

Columbia Basin Collaborative SDM Steelhead Pilot Project

**November 22, 2024
9 – 11 am PT/10am – 12 pm MT**

Welcome, Agenda Review, and Updates

Meeting Guidelines

- Honor the agenda
- Listen to understand and ask questions to clarify
- Balance speaking time
- Don't pile on
- Be hard on the problems, soft on the people
- Seek alignment and common ground wherever possible
- Be present



Agenda Review

Time (PT)	Topic
9:00 – 9:10 a.m.	Welcome, Agenda Review, and Updates
9:10 – 9:40 a.m.	Salmon Analyzer Presentation
9:40 – 10:15 a.m.	Columbia Basin Partnership Report Scenario Actions Presentation
10:15 – 10:55 a.m.	Mid-Columbia Steelhead Recovery Plan Presentation
10:55 – 11:00 a.m.	Confirm Next Steps and Action Items

I/RG Meeting Summary

- Shared an update on SDM Steelhead Pilot Project.
- Will continue moving forward with implementing the 8-step proposal.
- I/RG was supportive of considering new work group members.

Salmon Analyzer Presentation

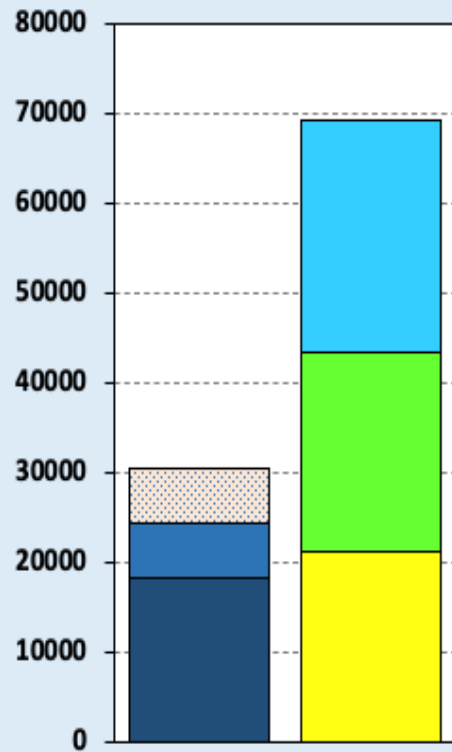
Implementing the SDM Proposal:

Step 4. Ensure that there is agreement on the use of existing analyses (e.g., salmon slider, heat map, etc.), coupled with supplemental analyses (e.g. other studies,) as needed and how they will be used to assess scenarios.

Mid Columbia Steelhead Strategic Decision Making

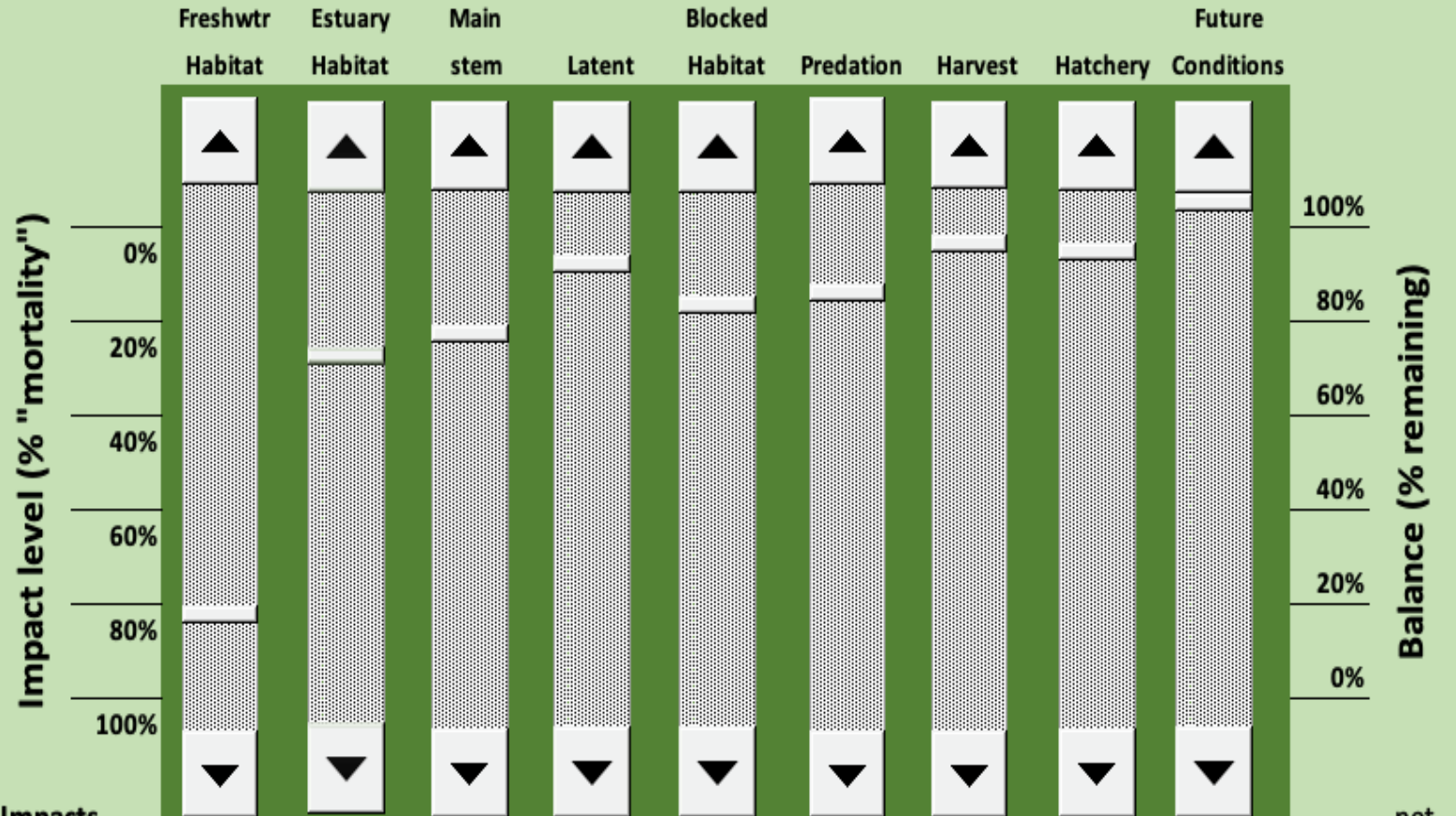
An empirical basis from the Columbia Basin Partnership Task Force

Abundance



	Actual	Goal	
Natural			
Current	18,200	21,200	low
Future	24,357	43,400	med
Historical	132,800	69,200	high
Hatchery	#	% hat origin	
Current	4,550	20%	
Future	6,090	20%	

Limiting Factor



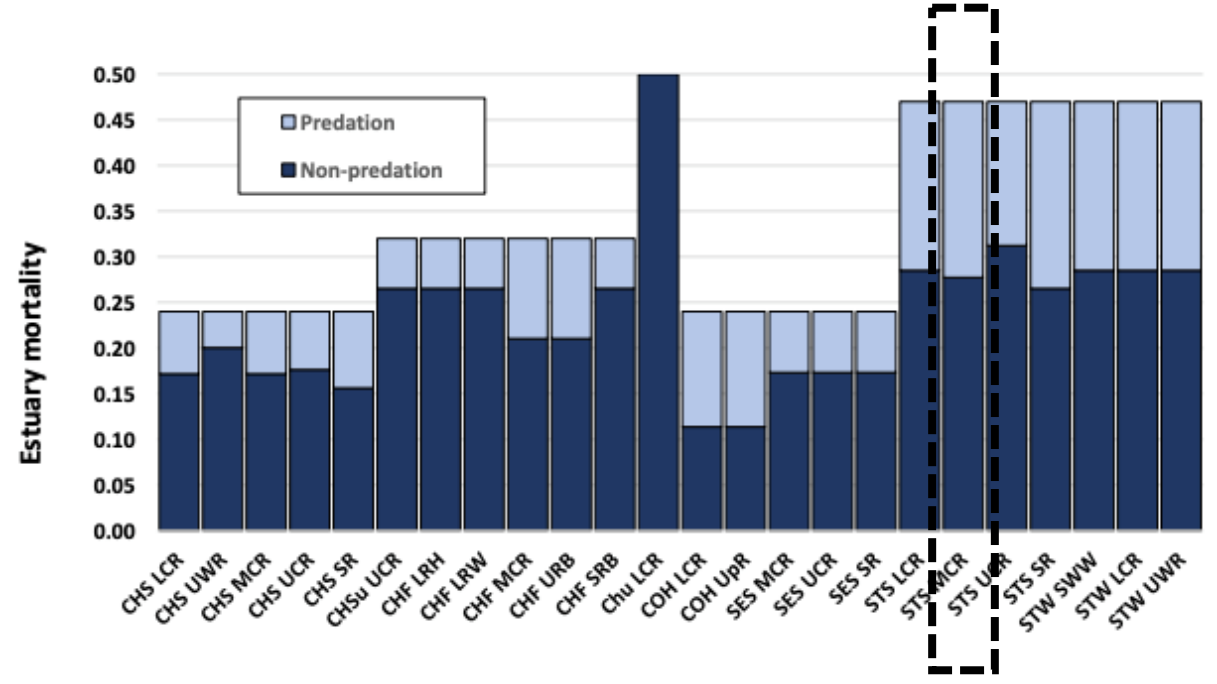
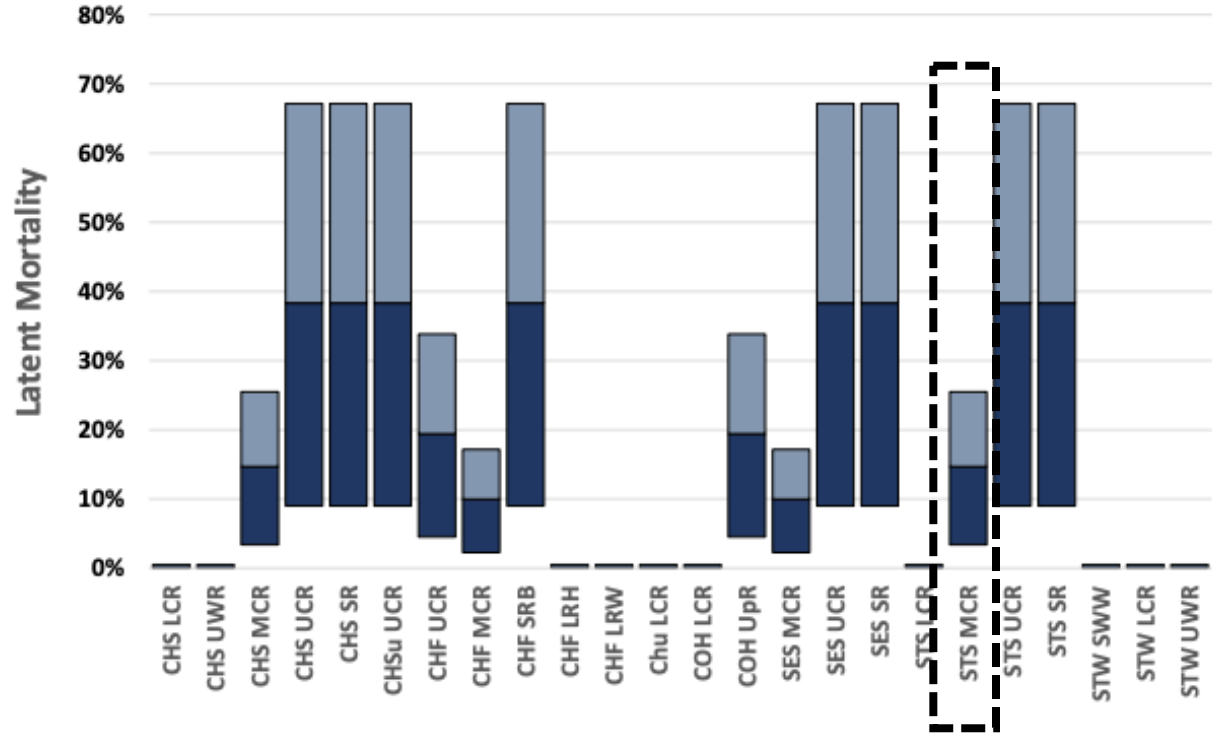
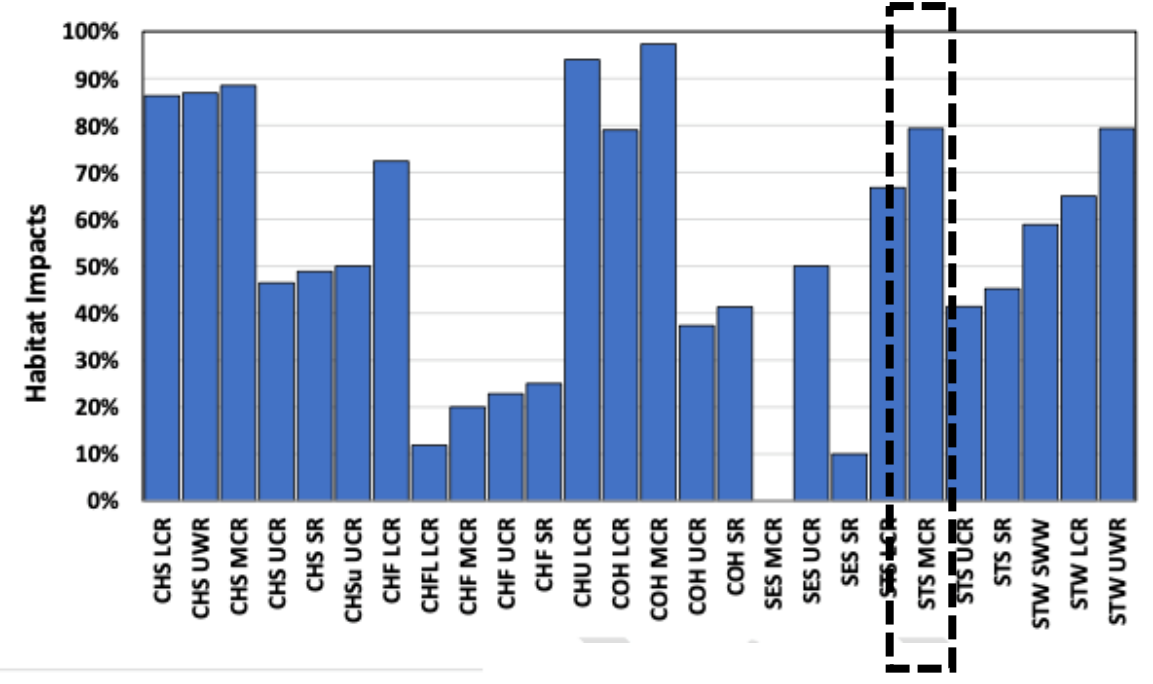
Impacts	Freshwtr Habitat	Estuary Habitat	Main stem	Latent	Blocked Habitat	Predation	Harvest	Hatchery	Future Conditions	net
Current	80	30	26	13	20	39	10	10	0	96
Future	80	30	26	13	20	19	10	10	0	95
Survival ↑	0	0	0	0	0	34	0	0	0	34

Reset

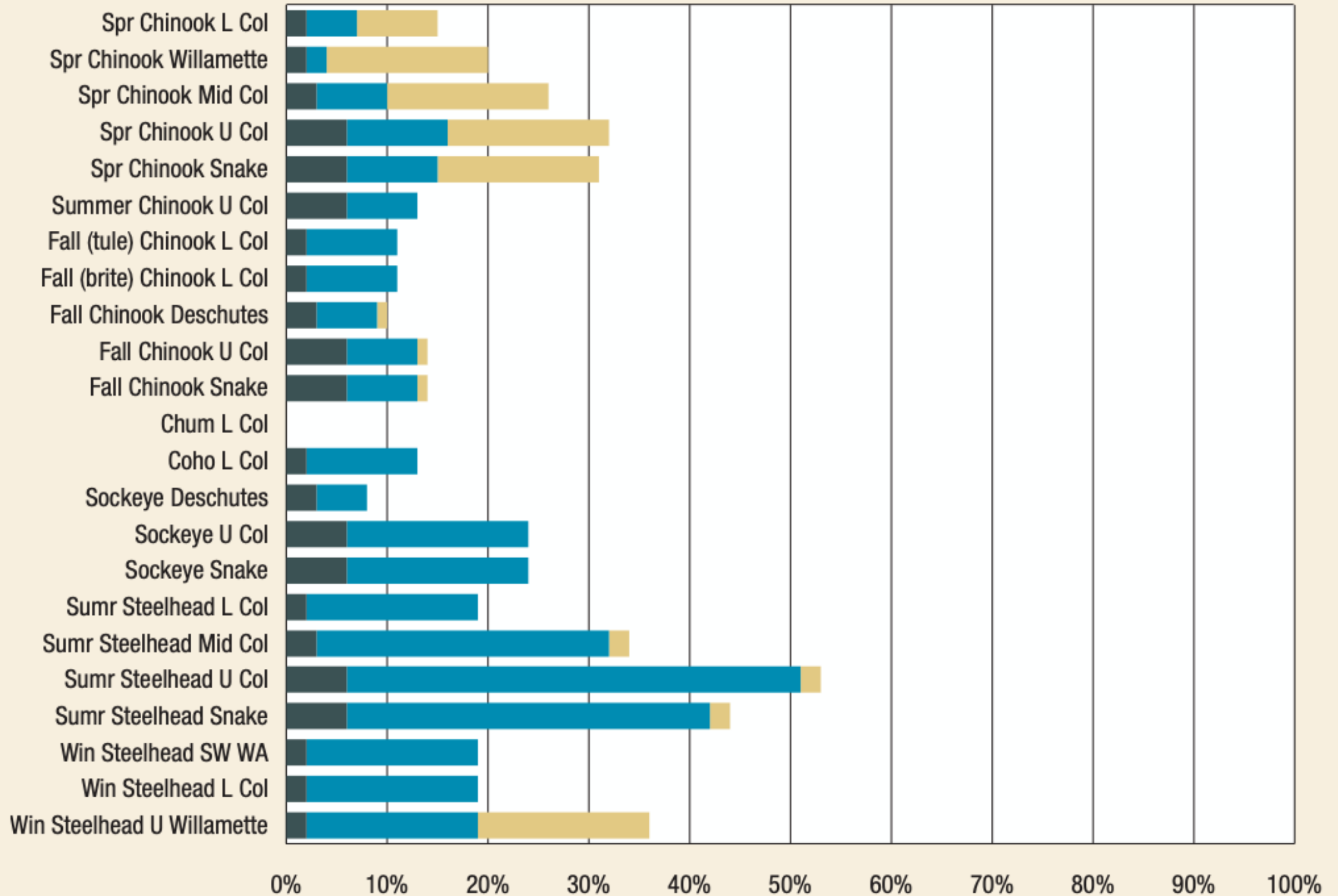
CBP Heatmap

		Stock	Tributary Habitat	Estuary	Hydro/ Mainstem	Hydro/ Latent	Hydro/ Blocked	Predation	Fishery	Hatchery
Lower Columbia	Spr Chinook	85	17	0	0	30	14	17	29	
	Fall (tule) Chinook	70	21	0	0	15	11	33	25	
	Fall (bright) Chinook	10	21	0	0	40	11	47	0	
	Chum	95	50	5	0	0	2	1	10	
	Coho	80	11	0	0	5	13	17	22	
	Sumr Steelhead	65	28	4	0	40	19	5	8	
	Win Steelhead SWW	60	28	0	0	0	19	5	17	
	Win Steelhead LCR	65	28	0	0	10	19	5	9	
Willamette	Spr Chinook	85	20	0	0	50	19	13	25	
	Win Steelhead	80	28	0	0	20	32	3	2	
Middle Columbia	Spr Chinook	85	17	23	14	25	25	15	24	
	Fall Chinook	20	27	13	9	5	10	55	0	
	Coho	0	11	30	19	0	17	22	na	
	Sockeye	0	17	19	9	99	8	3	na	
	Sumr Steelhead	80	28	11	14	20	33	10	17	
Upper Columbia	Spr Chinook	45	18	49	38	75	29	15	32	
	Summer Chinook	50	27	44	38	50	13	61	27	
	Fall Chinook	25	27	65	19	5	13	61	10	
	Sockeye	50	17	38	38	80	24	12	10	
	Sumr Steelhead	40	31	30	38	95	52	10	24	
Snake	Spr Chinook	50	16	39	38	30	29	14	15	
	Fall Chinook	25	27	62	38	80	13	45	na	
	Sockeye	10	17	47	38	70	24	6	na	
	Sumr Steelhead	45	27	30	38	40	43	25	24	

Life-cycle Mortality Impacts CBP



Life-cycle predation Mortality CBP



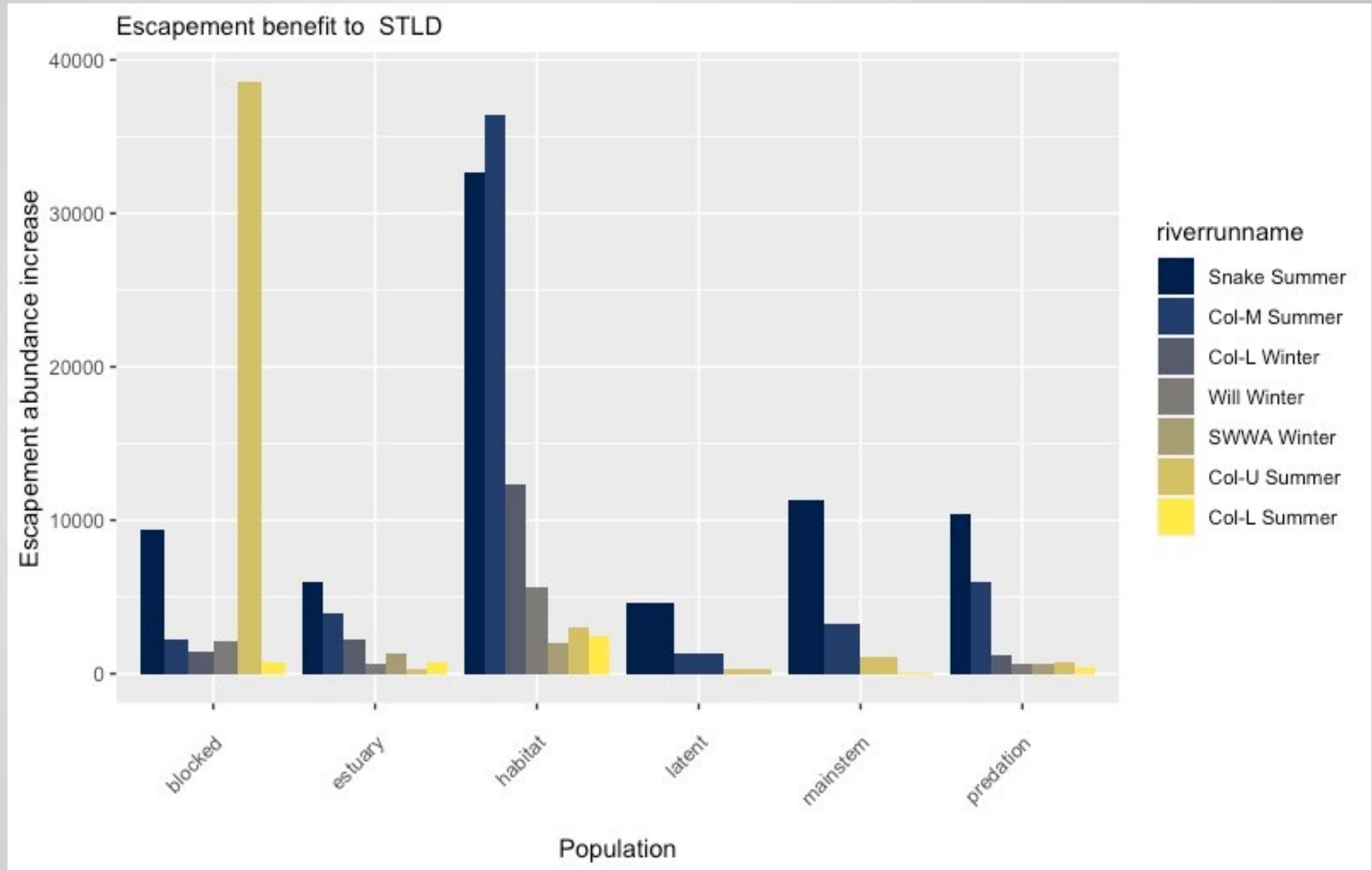
Predation Impact/Mortality : CBP

Run	Species	River	<i>Pikeminnow</i>	<i>Terns estuary</i>	<i>Terns inland</i>	<i>Cormerants</i>	<i>Gulls inland</i>	<i>Sealions</i>
Summer	STLD	Col-U	0.056	0.09	0.077	0.051	0.289	0.015
Summer	STLD	Snake	0.056	0.095	0.056	0.093	0.158	0.015
Summer	STLD	Col-M	0.034	0.093	0.056	0.083	0.158	0.015
Winter	STLD	Will	0.017	0.093	0	0.076	0	0.17
Spring	CHK	Col-U	0.056	0.016	0.009	0.031	0.045	0.16
Spring	CHK	Snake	0.056	0.015	0.009	0.052	0.021	0.16
Spring	CHK	Col-M	0.034	0.01	0	0.042	0.021	0.16
All	SOCK	Col-U	0.056	0.014	0.039	0.036	0.103	0
All	SOCK	Snake	0.056	0.014	0.039	0.036	0.103	0
Spring	CHK	Will	0.017	0.01	0	0.013	0	0.16
Summer	STLD	Col-L	0.017	0.093	0	0.076	0	0
Winter	STLD	Col-L	0.017	0.093	0	0.076	0	0
All	COHO	Col-MU	0.034	0.01	0	0.1	0	0.031
Spring	CHK	Col-L	0.017	0.01	0	0.042	0	0.08
Fall	CHK	Col-L	0.017	0.013	0	0.11	0	0

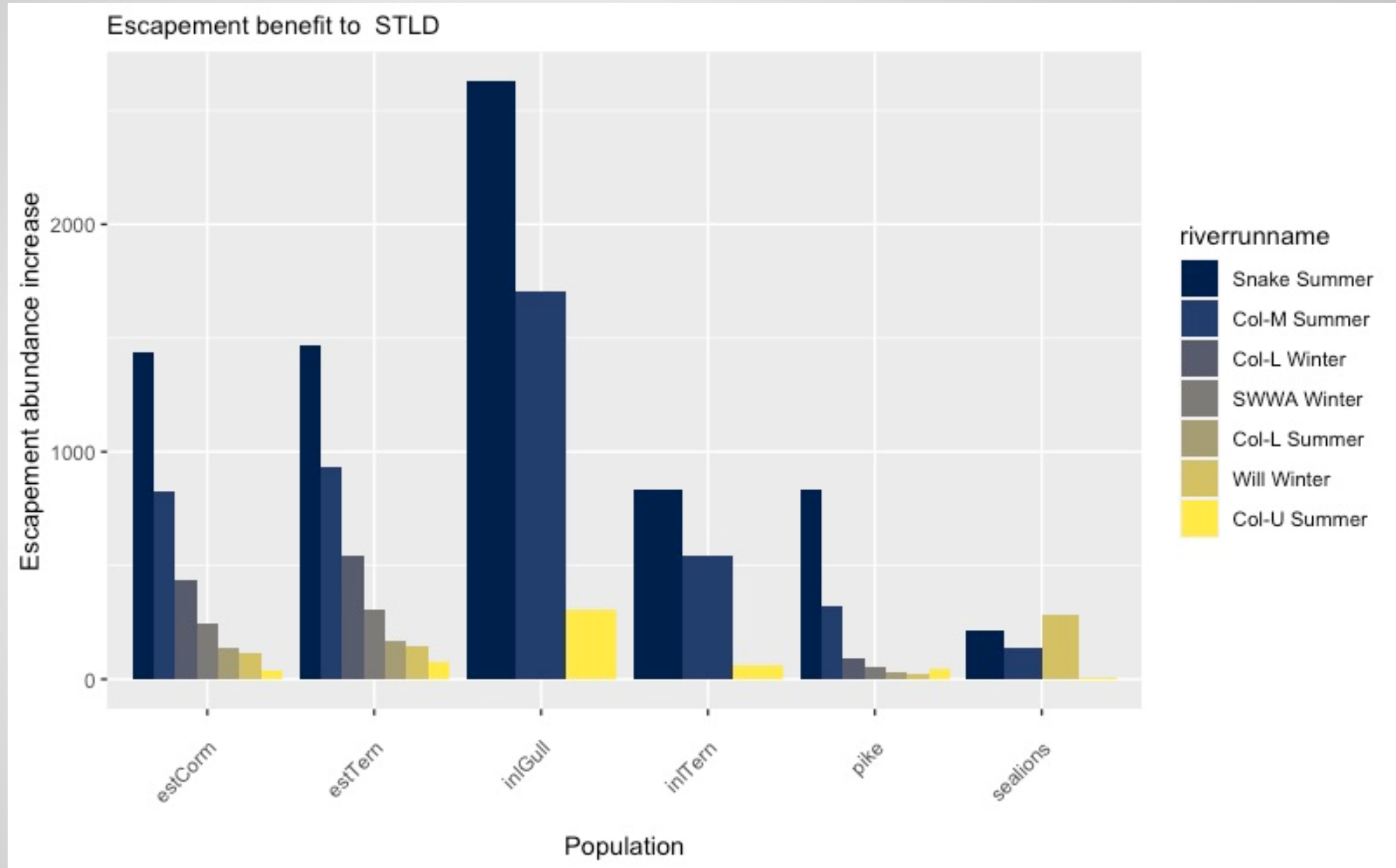
Linking SDM to CBP escapement goals

- $E = E' (1 - 0.4)$ i.e.: $0.6 E'$ when 40% predation mortality/impact
- $\text{New } E = E (1 - r \% * 0.4) / (1 - 0.4)$ reduce r % of problem
- $\text{Extra} = E * r \% * 0.4 / (1 - 0.4)$
- Assumes additivity without compensation
- Assumes no density dependence
- Predicts new equilibrium abundance *unknown* years in future

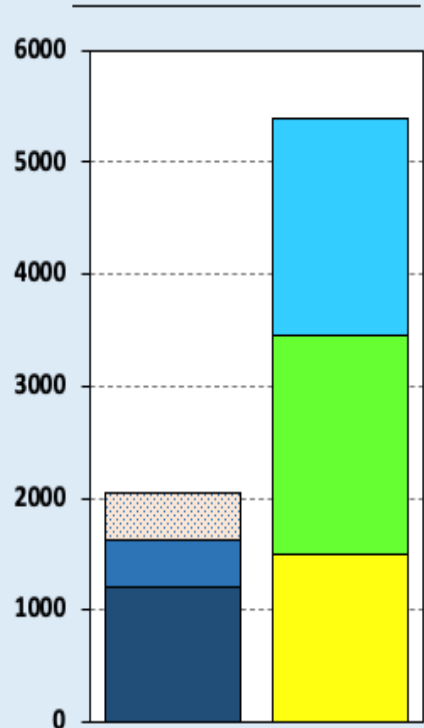
Remove 50%
of all impacts



Remove 50%
of all predation



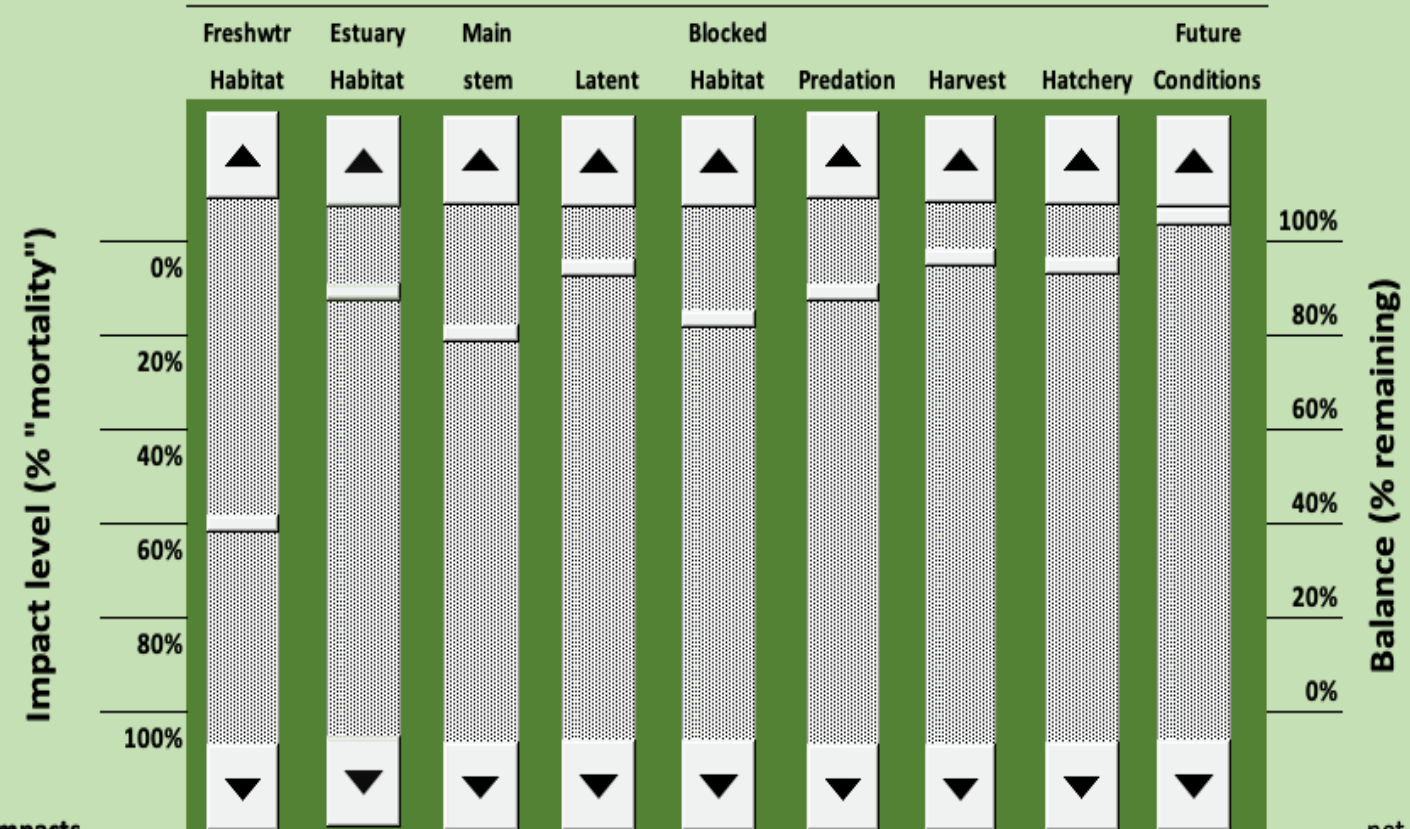
Abundance



Natural		Actual	Goal	
Current	1,200	1,500	low	
Future	1,630	3,450	med	
Historical	8,400	5,400	high	

Hatchery		#	% hat origin
Current	300	20%	
Future	410	20%	

Limiting Factor



Impacts	Freshwtr Habitat	Estuary Habitat	Main stem	Latent	Blocked Habitat	Predation	Harvest	Hatchery	Future Conditions	net
Current	60	30	26	13	20	20	10	10	0	91
Future	60	15	24	10	20	16	10	10	0	87
Survival ↑	0	21	4	3	0	5	0	0	0	36

Reset

Mid-C
STLD
Heatmap
(fake)

Area	Stock	Habitat	Estuary	Mainstem	Latent	Blocked	Predation	Fishery	Hatchery	Climate
Cascade	White Salmon R.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Klickitat R.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Fifteenmile Cr.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Deschutes R. east	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Deschutes R. west	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Crooked R.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Rock Cr.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
John Day	L. mainstem	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	North Fork	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Middle Fork	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	South Fork	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	U. mainstem	80	30	26.5	12.5	20	39.5	9.5	10.0	0
UM-WW	Willow Cr.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Umatilla R.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Walla Walla R.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
	Touchet R.	80	30	26.5	12.5	20	39.5	9.5	10.0	0
Yakima	Satus Cr.	30	30	26.5	12.5	20	20.0	9.5	10.0	0
	Toppenish Cr.	50	30	26.5	12.5	20	20.0	9.5	10.0	0
	Naches R.	60	30	26.5	12.5	20	20.0	9.5	10.0	0
	U. mainstem	50	30	26.5	12.5	80	20.0	9.5	10.0	0

Scenario example (3 stocks)

	Tributary	Estuary	Main	Latent	Blocked	Predation	Harvest	Hatchery	Climate					
Estuary + Spill + Predation														
Deschutes R. east		50	20	40		30					Harvest	Clean water	Cultural	Economic
L. mainstem		50	15	30		20								
Naches R.		50	10	20		20								
Cost										SCEE				
Deschutes R. east		2				0.5				0.65	1.2	0	0	
L. mainstem		2				0.5				0.5	1.2	0	0	
Naches R.		2				0.5				0.4	1.2	0	0	

	Current Survivals									
Deschutes R. east	0.20	0.70	0.74	0.88	0.80	0.61	0.91	0.90	1.00	
L. mainstem	0.20	0.70	0.74	0.88	0.80	0.61	0.91	0.90	1.00	
Naches R.	0.40	0.70	0.74	0.88	0.80	0.80	0.91	0.90	1.00	
	Future Survivals									Gain
Deschutes R. east	0.20	0.85	0.79	0.93	0.80	0.72	0.91	0.90	1.00	65%
L. mainstem	0.20	0.85	0.78	0.91	0.80	0.68	0.91	0.90	1.00	51%
Naches R.	0.40	0.85	0.76	0.90	0.80	0.84	0.91	0.90	1.00	36%

Freshwtr	Estuary	Main	Latent	Blocked	Predation	Harvest	Hatchery	Climate				
Spill and Predation												
10	20	20	40	50	30							
	20	15	30		20							
	20	10	20		20							
Cost												
0.5	1.2			2	0.5							
	1.2				0.5							
	1.2				0.5							
Habitat + Predation												
20	30				50							
20	30				50							
20	30				50							
Cost												
1	1.5				1							
1	1.5				1							
1	1.5				1							
Estuary + Spill + Predation												
	50	20	40		30							
	50	15	30		20							
	50	10	20		20							
Cost												
	2				0.5							
	2				0.5							
	2				0.5							

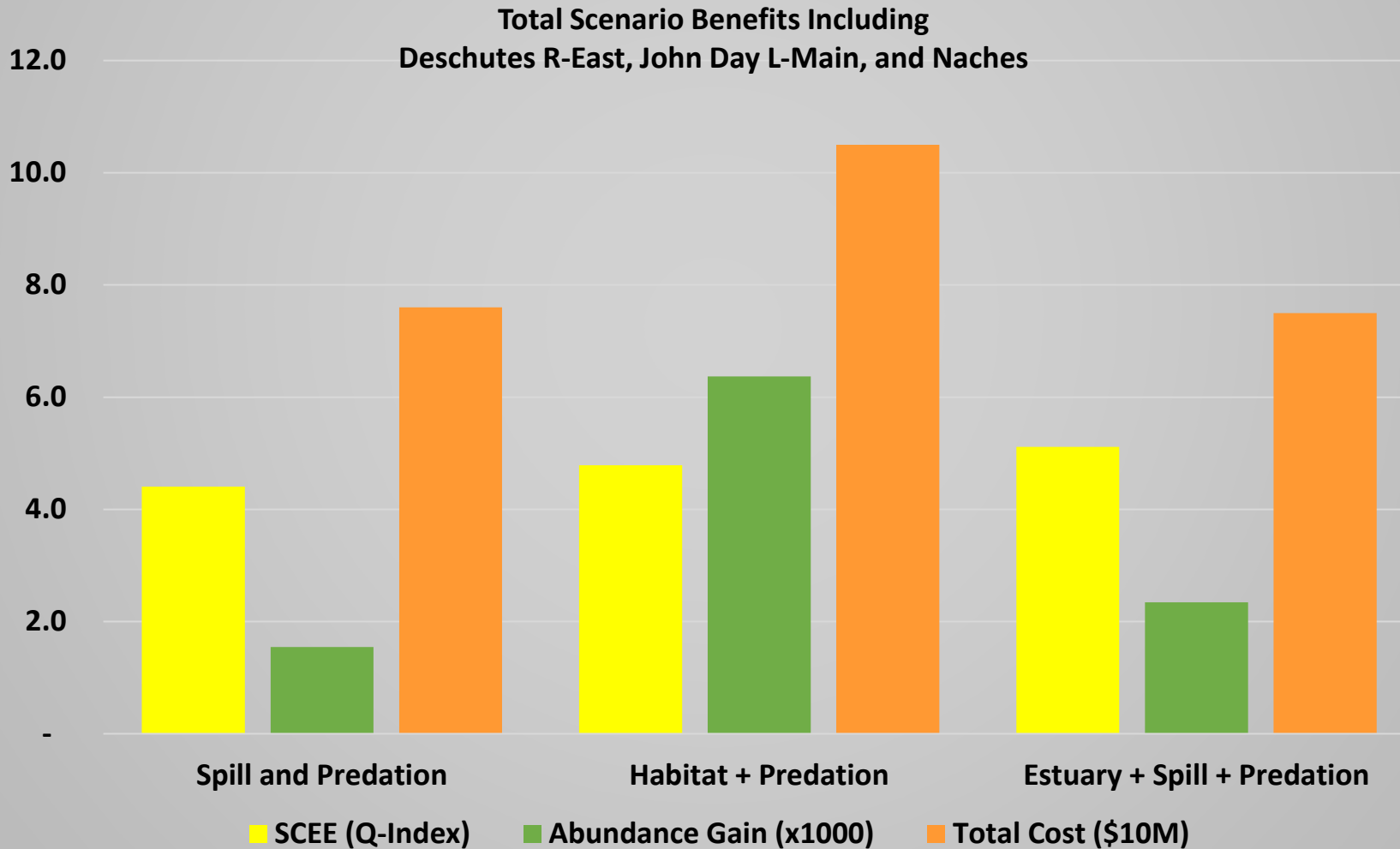
Harvest
Clean water
Cultural
Economic

SCEE	
0.5	0.5
0.5	0.5
1	0.5

SCEE	
0.25	
0.25	
0.25	

SCEE	
1.2	
1.2	
1.2	

SDM Dashboard of “metrics”



Relative Scenario Evaluation

1. Requires diving into impact nuances
 - a) Adjust for overlap, e.g., % restored, % run affected by impact
 - b) Create new impact tables more applicable
 - c) Devil is in the details
2. Time component

30% improvement gradual, e.g., 10% years 1-5, 15% years 6-10, etc...
3. Think about meaningful metrics
 - a) SCEE as function of abundance, diversity, socio-econometric value....
 - b) Over what scale or granularity are metrics measured.
 - c) Minimums, totals, averages, diversity, ...

Analyzer comments 1

- Does not account for generational changes: *Provides baseline.*
- Does not account for density dependence: *Baked in at current Esc.*
- Non-empirical: *Parameters are empirically derived.*
- No Interaction between “Impact” values: *Scenario driven.*
- Methodologies differ across populations: *True, but known.*
- Differing timescales of impacts: *True. Need to ramp up effects.*

Analyzer Comments 2

- Climate change: *Speculate “Discount factor”*
- Based on past climactic conditions: *“Discount factor”*
- Latest science/update? *Baseline comes from decades leading up to 2020*
- Can the salmon analyzer be accessed so that SDM group members can begin familiarizing themselves with it? *Yes.*

Salmon Analyzer Questions

1. How has the salmon analyzer been updated to incorporate the latest science since it was used during the CBP?
2. How can a temporal aspect be incorporated into the salmon slider?
3. Can the salmon analyzer be accessed so that SDM group members can begin familiarizing themselves with it?
4. How was the salmon analyzer tool used in the partnership report?
5. What assumptions were made to develop the analyzer tool?
6. How were SCEE values incorporated in the Salmon Analyzer?

Columbia Basin Partnership Report Scenario Actions Presentation

Implementing the SDM Proposal:

Step 2. Look at the scenarios that were developed as part of the CBPTF Phase 2 Report and identify all the actions (e.g., habitat restoration, predator control action, hydro action, etc.) that collectively make up the scenarios.

Columbia Basin Collaborative - Integration/Recommendations Group

*CRB Partnership
Transition to CBC*

June 29, 2022



Key Messages and Recommendations from CRB Partnership Phase II Report (p.28)

- **A Call to Action**

 - Time is of the essence

 - We must act now with **urgency**

 - Salmon will indicate the health of the basin

- **The Path Forward Needs a Salmon Ethic, Strong Leadership, and Collaboration**

 - The Tribes, salmon and ecosystem are interconnected

 - Leadership** is essential

 - Collaboration is needed

- **Science plus accountability delivers a healthy ecosystem and vibrant quality of life**

 - Continuous improvement and innovation moves us forward

 - Make scientifically based decisions

 - Benchmarks provide accountability

 - Reliable and predictable funding is essential**



It is not so much that all current mitigation measures are out-of-sync and outdated, but rather most were never enough or implemented fast enough for salmon in the first place.

Z. Penney, Columbia River Treaty Tribal Perspective (p. 112)

2011 Cauty Report



Funding for Salmon Recovery in Washington State:

- A comparison of needs versus project availability of funds indicates that current sources, if maintained for the coming ten years (2010-2019), would be sufficient to support approximately **one-fourth** of the capital and non-capital actions recommended in the regional recovery plans.
- The largest gaps were in Habitat Restoration (54%) and Monitoring (67%)

Strategies and Scenarios Explored by CRB Partnership



- NOAA identified and described 4-6 key strategies for each impact area as a menu of potential choices for action (p.139)
- Participants developed 13 different scenarios for salmon recovery generally based on those strategies, balancing across impact areas (Appendix B)

Our Hypothesis for the CBC –

The most common strategy for each impact area should be the most widely accepted and supported strategy for the CBC to promote



CRB Partnership Scenarios (Appendix B)

- All in for Salmon, Idaho Stakeholders
- Fish Forever Scenario, Conservation and Fishing Interests (Ben and Liz)
- Total Salmon Scenario, Idaho Stakeholders
- Stronghold-anchored and Diversified Portfolio Scenario, Conservation Interests (Rob)
- Climate Change and Plausible Futures Scenarios (4), Local Stakeholder Interests (Kevin)
- Shared Sacrifices Scenario, Hydro Industry Interests (Joe)
- Salmon First Scenario, Tribal Interests (Zach)
- Full Recovery Plan Implementation Scenario, WA Salmon Recovery Organizations (Steve)
- Level-of-effort (2) Scenarios, Partnership Project Team (NOAA staff)

CBC Biological Workgroup



Sequential Steps for Science-Based Recommendations

- Identify Needs for impact areas
- Identify Actions
- Identify Who and How Much
- Evaluate actions and packages
- Develop an integrated restoration recommendation

Near Term (Urgent!) and Longer Term



Impact Area – Tributary and Estuary Habitat

Increase investments and focus on large-scale, process-based restoration projects and protection of habitat function sufficient to demonstrably improve abundance and productivity of key populations (p.140). 100% of Scenarios

- Existing Funding Processes – NOAA Salmon Recovery Funding, NPCC/BPA funded Fish and Wildlife Program, NRCS, Ecology, others
 - All have science based, community backed plans in place that identify actions that exceed the current level of available funding
- CBC Product – Develop a funding request to double or triple salmon habitat funding to support existing programs



Impact Area – Hydropower Mainstem and Tributary Dam Strategies

Implement dedicated efforts to substantially improve fish passage and survival through significant modifications of hydropower system operation and configuration (p.143). 92% of Scenarios

- Existing Processes – CRSO EIS 2020 Proposed Action, 2020 Biological Opinion, 2014/20 NPCC F&W Program, Mid-C PUD HCPs, others
- CBC Product – Develop a funding request to fully fund implementation of the CRS proposed action to address ESA plus additional actions to address healthy and abundant
 - There is currently a billion-dollar backlog in non-recurring maintenance needs for the fish passage systems at the mainstem dams
 - Explore opportunities at FERC regulated dams for improved salmon protections and restoration
 - Align Federal and FERC operators for common M&E and performance standards



Impact Area – Blocked Area Strategies

Experimental reintroduction with interim hatchery supplementation concurrent with evaluation of passage potential (p. 145). 77% of Scenarios

- Existing Processes – Upper Columbia BAAF Work Group is exploring funding and regulatory options above Grand Coulee, Yakama Basin Integrated Plan addressing sockeye, others
- CBC Product –
 - Support UCBAAF as a workgroup of the CBC and part of recovery effort
 - Express support for other reintroduction strategies such as Yakama Basin Integrated Plan



Impact Area – Predation and Invasive Species Strategies

Undertake lethal but limited removal of problem animals of key predators in specific areas or as part of redistribution efforts (p.147). 85% of Scenarios

- Existing Processes –COE Regional Forum (FPOM, SCT, etc.); Mid-C PUD Coordinating Committee; BPA funded projects
- CBC Product – Develop a funding request for sufficient funding for removal or redistribution of key predators
 - Recommend systemwide coordination of predator and invasive species management



Impact Area – Fishery Strategies

Manage fisheries to optimize harvest of healthy natural stocks within constraints of reduced exploitation rates on weak or less abundant natural stocks to ensure that harvest does not impede recovery (p.148). 92% of Scenarios

- Existing Processes – US v OR forum(s)
- CBC Product – Provide education and outreach to better explain fish management practices and promote improvements
 - Improve outreach and education
 - Fund improved harvest monitoring



Impact Area – Hatchery Strategies

Employ hatcheries for conservation and reintroduction to protect and restore the native diversity and distribution; 85% of Scenarios

Reduce or reform hatchery programs to limit impacts or risks to natural production (p.150-151). 85% of Scenarios

- Existing Processes – Mitchell Act, Lower Snake River Compensation Plan, NPCC/BPA Fish and Wildlife Program, others
 - Hatchery mitigation that was promised when the dams were constructed still haven't been built
 - Existing mitigation hatcheries are not meeting their juvenile and adult abundance goals due to lack of adequate O&M funding
 - Columbia Basin hatchery infrastructure needs exceed \$800 million
 - LSRCF Hatcheries currently have a \$131 million backlog of non-recurring maintenance needs
- CBC Product – Develop a funding request to get CRB salmon hatcheries fully operational to meet all mitigation (and in some cases, recovery) obligations, including full implementation of hatchery reforms



Impact Area – Systemic Strategies

Provide funding levels adequate to restore salmon and steelhead to healthy and harvestable levels consistent with Partnership Goals (p.153). 92% of Scenarios

Develop new legislation to foster an effective salmon and steelhead restoration program (p.153). 85% of Scenarios

Expand monitoring and assessment efforts to assess status and progress toward salmon and steelhead recovery (p.153). 85% of Scenarios

■ CBC Product –

- Address funding issues through a comprehensive funding package promoted by CBC
- Create a workgroup to work on state and federal land and water management legislation fixes
- Improve monitoring and reporting to support accountability

Summary



Near-Term Funding Recommendation

- Develop a comprehensive funding package that assumes existing infrastructure and processes
 - Double tributary and estuary habitat funding (PCSRF, BPA, NRCS, etc.)
 - Address billion-dollar backlog at mainstem dams (USCOE)
 - Fund reintroduction efforts across the basin (various federal agencies)
 - Fund predator and invasive species management and create a predator management coordination forum (USCOE, BPA, PUDs, etc.)
 - Fully fund hatchery improvements and reform (various federal agencies)

Obtain the funding based on existing assessments and plans, implementation will be done at the local/regional/watershed scale consistent with Integration Workgroup guidelines

Summary



- Integration Work Group to ensure optimization/efficacy of efforts if funded and identify GAPS for Longer Term funding – link to ESU/DPS/Watershed scale
- Create and promote legislative fixes for land and water management regulations that are impacting salmon restoration (state and federal)
- Performance metrics, convert CRB Partnership effort into sustainable reporting and evaluation of success

Scenario Actions

- Any questions for clarification?

Scenario Strategies:

- Increase investments and focus on large-scale, process-based restoration projects and protection of habitat function sufficient to demonstrably improve abundance and productivity of key populations. (100%/92%)
- Implement dedicated efforts to substantially improve fish passage and survival through significant modifications of hydropower system operation and configuration. (100%)
- Experimental reintroduction with interim hatchery supplementation concurrent with evaluation of passage potential. (77%)
- Implement nonlethal measures designed to discourage predation by key predators in focal problem areas. (85%)
- Undertake lethal but limited removal of problem animals of key predators in specific areas or as part of redistribution efforts. (85%)
- Manage fisheries to optimize harvest of healthy natural stocks within constraints of reduced exploitation rates on weak or less abundant natural stocks to ensure that harvest does not impede recovery. (92%)
- Employ hatcheries for conservation and reintroduction to protect and restore the native diversity and distribution (85%)
- Reduce or reform hatchery programs to limit impacts or risks to natural production. (85%)
- Provide funding levels adequate to restore salmon and steelhead to healthy and harvestable levels consistent with Partnership Goals. (92%)
- Develop new legislation to foster an effective salmon and steelhead restoration program. (85%)
- Expand monitoring and assessment efforts to assess status and progress toward salmon and steelhead recovery. (85%)

Mid-Columbia Steelhead Recovery Plan Presentation

Implementing the SDM Proposal:

Step 3. Identify any other actions that may need to be explored, that were not identified with the CBPTF Scenarios.

Mid-C Recovery Plans Questions

- How do the Mid-C Recovery Plans relate to the Scenario strategies?

Mid C Working Group 11.22.24

- Alex Conley, Yakima Basin Fish and Wildlife Recovery Board
- Steve Martin, southeast Washington Snake River Salmon Recovery Board
- Kevin Scribner, I/R Work group member

Salmon Recovery Plans

Who, What, When, Where, and How

- Required for ESA listed species
- Plans contain site specific actions, costs, timeline, strategies, objectives, and goals to address threats and limiting factors necessary to recover species
- Washington Way with oversight, direction and analysis by NOAA; NOAA set the goals we established the objectives, strategies and actions
- Population specific chapters for watersheds; Ocean and Mainstem modules by NOAA

Washington Way - Extinction is not an Option – inherently addresses SCEE



- Yakama Nation
- Benton County
- Yakima County
- Kittitas County
- 19 City Members



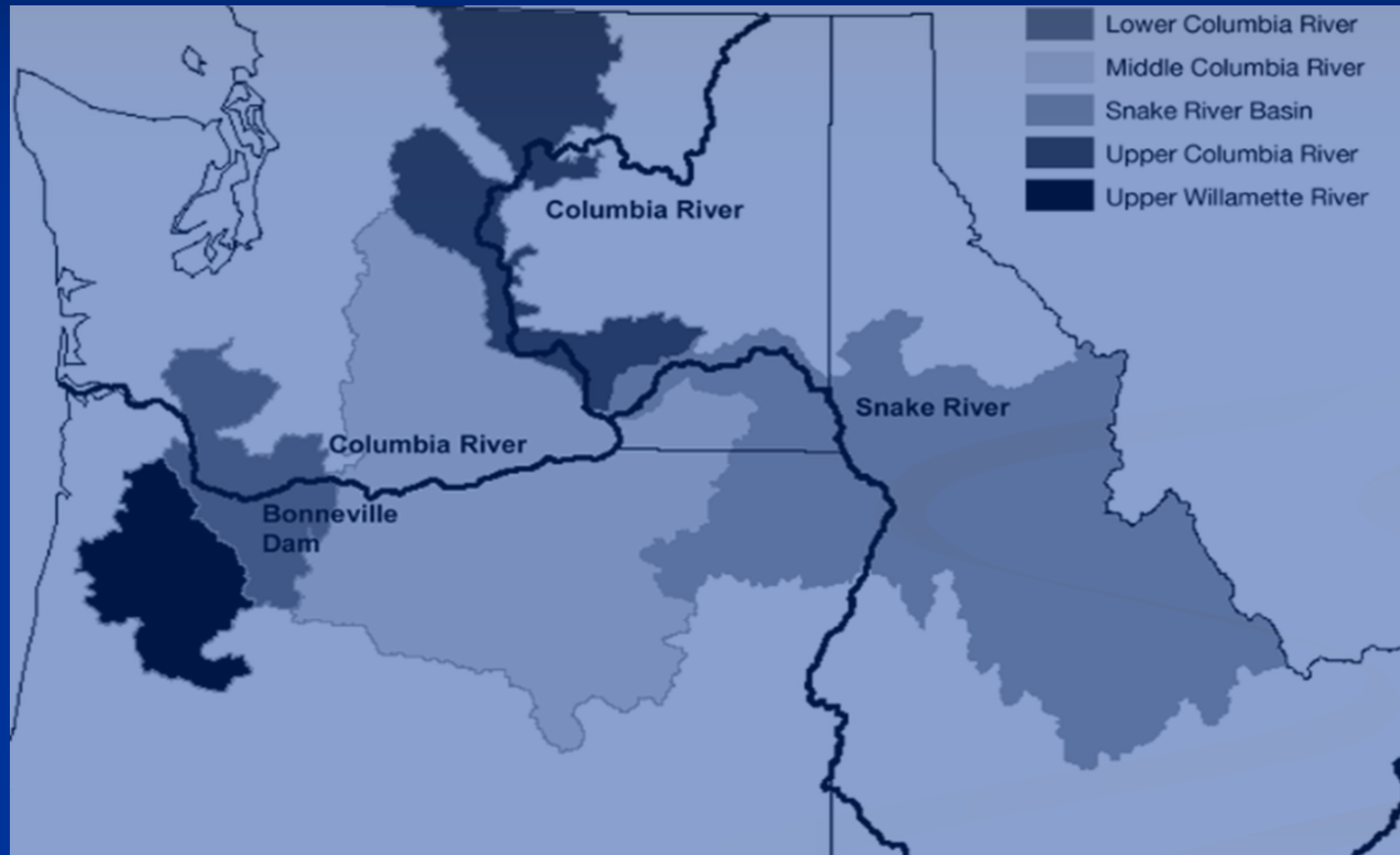
- Confederated Tribes of the Umatilla Indian Reservation
- Walla Walla County Commissioner
- Columbia County Commissioner
- Garfield County Commissioner
- Asotin County Commissioner
- Whitman County Commissioner
- Nez Perce Tribe (non-voting technical advisory role)

12 citizen member review committee
Regional Technical Team

Where is it happening?



Middle Columbia Steelhead DPS



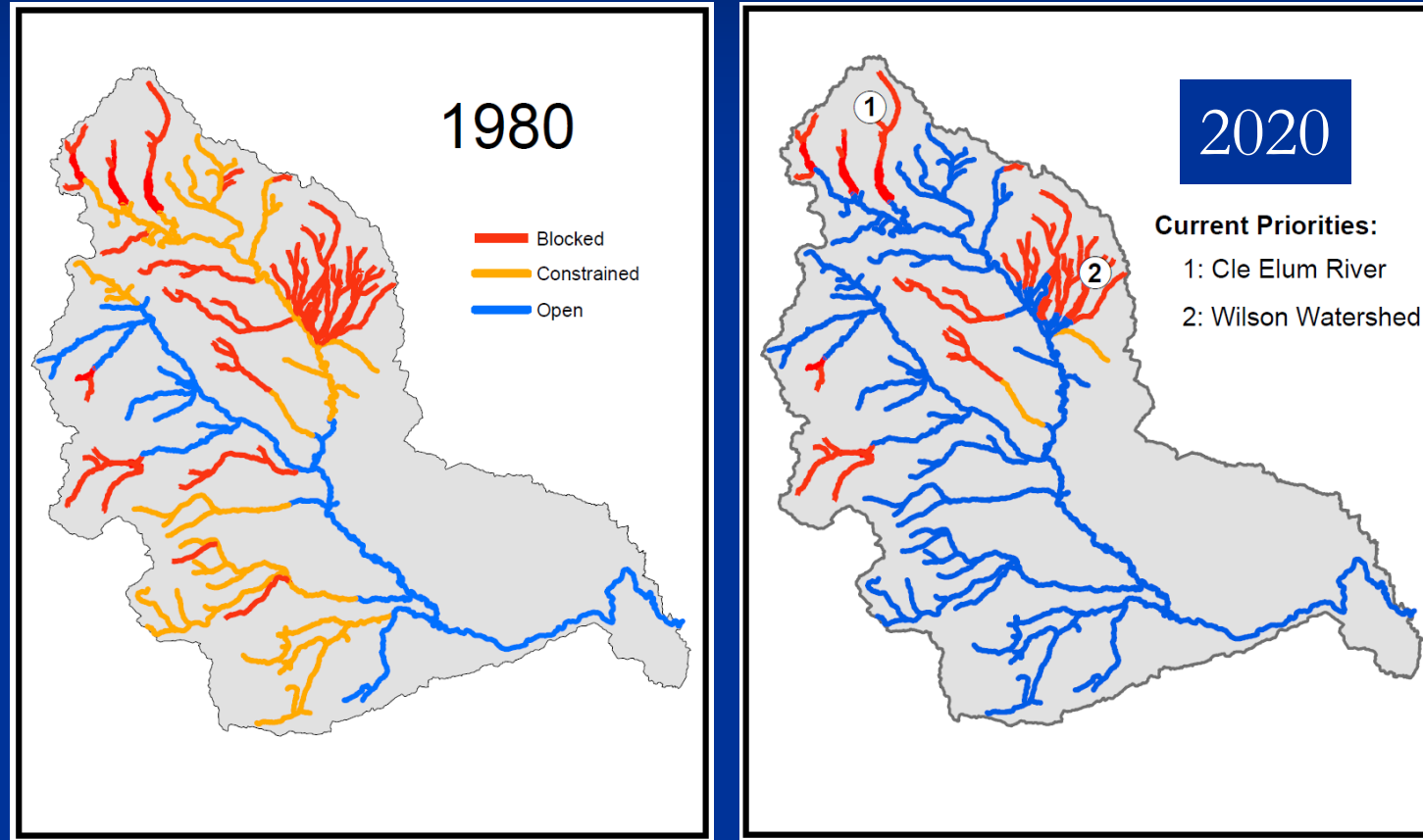
Mid C Forum

- Created to identify the highest federal actions necessary to improve steelhead towards delisting
- Powerful Tribal, bi-state agencies, and recovery board framework for advocating federal resources
- Outstanding coordination facilitated by NOAA that existed from about 2010 to about 2020

Mid-Columbia Steelhead DPS Priorities

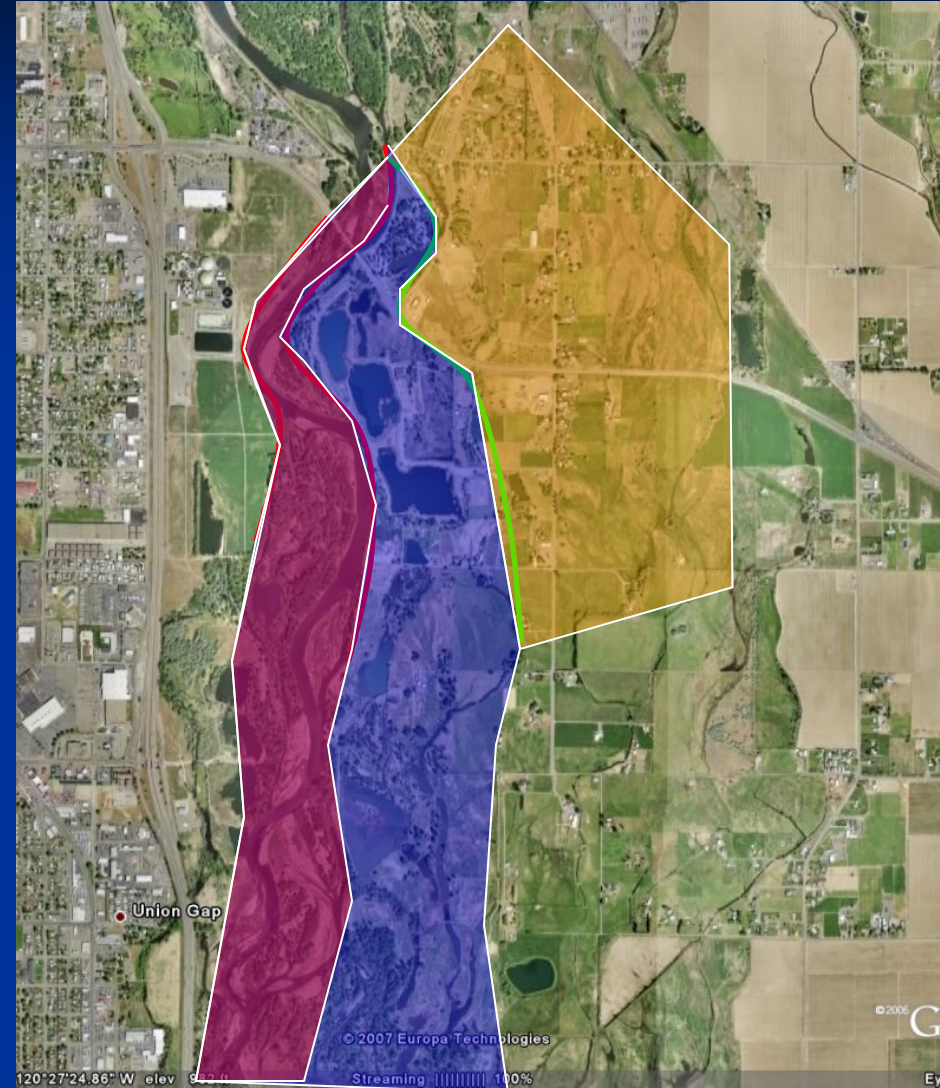
- Major accomplishments in the Mid C
 - Lots of instream, floodplain and riparian restoration
 - Fish passage and stream flow improvements
 - Overshoot awareness at mainstem dams
- 5 year NOAA status review summarizes status and needs at a high level
- Ongoing need to update plans/maintain focus

Fish Passage and Screening

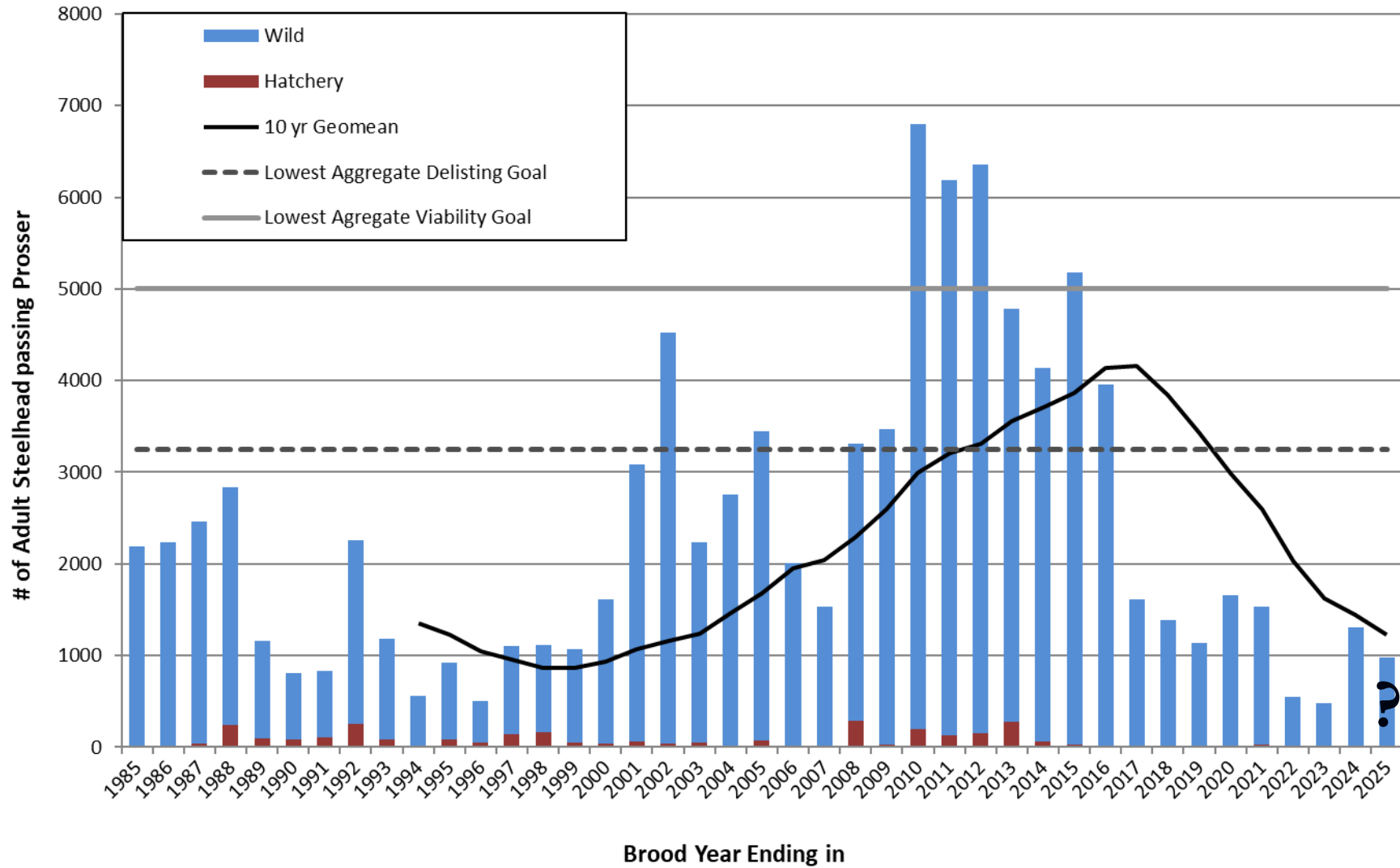


GAP TO GAP PROJECT

- Yakima County and US Army Corps leads
- Many phases over 20 years:
 - Land acquisitions
 - Tripling span of state highway bridge
 - New sewage treatment plant outfall
 - Multiple levee setbacks
- Main Dike setback scheduled for 2023
- Uses 2022 SRFB TI & large project funding
- Restore floodplain function to 1000 acres



Number of ESA-listed Adult Steelhead in the Yakima Basin



What's going on?

- Just wait for better ocean conditions?
- Increase rate of existing restoration efforts
- Address key uncertainties:
 - High smolt mortality in Mid-C tribs and Columbia
 - High mortality of returning adults in the Columbia
 - Need to focus restoration on habitat types and parameters that best support anadromy

Cost to Implement¹ and Sources

- Washington State legislature has significantly increased its financial contribution relative to federal and BPA sources
- Currently investing at a rate of 15% of the identified need to achieve recovery goals
- PCSRF, BPA, OWEB, SRFB, Ecology, COE are the leading \$ sources

¹ SE Wa region cost to achieve de-listing was ~\$256M in 2025

Message

- ESA is a federal requirement, but state, tribal and local partnerships are what drive recovery in watersheds/regions
- Local knowledge and good science are both needed
- Participation by local and tribal elected officials and stakeholder is essential to successfully implanting plans
- We have made great progress, **but we need more resources & focused work on critical uncertainties**

Scenario Strategies:

- Increase investments and focus on large-scale, process-based restoration projects and protection of habitat function sufficient to demonstrably improve abundance and productivity of key populations. (100%/92%)
- Implement dedicated efforts to substantially improve fish passage and survival through significant modifications of hydropower system operation and configuration. (100%)
- Experimental reintroduction with interim hatchery supplementation concurrent with evaluation of passage potential. (77%)
- Implement nonlethal measures designed to discourage predation by key predators in focal problem areas. (85%)
- Undertake lethal but limited removal of problem animals of key predators in specific areas or as part of redistribution efforts. (85%)
- Manage fisheries to optimize harvest of healthy natural stocks within constraints of reduced exploitation rates on weak or less abundant natural stocks to ensure that harvest does not impede recovery. (92%)
- Employ hatcheries for conservation and reintroduction to protect and restore the native diversity and distribution (85%)
- Reduce or reform hatchery programs to limit impacts or risks to natural production. (85%)
- Provide funding levels adequate to restore salmon and steelhead to healthy and harvestable levels consistent with Partnership Goals. (92%)
- Develop new legislation to foster an effective salmon and steelhead restoration program. (85%)
- Expand monitoring and assessment efforts to assess status and progress toward salmon and steelhead recovery. (85%)

Next Steps

- KW: Draft a meeting summary
- KW: Schedule upcoming meetings



Thank you



Photo credit: Roger Tabor