Cr	Chelan County Nat Res	\$494,599	Restoration	33
27	Parke Cr (2 barriers)	Kittitas Co CD	\$302,953	Restoration	34,35
28	Talbot Cr	Clallam County	\$197,060	Planning	36
29	Mason Cr	Clark County	\$155,200	Planning	37
30	Seabeck Cr	Kitsap County	\$2,066,837	Restoration	38
31	Kenney Cr	Whatcom County	\$442,500	Planning	39
32	Squalicum Cr	City of Bellingham	\$447,268	Restoration	40
33	Fisher Cr (2 barriers)	Skagit County	\$332,000	Planning	41,42
34	Spurgeon Cr (2 barriers)	Thurston County	\$1,700,000	Restoration	43,44
35	Naylors Cr (2 barriers)	Jefferson County	\$198,850	Planning	45,46
36	Geissler Cr (3 barriers)	Chehalis Basin Task Force	\$590,408	Restoration	47,48,49
37	Scammon Cr	Lewis Co CD	\$147,227	Restoration	50
38	Scammon Cr	Lewis County	\$561,560	Restoration	51
39	Dickerson Cr	Kitsap Co CD	\$494,500	Restoration	52
40	Minter Cr	Pierce County	\$90,000	Planning	53
41	George Davis Cr (3 barriers)	City of Sammamish	\$722,350	Planning	54,55,56
42	Langlois Cr	Snoq Vall Water Impr Dist	\$65,200	Planning	57
43	Ebright Cr	City of Sammamish	\$352,100	Planning	58
44	Kristoferson Cr	Island Co DNR	\$544,718	Restoration	59
45	Starbird Cr	Skagit County	\$46,500	Planning	60
46	Scammon Cr (2 barriers)	Lewis County	\$160,100	Planning	61,62
47	Sexton Cr	Snohomish County	\$141,780	Planning	63
48	King Cr	Lewis Co CD	\$200,076	Restoration	64
49	King Cr	Lewis County	\$371,678	Restoration	65
50	Willows Cr	City of Redmond	\$400,000	Restoration	66
51	Ravensdale Cr (2 barriers)	King Co Parks and Rec	\$2,513,614	Restoration	67,68
52	Trib to MF Quilceda Cr	City of Marysville	\$162,740	Restoration	69

Project Rank	Stream Name	Project Sponsor	Requested Amount	Scope	Page #s
53	Secret Cr	Snohomish County	\$122,230	Planning	70
54	Trib to Grader Cr	Pacific Coast Salmon Coal	\$68,931	Restoration	71
55	Trib to Starbird Cr	Skagit County	\$64,000	Planning	72
56	Williams Cr	Snohomish County	\$63,750	Planning	73
57	Lyon Cr	City of Lake Forest Park	\$200,000	Planning	74
58	Secret Cr	Snohomish County	\$144,755	Planning	75
59	Secret Cr	Snohomish County	\$694,025	Restoration	76
60	Trib to Silver Lk	City of Everett	\$188,000	Planning	77
61	Ennis Cr (2 barriers)	City of Port Angeles	\$200,000	Planning	78,79
62	Panther Cr	City of Renton	\$424,150	Planning	80
63	Erick Cr	Cowlitz County	\$1,099,050	Restoration	81
64	Trib to Little Pilchuck Cr	Snohomish County	\$200,000	Planning	82
65	Trib to Little Pilchuck Cr	Snohomish County	\$200,000	Planning	83
66	Trib to Little Pilchuck Cr	Sound Salmon Solutions	\$190,000	Restoration	84

PROJECT SUMMARY	
OVERALL RANK	1
STREAM NAME / TRIB TO	Johnson Cr / Hoko R
WRIA NUMBER - NAME	19 - Lyre / Hoko
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Clallam Co
PATHWAY	Watershed: Pysht-Hoko
# OF BARRIERS: SITE IDs	1: 80001261
TOTAL LINEAR GAIN	2.40 Miles
TOTAL REQUESTED AMOUNT	\$199,060

BARRIER SUMMARY	
SITE ID	80001261
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Clallam
ROAD NAME	Ozette Lake Rd



PROJECT SUMMARY	
OVERALL RANK	2
STREAM NAME / TRIB TO	MF Newaukum R / NF Newaukum R
WRIA NUMBER - NAME	23 - Upper Chehalis
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Lewis Co
PATHWAY	Watershed: Newaukum
# OF BARRIERS: SITE IDs	1: 021(94001)(15790)
TOTAL LINEAR GAIN	1.30 Miles
TOTAL REQUESTED AMOUNT	\$97,730

BARRIER SUMMARY	
SITE ID	021(94001)(15790)
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Lewis
ROAD NAME	Centralia Alpha Rd



PROJECT SUMMARY	
OVERALL RANK	3
STREAM NAME / TRIB TO	NF Ostrander Cr / Cowlitz R
WRIA NUMBER - NAME	26 - Cowlitz
SPECIES AFFECTED	CHNK, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Cowlitz Indian Tribe
PATHWAY	Watershed: Lower Cowlitz
# OF BARRIERS: SITE IDs	1: 601773
TOTAL LINEAR GAIN	18.05 Miles
TOTAL REQUESTED AMOUNT	\$530,893

BARRIER SUMMARY	
SITE ID	601773
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	Private
ROAD NAME	None - Railroad Xing



PROJECT SUMMARY	
OVERALL RANK	4
STREAM NAME / TRIB TO	Johnson Cr / Okanogan R
WRIA NUMBER - NAME	49 - Okanogan
SPECIES AFFECTED	CHNK, STHD, RT
SCOPE	Restoration
SPONSOR	Trout Unlimited
PATHWAY	Watershed: Omak Cr-Okanogan
# OF BARRIERS: SITE IDs	2: 990217, 960240
TOTAL LINEAR GAIN	1.01 Miles
TOTAL REQUESTED AMOUNT	\$1,294,908

BARRIER SUMMARY	
SITE ID	990217
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	State - WSDOT
ROAD NAME	US 97



BARRIER SUMMARY	
SITE ID	960240
FEATURE TYPE	Dam
% PASSABILITY	33
OWNERSHIP	State - WSDOT
ROAD NAME	US 97 ROW



PROJECT SUMMARY	
OVERALL RANK	5
STREAM NAME / TRIB TO	Coleman Cr / Wilson Cr
WRIA NUMBER - NAME	39 - Upper Yakima
SPECIES AFFECTED	CHNK, COHO, STHD, RT
SCOPE	Restoration
SPONSOR	Kittitas Co CD
PATHWAY	Watershed: Wilson-Cherry
# OF BARRIERS: SITE IDs	1: Col05.09
TOTAL LINEAR GAIN	0.35 Miles
TOTAL REQUESTED AMOUNT	\$1,306,080

BARRIER SUMMARY	
SITE ID	Col05.09
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Kittitas
ROAD NAME	Vantage Hwy



PROJECT SUMMARY	
OVERALL RANK	6
STREAM NAME / TRIB TO	Cottonwood Cr / Grande Ronde R
WRIA NUMBER - NAME	35 – Middle Snake
SPECIES AFFECTED	CHNK, STHD, BT, RT
SCOPE	Restoration
SPONSOR	Asotin Co CD
PATHWAY	Watershed: Tribs to Grande Ronde
# OF BARRIERS: SITE IDs	1: 602004
TOTAL LINEAR GAIN	2.54 Miles
TOTAL REQUESTED AMOUNT	\$445,300

BARRIER SUMMARY	
SITE ID	602004
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	County - Asotin
ROAD NAME	Cottonwood Rd



PROJECT SUMMARY	
OVERALL RANK	7
STREAM NAME / TRIB TO	Dayton Cr / Goldsborough Cr
WRIA NUMBER - NAME	14 – Kennedy/Goldsborough
SPECIES AFFECTED	CHUM, COHO, SRCT, RT
SCOPE	Restoration
SPONSOR	Mason County
PATHWAY	Watershed: Goldsborough
# OF BARRIERS: SITE IDs	1: 115 MC209
TOTAL LINEAR GAIN	0.80 Miles
TOTAL REQUESTED AMOUNT	\$420,304

BARRIER SUMMARY	
SITE ID	115 MC209
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - Mason
ROAD NAME	Highland Rd



PROJECT SUMMARY	
OVERALL RANK	8
STREAM NAME / TRIB TO	Catherine Cr / Stevens Cr
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	STHD, COHO, RT
SCOPE	Planning
SPONSOR	Wild Fish Conservancy
PATHWAY	Watershed: Pilchuck
# OF BARRIERS: SITE IDs	1: 993474
TOTAL LINEAR GAIN	3.90 Miles
TOTAL REQUESTED AMOUNT	\$89,611

BARRIER SUMMARY	
SITE ID	993474
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	Private
ROAD NAME	Private



PROJECT SUMMARY	
OVERALL RANK	9
STREAM NAME / TRIB TO	Chumstick Cr / Wenatchee R
WRIA NUMBER - NAME	45 – Wenatchee
SPECIES AFFECTED	CHNK, COHO, STHD, RT
SCOPE	Restoration
SPONSOR	Chelan County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	2: 603526, 603531
TOTAL LINEAR GAIN	14.29 Miles
TOTAL REQUESTED AMOUNT	\$488,286

BARRIER SUMMARY	
SITE ID	603526
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - Chelan
ROAD NAME	Motteler Rd



BARRIER SUMMARY	
SITE ID	603531
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County – Chelan
ROAD NAME	Alpenview Rd



PROJECT SUMMARY	
OVERALL RANK	10
STREAM NAME / TRIB TO	Little Pilchuck Cr / Pilchuck R
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Tulalip Tribe
PATHWAY	Watershed: Pilchuck
# OF BARRIERS: SITE IDs	1: 07.0146 5.70
TOTAL LINEAR GAIN	11.20 Miles
TOTAL REQUESTED AMOUNT	\$197,633

BARRIER SUMMARY	
SITE ID	07.0146 5.70
FEATURE TYPE	Dam
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	Little Pilchuck Rd



PROJECT SUMMARY	
OVERALL RANK	11
STREAM NAME / TRIB TO	Uncle Johns Cr / Oakland Bay
WRIA NUMBER - NAME	14 – Kennedy/Goldsborough
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Mason County
PATHWAY	Watershed: Goldsborough
# OF BARRIERS: SITE IDs	1: 115 MC018
TOTAL LINEAR GAIN	0.40 Miles
TOTAL REQUESTED AMOUNT	\$339,788

BARRIER SUMMARY	
SITE ID	115 MC018
FEATURE TYPE	Culvert
% PASSABILITY	Unknown
OWNERSHIP	County - Mason
ROAD NAME	Agate Loop Rd



PROJECT SUMMARY	
OVERALL RANK	12
STREAM NAME / TRIB TO	Mill Cr / Walla Walla R
WRIA NUMBER - NAME	32 – Walla Walla
SPECIES AFFECTED	CHNK, STHD, BT, RT
SCOPE	Restoration
SPONSOR	Tri-State Steelheaders
PATHWAY	Watershed: Mill Cr
# OF BARRIERS: SITE IDs	1: 602305
TOTAL LINEAR GAIN	0.38 Miles
TOTAL REQUESTED AMOUNT	\$1,667,912

BARRIER SUMMARY	
SITE ID	602305
FEATURE TYPE	Flume
% PASSABILITY	33
OWNERSHIP	City - Walla Walla
ROAD NAME	N/A



PROJECT SUMMARY	
OVERALL RANK	13
STREAM NAME / TRIB TO	Cooke Cr / Wilson Cr
WRIA NUMBER - NAME	39 – Upper Yakima
SPECIES AFFECTED	CHNK, COHO, STHD, BT
SCOPE	Restoration
SPONSOR	Kittitas Co CD
PATHWAY	Watershed: Wilson-Cherry
# OF BARRIERS: SITE IDs	2: Coo0.94, Coo01.28
TOTAL LINEAR GAIN	1.34 Miles
TOTAL REQUESTED AMOUNT	\$688,543

BARRIER SUMMARY	
SITE ID	Coo0.94
FEATURE TYPE	Dam
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	N/A



BARRIER SUMMARY	
SITE ID	Coo1.28
FEATURE TYPE	Dam
% PASSABILITY	0
OWNERSHIP	Private
ROAD NAME	N/A



PROJECT SUMMARY	
OVERALL RANK	14
STREAM NAME / TRIB TO	Johnson Cr / Okanogan R
WRIA NUMBER - NAME	49 – Okanogan
SPECIES AFFECTED	CHNK, STHD, RT
SCOPE	Restoration
SPONSOR	Trout Unlimited
PATHWAY	WP: Omak Cr-Okanogan
# OF BARRIERS: SITE IDs	1: 992055
TOTAL LINEAR GAIN	0.07 Miles
TOTAL REQUESTED AMOUNT	\$489,673

BARRIER SUMMARY	
SITE ID	992055
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	City - Riverside
ROAD NAME	State St



PROJECT SUMMARY	
OVERALL RANK	15
STREAM NAME / TRIB TO	NF Ostrander Cr / Ostrander Cr
WRIA NUMBER - NAME	26 – Cowlitz
SPECIES AFFECTED	CHNK, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Cowlitz County
PATHWAY	Watershed: Lower Cowlitz
# OF BARRIERS: SITE IDs	1: 106c0159
TOTAL LINEAR GAIN	1.12 Miles
TOTAL REQUESTED AMOUNT	\$322,150

BARRIER SUMMARY	
SITE ID	106c0159
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County – Cowlitz
ROAD NAME	Ostrander Rd



PROJECT SUMMARY	
OVERALL RANK	16
STREAM NAME / TRIB TO	Unnamed / MF Newaukum R
WRIA NUMBER - NAME	23 – Upper Chehalis
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Lewis County
PATHWAY	WP: Newaukum
# OF BARRIERS: SITE IDs	1: 125 1301E18A
TOTAL LINEAR GAIN	2.20 Miles
TOTAL REQUESTED AMOUNT	\$68,200

BARRIER SUMMARY	
SITE ID	125 1301E18A
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - Lewis
ROAD NAME	Kruger Rd



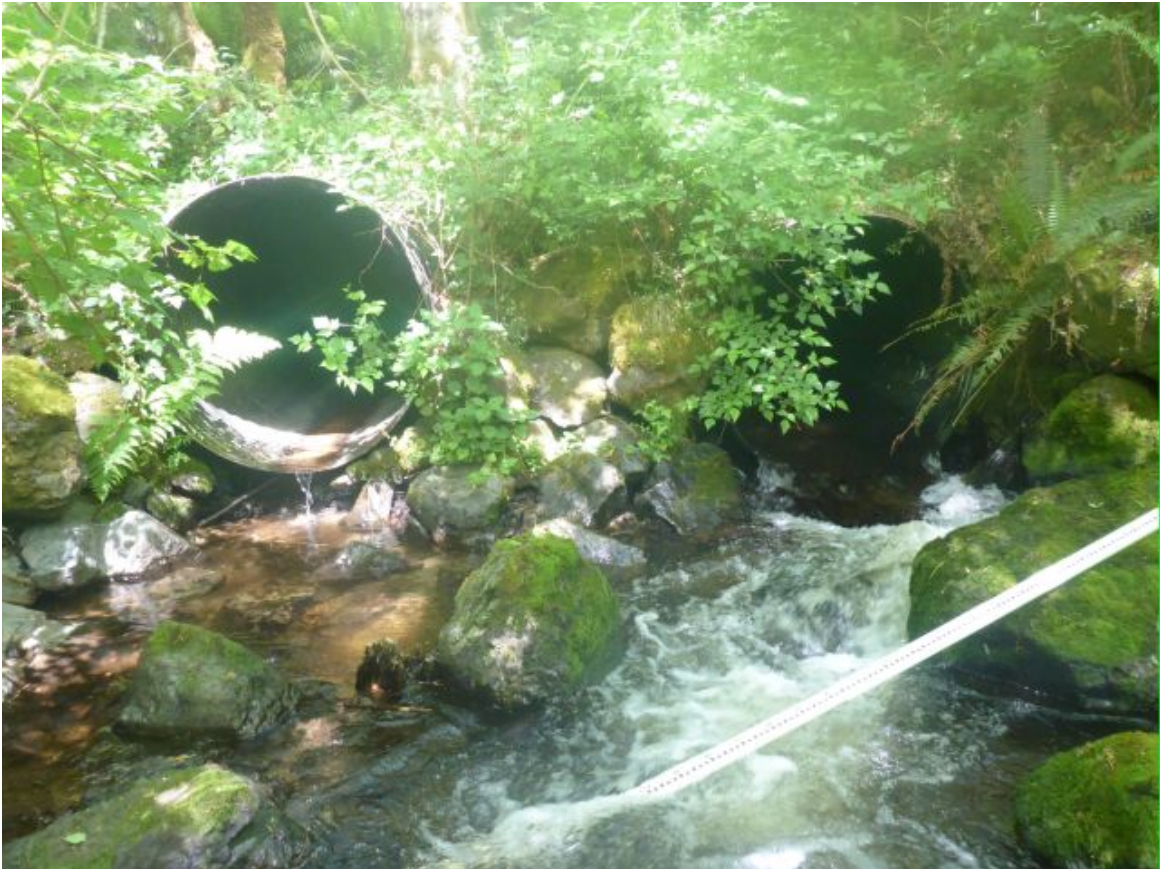
PROJECT SUMMARY	
OVERALL RANK	17
STREAM NAME / TRIB TO	Lower Hoko Wetland Complex / Hoko R Trib
WRIA NUMBER - NAME	19 – Lyre/Hoko
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Clallam County
PATHWAY	Watershed: Pysht-Hoko
# OF BARRIERS: SITE IDs	1: 80001305
TOTAL LINEAR GAIN	2.40 Miles
TOTAL REQUESTED AMOUNT	\$199,960

BARRIER SUMMARY	
SITE ID	80001305
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	County - Clallam
ROAD NAME	Hoko Ozette Rd



PROJECT SUMMARY	
OVERALL RANK	18
STREAM NAME / TRIB TO	Thorndyke Cr / Hood Canal
WRIA NUMBER - NAME	17 – Quilcene/Snow
SPECIES AFFECTED	CHUM, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Jefferson County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 160508
TOTAL LINEAR GAIN	10.04
TOTAL REQUESTED AMOUNT	\$198,313

BARRIER SUMMARY	
SITE ID	160508
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Jefferson
ROAD NAME	Thorndyke Rd



PROJECT SUMMARY	
OVERALL RANK	19
STREAM NAME / TRIB TO	Railroad Cr / Hoko R
WRIA NUMBER - NAME	19 – Lyre/Hoko
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	North Olympic Salmon Coalition
PATHWAY	Watershed: Pysht-Hoko
# OF BARRIERS: SITE IDs	1: 601572
TOTAL LINEAR GAIN	0.15 Miles
TOTAL REQUESTED AMOUNT	\$103,779

BARRIER SUMMARY	
SITE ID	601572
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	Private
ROAD NAME	Abandoned Railroad Grade



PROJECT SUMMARY	
OVERALL RANK	20
STREAM NAME / TRIBUTARY	Delameter Cr / Arkansas Cr
WRIA NUMBER - NAME	26 – Cowlitz
SPECIES AFFECTED	CHNK, COHO, STHD, RT
SCOPE	Planning
SPONSOR	Cowlitz County
PATHWAY	Watershed: Lower Cowlitz
# OF BARRIERS: SITE IDs	1: 106c0057
TOTAL LINEAR GAIN	2.10 Miles
TOTAL REQUESTED AMOUNT	\$242,250

BARRIER SUMMARY	
SITE ID	106c0057
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County – Cowlitz
ROAD NAME	Garlock Rd



PROJECT SUMMARY	
OVERALL RANK	21
STREAM NAME / TRIB TO	Johnson Cr / Okanogan R
WRIA NUMBER - NAME	49 – Okanogan
SPECIES AFFECTED	CHNK, STHD, RT
SCOPE	Restoration
SPONSOR	Trout Unlimited
PATHWAY	Watershed: Omak Cr-Okanogan
# OF BARRIERS: SITE IDs	1: 114JC005
TOTAL LINEAR GAIN	0.34 Miles
TOTAL REQUESTED AMOUNT	\$480,670

BARRIER SUMMARY	
SITE ID	114JC005
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	County – Okanogan
ROAD NAME	Greenacres Rd



PROJECT SUMMARY	
OVERALL RANK	22
STREAM NAME / TRIB TO	Caribou Cr / Wilson Cr
WRIA NUMBER - NAME	39 – Upper Yakima
SPECIES AFFECTED	CHNK, COHO, STHD, RT
SCOPE	Restoration
SPONSOR	Kittitas Co CD
PATHWAY	Watershed: Wilson-Cherry
# OF BARRIERS: SITE IDs	2: Car3.95, Car4.16
TOTAL LINEAR GAIN	0.86 Miles
TOTAL REQUESTED AMOUNT	\$355,334

BARRIER SUMMARY	
SITE ID	Car3.95
FEATURE TYPE	Dam
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	N/A



BARRIER SUMMARY	
SITE ID	Car4.16
FEATURE TYPE	Dam
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	N/A



PROJECT SUMMARY	
OVERALL RANK	23
STREAM NAME / TRIB TO	Mill Cr / Walla Walla R
WRIA NUMBER - NAME	32 – Walla Walla
SPECIES AFFECTED	CHNK, STHD, BT, RT
SCOPE	Planning
SPONSOR	Snake R Salmon Rec Board
PATHWAY	Watershed: Mill Cr
# OF BARRIERS: SITE IDs	2: 602299, 602300
TOTAL LINEAR GAIN	0.24 Miles
TOTAL REQUESTED AMOUNT	\$117,729

BARRIER SUMMARY	
SITE ID	602299
FEATURE TYPE	Flume
% PASSABILITY	33
OWNERSHIP	City - Walla Walla
ROAD NAME	N/A



BARRIER SUMMARY	
SITE ID	602300
FEATURE TYPE	Flume
% PASSABILITY	33
OWNERSHIP	City - Walla Walla
ROAD NAME	N/A



PROJECT SUMMARY	
OVERALL RANK	24
STREAM NAME / TRIB TO	Uncle John Cr / Oakland Bay
WRIA NUMBER - NAME	14 – Kennedy/Goldsborough
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Mason County
PATHWAY	Watershed: Goldsborough
# OF BARRIERS: SITE IDs	1: 115 MC027
TOTAL LINEAR GAIN	1.00 Mile
TOTAL REQUESTED AMOUNT	\$420,304

BARRIER SUMMARY	
SITE ID	115 MC027
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County – Mason
ROAD NAME	Agate Loop Rd



PROJECT SUMMARY	
OVERALL RANK	25
STREAM NAME / TRIB TO	Unnamed / Little Pilchuck Cr
WRIA NUMBER - NAME	7 – Snohomish
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Snohomish Co CD
PATHWAY	Watershed: Pilchuck
# OF BARRIERS: SITE IDs	1: 930001
TOTAL LINEAR GAIN	1.00 Mile
TOTAL REQUESTED AMOUNT	\$224,459

BARRIER SUMMARY	
SITE ID	930001
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	None



PROJECT SUMMARY	
OVERALL RANK	26
STREAM NAME / TRIB TO	Mill Cr / Peshastin Cr
WRIA NUMBER - NAME	45 – Wenatchee
SPECIES AFFECTED	STHD, BT, RT
SCOPE	Restoration
SPONSOR	Chelan County Nat Res
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 040089
TOTAL LINEAR GAIN	4.35 Miles
TOTAL REQUESTED AMOUNT	\$494,599

BARRIER SUMMARY	
SITE ID	040089
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Chelan
ROAD NAME	Mountain Home Ranch Rd



PROJECT SUMMARY	
OVERALL RANK	27
STREAM NAME / TRIB TO	Parke Cr / Wilson Cr
WRIA NUMBER - NAME	39 – Upper Yakima
SPECIES AFFECTED	CHNK, COHO, STHD, RT
SCOPE	Restoration
SPONSOR	Kittitas Co CD
PATHWAY	Watershed: Wilson-Cherry
# OF BARRIERS: SITE IDs	2: Par1.01, Par1.37
TOTAL LINEAR GAIN	2.30
TOTAL REQUESTED AMOUNT	\$302,953

BARRIER SUMMARY	
SITE ID	Par1.01
FEATURE TYPE	Dam
% PASSABILITY	0
OWNERSHIP	Private
ROAD NAME	N/A



BARRIER SUMMARY	
SITE ID	Par1.37
FEATURE TYPE	Dam
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	N/A



PROJECT SUMMARY	
OVERALL RANK	28
STREAM NAME / TRIB TO	Talbot Cr / Hoko R
WRIA NUMBER - NAME	19 – Lyre/Hoko
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Clallam County
PATHWAY	Watershed: Pysht-Hoko
# OF BARRIERS: SITE IDs	1: 80001307
TOTAL LINEAR GAIN	0.40 Miles
TOTAL REQUESTED AMOUNT	\$197,060

BARRIER SUMMARY	
SITE ID	80001307
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County – Clallam
ROAD NAME	Hoko Ozette Rd



PROJECT SUMMARY	
OVERALL RANK	29
STREAM NAME / TRIB TO	Mason Cr / EF Lexis R
WRIA NUMBER - NAME	27 – Lewis
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Clark County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 1350003
TOTAL LINEAR GAIN	3.15 Miles
TOTAL REQUESTED AMOUNT	\$155,200

BARRIER SUMMARY	
SITE ID	1350003
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	County – Clark
ROAD NAME	NE 102nd Ave



PROJECT SUMMARY	
OVERALL RANK	30
STREAM NAME / TRIB TO	Seabeck Cr / Hood Canal
WRIA NUMBER - NAME	12 - Kitsap
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Hood Canal SEG
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 15.0400 0.60
TOTAL LINEAR GAIN	10.20
TOTAL REQUESTED AMOUNT	\$2,066,837

BARRIER SUMMARY	
SITE ID	15.0400 0.60
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Kitsap
ROAD NAME	Holly-Seabeck Rd



PROJECT SUMMARY	
OVERALL RANK	31
STREAM NAME / TRIB TO	Kenney Cr / NF Nooksack R
WRIA NUMBER - NAME	01 - Nooksack
SPECIES AFFECTED	PINK, CHUM, CHNK, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Whatcom County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 01.0392 0.10
TOTAL LINEAR GAIN	4.26
TOTAL REQUESTED AMOUNT	\$442,500

BARRIER SUMMARY	
SITE ID	01.0392 0.10
FEATURE TYPE	Culvert; Fishway
% PASSABILITY	33
OWNERSHIP	County - Whatcom
ROAD NAME	North Fork Rd



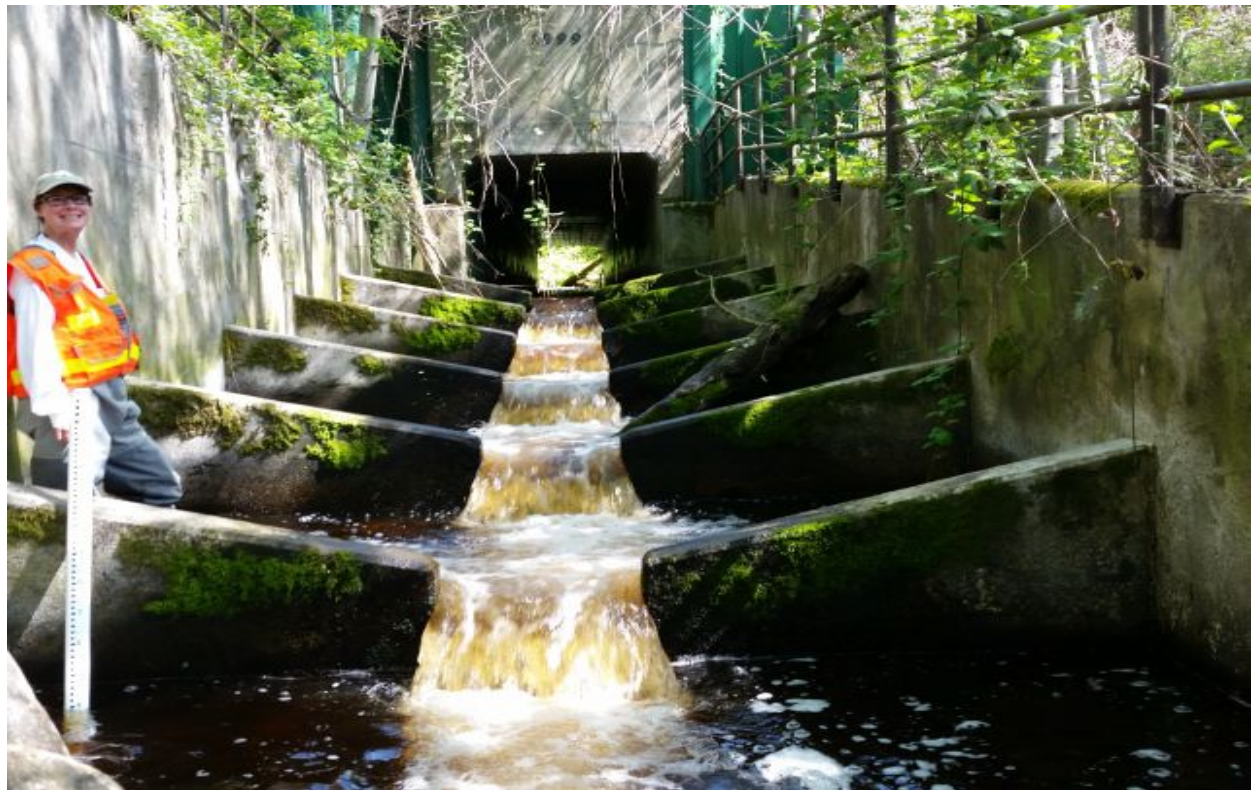
PROJECT SUMMARY	
OVERALL RANK	32
STREAM NAME / TRIB TO	Squalicum Cr / Bellingham Bay
WRIA NUMBER - NAME	01 - Nooksack
SPECIES AFFECTED	CHUM, CHNK, COHO, STHD, SRCT, RT, BT
SCOPE	Restoration
SPONSOR	City of Bellingham
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 990435
TOTAL LINEAR GAIN	8.90
TOTAL REQUESTED AMOUNT	\$447,268

BARRIER SUMMARY	
SITE ID	990435
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	City - Bellingham
ROAD NAME	Squalicum Pkwy



PROJECT SUMMARY	
OVERALL RANK	33
STREAM NAME / TRIB TO	Fisher Cr / Carpenter Cr
WRIA NUMBER - NAME	03 – Lower Skagit/Samish
SPECIES AFFECTED	CHUM, CHNK, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Skagit County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	2: 03.0181 0.55, 03.0181 2.45
TOTAL LINEAR GAIN	5.39
TOTAL REQUESTED AMOUNT	\$332,000

BARRIER SUMMARY	
SITE ID	03.0181 0.55
FEATURE TYPE	Culvert; Fishway
% PASSABILITY	67
OWNERSHIP	County - Skagit
ROAD NAME	Cedardale Rd



BARRIER SUMMARY	
SITE ID	03.0181 2.45
FEATURE TYPE	Culvert; Fishway
% PASSABILITY	67
OWNERSHIP	County - Skagit
ROAD NAME	Starbird Rd



PROJECT SUMMARY	
OVERALL RANK	34
STREAM NAME / TRIB TO	Spurgeon Cr / Deschutes R
WRIA NUMBER - NAME	13 - Deschutes
SPECIES AFFECTED	CHUM, CHNK, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Thurston County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	2: 115 TC125, 341645
TOTAL LINEAR GAIN	1.20
TOTAL REQUESTED AMOUNT	\$1,700,000

BARRIER SUMMARY	
SITE ID	115 TC125
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Thurston
ROAD NAME	Chehalis W Trail



BARRIER SUMMARY	
SITE ID	341645
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Thurston
ROAD NAME	Latigo St SE



PROJECT SUMMARY	
OVERALL RANK	35
STREAM NAME / TRIB TO	Naylors Cr / Chimacum Cr
WRIA NUMBER - NAME	17- Quilcene/Snow
SPECIES AFFECTED	PINK, CHUM, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Jefferson County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	2: 160756, 162127
TOTAL LINEAR GAIN	4.93
TOTAL REQUESTED AMOUNT	\$198,850

BARRIER SUMMARY	
SITE ID	160756
FEATURE TYPE	Culvert; Fishway
% PASSABILITY	33
OWNERSHIP	County - Jefferson
ROAD NAME	W Valley Rd



BARRIER SUMMARY	
SITE ID	162127
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Jefferson
ROAD NAME	Gibbs Lake Rd



PROJECT SUMMARY	
OVERALL RANK	36
STREAM NAME / TRIB TO	Geissler Cr / Wynoochee R
WRIA NUMBER - NAME	22 - Lower Chehalis
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Chehalis Basin Task Force
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	3: 127Y0316, 127Y0374, 103-1022
TOTAL LINEAR GAIN	2.35
TOTAL REQUESTED AMOUNT	\$590,408

BARRIER SUMMARY	
SITE ID	127Y0316
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	Private
ROAD NAME	driveway; Geissler Rd



BARRIER SUMMARY	
SITE ID	127Y0374
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	Private
ROAD NAME	driveway; Geissler Rd



BARRIER SUMMARY	
SITE ID	103-1022
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - Grays Harbor
ROAD NAME	Wynoochee Rd W



PROJECT SUMMARY	
OVERALL RANK	37
STREAM NAME / TRIB TO	Scammon Cr / Chehalis R
WRIA NUMBER - NAME	23 - Upper Chehalis
SPECIES AFFECTED	CHUM, CHNK, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Lewis Co CD
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 601854
TOTAL LINEAR GAIN	1.21
TOTAL REQUESTED AMOUNT	\$147,227

BARRIER SUMMARY	
SITE ID	601854
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	private; Cooks Hill Rd



PROJECT SUMMARY	
OVERALL RANK	38
STREAM NAME / TRIB TO	Scammon Cr / Chehalis R
WRIA NUMBER - NAME	23 - Upper Chehalis
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Lewis County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 021(91025)(01010)
TOTAL LINEAR GAIN	0.83
TOTAL REQUESTED AMOUNT	\$561,560

BARRIER SUMMARY	
SITE ID	021(91025)(01010)
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	County - Lewis
ROAD NAME	Graf Rd



PROJECT SUMMARY	
OVERALL RANK	39
STREAM NAME / TRIB TO	Dickerson Cr / Chico Cr
WRIA NUMBER - NAME	15 - Kitsap
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Kitsap Co CD
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 15.0231 0.40
TOTAL LINEAR GAIN	3.42 Miles
TOTAL REQUESTED AMOUNT	\$494,500

BARRIER SUMMARY	
SITE ID	15.0231 0.40
FEATURE TYPE	Other
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	private; David Rd NW



PROJECT SUMMARY	
OVERALL RANK	40
STREAM NAME / TRIB TO	Minter Cr / Henderson Bay
WRIA NUMBER - NAME	15 - Kitsap
SPECIES AFFECTED	CHUM, CHNK, PINK, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Pierce County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 105 K050818b
TOTAL LINEAR GAIN	1.26 Miles
TOTAL REQUESTED AMOUNT	\$90,000

BARRIER SUMMARY	
SITE ID	105 K050818b
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - Pierce
ROAD NAME	118 th Ave NW



PROJECT SUMMARY	
OVERALL RANK	41
STREAM NAME / TRIB TO	George Davis Cr / Lake Sammamish
WRIA NUMBER - NAME	8 – Cedar/Sammamish
SPECIES AFFECTED	SOCK, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	City of Sammamish
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	3: 920017, 920111, 920112
TOTAL LINEAR GAIN	0.38 Miles
TOTAL REQUESTED AMOUNT	\$722,350

BARRIER SUMMARY	
SITE ID	920017
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	Lake Sammamish Shore Ln



BARRIER SUMMARY	
SITE ID	920111
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	City - Sammamish
ROAD NAME	E Lake Sammamish Pkwy



BARRIER SUMMARY	
SITE ID	920112
FEATURE TYPE	Dam
% PASSABILITY	33
OWNERSHIP	City - Sammamish
ROAD NAME	E Lake Sammamish Pkwy



PROJECT SUMMARY	
OVERALL RANK	42
STREAM NAME / TRIB TO	Langlois Cr / Snoqualmie R
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	CHNK, CHUM, COHO, STHD, SRCT, BT, RT
SCOPE	Planning
SPONSOR	Snoqualmie Valley Water Improvement Dist.
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 101SC-07
TOTAL LINEAR GAIN	1.37 Miles
TOTAL REQUESTED AMOUNT	\$65,200

BARRIER SUMMARY	
SITE ID	101SC-07
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - King
ROAD NAME	Snoqualmie Valley Trail



PROJECT SUMMARY	
OVERALL RANK	43
STREAM NAME / TRIB TO	Ebright Cr / Lake Sammamish
WRIA NUMBER - NAME	8 – Cedar/Sammamish
SPECIES AFFECTED	SOCK, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	City of Sammamish
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 920108
TOTAL LINEAR GAIN	1.11 Miles
TOTAL REQUESTED AMOUNT	\$352,100

BARRIER SUMMARY	
SITE ID	920108
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	City - Sammamish
ROAD NAME	E Lake Sammamish Pkwy



PROJECT SUMMARY	
OVERALL RANK	44
STREAM NAME / TRIB TO	Kristoferson Cr / Triangle Cove
WRIA NUMBER - NAME	6 – Island
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Island Co DNR
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 1320092
TOTAL LINEAR GAIN	0.82 Miles
TOTAL REQUESTED AMOUNT	\$544,718

BARRIER SUMMARY	
SITE ID	1320092
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - Island
ROAD NAME	NE Camano Dr



PROJECT SUMMARY	
OVERALL RANK	45
STREAM NAME / TRIB TO	Starbird Cr / Fisher Cr
WRIA NUMBER - NAME	3 – Lower Skagit/Samish
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Skagit County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: CR77
TOTAL LINEAR GAIN	8.56 Miles
TOTAL REQUESTED AMOUNT	\$46,500

BARRIER SUMMARY	
SITE ID	CR77
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Skagit
ROAD NAME	Bulson Rd



PROJECT SUMMARY	
OVERALL RANK	46
STREAM NAME / TRIB TO	Scammon Cr / Chehalis R
WRIA NUMBER - NAME	23 – Upper Chehalis
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Lewis County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	2: 021(14001)(01340), 021(14004)(00698)
TOTAL LINEAR GAIN	1.37 Miles
TOTAL REQUESTED AMOUNT	\$160,100

BARRIER SUMMARY	
SITE ID	021(14001)(01340)
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Lewis
ROAD NAME	Graf Rd



BARRIER SUMMARY	
SITE ID	021(14004)(00698)
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - Lewis
ROAD NAME	Blanchard Rd



PROJECT SUMMARY	
OVERALL RANK	47
STREAM NAME / TRIB TO	Sexton Cr/Pilchuck R
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	CHNK, CHUM, COHO, PINK, STHD, SRCT, BT, RT
SCOPE	Planning
SPONSOR	Snohomish Co
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 310516
TOTAL LINEAR GAIN	1.10 Miles
TOTAL REQUESTED AMOUNT	\$141,780

BARRIER SUMMARY	
SITE ID	310516
FEATURE TYPE	Culvert; Fishway
% PASSABILITY	67
OWNERSHIP	County - Snohomish
ROAD NAME	Sexton Rd



PROJECT SUMMARY	
OVERALL RANK	48
STREAM NAME / TRIB TO	King Cr / Olequa Cr
WRIA NUMBER - NAME	26 – Cowlitz
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Lewis Co CD
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 700119
TOTAL LINEAR GAIN	1.60 Miles
TOTAL REQUESTED AMOUNT	\$200,076

BARRIER SUMMARY	
SITE ID	700119
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	King Rd



PROJECT SUMMARY	
OVERALL RANK	49
STREAM NAME / TRIB TO	King Cr / Olequa Cr
WRIA NUMBER - NAME	26 – Cowlitz
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Lewis County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 700120
TOTAL LINEAR GAIN	1.12 Miles
TOTAL REQUESTED AMOUNT	\$371,678

BARRIER SUMMARY	
SITE ID	700120
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Lewis
ROAD NAME	King Rd



PROJECT SUMMARY	
OVERALL RANK	50
STREAM NAME / TRIB TO	Willows Cr / Sammamish R
WRIA NUMBER - NAME	8 – Cedar/Sammamish
SPECIES AFFECTED	COHO, SOCK, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	City of Redmond
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 600300
TOTAL LINEAR GAIN	1.79 Miles
TOTAL REQUESTED AMOUNT	\$400,000

BARRIER SUMMARY	
SITE ID	600300
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	City - Redmond
ROAD NAME	Willows Rd NE



PROJECT SUMMARY	
OVERALL RANK	51
STREAM NAME / TRIBUTARY	Ravensdale Cr / Lake Sawyer
WRIA NUMBER - NAME	9 – Duwamish/Green
SPECIES AFFECTED	CHUM, CHNK, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	King County Parks & Recreation
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	2: 930418, 930417
TOTAL LINEAR GAIN	0.65 Miles
TOTAL REQUESTED AMOUNT	\$2,513,614

BARRIER SUMMARY	
SITE ID	930418
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - King
ROAD NAME	Trail; SR 169



BARRIER SUMMARY	
SITE ID	930417
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - King
ROAD NAME	Trail; SR 169



PROJECT SUMMARY	
OVERALL RANK	52
STREAM NAME / TRIB TO	Unnamed / MF Quilceda Cr
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	CHNK, CHUM, PINK, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	City of Marysville
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 933309
TOTAL LINEAR GAIN	0.17 Miles
TOTAL REQUESTED AMOUNT	\$162,740

BARRIER SUMMARY	
SITE ID	933309
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	City - Marysville
ROAD NAME	City trail; 152 nd St NE



PROJECT SUMMARY	
OVERALL RANK	53
STREAM NAME / TRIB TO	Secret Cr / Pilchuck Cr
WRIA NUMBER - NAME	5 - Stillaguamish
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Snohomish County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 992167
TOTAL LINEAR GAIN	1.77 Miles
TOTAL REQUESTED AMOUNT	\$122,230

BARRIER SUMMARY	
SITE ID	992167
FEATURE TYPE	Culvert; Fishway
% PASSABILITY	67
OWNERSHIP	County - Snohomish
ROAD NAME	4 th Ave NW



PROJECT SUMMARY	
OVERALL RANK	54
STREAM NAME / TRIB TO	Unnamed / Grader Cr
WRIA NUMBER - NAME	20 – Soleduc/Hoh
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Pacific Coast Salmon Coalition
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 132131541
TOTAL LINEAR GAIN	0.06 Miles
TOTAL REQUESTED AMOUNT	\$68,931

BARRIER SUMMARY	
SITE ID	132131541
FEATURE TYPE	Culvert; Fishway
% PASSABILITY	33
OWNERSHIP	Private
ROAD NAME	Private/US 101



PROJECT SUMMARY	
OVERALL RANK	55
STREAM NAME / TRIB TO	Unnamed / Starbird Cr
WRIA NUMBER - NAME	3 – Lower Skagit/Samish
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Skagit County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: CR80
TOTAL LINEAR GAIN	0.24 Miles
TOTAL REQUESTED AMOUNT	\$64,000

BARRIER SUMMARY	
SITE ID	CR80
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	County - Skagit
ROAD NAME	Starbird Rd



PROJECT SUMMARY	
OVERALL RANK	56
STREAM NAME / TRIB TO	Williams Cr / Pilchuck R
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, BT, RT
SCOPE	Planning
SPONSOR	Snohomish County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: XID5170
TOTAL LINEAR GAIN	0.22 Miles
TOTAL REQUESTED AMOUNT	\$63,750

BARRIER SUMMARY	
SITE ID	XID5170
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Snohomish
ROAD NAME	Unnamed; S Machias Rd



PROJECT SUMMARY	
OVERALL RANK	57
STREAM NAME / TRIB TO	Lyon Cr / Lake Washington
WRIA NUMBER - NAME	8 – Cedar/Sammamish
SPECIES AFFECTED	CHNK, SOCK, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	City of Lake Forest Park
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 990253
TOTAL LINEAR GAIN	0.03 Miles
TOTAL REQUESTED AMOUNT	\$200,000

BARRIER SUMMARY	
SITE ID	990253
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	City of Lake Forest Park
ROAD NAME	SR 104



PROJECT SUMMARY	
OVERALL RANK	58
STREAM NAME / TRIB TO	Secret Cr / Pilchuck Cr
WRIA NUMBER - NAME	5 - Stillaguamish
SPECIES AFFECTED	CHNK, PINK, CHUM, COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Snohomish County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 992169
TOTAL LINEAR GAIN	0.18 Miles
TOTAL REQUESTED AMOUNT	\$144,755

BARRIER SUMMARY	
SITE ID	992169
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Snohomish
ROAD NAME	W Sunday Lake Rd



PROJECT SUMMARY	
OVERALL RANK	59
STREAM NAME / TRIB TO	Secret Cr / Pilchuck Cr
WRIA NUMBER - NAME	5 - Stillaguamish
SPECIES AFFECTED	CHUM, COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Snohomish County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 991974
TOTAL LINEAR GAIN	0.19 Miles
TOTAL REQUESTED AMOUNT	\$694,025

BARRIER SUMMARY	
SITE ID	991974
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Snohomish
ROAD NAME	268 th St NW



PROJECT SUMMARY	
OVERALL RANK	60
STREAM NAME / TRIB TO	Unnamed / Silver Lake
WRIA NUMBER - NAME	8 – Cedar/Sammamish
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	City of Everett
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 993125
TOTAL LINEAR GAIN	0.09 Miles
TOTAL REQUESTED AMOUNT	\$188,000

BARRIER SUMMARY	
SITE ID	993125
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	City - Everett
ROAD NAME	Silver Lake Rd



PROJECT SUMMARY	
OVERALL RANK	61
STREAM NAME / TRIB TO	Ennis Cr / Strait of Juan de Fuca
WRIA NUMBER - NAME	18 – Elwha/Dungeness
SPECIES AFFECTED	CHUM, CHNK, PINK, COHO, STHD, SRCT, BT, RT
SCOPE	Planning
SPONSOR	City of Port Angeles
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	2: 931825, 992658
TOTAL LINEAR GAIN	1.20 Miles
TOTAL REQUESTED AMOUNT	\$200,000

BARRIER SUMMARY	
SITE ID	931825
FEATURE TYPE	Other
% PASSABILITY	33
OWNERSHIP	City - Port Angeles
ROAD NAME	Olympic Discovery Trail/Rayonier Access Rd



BARRIER SUMMARY	
SITE ID	992658
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	City - Port Angeles
ROAD NAME	E Ennis Cr Rd



PROJECT SUMMARY	
OVERALL RANK	62
STREAM NAME / TRIB TO	Panther Cr / Black R
WRIA NUMBER - NAME	9 – Duwamish/Green
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	City of Renton
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 931933
TOTAL LINEAR GAIN	0.78 Miles
TOTAL REQUESTED AMOUNT	\$424,150

BARRIER SUMMARY	
SITE ID	931933
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	City - Renton
ROAD NAME	Talbot Rd



PROJECT SUMMARY	
OVERALL RANK	63
STREAM NAME / TRIB TO	Erick Cr / Abernethy Cr
WRIA NUMBER - NAME	25 – Grays/Elochoman
SPECIES AFFECTED	COHO, STHD, RT
SCOPE	Restoration
SPONSOR	Cowlitz County
PATHWAY	Coordinated
# OF BARRIERS: SITE IDs	1: 106c0008
TOTAL LINEAR GAIN	2.82 Miles
TOTAL REQUESTED AMOUNT	\$1,099,050

BARRIER SUMMARY	
SITE ID	106c0008
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Cowlitz
ROAD NAME	Abernathy Creek Rd



PROJECT SUMMARY	
OVERALL RANK	64
STREAM NAME / TRIB TO	Unnamed / Little Pilchuck Cr
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Snohomish County
PATHWAY	Watershed: Pilchuck
# OF BARRIERS: SITE IDs	1: 810283
TOTAL LINEAR GAIN	0.10 Miles
TOTAL REQUESTED AMOUNT	\$200,000

BARRIER SUMMARY	
SITE ID	810283
FEATURE TYPE	Culvert
% PASSABILITY	33
OWNERSHIP	County - Snohomish
ROAD NAME	123 rd Ave NE



PROJECT SUMMARY	
OVERALL RANK	65
STREAM NAME / TRIB TO	Unnamed / Little Pilchuck Cr
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Planning
SPONSOR	Snohomish County
PATHWAY	Watershed: Pilchuck
# OF BARRIERS: SITE IDs	1: 930004
TOTAL LINEAR GAIN	0.40 Miles
TOTAL REQUESTED AMOUNT	\$200,000

BARRIER SUMMARY	
SITE ID	930004
FEATURE TYPE	Culvert
% PASSABILITY	67
OWNERSHIP	County - Snohomish
ROAD NAME	66 th St NE



PROJECT SUMMARY	
OVERALL RANK	66
STREAM NAME / TRIB TO	Unnamed / Little Pilchuck Cr
WRIA NUMBER - NAME	7 - Snohomish
SPECIES AFFECTED	COHO, STHD, SRCT, RT
SCOPE	Restoration
SPONSOR	Sound Salmon Solutions
PATHWAY	Watershed: Pilchuck
# OF BARRIERS: SITE IDs	1: 930005
TOTAL LINEAR GAIN	0.70 Miles
TOTAL REQUESTED AMOUNT	\$190,000

BARRIER SUMMARY	
SITE ID	930005
FEATURE TYPE	Culvert
% PASSABILITY	0
OWNERSHIP	Private
ROAD NAME	123 rd Ave NE



2017-19 FBRB PROJECTS (January 14, 2019)

Project Name	WDFW / RCO	Amt. in enacted 2017-19 Capital Budget	Total Agreement Amt.	RCO Share	Real Match	Comment
Chico Cr	Piazza / Caudill	\$3,785,000	\$3,922,000	\$3,472,000	\$450,000	
Johnson Cr	Piazza / Caudill	\$3,008,000	\$2,256,632	\$2,158,432	\$98,200	Bid for entire project came in under (incl. creosote removal), so not expecting cost increase request
Buford Cr	Collins / Lambert	\$4,721,000	\$4,409,284	\$4,160,031	\$249,253	Total agreement amount is after adjustment approved on May 25, 2018 (clerical error)
MF Newaukum	Roler / Lambert	\$572,000	\$1,016,993	\$1,016,993	\$0	491,993\$ cost increase request approved
Trib to Arkansas Cr	Roler	\$285,000	\$0	\$0		funded by FEMA—application withdrawn
Coleman Cr	Collins / Caudill	\$771,000	\$606,762	\$606,762	\$0	
Catherine Cr	Piazza / Lambert	\$566,000	\$316,389	\$307,427	\$8,962	
Trib to Coffee Cr	Piazza / Caudill	\$327,000	\$704,343	\$300,000	\$404,343	404,343\$ provided by Puget Sound Acq./Rest., bringing total RCO agreement amt. to 704,343\$
Johnson Cr	Collins / Caudill	\$544,000	\$499,000	\$499,000	\$0	
Baxter Cr	Roler / Lambert	\$2,181,000	\$2,354,118	\$2,001,000	\$353,118	
Turner Cr	Roler / Lambert	\$1,090,000	\$1,347,500	\$1,000,000	\$200,000	Anticipating 147,500\$ cost increase request; WDFW reviewed prelim designs and new cost estimate, sent comments to sponsor
Cottonwood Cr	Collins / Lambert	\$62,000	\$101,700	\$83,200	\$18,500	26,000\$ cost increase approved
Trib to Johnson Cr	Piazza / Caudill	\$1,835,000	\$1,980,000	\$1,683,000	\$297,000	If a bridge is req'd and cost increases above RCO Share amt. (1.68M\$), County will cover the overrun.
MF Newaukum	Roler / Lambert	\$0	\$97,730	\$97,730	\$0	Approved for design-only funding by FBRB (Nov 2018) - previously Alternate #1 on LEAP List
		\$19,747,000	\$19,612,451	\$17,385,575		

Budget Summary for \$19,747,000 in Capital Budget	
Item	Amount
Tot. Grant Awards for Implementation of Top 13 Projects	\$17,385,575
Facilitation Contract	\$68,500
RCO Administration and Project Management	\$813,576
WDFW Administration and Program Implementation	\$798,233
Total	\$19,065,884
<i>Remainder</i>	<i>\$681,116</i>

LEAP List Alternates				
Project	Cost Estimate in 'Binder'	2019-21 Funding Request / Scope	WDFW TRT BIO	Comment
MF Newaukum	\$850,500	\$97,730 / Planning	Roler	Funded by FBRB for Design
Dayton Cr	\$460,000	\$420,304 / Restoration	Piazza	
Coleman Cr	\$1,560,734	\$1,306,080 / Restoration	Collins	
Catherine Cr	\$400,000	\$89,611 / Planning	Piazza	
Johnson Cr	\$550,951	\$489,673 / Restoration	Collins	
Thorndyke Cr	\$1,412,000	\$198,313 / Planning	Roler	

Tidal Fish Passage



Padraic Smith, P.E.
Doris Small



Tidegate - flap



Adjustable tidegate



Culvert



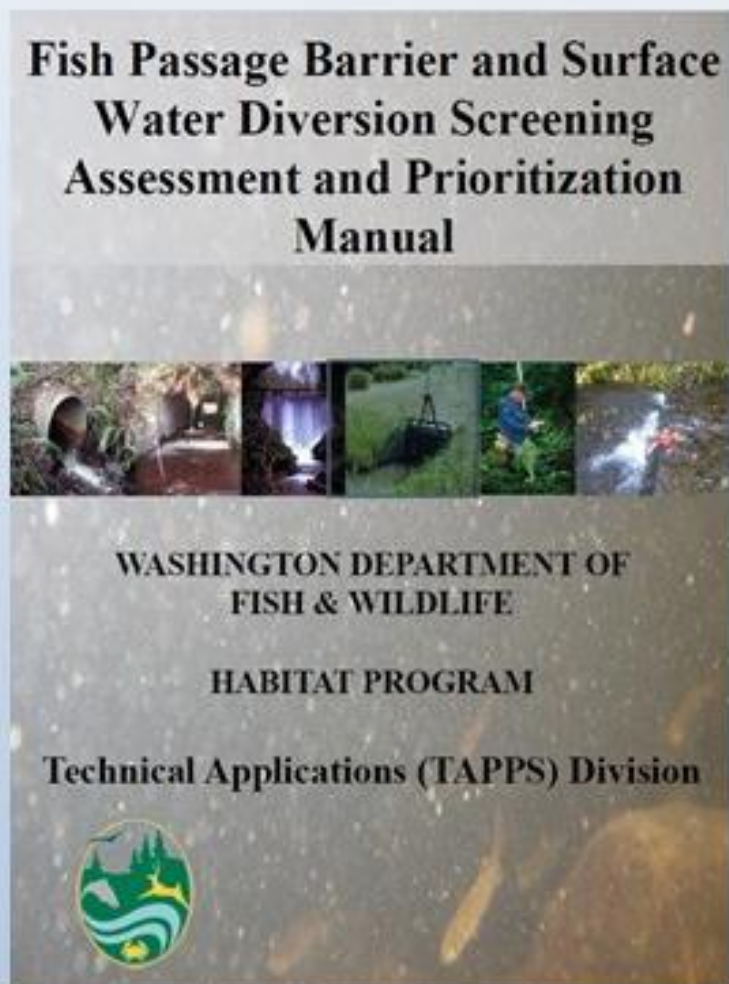
Bridge

- **Lowest in the watershed**
- **High potential to impact fish use and habitat**
- **Technical guidance is lacking**
- **Fish passage remediation is happening *now***



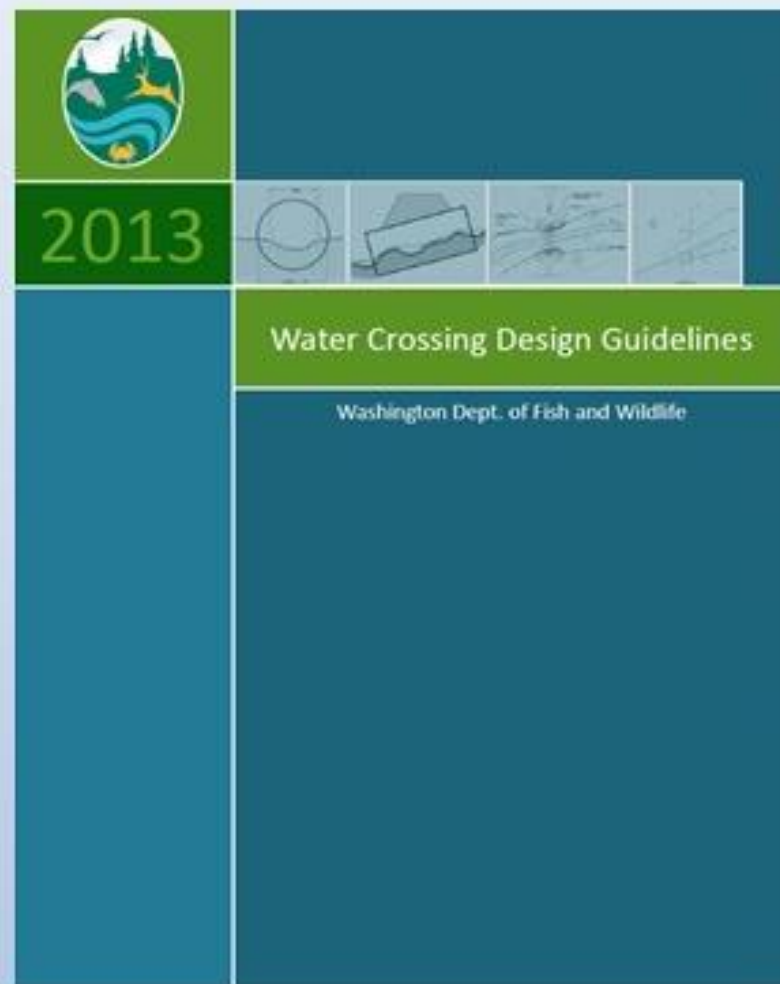
➔ **Technical guidelines for assessment and design**

Current Assessment Criteria



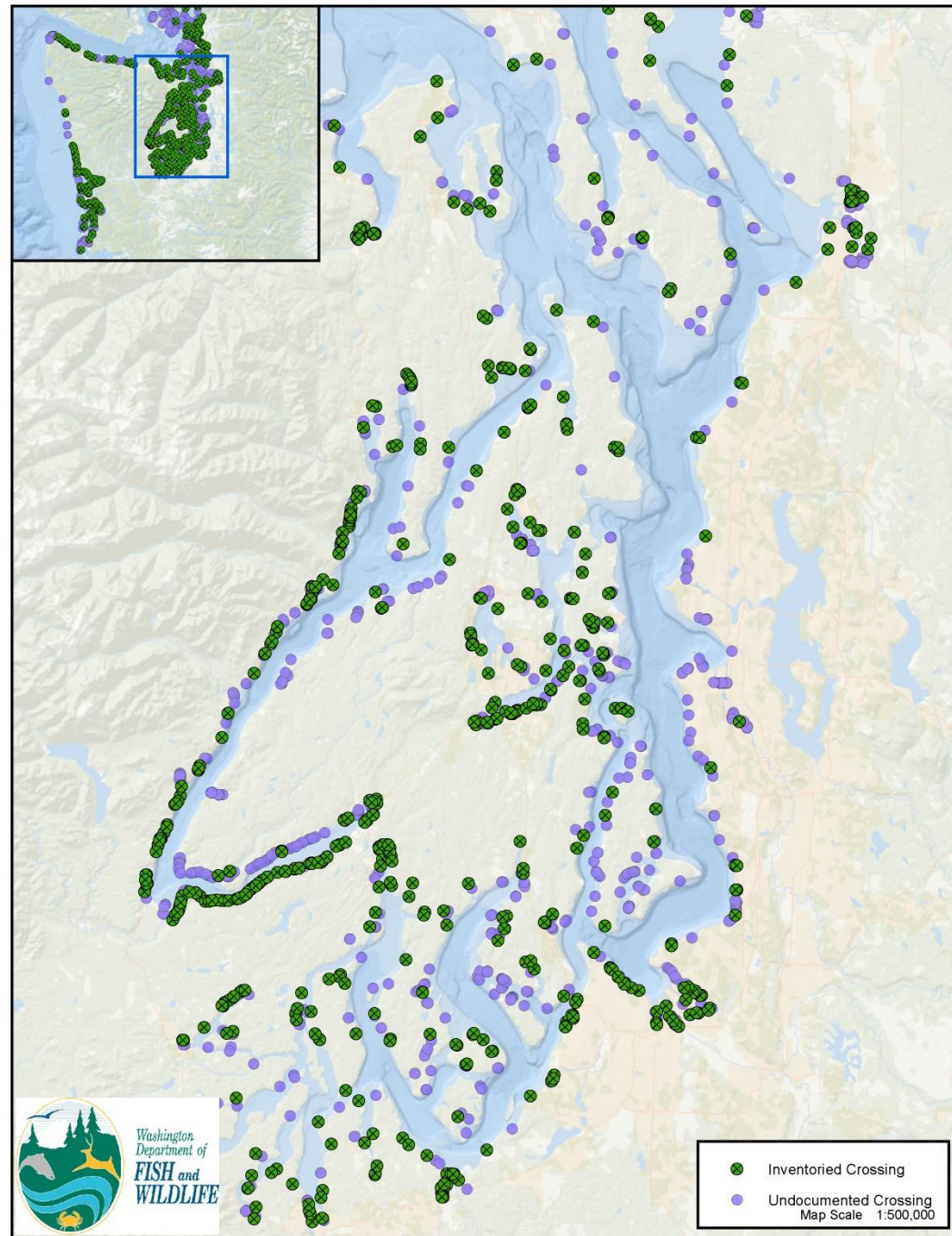
- Developed for riverine systems
- Based on adult salmonids
- No specific provisions for marine and intertidal systems.

Current Design Guidelines



- Appendix D of Washington State Water Crossing Design Guidelines
- Current riverine criteria may not be appropriate for intertidal sites
- Essentially recommends to create the biggest opening possible within the constraints of the project including budget.
- Not very helpful for both the regulatory and design community.

- Magnitude of potential tidal crossings
- Most tidal are categorized as “unknown” passability
- Projects are reviewed and designed on a case by case basis



Fish Passage Barrier Identification (FW)

Established for rivers and streams to move fish upstream during the time that fish are moving

Guidelines:

Address passage barriers for a 6" trout

Offer passage 90% of the time during adult migration

Velocity



Vertical Drop



Water Depth

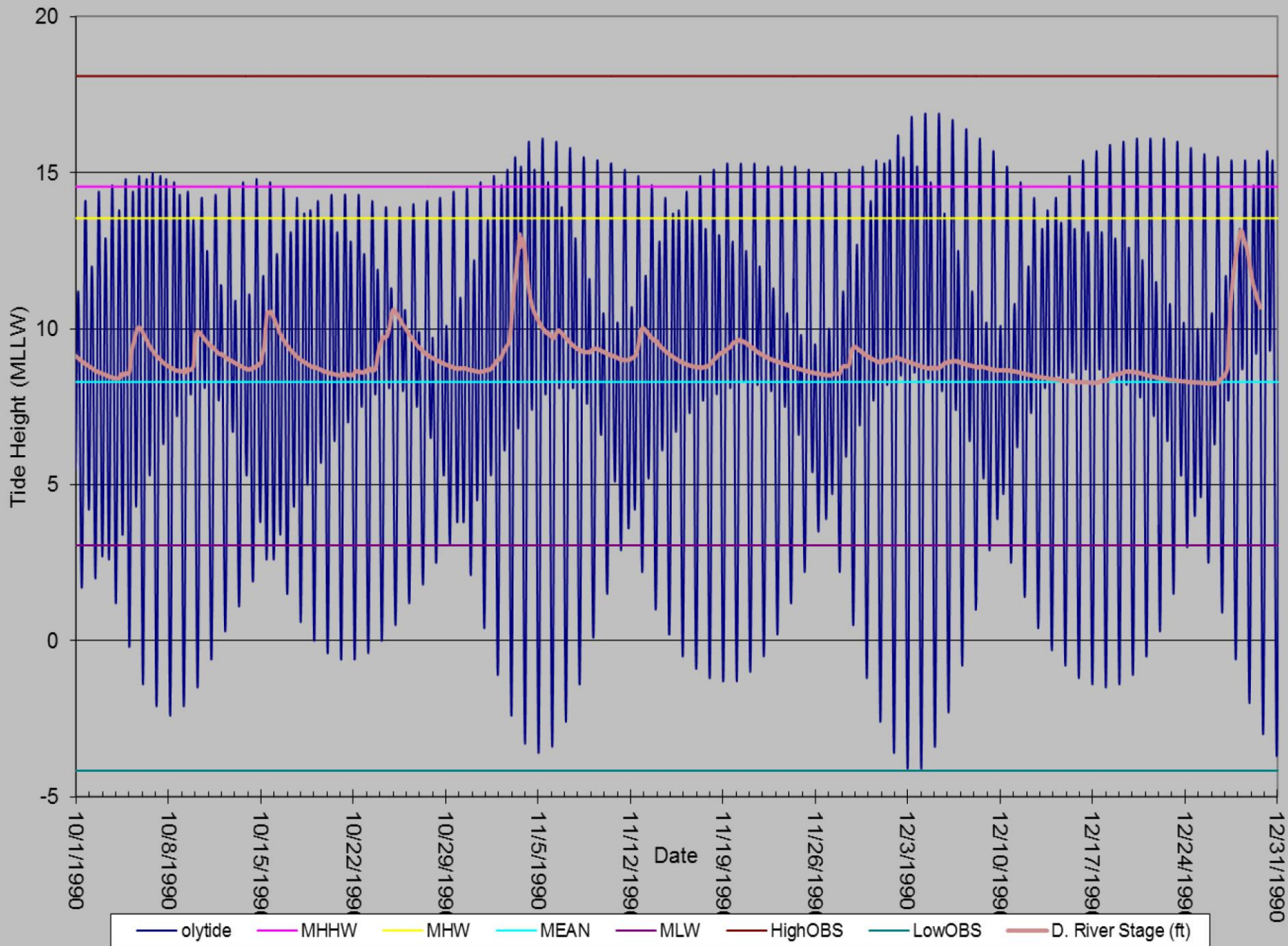


What is a fish passage barrier in the intertidal?

- **Bi-directional tidal flow + riverine flows**
- **Drop, depth & velocity vary throughout tide cycle**



Olympia, WA Tides Oct-Dec 1990



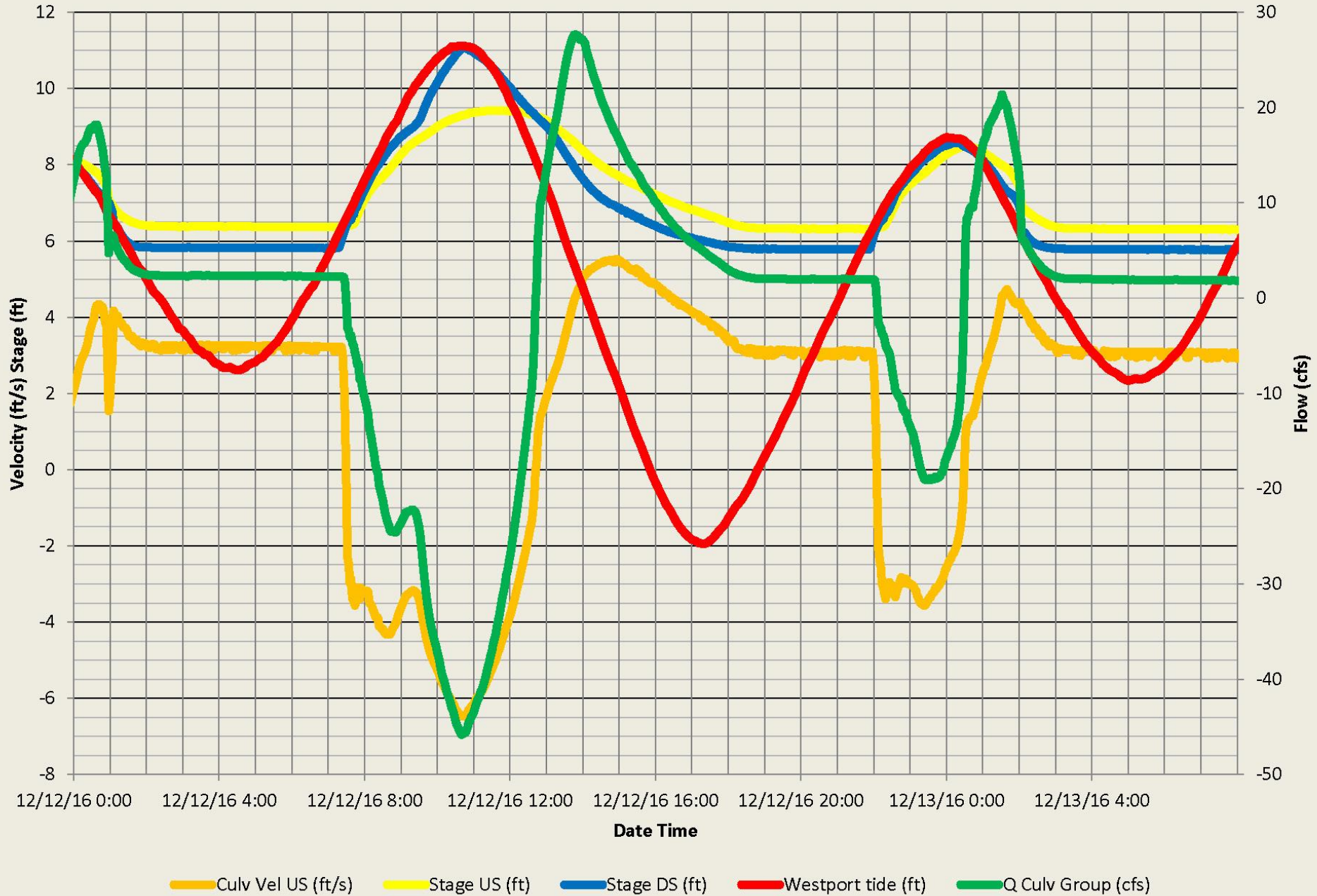
- Intertidal Barrier Assessment
- Site ID # 991295
- Unnamed Tributary to South Bay
- SR 105 MP 31.1



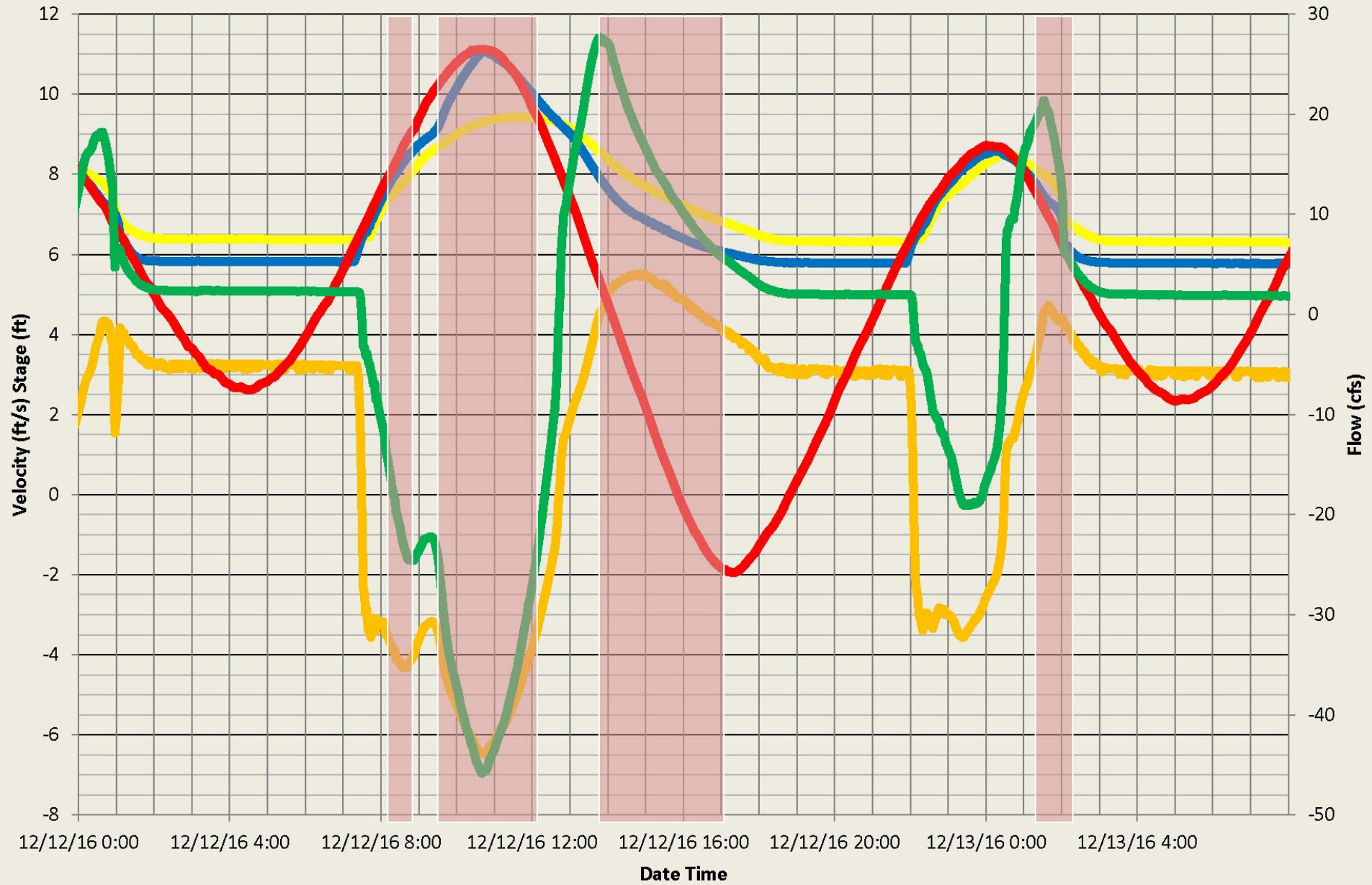
(Q=+-4.9 (cfs), D=+-1.05 (ft), V=+-2.3 (ft/s))



Dec 12 2016 SR 105 991295



Dec 12 2016 SR 105 991295



— Culv Vel US (ft/s) — Stage US (ft) — Stage DS (ft) — Westport tide (ft) — Q Culv Group (cfs)



Changes in hydrologic regime affects habitat at tidal crossings

- **Vegetation**
- **Water quality (temperature, salinity, DO, pollutant transport, etc)**
- **Volumetric exchange**
- **Debris passage (seed dispersal, wood, vegetation mats, etc.)**
- **Other observable impacts (submergence, sediment transport, shoaling, scour holes, etc)**

What is a fish passage barrier in the intertidal?

- **Adult fish passage to spawning grounds**
- **Access to intertidal rearing habitat**





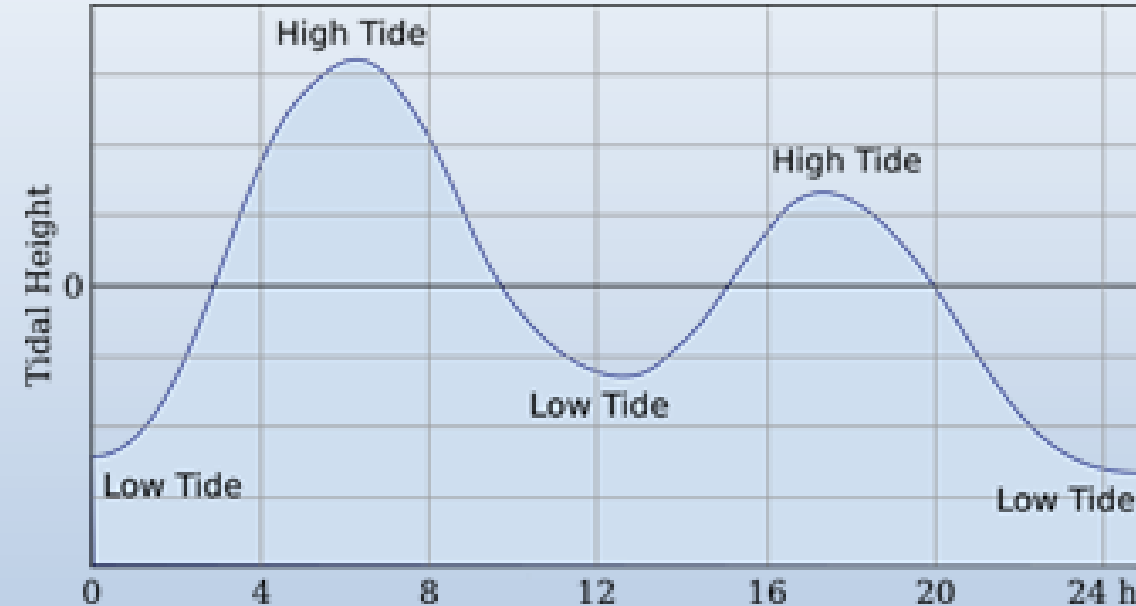
Small fish with weak swimming abilities



Access to intertidal habitat



Key Questions – Fish Movement



Do structures affect ability to volitionally migrate?

Do fish move with or against the tide?

When are fish moving during the tide cycle?

Are fish behaviorally affected by physical changes in hydrology & landscape at crossing structures?

What are the consequences of blockage or delay?

“Effects of Intertidal Water Crossing Structures on Estuarine Fish and Their Habitat: A literature review and synthesis”

Correigh Greene. NOAA Fisheries NWFSC

Jason Hall, Cramer Fish Sciences

Doris Small & Pad Smith, Washington Dept Fish & Wildlife

Oct 2017

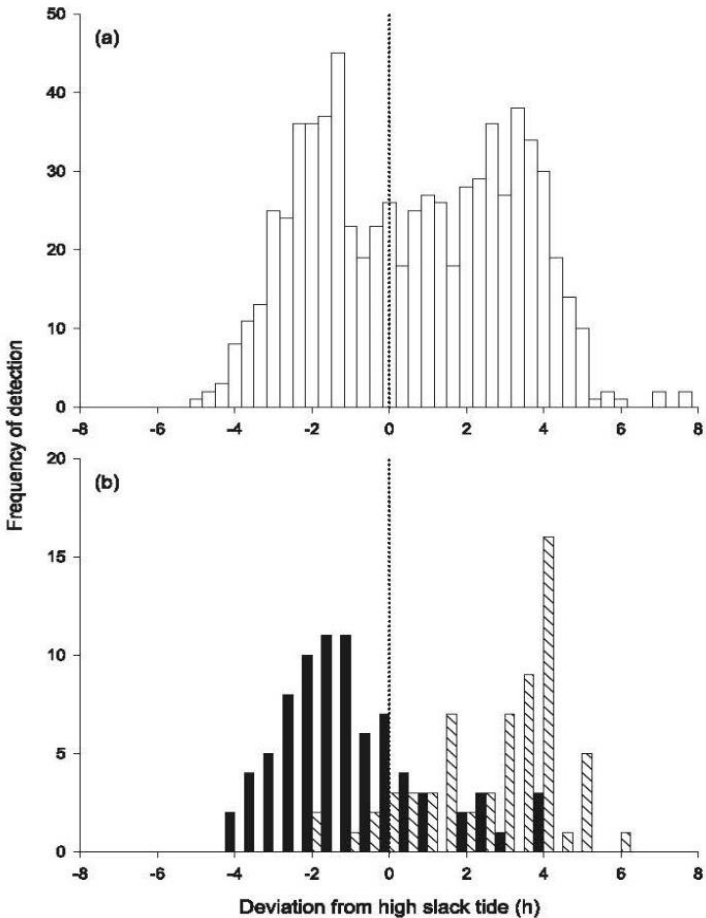


- ***Tidal fish movement studies lacking***
 - ***Hering et al. 2010***
- ***Estuarine fish use by juvenile salmonids for rearing***
- ***Natal and non-natal estuaries used for rearing***
- ***Structures impact fish passage and habitat quality/quantity***
- ***Climate change***
- ***Data gaps***

Tidal movements and residency of subyearling Chinook salmon (*Oncorhynchus tshawytscha*) in an Oregon salt marsh channel

David K. Hering, Daniel L. Bottom, Earl F. Prentice, Kim K. Jones and Ian A. Fleming

Fig. 5. (a) Frequency of all PIT tag detections at antenna 1, and (b) frequency of fish movements into (solid bars) and out of (hatched bars) the study channel in 2005, relative to the tidal cycle. Vertical dotted lines indicate timing of high slack tide.



Juvenile Salmonid Movement Studies



Tidal water crossing structures:

- Small stream outlets
- Embayments

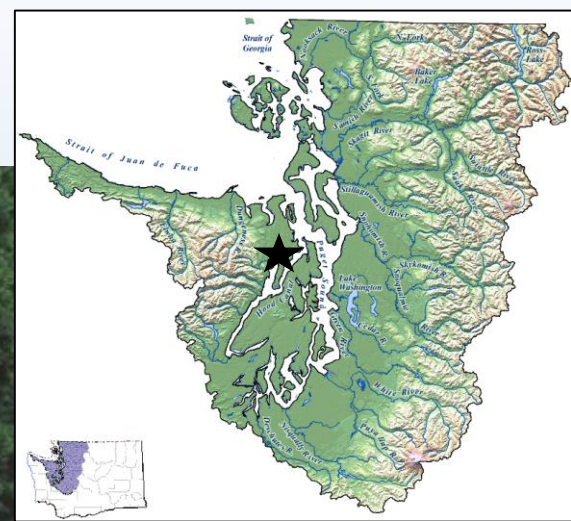


Which fish species and sizes are most impacted at these locations?

- Chinook (<60 mm FL)
- Chum (<60 mm FL)
- Chinook (60 – 120 mm FL)
- Coho subyearlings (<60 mm FL)

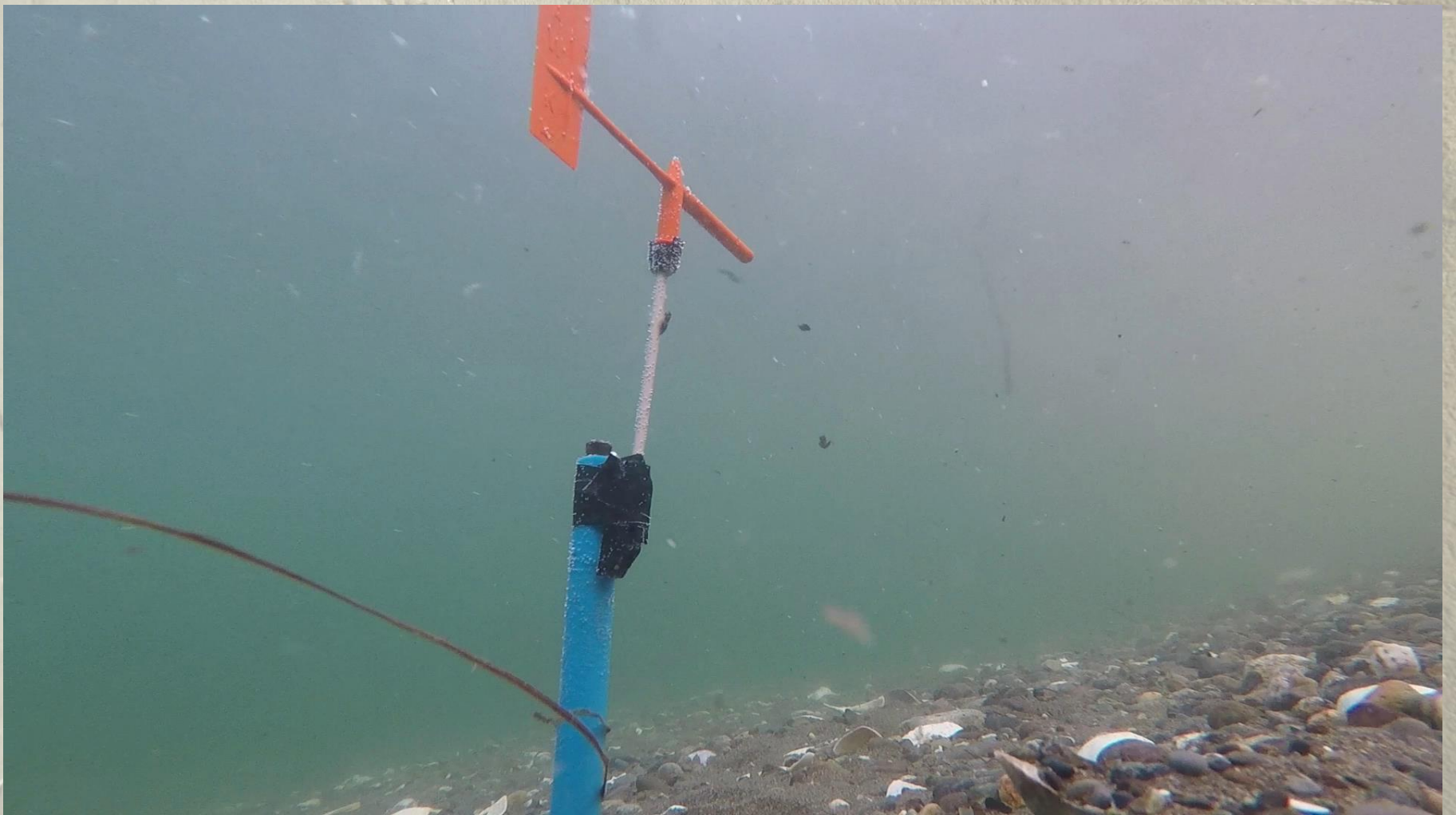
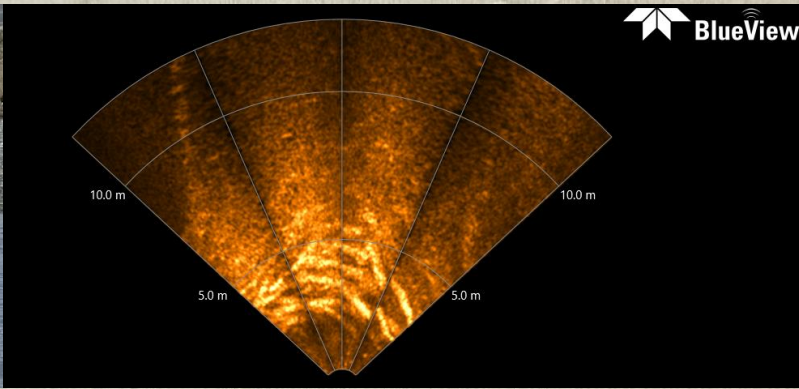


Thorndyke Bay, Hood Canal

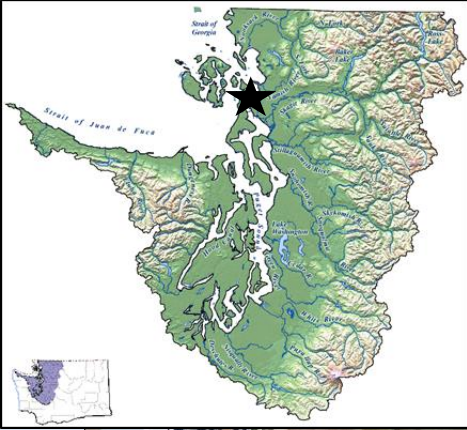


Project partner:
Port Gamble/S'Klallam Tribe

- Target fish: Chum (<60mm)**
- Blue-View imaging sonar
 - Underwater camera array



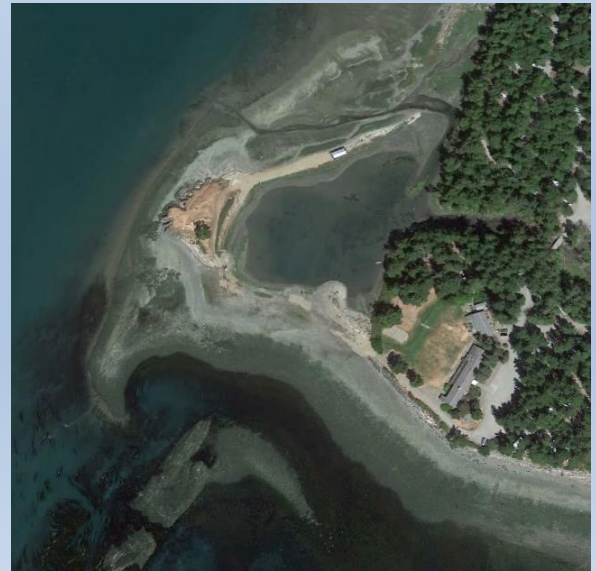
Skagit Delta, North Puget Sound



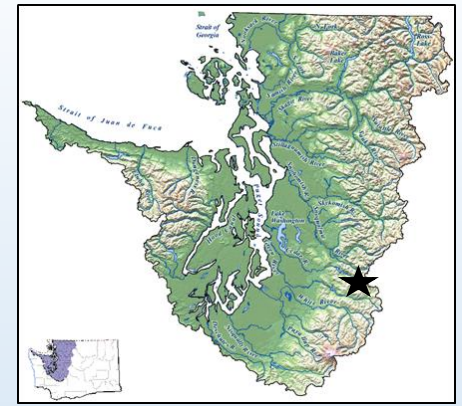
Project partner:
Skagit River System Cooperative

Target fish: < 60 mm Chinook & Chum

- Beach seines
- Underwater camera



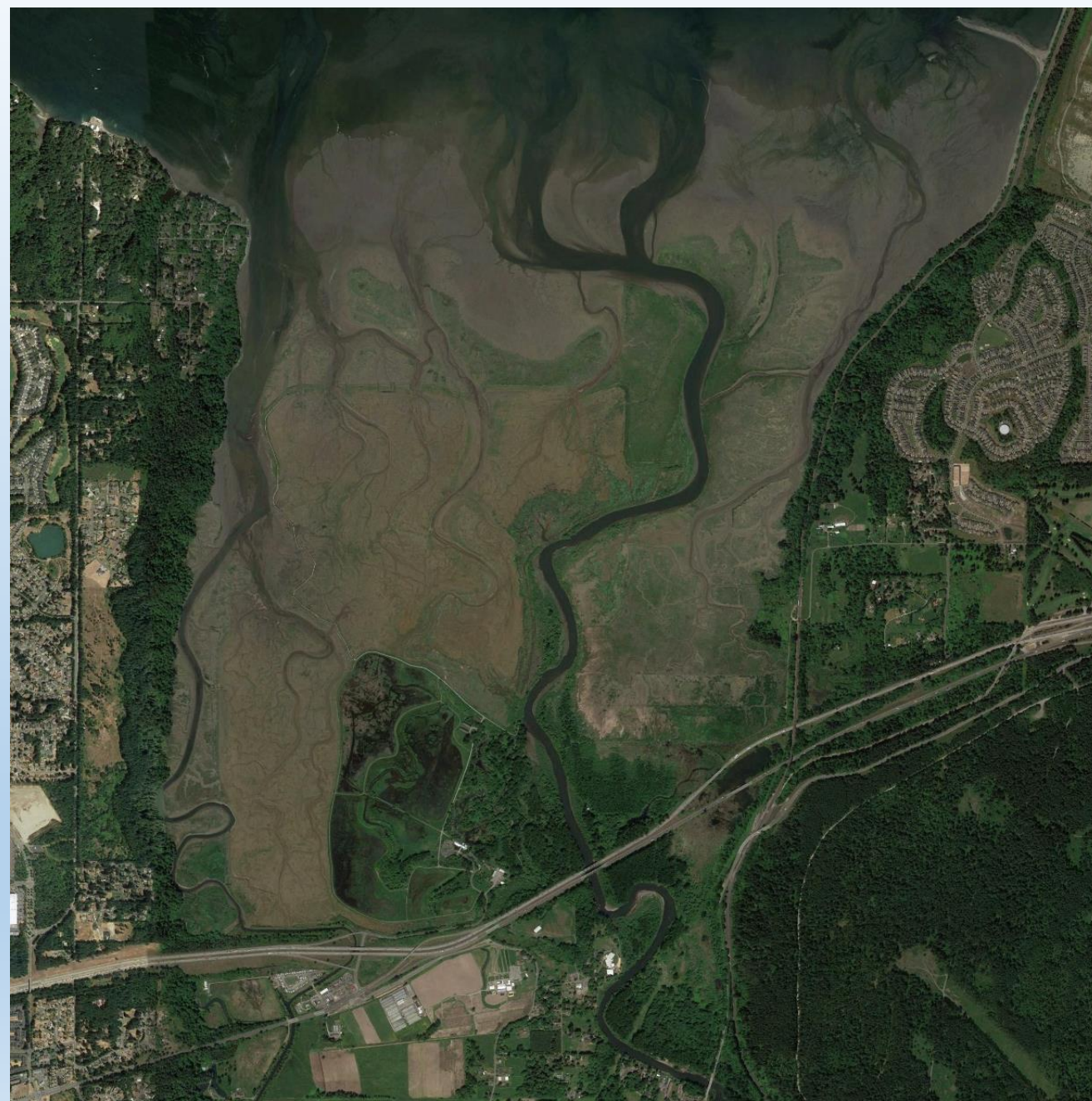
Nisqually River Estuary, South Puget Sound



Project partner:
Nisqually Indian Tribe

**Target fish: Hatchery
Chinook (>60mm)**

- PIT tags
- Underwater camera



Passive Integrated Transponder



Target fish: Hatchery Chinook
(65 – 100 mm FL)
12 mm tag



- Can monitor individual fish
- Larger salmonids (>65 mm) estuarine residence
- Conductivity in saltwater
- *Detection range is limited*
- *Smaller antenna (10' x 3')*
- *Antenna higher in watershed*

Nisqually River Estuary – Pilot work in 2018



**Tagged 496 hatchery Chinook (75 – 110 mm FL)
Released over 3 days at 3 locations**



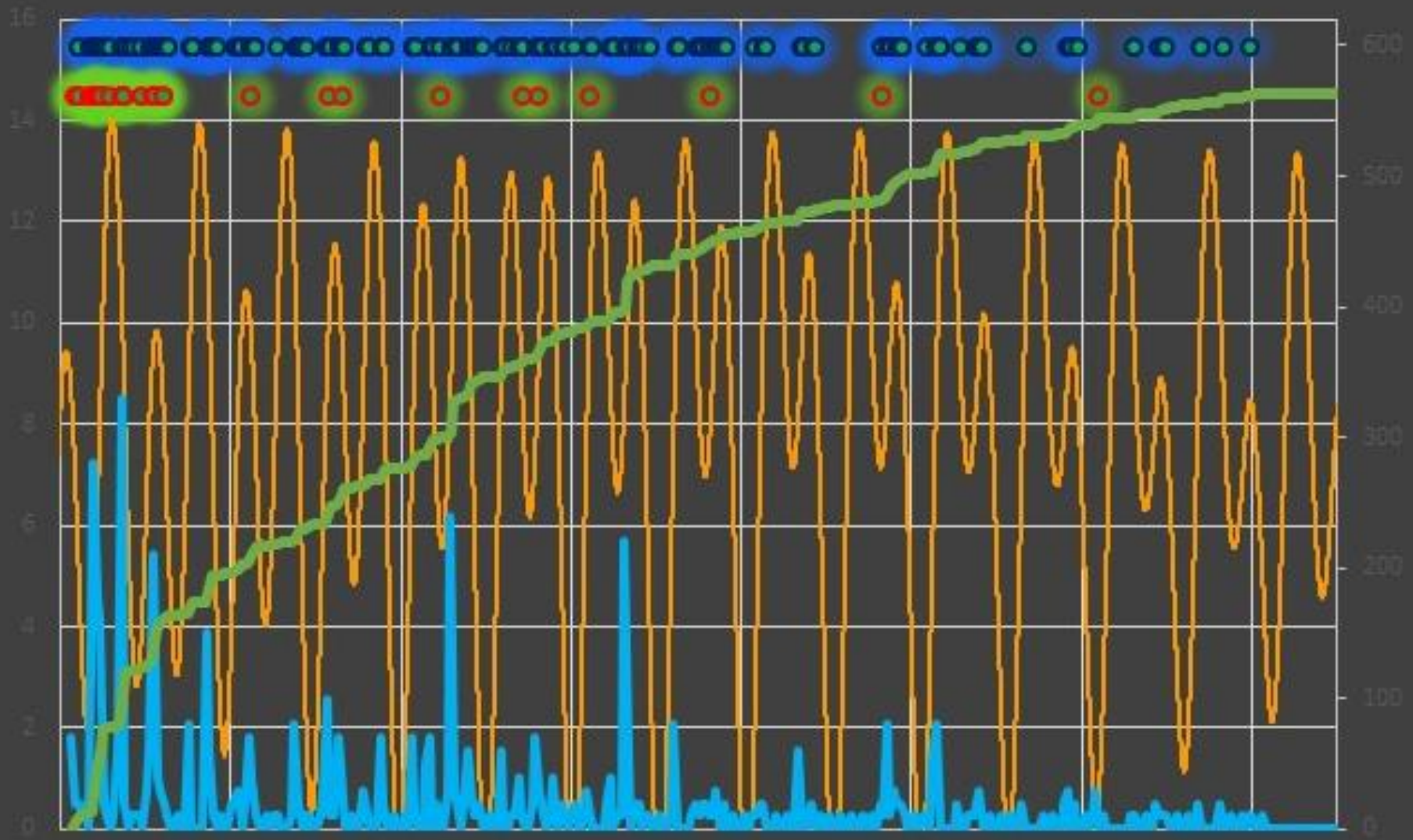
Fish Movement

- Temperature, Salinity, DO
- Time of day
- Behavior
- Tidal cycle
- Depth of water in channel
- Velocity

Nisqually Pilot 2018		
Target fish	75 – 110 mm FL Hatchery Chinook	
Total tags	496 tagged fish 5/21 – 5/23/2018	
Detections	60 fish	453 hits
Dates	5/23 – 6/7	16 of 19 days
Tag Hits	1 hit	23 (38%)
	<10 hits	85%
Tide cycle	1 tide	75%
	>1 tide	25% (range 1 - 19)

Nisqually Data

- Tag Detection
- Dupont Tide
- New Tag Detection
- ANT AMP
- (Fish/Hr) * 10
- Cum Hits
- Poly. (Cum.Hits)

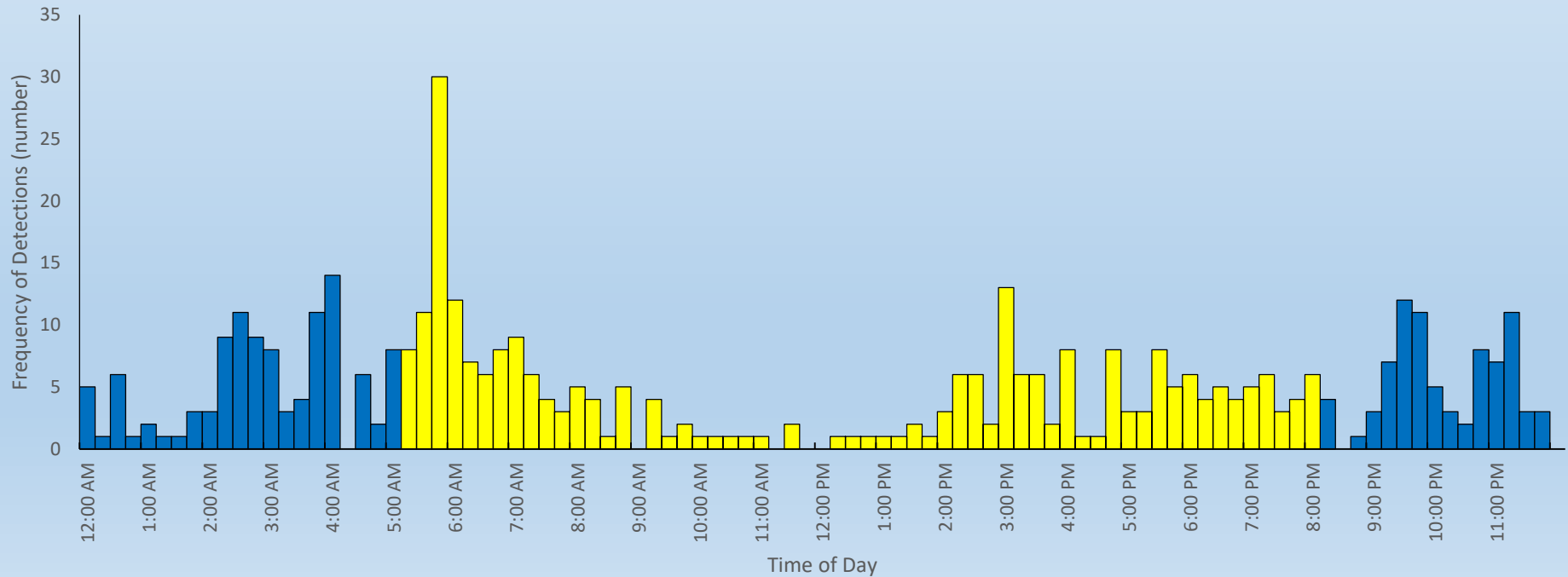


5/25/2018 12 06/25/2018 12 06/27/2018 12 06/29/2018 12 06/31/2018 12 06/2/2018 12 06/4/2018 12 06/6/2018 12 00



Fish Movement

- Temperature, Salinity, DO
- Time of day
- Behavior
- Tidal cycle
- Depth of water in channel
- Velocity



Key Points

- Tidal fish passage emerging topic of interest
- Access to intertidal rearing habitat is as important as adult fish migration
- Fine-scale fish movement is a data gap to inform assessment & design tech guidance development
- Pilot work in 2018

Upcoming work in 2019

- PIT tag study
 - Nisqually
 - Skokomish
- Underwater cameras
- Development of methods
- Continued collaboration



Skokomish Estuary
Project Partner: *Skokomish Tribe*

Discussion



Doris Small, Habitat Program
Washington Dept Fish & Wildlife
doris.small@dfw.wa.gov
360-902-2258

Pad Smith, Habitat Program
Washington Dept Fish & Wildlife
pad.smith@dfw.wa.gov
360-902-2569



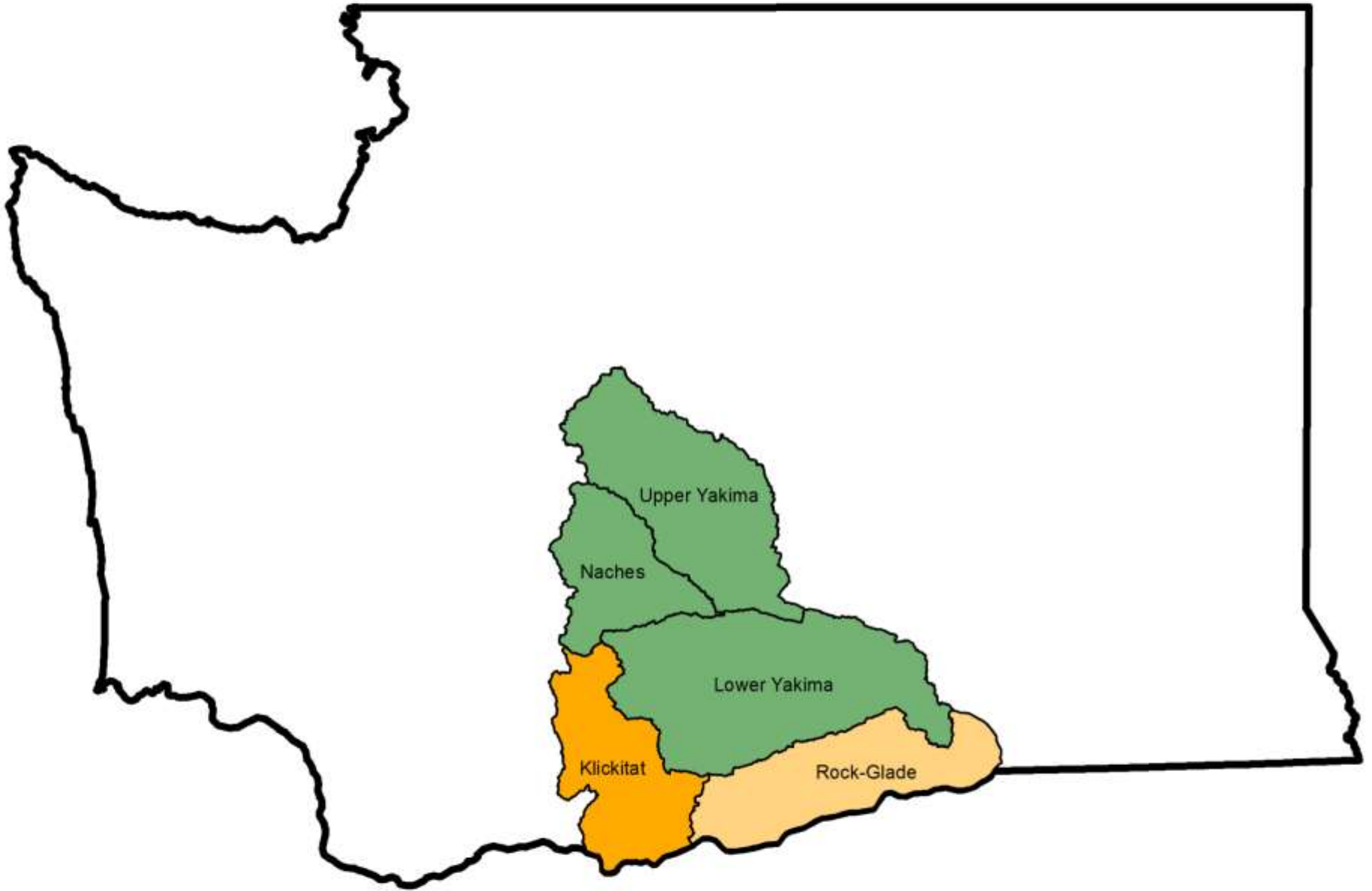
FISH PASSAGE IN THE YAKIMA BASIN

An Update to the Fish Barrier Removal Board

Presented by

Alex Conley (YBFWRB) & Cassandra Weekes (WDFW)

January 15, 2019



Upper Yakima

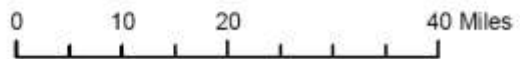
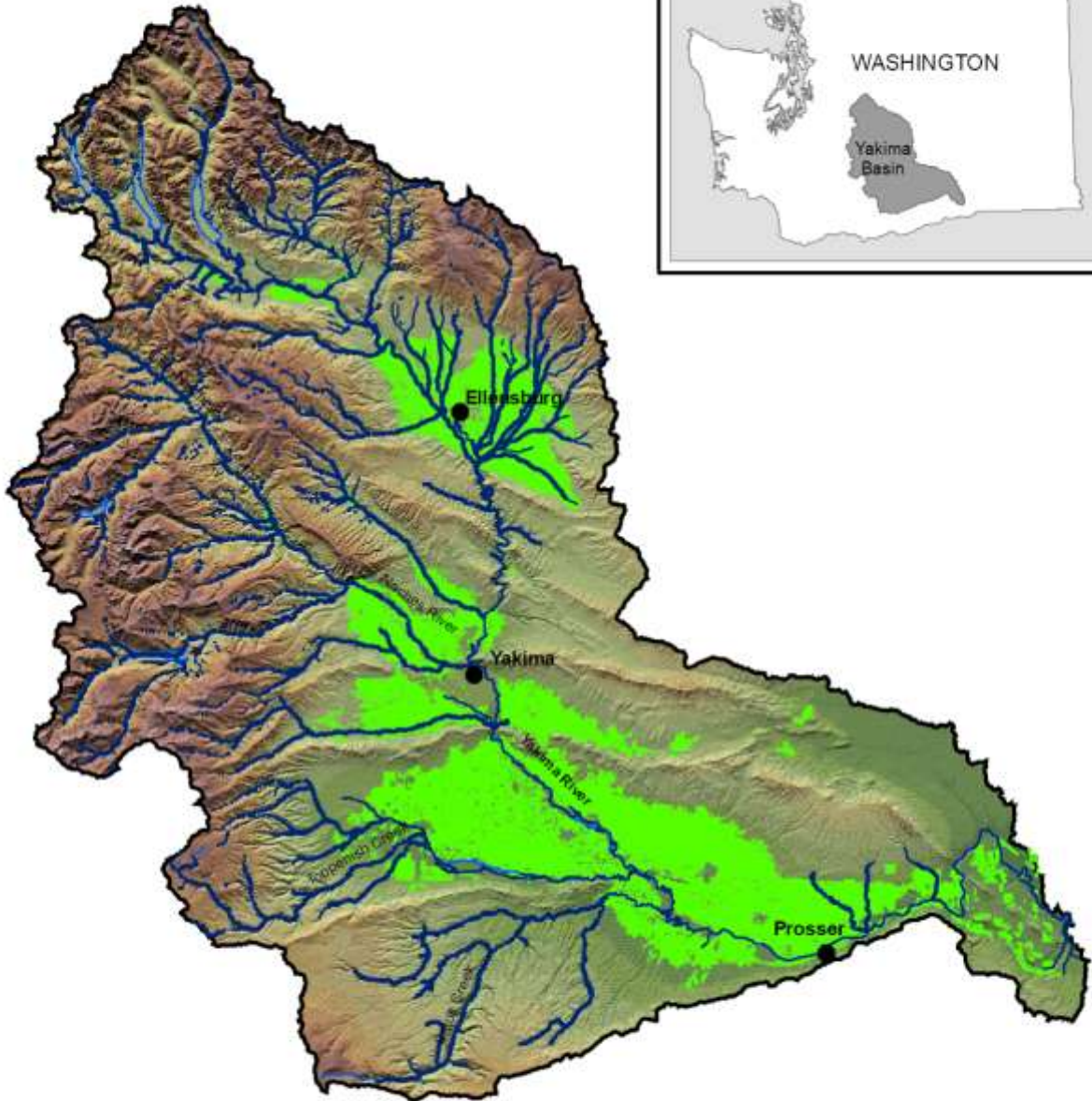
Naches

Lower Yakima

Klickitat

Rock-Glade





FISH PASSAGE WORK IN THE YAKIMA

- Lack of fish passage has been one of the main limiting factors in the Yakima Basin
- Significant investments in fish passage have been made starting in the 1980s
- Multiple programs & funding sources exist to address barriers
- **FBRB is a late comer, but an essential one**

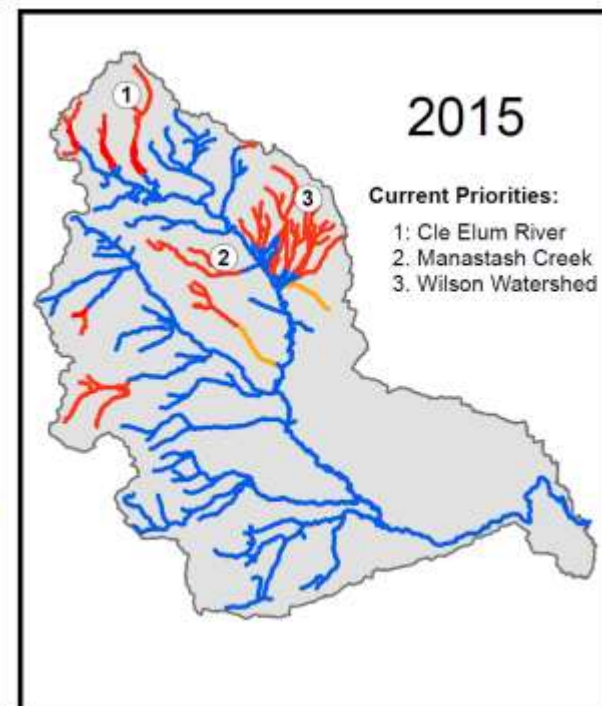
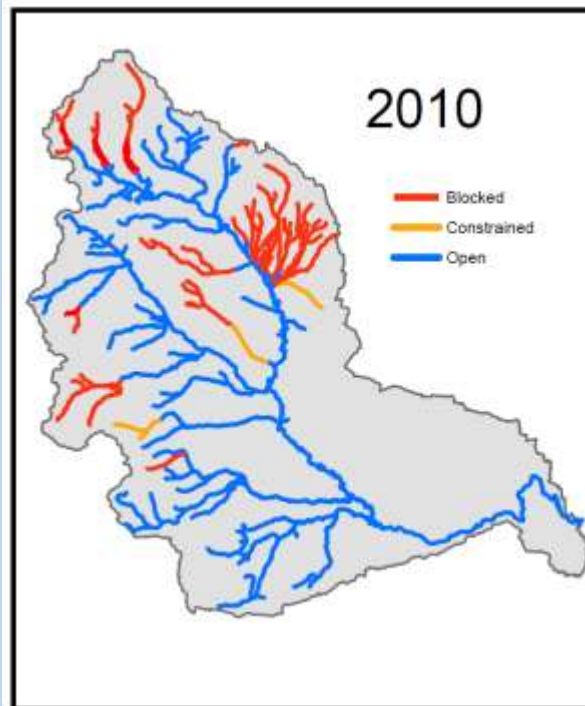
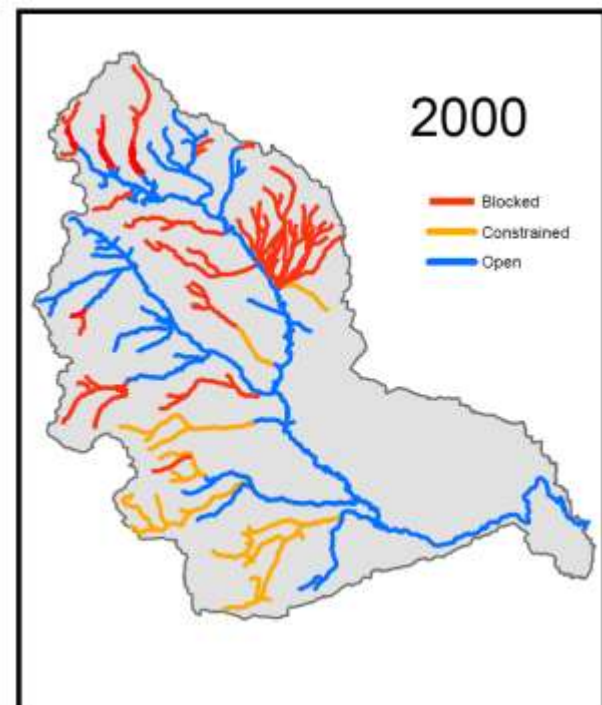
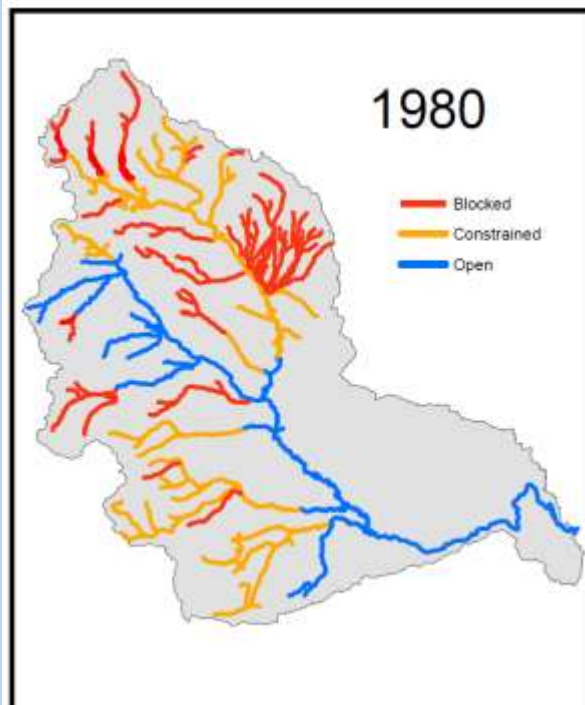
ADULT STEELHEAD PASSAGE OVER TIME

**LOW HANGING FRUIT
ALMOST DONE**

**MAP BASED ON
EXPERT KNOWLEDGE**

DOES NOT COVER:

**PARTIAL BARRIERS
SMALL TRIBS
UNINVENTORIED SITES**



The Early Years: 1980-1996

Work by Bureau of Reclamation, WDFW and BPA starting in 1980s:

- Modern fish ladders at mainstem dams
- Instream flow and screening improvements
- Support for passage and screening for mid-sized irrigation districts

Sunnyside Dam in September 1979





WSDOT Fish Passage Program









WSDOT Fish Passage Inventory

Map Controls

Layers Legend Basemap Search

WSDOT Fish Passage Inventory

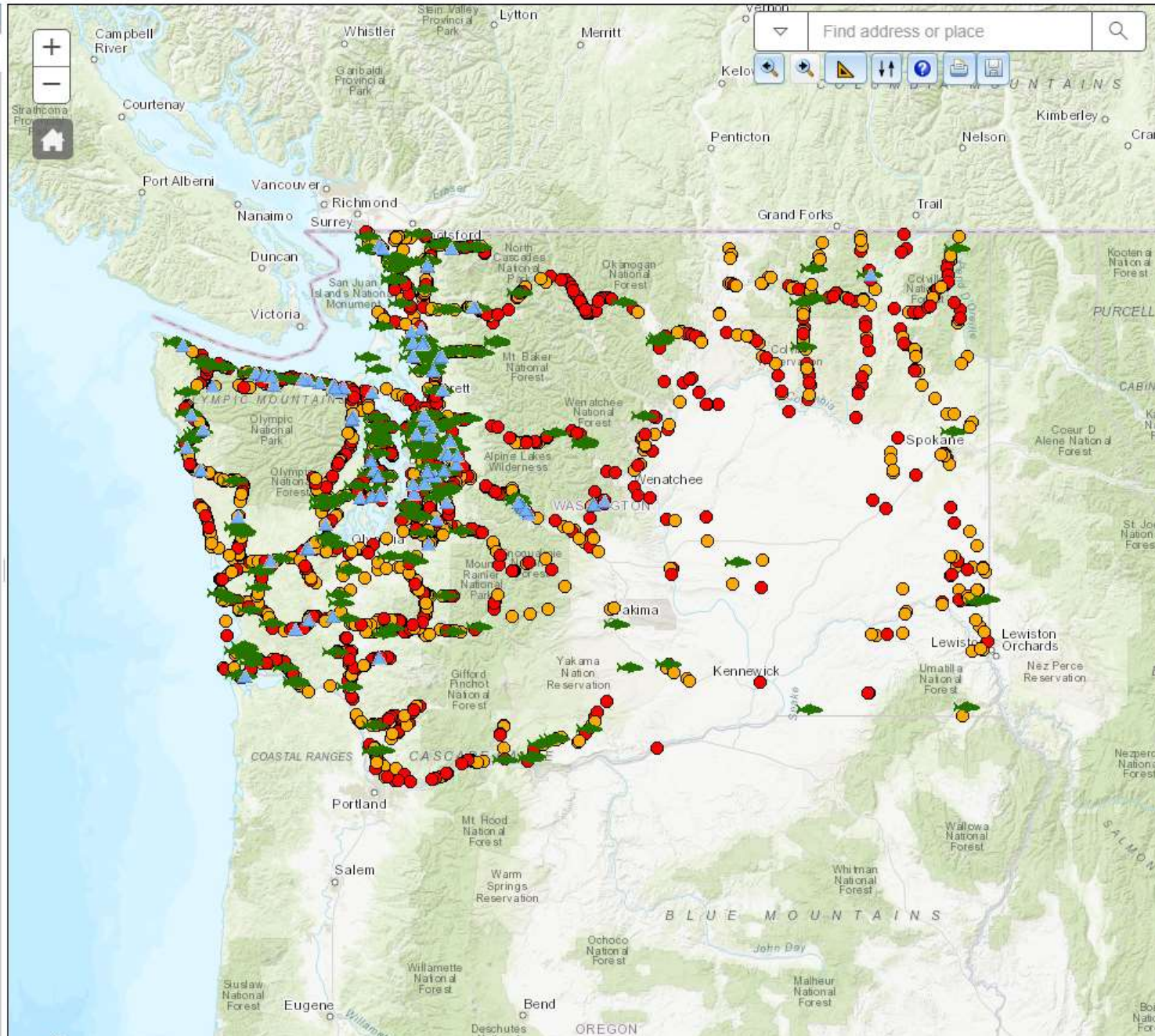
- Uncorrected Barriers Statewide
- Corrected Barriers Statewide
- US v. WA Case Area Boundary
- Uncorrected Barriers Subject to Injunction
- Culverts with Fish Use
- Fish Passage Barrier Correction Plan

Additional Features

- Rivers and Lakes
- State Boundary
- Region Boundaries
- County Boundaries
- Legislative Districts
- Water Resource Inventory Area (WRIA)
- City Limits

Basemap

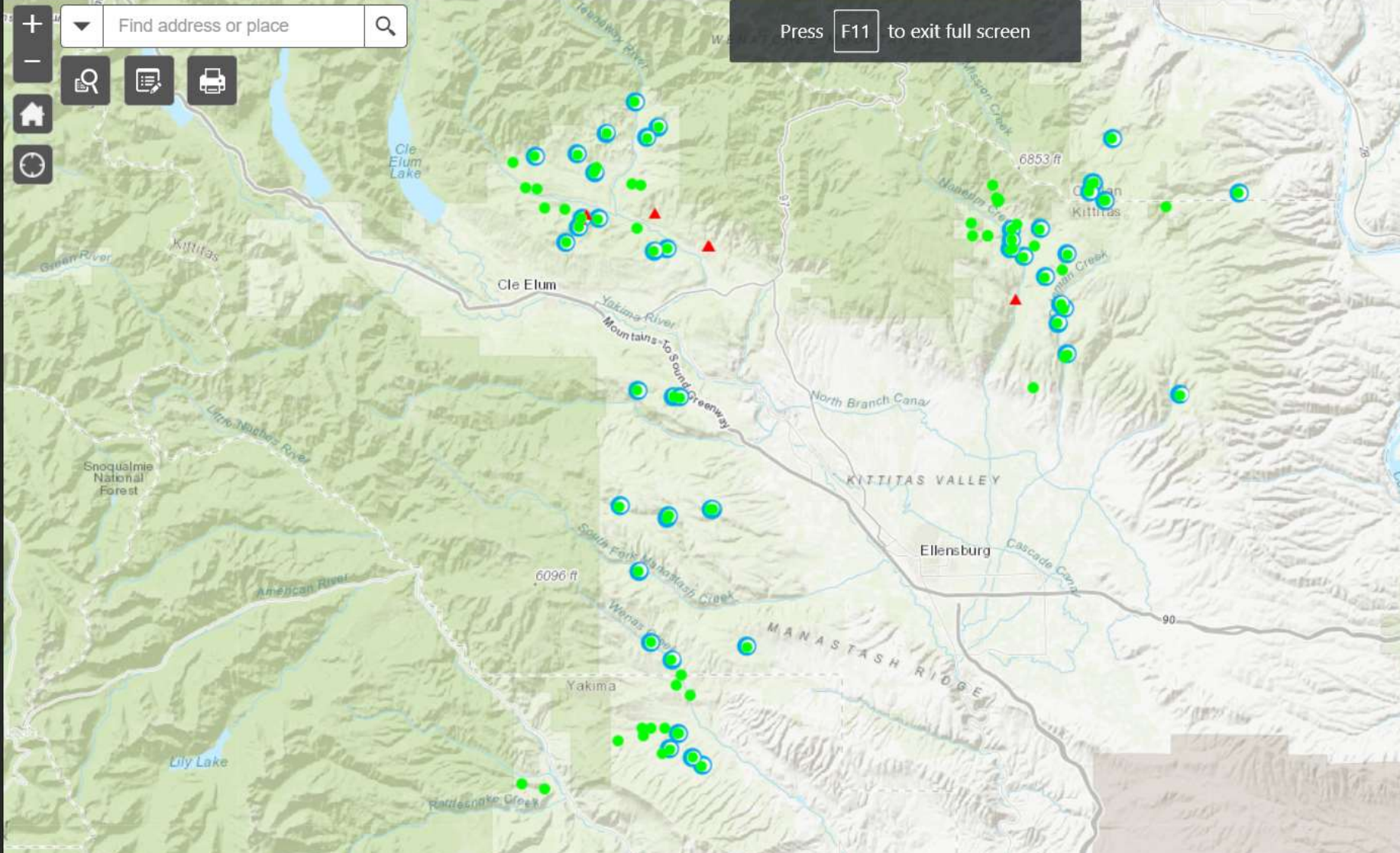
- World Topo_Map



DNR FOREST & FISH PROGRAM

 Washington State Fish Passage

Press **F11** to exit full screen





04/21/2004

YTAHP

Base funding provided by BPA



**Open membership;
meets every month**



**Provide fish passage
at man-made
barriers**



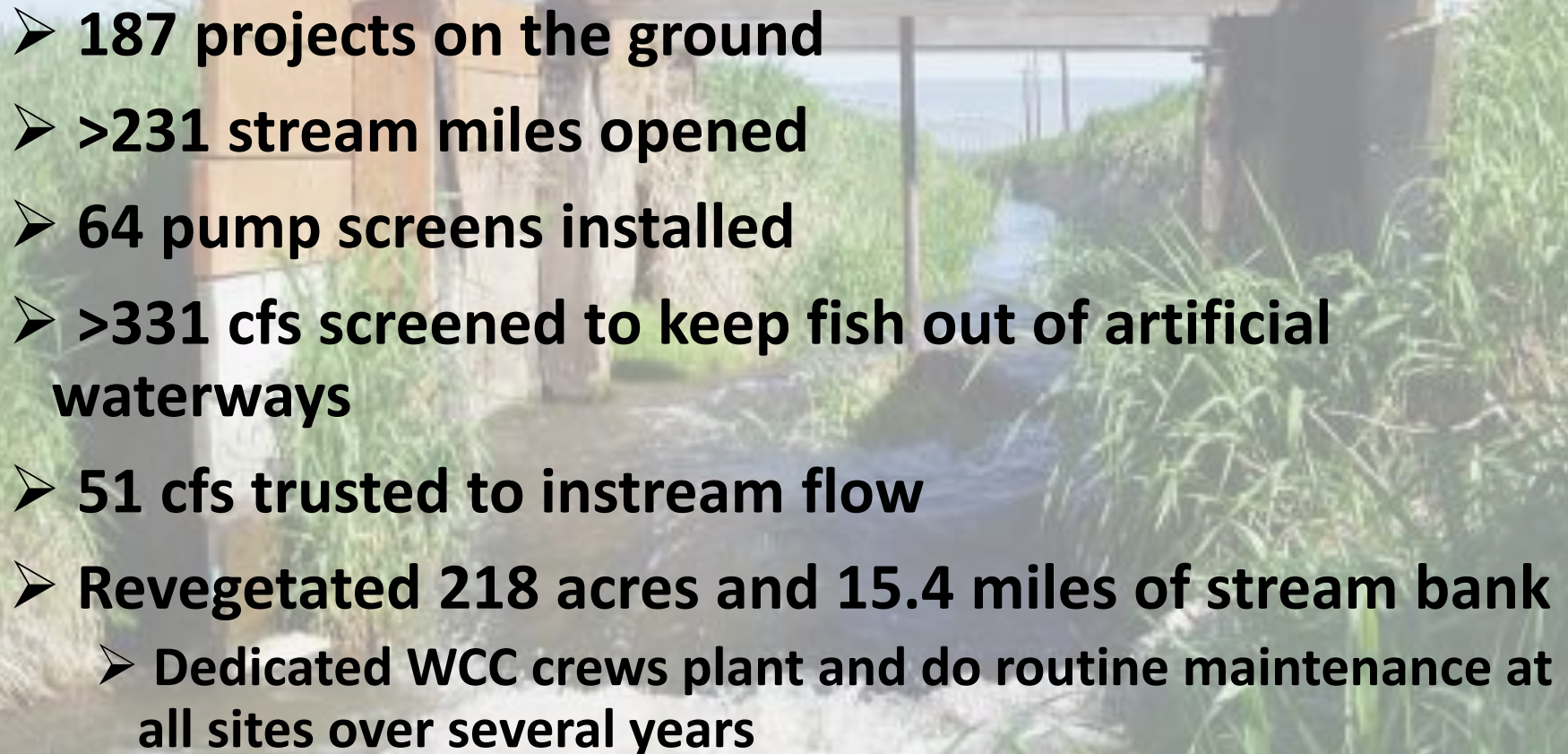
**Screen surface
water diversions**



**Enhance instream and
riparian habitat and function**

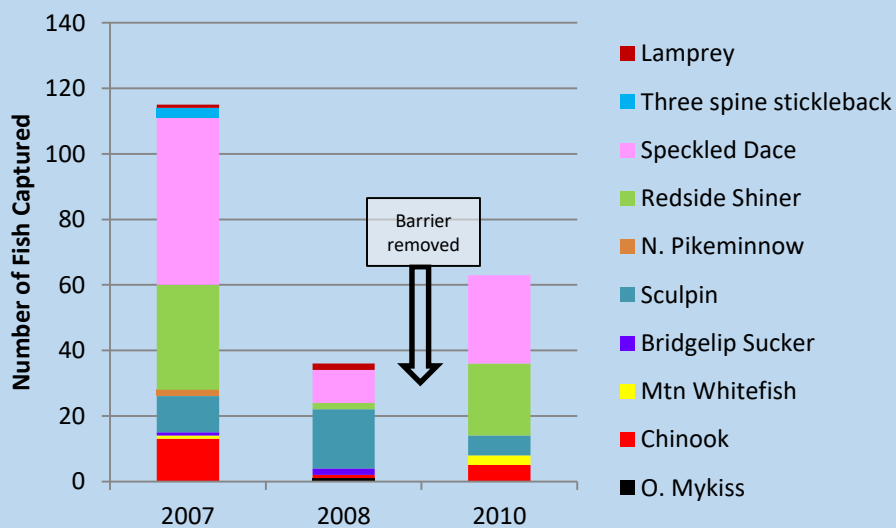
YTAHP Accomplishments

2003 - 2017

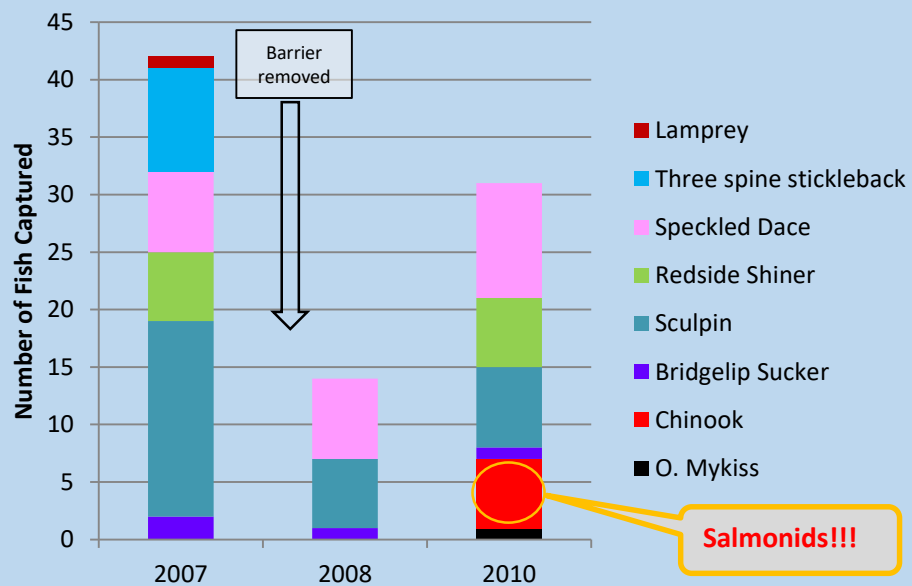
- 
- **187 projects on the ground**
 - **>231 stream miles opened**
 - **64 pump screens installed**
 - **>331 cfs screened to keep fish out of artificial waterways**
 - **51 cfs trusted to instream flow**
 - **Revegetated 218 acres and 15.4 miles of stream bank**
 - **Dedicated WCC crews plant and do routine maintenance at all sites over several years**



Downstream of Barrier, Coleman Creek

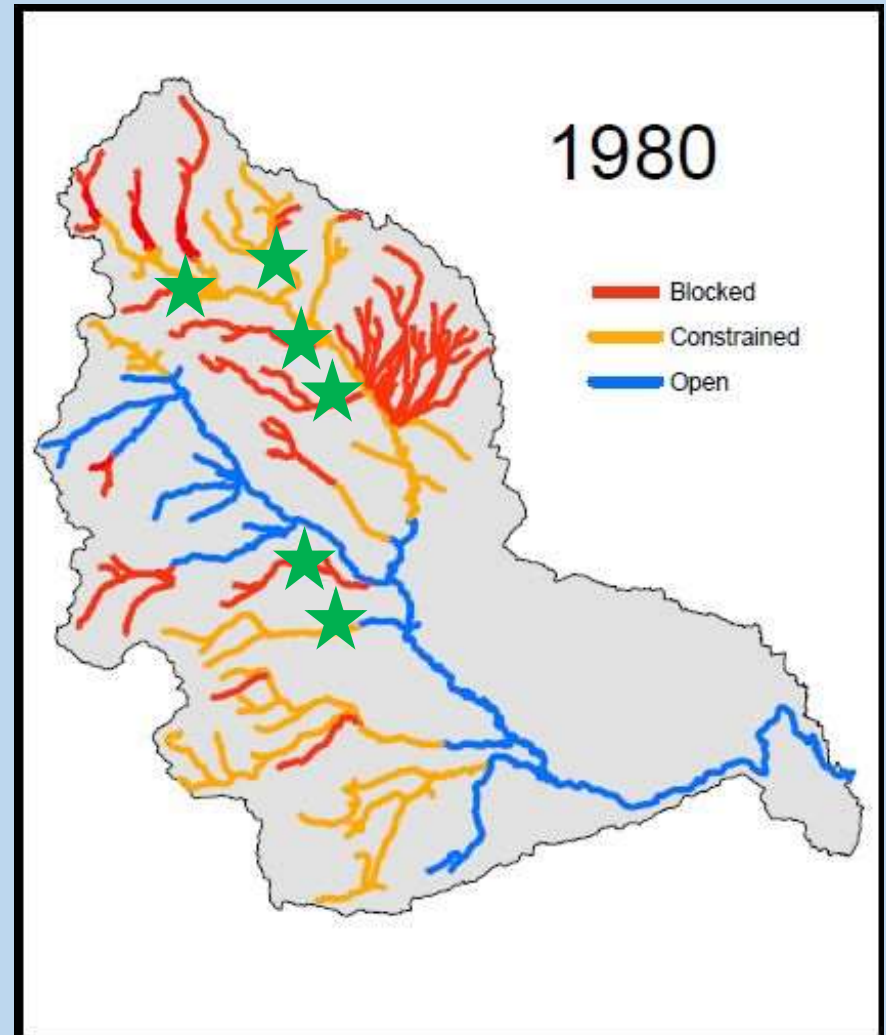


Upstream of Barrier, Coleman Creek



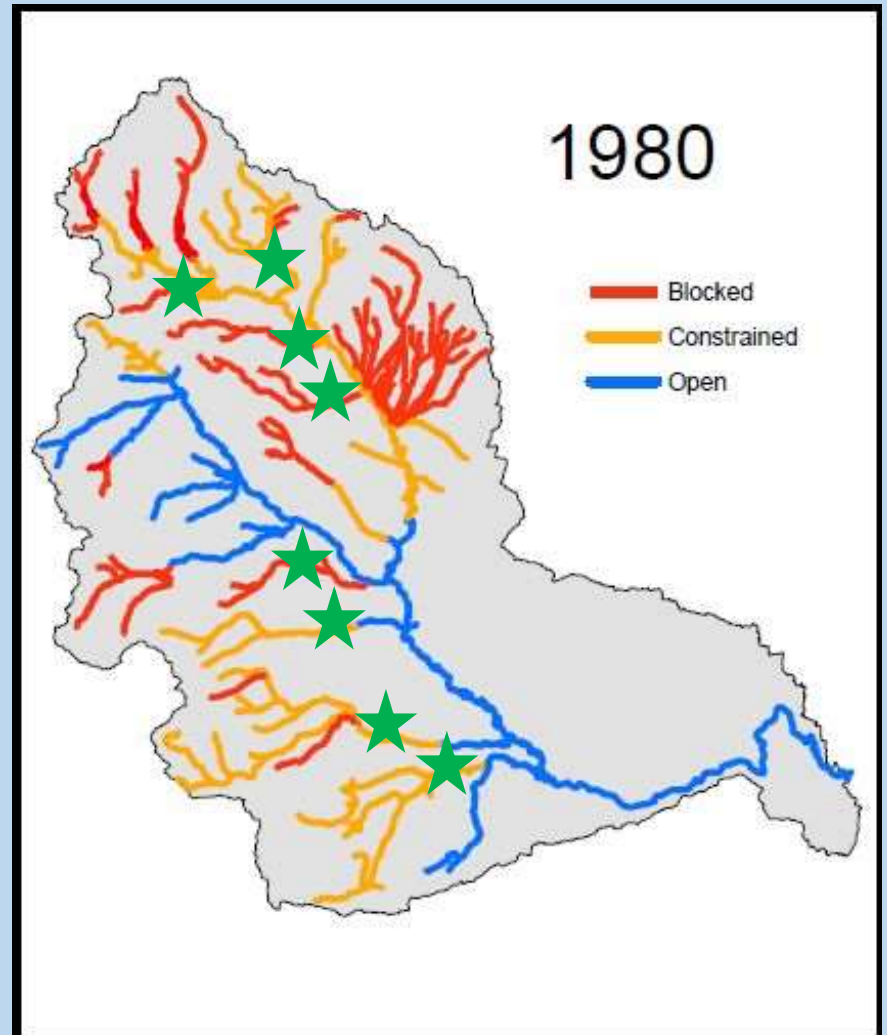
YTAHP's Passage Accomplishments

1. Ahtanum Creek
2. Teanaway River
3. Cowiche Creek
4. Taneum Creek
5. Big Creek
6. Manastash Creek

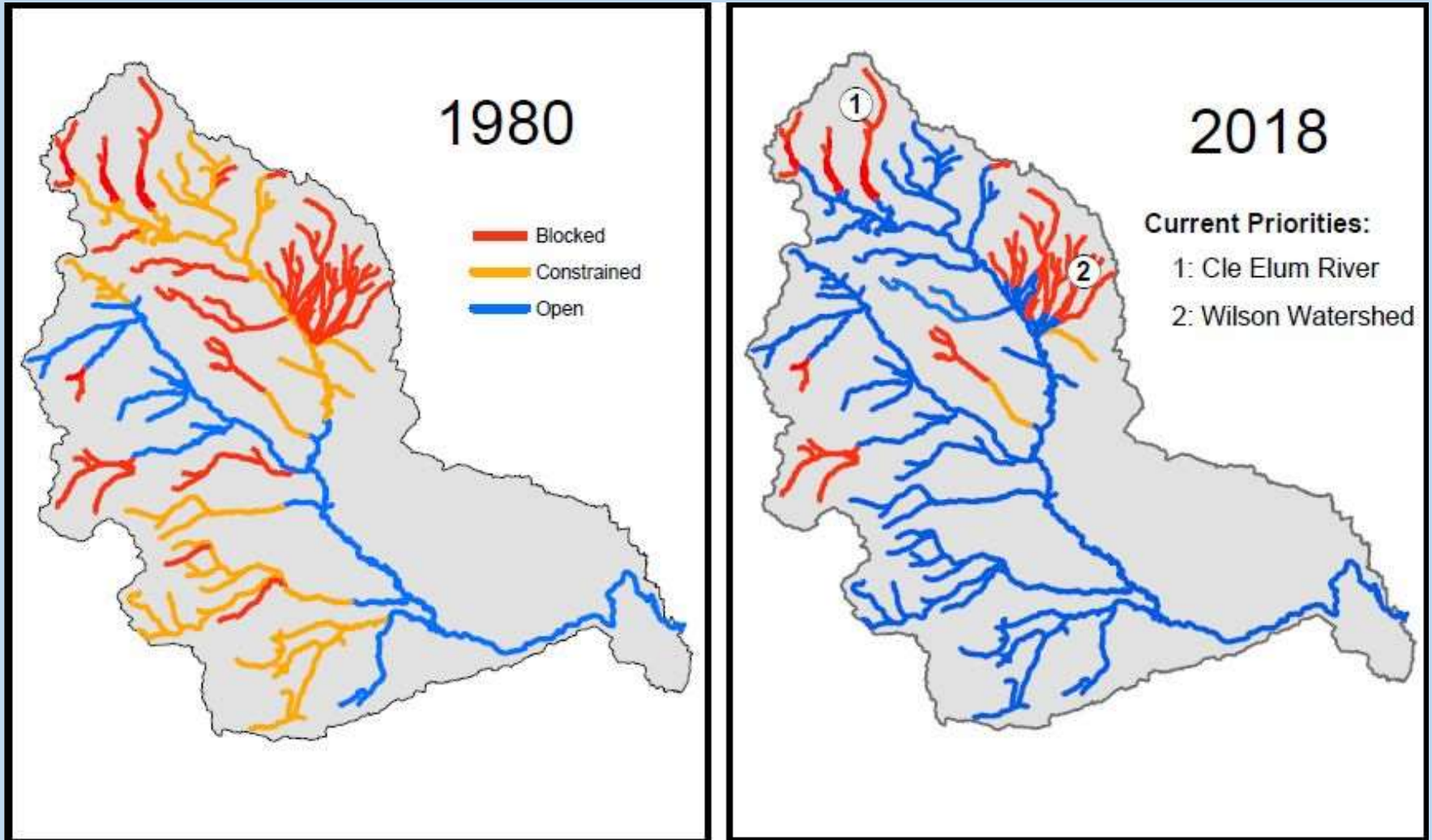


Yakama Nation with BPA funds

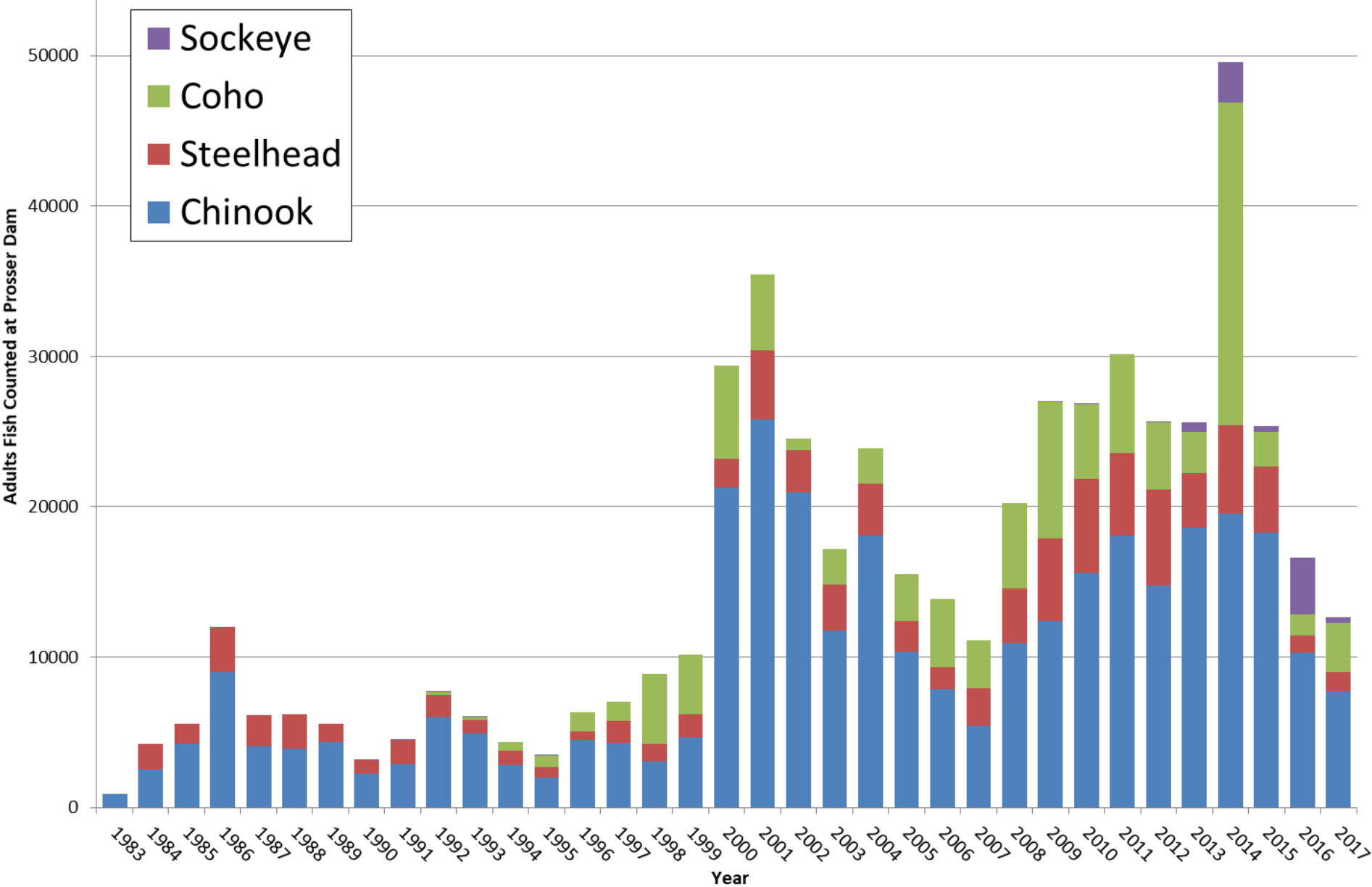
1. Ahtanum Creek
2. Teanaway River
3. Cowiche Creek
4. Taneum Creek
5. Big Creek
6. Manastash Creek
7. Toppenish Creek
8. Satus Creek



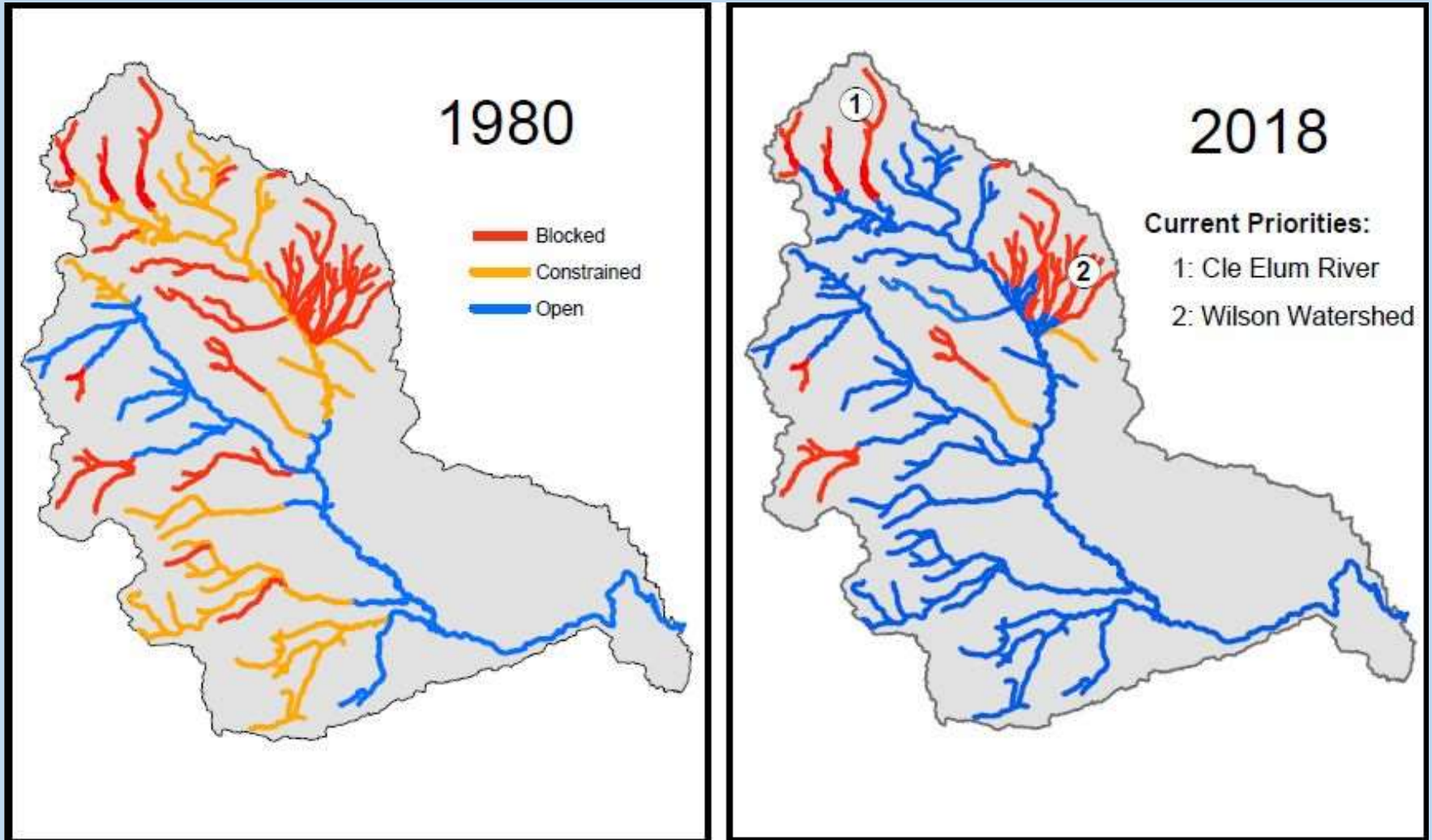
PROGRESS REMOVING BARRIERS TO ADULT STEELHEAD MIGRATION



Adult Salmon and Steelhead Returns to the Yakima Basin



PROGRESS REMOVING BARRIERS TO ADULT STEELHEAD MIGRATION





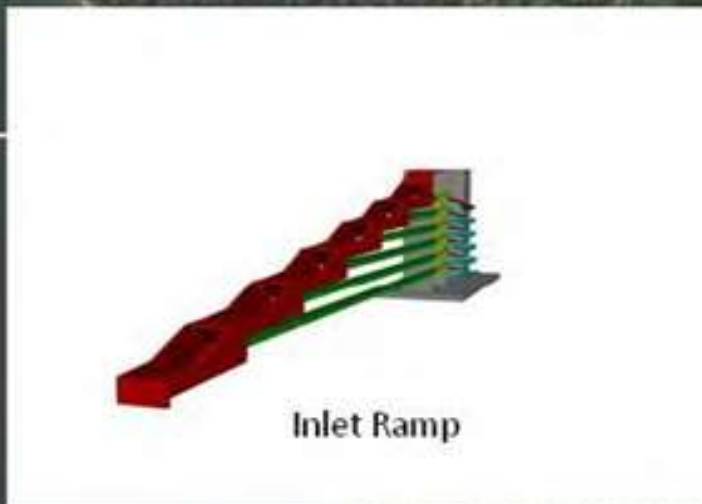
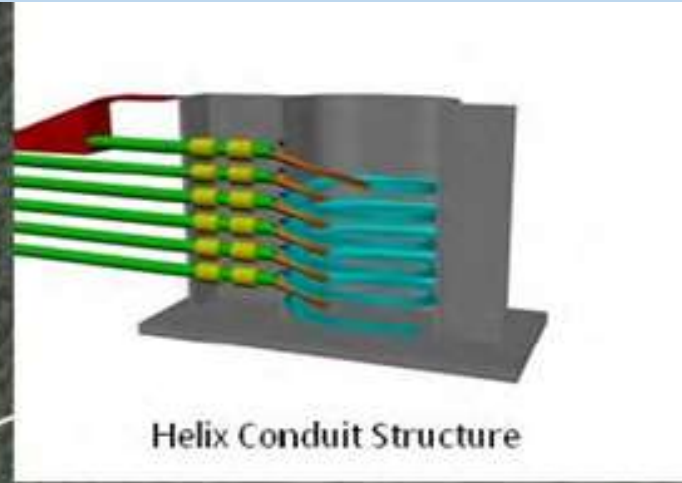
BOR Dam Passage

Via the Yakima Basin Integrated Plan

BOR and Ecology \$s for:

- Cle Elum Dam
- Rimrock and Clear Lakes
- Bumping Lake
- Keechelus and Kachess
Lakes

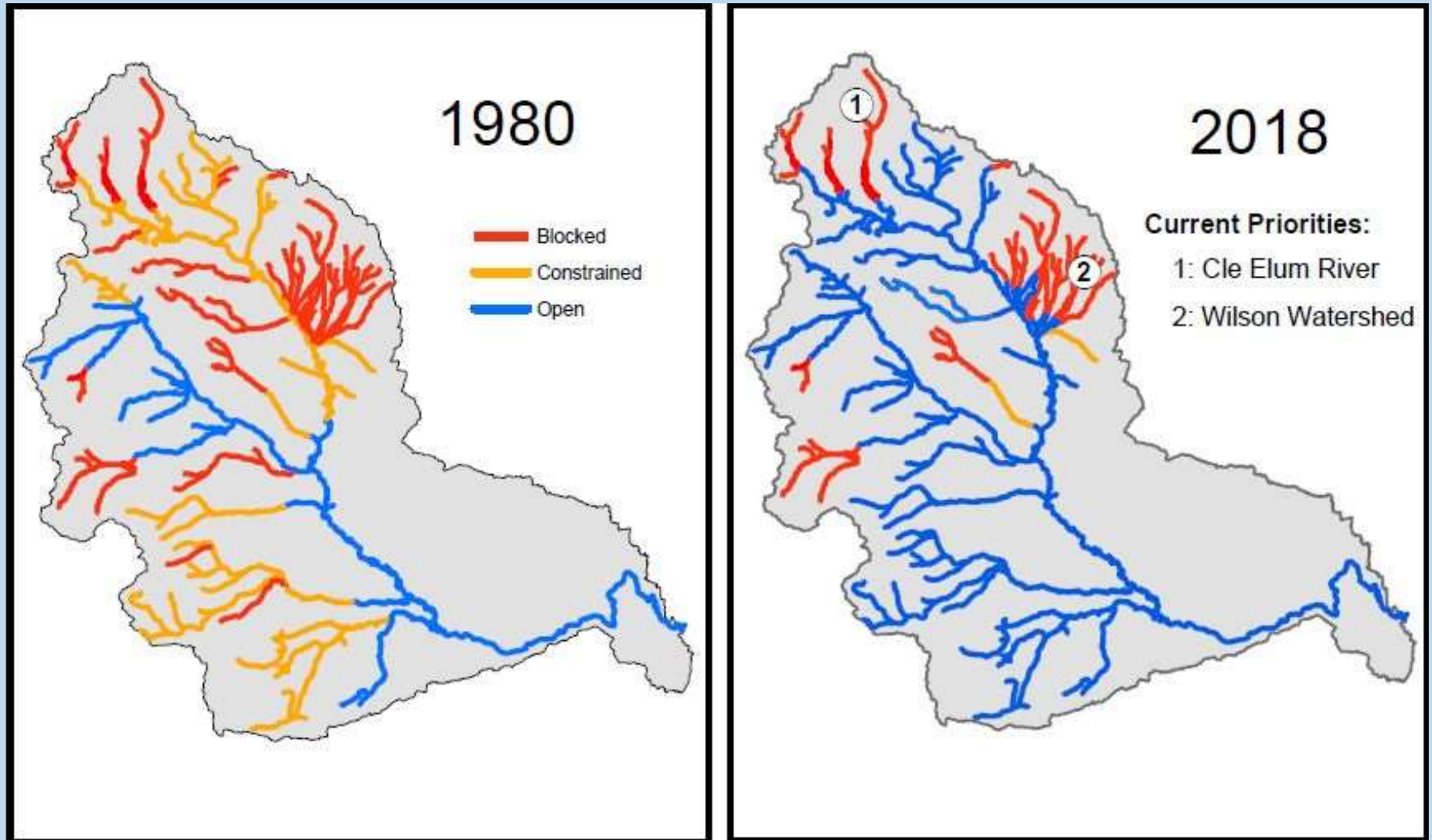




Cle Elum Dam Fish Passage Project



PROGRESS REMOVING BARRIERS TO ADULT STEELHEAD MIGRATION



Why Does the
Naneum/Wilson/Cherry
Watershed Matter?

Yakima Steelhead Recovery Plan VSP Goals

The Yakima is **one of 4 Major Population Groups** in the **Middle Columbia DPS**; all 4 must be viable to delist

For the Yakima MPG to be Viable:

Each of the 4 populations needs to meet abundance & productivity goals;

Each of the 4 populations needs to meet Spatial Structure standards;

Diversity Goals are not as well defined...

Yakima Steelhead Recovery Plan VSP Goals

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Y

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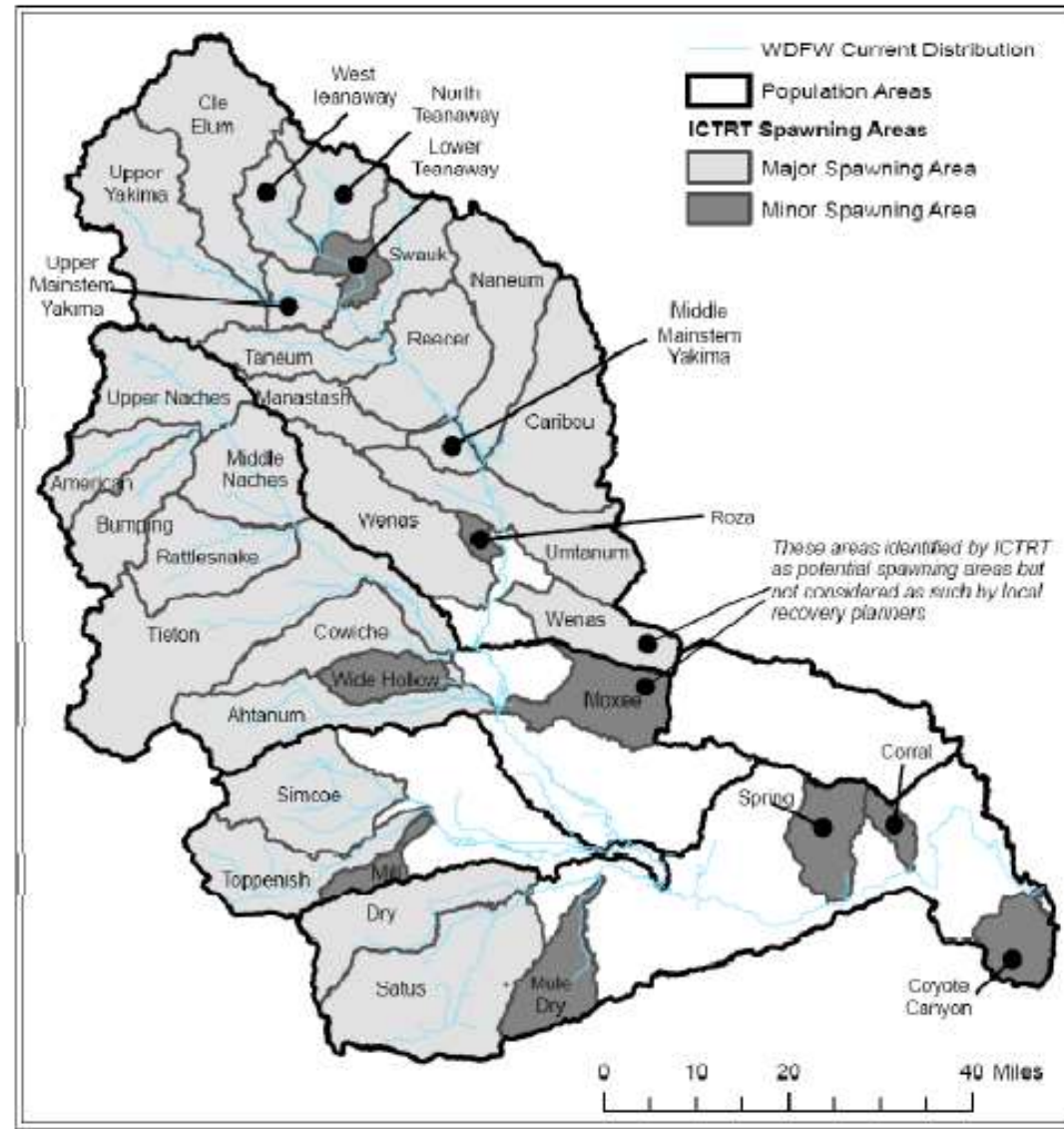
Each of the 4 populations needs to meet abundance & productivity goals;

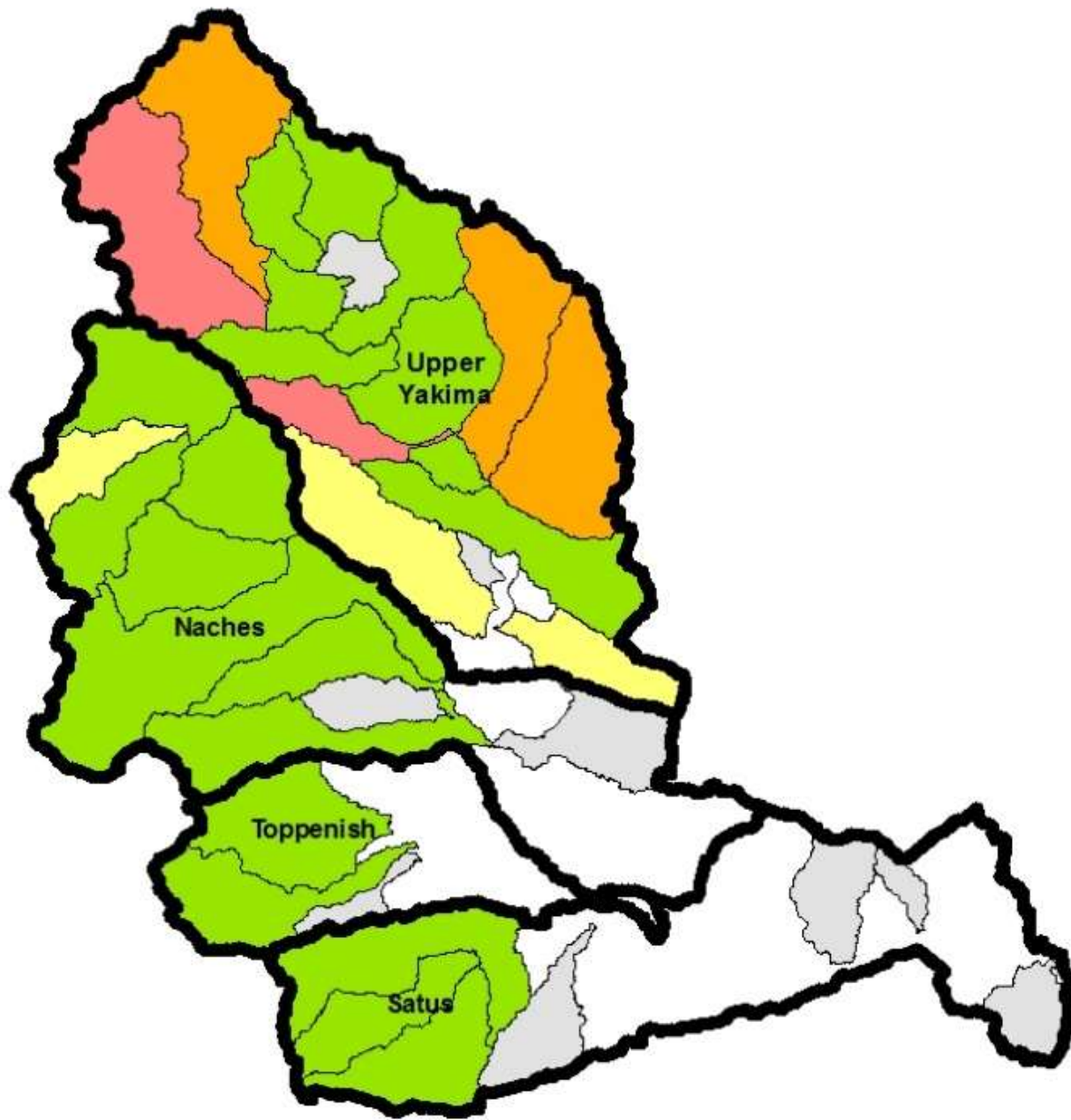
Each of the 4 populations needs to meet Spatial Structure standards;

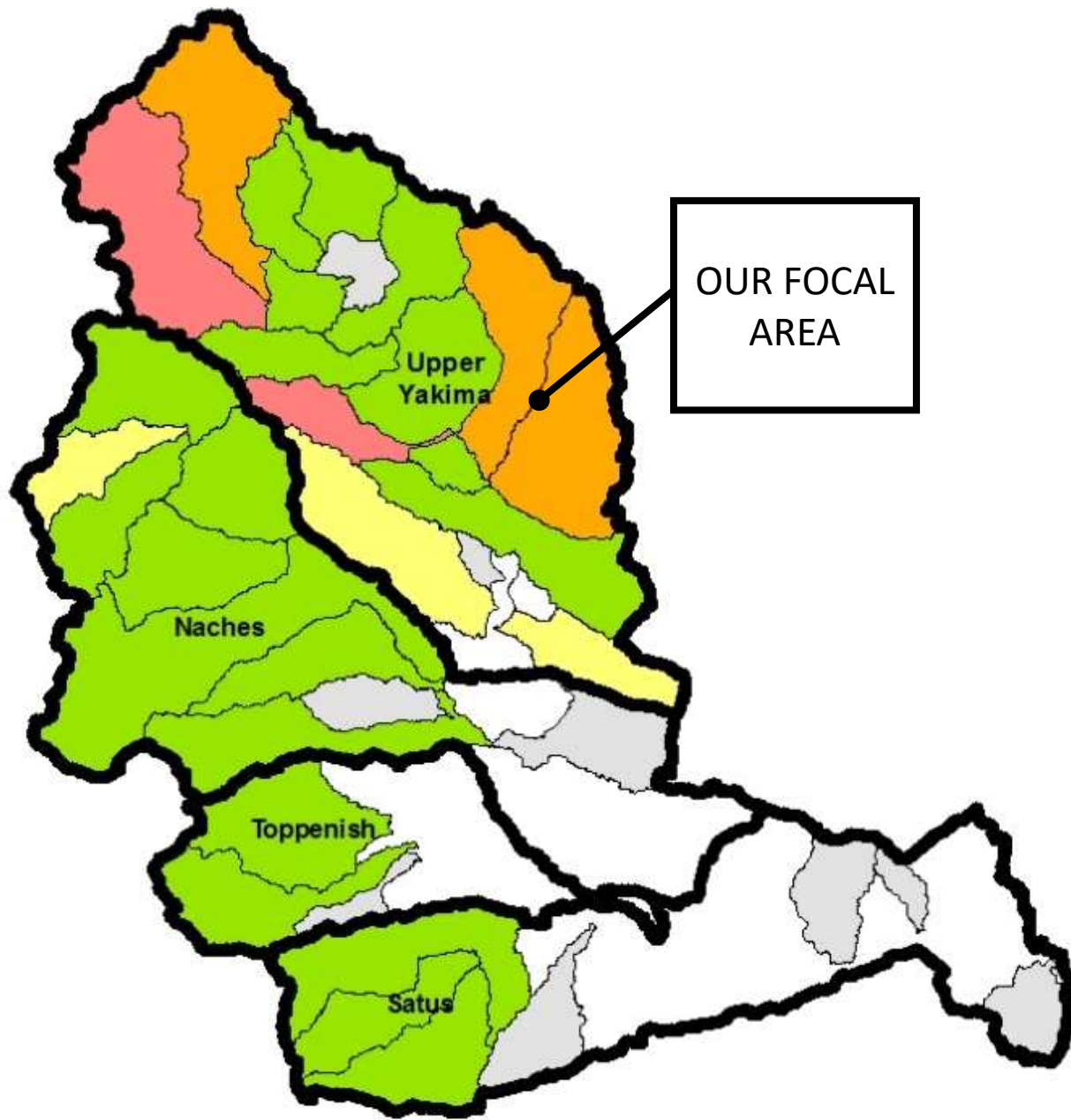
Diversity Goals are not as well defined...

NOAA's Major Spawning Areas

Figure 2.6: ICTRT spawning areas and WDFW steelhead distribution







Recovery Plan Goals for MSAs

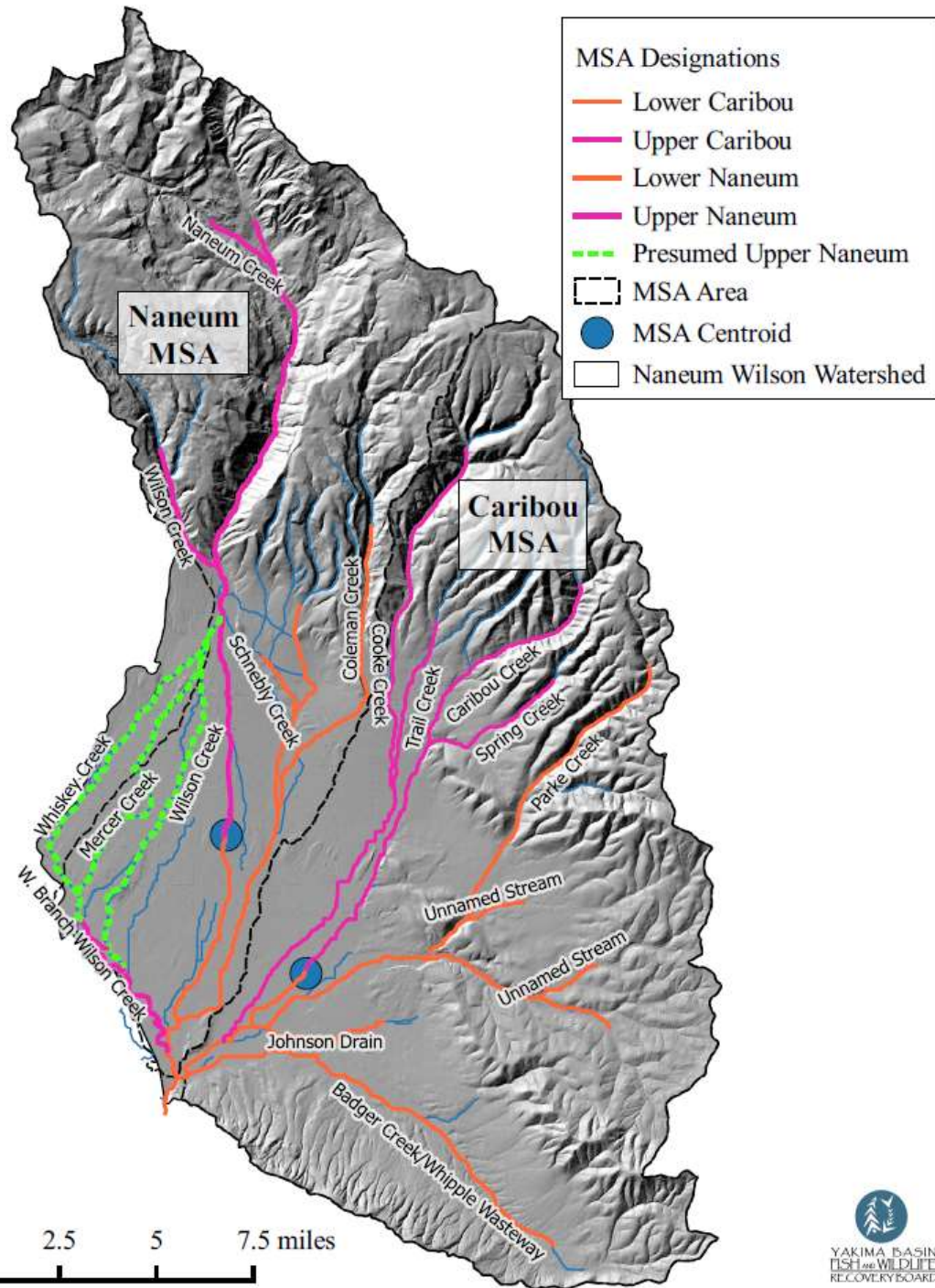
The Yakima Steelhead Recovery Plans sets goals for which MSAs must be Occupied to meet Spatial Structure standards

Table 4.4: Possible combinations of spawning areas for the Upper Yakima

Required MSAs	Plus at least three of these:	Recovery not required
Umtanum Swauk North Teanaway West Teanaway Taneum Manastash Upper Mainstem	Cle Elum Naneum Reecer MSA Caribou MSA Middle Mainstem	Wenas Roza/Burbank

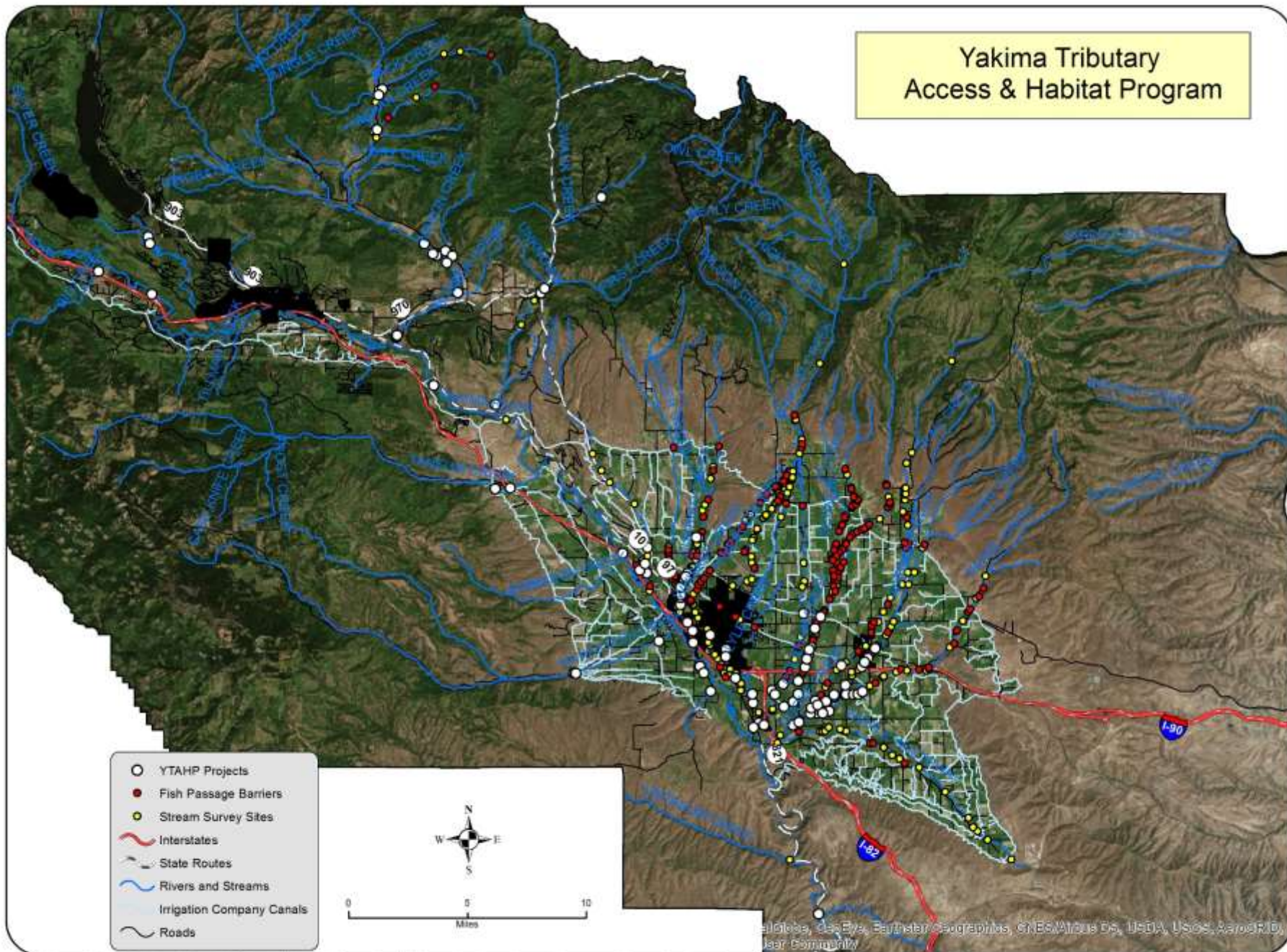
Occupancy Definition

A MaSA is regarded as occupied when it has two or more redds within BOTH the upper and lower half of the weighted spawning area within that MaSA in all years of the most recent brood cycle and at least half of the most recent three brood cycles (approximately 15 years).



Where are we at in the
Naneum/Wilson/Cherry
Watershed Matter?

Yakima Tributary Access & Habitat Program



This data is provided "as is" without warranty of any kind. Further, the Kittitas County Conservation District does not warrant, guarantee, or make any representations regarding the use of, or results from the use of the data in terms of correctness, accuracy, reliability, completeness, or otherwise. Hydrology layer is in draft form. Parcel layer was obtained from the Kittitas County Assessor and is not survey quality.

How Do Current & Proposed FBRB Projects Fit In?

Parke Creek -Caribou Creek Fish Passage Project

2000

Ellensburg

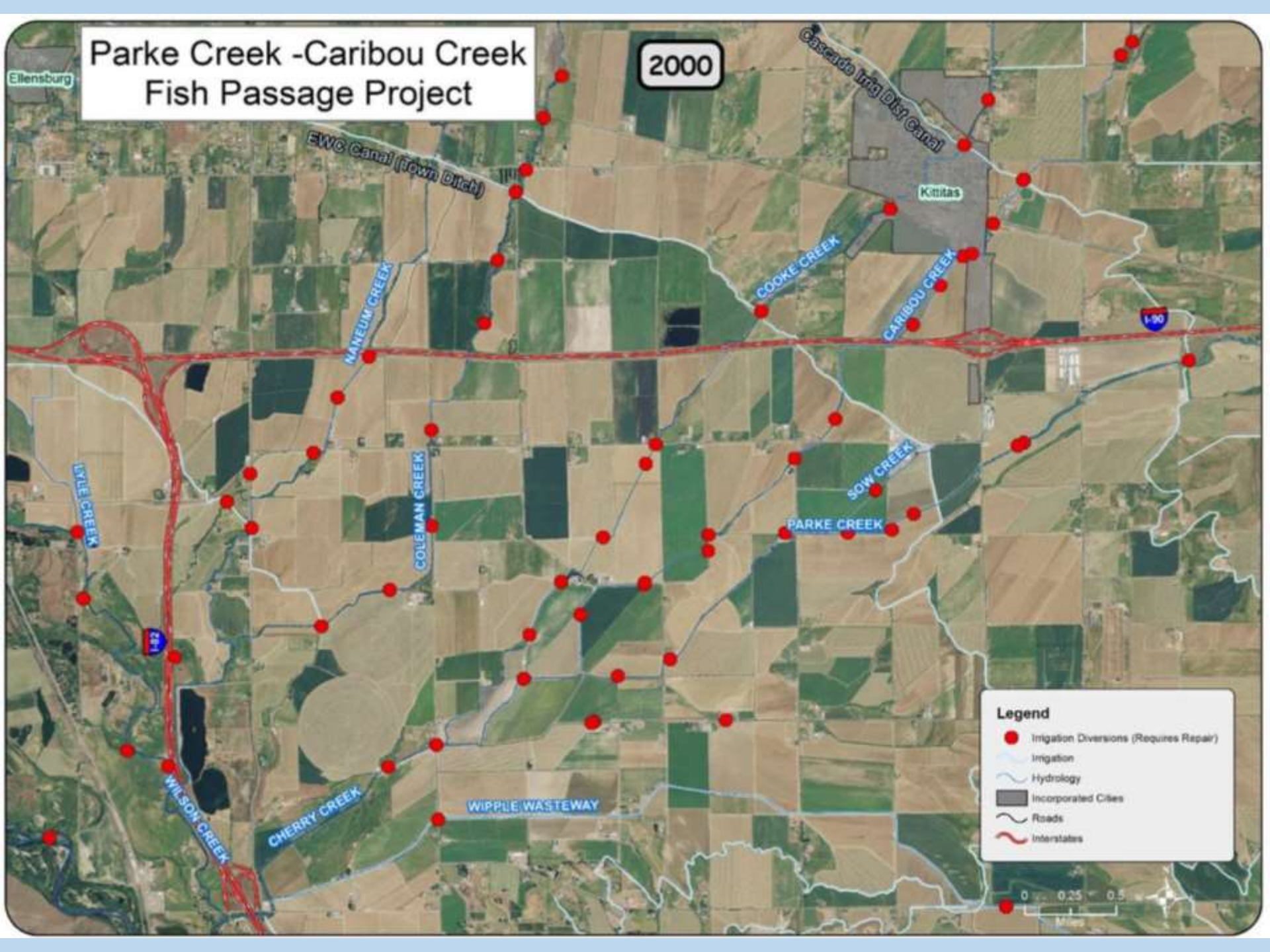
Kititas

I-90

I-82

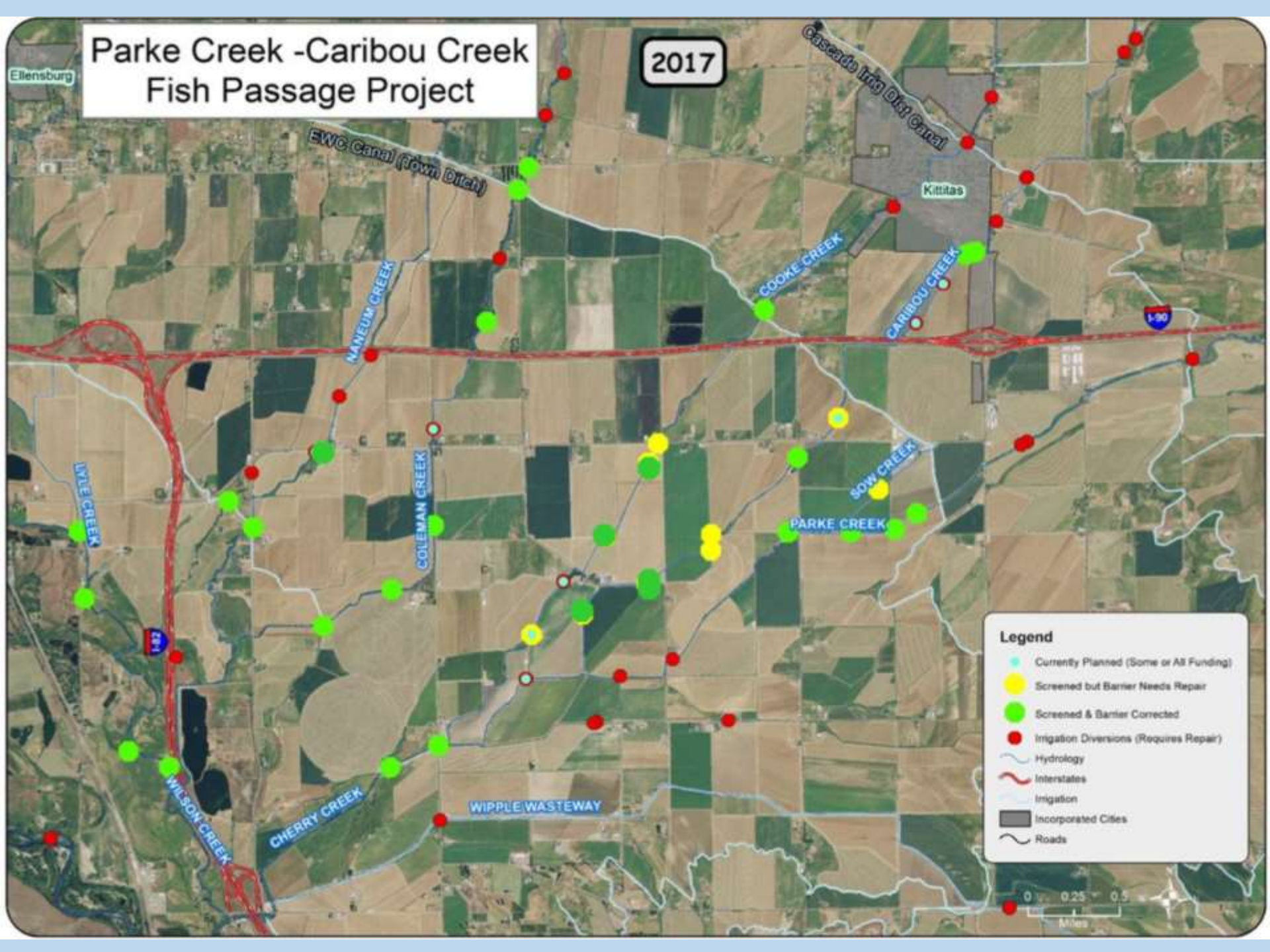
Legend

- Irrigation Diversions (Requires Repair)
- Irrigation
- Hydrology
- Incorporated Cities
- Roads
- Interstates



Parke Creek -Caribou Creek Fish Passage Project

2017



2017-2019 FBRB Projects

Coleman Creek @
Olmstead Park for
\$606,762

**Design of Coleman
Creek @ Vantage
Highway if \$195,000
Available?**



2019- 2021 FBRB List

Rank	Stream Name	County	Project Sponsor	Scope*	Total Requested Amount
1	Johnson Cr	Clallam	Clallam County	Planning	\$199,060
2	MF Newaukum R.	Lewis	Lewis County	Planning	\$97,730
3	NF Ostrander Cr	Cowlitz	Cowlitz Indian Tribe	Restoration	\$530,893
4	Johnson Cr (2 barriers)	Okanogan	Trout Unlimited	Restoration	\$1,294,908
5	Coleman Cr	Kittitas	Kittitas Co CD	Restoration	\$1,306,080
6	Cottonwood Cr	Asotin	Asotin Co CD	Restoration	\$445,300
7	Dayton Cr	Mason	Mason County	Restoration	\$420,304
8	Catherine Cr	Snohomish	Wild Fish Conservancy	Planning	\$89,611
9	Chumstick Cr (2 barriers)	Chelan	Chelan County	Restoration	\$488,286
10	Little Pilchuck Cr	Snohomish	Tulalip Tribe	Planning	\$197,633
11	Uncle Johns Cr	Mason	Mason County	Planning	\$339,788
12	Mill Cr	Walla Walla	Tri-State Steelheaders	Restoration	\$1,667,912
13	Cooke Cr (2 barriers)	Kittitas	Kittitas Co CD	Restoration	\$688,543
14	Johnson Cr	Okanogan	Trout Unlimited	Restoration	\$489,673
15	NF Ostrander Cr	Cowlitz	Cowlitz County	Planning	\$322,150
16	Trib to MF Newaukum R.	Lewis	Lewis County	Planning	\$68,200
17	Railroad Cr	Clallam	North Olympic Salmon Coalition	Restoration	\$103,779
18	Thomdyke Cr	Jefferson	Jefferson County	Planning	\$198,313
19	Lower Hoko Wetland Complex	Clallam	Clallam County	Planning	\$199,960
20	Delameter Cr	Cowlitz	Cowlitz County	Planning	\$242,250
21	Johnson Cr	Okanogan	Trout Unlimited	Restoration	\$480,670
22	Caribou Cr (2 barriers)	Kittitas	Kittitas Co CD	Restoration	\$355,334
23	Mill Cr (2 barriers)	Walla Walla	Snake R Salmon Rec Board	Planning	\$117,729
24	Uncle Johns Cr	Mason	Mason County	Restoration	\$420,304
25	Trib to Little Pilchuck Cr	Snohomish	Snohomish Co CD	Restoration	\$224,459
26	Mill Cr	Chelan	Chelan County Nat Res	Restoration	\$494,599
27	Parke Cr (2 barriers)	Kittitas	Kittitas Co CD	Restoration	\$302,953
28	Talbot Cr	Clallam	Clallam County	Planning	\$197,060
29	Mason Cr	Clark	Clark County	Planning	\$155,200
30	Seabeck Cr	Kitsap	Kitsap County	Restoration	\$2,066,837
31	Kerney Cr	Whatcom	Whatcom County	Planning	\$442,500
32	Squalloum Cr	Whatcom	City of Bellingham	Restoration	\$447,268
33	Fisher Cr (2 barriers)	Skagit	Skagit County	Planning	\$332,000
34	Spurgeon Cr (2 barriers)	Thurston	Thurston County	Restoration	\$1,700,000
35	Naylor Cr (2 barriers)	Jefferson	Jefferson County	Planning	\$198,850
36	Geissier Cr (3 barriers)	Grays Harbor	Chehalis Basin Task Force	Restoration	\$590,408
37	Scammon Cr	Lewis	Lewis Co CD	Restoration	\$147,227
38	Scammon Cr	Lewis	Lewis County	Restoration	\$561,560
39	Dickerson Cr	Kitsap	Kitsap Co CD	Restoration	\$494,500
40	Minter Cr	Pierce	Pierce County	Planning	\$90,000
41	George Davis Cr (3 barriers)	King	City of Sammamish	Planning	\$722,350
42	Langlois Cr	King	Snoqualmie Vall Water Impr Dist	Planning	\$65,200
43	Ebright Cr	King	City of Sammamish	Planning	\$352,100
44	Kristoferson Cr	Island	Island Co DNR	Restoration	\$544,718
45	Starbird Cr	Skagit	Skagit County	Planning	\$46,500
46	Scammon Cr (2 barriers)	Lewis	Lewis County	Planning	\$160,100
47	Sexton Cr	Snohomish	Snohomish County	Planning	\$141,780
48	King Cr	Lewis	Lewis Co CD	Restoration	\$200,076
49	King Cr	Lewis	Lewis County	Restoration	\$371,678
50	Willows Cr	King	City of Redmond	Restoration	\$400,000
51	Ravensdale Cr (2 barriers)	King	King County Parks and Rec	Restoration	\$2,513,614
52	Trib to MF Quilceda Cr	Snohomish	City of Marysville	Restoration	\$162,740
53	Secret Cr	Snohomish	Snohomish County	Planning	\$122,230
54	Trib to Grader Cr	Clallam	Pacific Coast Salmon Coalition	Restoration	\$68,931
55	Trib to Starbird Cr	Skagit	Skagit County	Planning	\$64,000
56	Williams Cr	Snohomish	Snohomish County	Planning	\$63,750
57	Lyon Cr	King	City of Lake Forest Park	Planning	\$200,000
58	Secret Cr	Snohomish	Snohomish County	Planning	\$144,755
59	Secret Cr	Snohomish	Snohomish County	Restoration	\$694,025
60	Trib to Silver Lk	Snohomish	City of Everett	Planning	\$188,000
61	Ennis Cr (2 barriers)	Clallam	City of Port Angeles	Planning	\$200,000
62	Panther Cr	King	City of Renton	Planning	\$424,150
63	Erick Cr	Cowlitz	Cowlitz County	Restoration	\$1,099,050
64	Trib to Little Pilchuck Cr	Snohomish	Snohomish County	Planning	\$200,000
65	Trib to Little Pilchuck Cr	Snohomish	Snohomish County	Planning	\$200,000
66	Trib to Little Pilchuck Cr	Snohomish	Sound Salmon Solutions	Restoration	\$190,000
					\$28,749,578

2019-2021 FBRB Projects

RANK	SITE	SPONSOR	MILES	AMOUNT
5	Coleman Creek	Kittitas County	0.4	\$ 1,306,080
13	Cooke Creek (2 sites)	Kittitas County Conservation District	1.3	\$ 688,543
22	Caribou Creek (2 sites)	Kittitas County Conservation District	1.1	\$ 355,334
27	Parke Creek (2 sites)	Kittitas County Conservation District	2.3	\$ 302,953
		Total	5.1	\$ 2,652,910

Coleman @ Vantage



Caribou @ Gibb #1



Cooke Creek #1



Wilson/Cherry Watershed Projects and MSA

- Priority Projects**
 - ▲ Barrier
- MSA Upper and Lower**
 - Lower Caribou
 - Upper Caribou
 - Lower Naneum
 - Upper Naneum
 - Presumed Upper Naneum
- MSA Centroid
- MSA Areas
- Cities

Naneum MSA

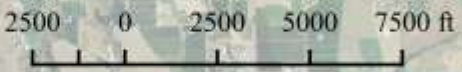
Caribou MSA

2 Coleman
2.15 mi

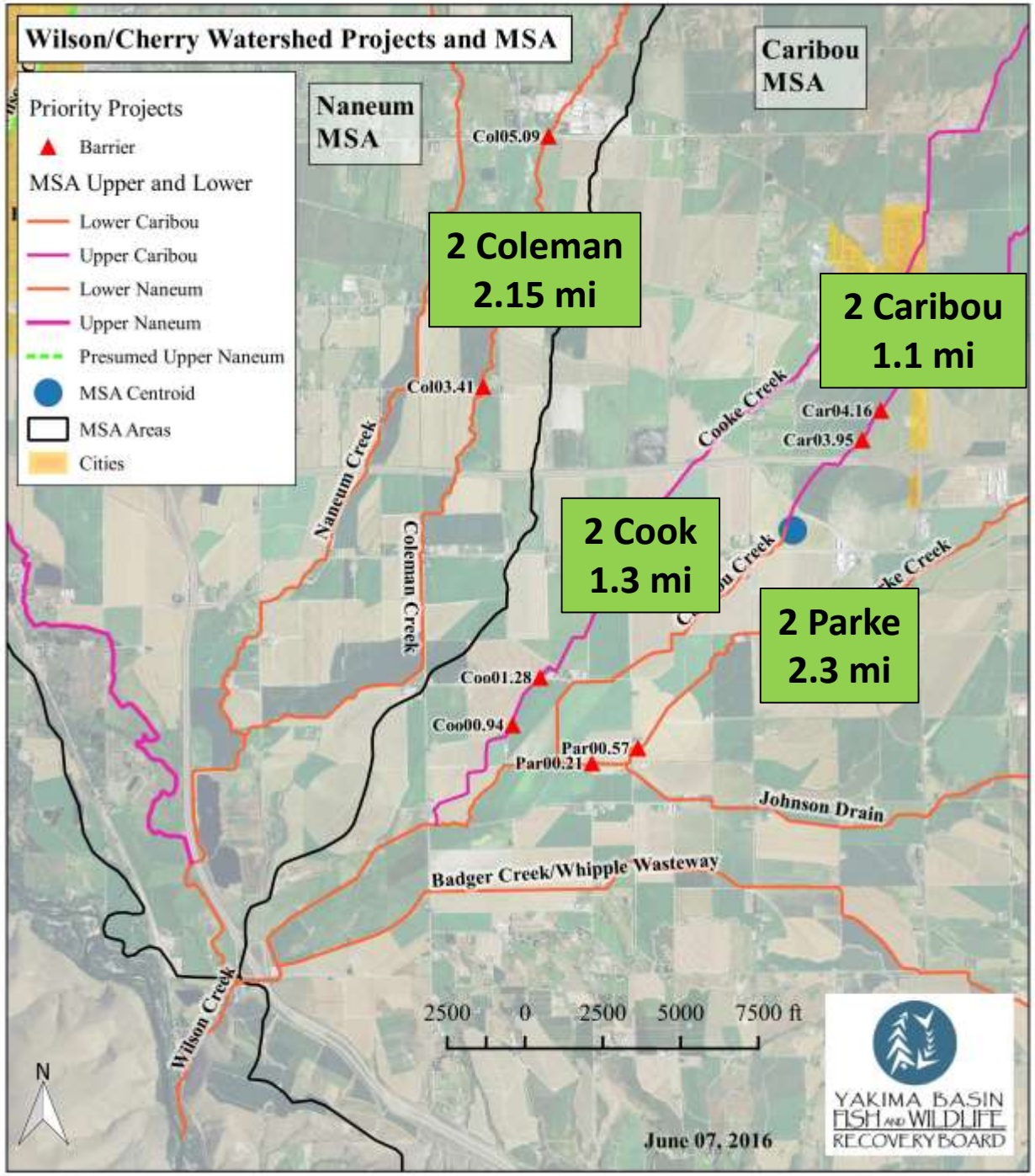
2 Caribou
1.1 mi

2 Cook
1.3 mi

2 Parke
2.3 mi



June 07, 2016



Passage Inventories



New Fish Passage Surveys

2017 and 2018 US Forest Service Surveys

2018 Ahtanum Survey (YTAHP/WDFW)

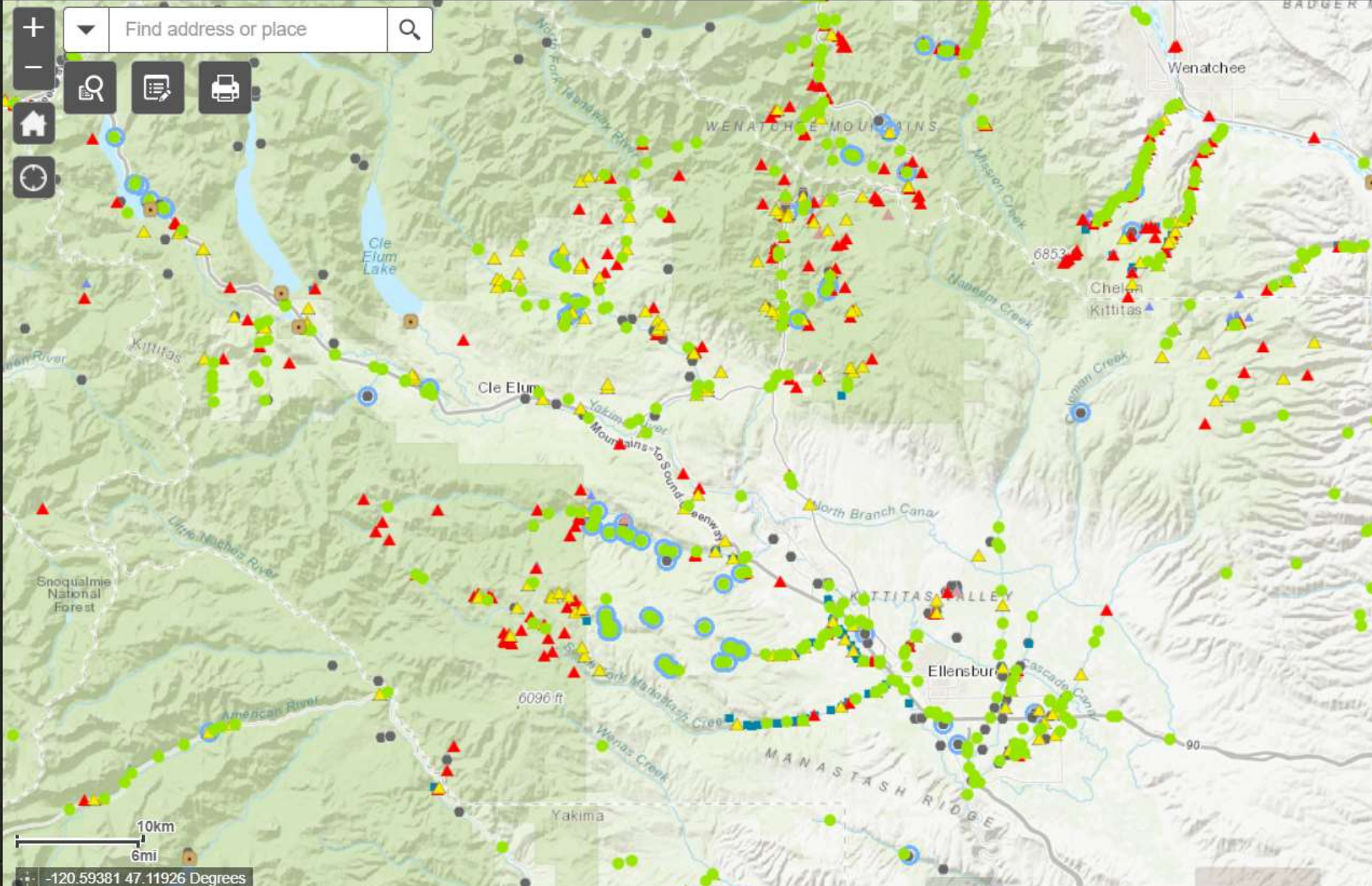
2016 Cherry Watershed Survey (WDFW)

2018 Wilson/Cherry County Rd Surveys (WDFW)

2019 Wenas Survey (YTAHP/WDFW)

2019 WDFW Focal Watershed Surveys

Washington State Fish Passage



FPDSI Updates with WDFW

- Work w WDFW to clean up ghost/duplicate data
- Complete barrier correction forms for past projects
- *Ability to use third party data with conditions?*
- Id areas in need of new field surveys
- Use FPDSI data to identify & prioritize future work

NEXT STEPS FOR US

- 1) Advocate for SRFB, YBIP and FBRB Funding
- 2) Support passage project development by YTAHP partners and local governments
- 3) Complete field surveys and prioritize FBRB projects for 2021 and beyond!
- 4) Monitor effectiveness of passage projects
- 5) Work with US Forest Service to prioritize and fund culvert replacements

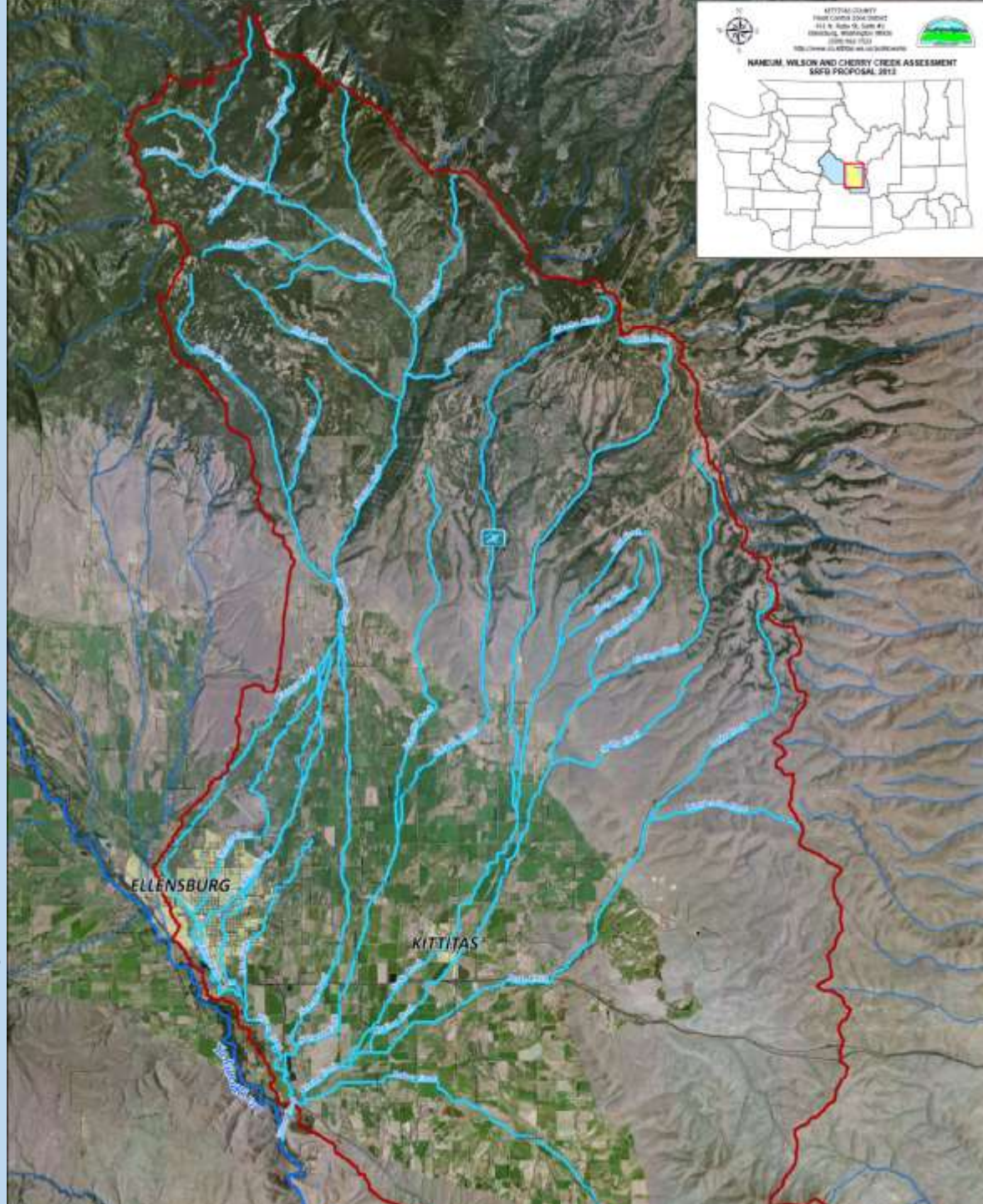
Prioritizing

How far up:

- Coleman Creek?
- Caribou Creek?
- Cooke Creek?
- Parke Creek?

Go for Upper
Wilson/Naneum?

If yes, by what route?



Monitoring Fish Response

- Upstream Redd Surveys
- Presence/Absence of Juveniles
- PIT Tag Arrays to Evaluate Occupancy



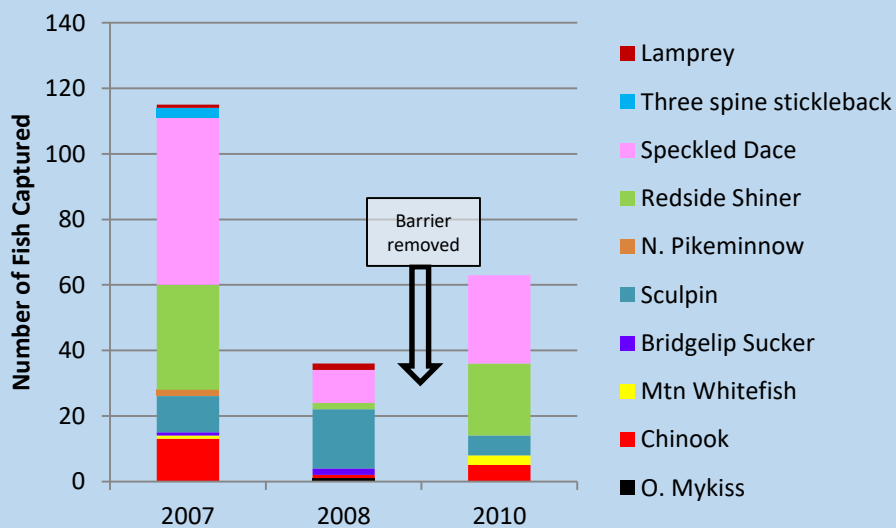
Juvenile Monitoring

- Before/after surveys to detect changes over time (are these actions working?)

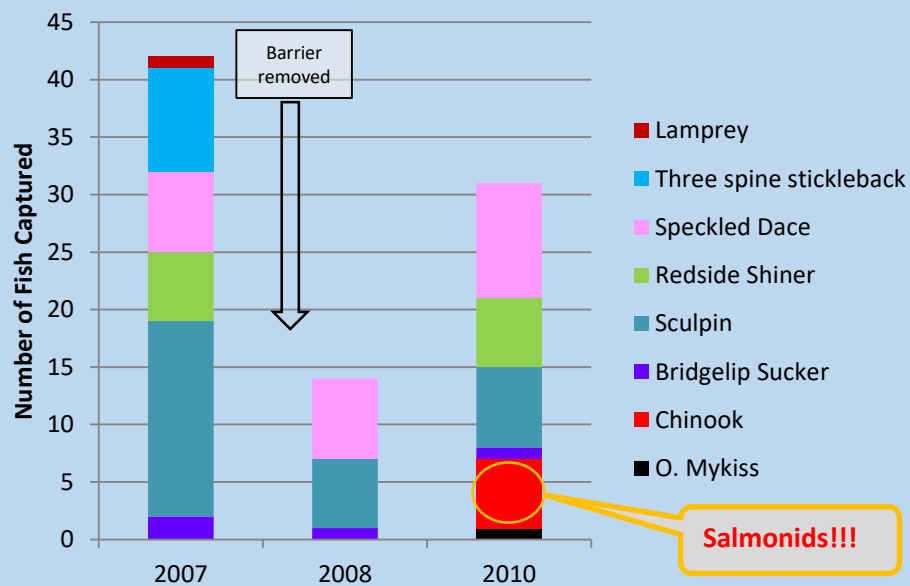




Downstream of Barrier, Coleman Creek

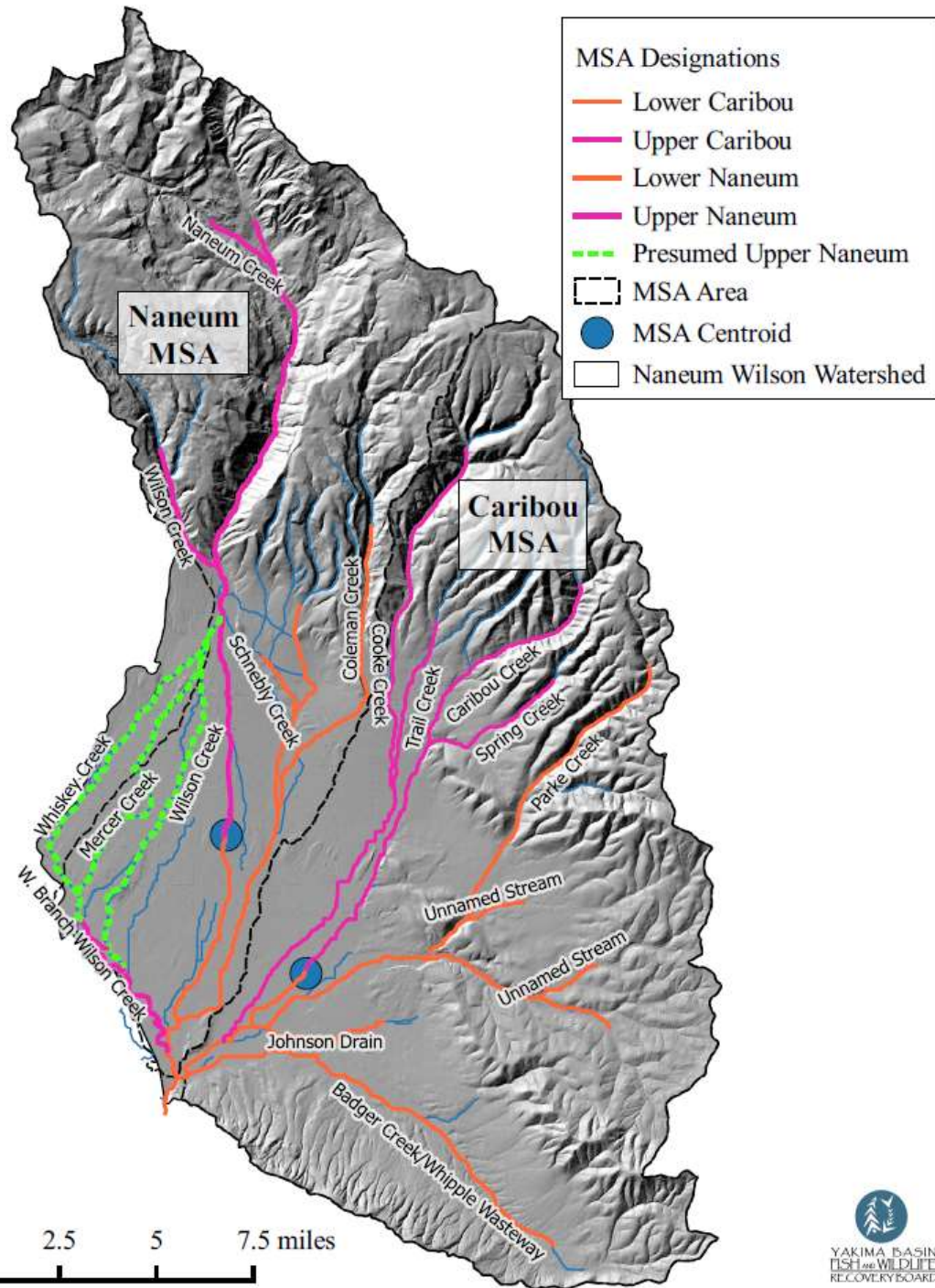


Upstream of Barrier, Coleman Creek



Tracking Pit-tagged Adults





Programmatic Recommendations

- Utilize the existing Lead Entity and Regional Organization processes
- Require submission of barrier completion forms by SRFB and other funders
- Work with regional organizations on project identification and prioritization
- Work directly with project sponsors on project design and budget
- Provide Support to US Forest Service (Inventory? Prioritization? Engineering?)





