

Columbia Basin Collaborative

Recommended Actions for I/RG Review

January 4, 2024

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Habitat Work Group

Recommendation for Sending a Letter to Local Land and Water Managers Requesting Support for Net Habitat Gain

Background:

The Columbia Basin Partnership (CBP) established qualitative and quantitative goals for healthy and harvestable stocks of salmon and steelhead throughout the basin and noted the need to act now and with urgency to achieve those goals. The CBP Phase 2 report also noted that significant improvements were needed in key limiting factors and in the context of a set of broad-based strategies that address multiple limiting factors. Similarly, NOAA Fisheries' de-listing criteria, which represent a step toward achieving the CBP goals for listed stocks, require abatement of key threats across all sectors before Endangered Species Act (ESA) delisting can occur. Habitat has been identified as a high or medium-priority impact for 2/3 of the basin's stocks (CBC Project Team). Since ESA listings, substantive progress has been made in many sectors, including hatchery and harvest reform, improved hydropower infrastructure and operations, habitat improvements, and efforts to reduce predation. These efforts need to be sustained and adaptively managed. However, comprehensively addressing habitat threats has been politically difficult to achieve.

Funding for habitat restoration has increased and is a basin-wide priority, yet it has not been sufficient to achieve positive change sought. Further, no comprehensive effort to increase protection of the habitat baseline and reduce threats through land and water use programs as called for in federally adopted recovery plans has been implemented. There is also a lack of data to demonstrate that we are collectively achieving "no-net-loss" of watershed functions from existing conditions per previously identified objectives (NOAA, 2022; PC Trask & Associates, 2020; Washington State Academy of Sciences, 2020). Climate change is expected to exacerbate impacts of ongoing habitat degradation (NOAA, 2022). Even if we had achieved "no-net-loss" we would still fall short on achieving the recovery goals. This is a key recovery gap in many sub-basins, as continued loss of watershed functions may outpace habitat restoration, prevent achievement of optimally functioning aquatic habitat in the long term, and may also undermine gains in other sectors.

Summary of Action:

CBC I/RG partners to draft and send a letter calling upon state, county and local land and water managers (e.g., land and water use and regulatory managers) to update their respective water and land management policies, incentive programs, restoration funding priorities, and regulations as appropriate to achieve optimally functioning aquatic habitat for salmon and steelhead. Following the initial distribution of this letter, additional recovery organizations working in the Columbia Basin would be encouraged to distribute this letter and draft similar letters in line with their mission.

Outline of Letter:

- a. To: State, county, and local governments
- b. From: All members of CBC listed individually with signatures
- c. Regarding: Focus on improving habitat for salmon and steelhead recovery
- d. Who: Introduce the Collaborative, give background on the CBP and Phase II report, focus on recovery is possible and urgent action required

- e. Why: We want to ensure that funding will add to habitat protection and restoration for salmon and not only offset additional development
- f. Policies to protect and restore salmon habitat have not been sufficient to offset habitat degradation due to development and gains have been limited due to factors including continued development and climate change (CBPTF 2020).
- g. With increases in funding, we want to ensure progress towards recovery of salmon and steelhead.
- h. What: We are pushing for increasing efforts across all threat categories to turn the tide and encouraging all responsible parties to consider their impacts to salmon.
- i. We need help through land and water management decisions that affect salmon habitat as one part of our effort.
- j. We request that you adopt and implement policies within your authority to achieve the optimally functioning aquatic habitat for salmon and steelhead and reach the CBP goals for these iconic species.

Existing or New Program:

A modification to existing policies and procedures.

Benefit Provided by Action:

If implemented, the action would help protect existing habitat and provide a net increase in habitat function throughout the Columbia Basin.

Stocks Benefited by the Action:

If implemented as written, the effects of the action would be basin-wide and therefore benefit all stocks.

Data Supporting Benefits:

There is abundant data to support the fact that habitat is deeply impaired throughout many parts of the Columbia Basin, that improved habitat would support enhanced fish abundance and productivity, and that enhanced habitat capacity and productivity is needed to achieve CBP goals. There is not data readily available to indicate whether current habitat function is increasing or decreasing at a large scale, but habitat conditions remain highly degraded throughout most of the Columbia River Basin (CBPTF 2020).

Implementing Entities:

Participating state, county, and local governing bodies.

Time Needed to Implement:

Some actions could occur immediately while others will take years for agencies to revise regulations, policies, programs, plans and priorities.

Time Needed to Benefit Fish Populations:

Fish would not benefit until policies were revised and implemented.

Estimated Cost:

Uncertain.

Uncertainties:

Getting entities to implement the policy. Habitat adjacent to public lands will require coordination with the counties.

Associated Regulatory Processes or Policies:

State and local regulations, laws, and policies that affect salmon and steelhead habitat. Agencies may need to take action to request updates to laws, policies, and regulations.

Potential Challenges:

- Could be challenging for counties to support this policy. Landowners would need to be engaged to support this.
- May require changes to rules/statutes.
- Water rights and overall water allocation and management for fish/non-fish related uses.

Adaptive Management:

Not applicable.

References:

CBC Project Team. N.d. Biological Matrix compiled by CBC project team, based on CBP Phase 2 report.

Columbia Basin Partnership Task Force. 2020. A Vision for Salmon and Steelhead: Goals to Restore Thriving Salmon and Steelhead to the Columbia River Basin (Phase 2 Report of the Columbia Basin Partnership Task Force of the Marine Fisheries Advisory Committee). October 2020. Available at <https://www.fisheries.noaa.gov/vision-salmon-and-steelhead-goals-restore-thriving-salmon-and-steelhead-columbia-river-basin> (accessed 10/24/23).

National Marine Fisheries Service West Coast Region, 2022. 2022 5-Year Review: Summary & Evaluation of Lower Columbia River Chinook Salmon, Columbia River Chum Salmon, Lower Columbia River Coho Salmon, Lower Columbia River Steelhead.

PC Trask and Associates, Inc, September 2020. Lower Columbia Salmon Recovery Plan Partner Program Implementation Review, East Fork Lewis River Habitat Pilot Study. Pages 1 – 3.

Washington State Academy of Sciences, June 2020. Assessment of No New Loss and Recommendations for Net Ecological Gain metrics, Indicators and Monitoring. Pages 4 – 5.

Appendix I:**Initial Draft of Letter**

Date: ASAP

To: need list of state, regional and local land and water managers

To whom it may concern,

We need your help to restore Columbia Basin salmon and steelhead to healthy and harvestable levels while also achieving a robust regional economy and vibrant cultural and spiritual traditions.

The Columbia Basin Collaborative (CBC) is a collaboration of states, tribes, federal agencies, and stakeholders that is developing recommendations for achieving healthy and harvestable salmon and

steelhead in the Columbia Basin. The CBC is building off the work of the Columbia Basin Partnership Task Force (Partnership) that brought together diverse representatives from across the Columbia Basin to establish a common vision and goals for the Basin and its salmon and steelhead. The diverse group of parties on the Partnership included Columbia Basin tribes; fishing, agriculture, conservation, river transportation, port, and hydropower interests; and the states of Idaho, Montana, Washington, and Oregon. All of these parties want to ensure that healthy and harvestable runs of salmon and steelhead thrive into the future. Meeting the needs of our diverse social, cultural, and economic landscape — while leaving future generations with abundant, resilient salmon and a healthy ecosystem — will take ingenuity, innovation, and partnership.

An overarching message from Partnership members was a strong sense of urgency that immediate action is needed to address salmon and steelhead declines in the Columbia River Basin. The Partnership Phase II Report finalized qualitative and quantitative goals for all salmon and steelhead, both ESA-listed and non-listed, throughout the Columbia River Basin and provides recommendations for continuing collaboration going forward to further define and implement strategies to achieve the Partnership Goals. For the first time in the region, we have a full accounting of Columbia River salmon and steelhead numbers at the stock level from the ocean to the spawning grounds for natural and hatchery-origin fish.

To accomplish the quantitative and qualitative goals for each of 27 stocks of salmon and steelhead in the basin the region needs to act with urgency to address key threats across all sectors (habitat, hatchery, harvest, hydropower system, and human-enhanced predation). The Partnership developed low-, mid-, and high-range goals. ESA delisting is generally consistent with the low-range goals; the emphasis of the Partnership is to reach healthy and harvestable stocks at the high-range goals — which are considerably higher than ESA delisting levels. The high-range goals will also contribute to the culture, economy, and ecosystem of the region, including providing for the needs of dependent wildlife, and providing sustainable fisheries and honoring tribal treaty and trust responsibilities.

Since ESA listings, substantive progress has been made in many sectors, including hatchery and harvest reform, improved hydropower infrastructure and operations, habitat improvements, and efforts to reduce predation. These efforts need to be sustained and adaptively managed.

Habitat has been identified as a high or medium-priority impact for 2/3 of the basin's stocks. However, comprehensively addressing habitat threats has been politically difficult to achieve.

Funding for habitat restoration has increased and is a basin-wide priority, yet it has not been sufficient to achieve positive change sought. Further, no comprehensive effort to increase protection of the habitat baseline and reduce threats through land and water use programs as called for in federally adopted recovery plans has been implemented. There is also a lack of data to demonstrate that we are collectively achieving “no-net-loss” of watershed functions from existing conditions per previously identified objectives (NOAA, 2022; PC Trask & Associates, 2020; Washington State Academy of Sciences, 2020). Climate change is expected to exacerbate impacts of ongoing habitat degradation (NOAA, 2022). Even if we had achieved “no-net-loss” we would still fall short on achieving the recovery goals. This is a key recovery gap in many sub-basins, as continued loss of watershed functions may outpace habitat restoration, prevent achievement of optimally functioning aquatic habitat in the long term, and may also undermine gains in other sectors.

The CBC members are writing to you, as a decision maker involved in land and water management, to help achieve the goals of the Partnership. We are asking you to read the Partnership Phase II Report and to consider adopting policies for managing the land and water in partnership with the addressing the needs for salmon. A vast amount of funding has been spent towards salmon recovery in the Columbia River Basin over the past 20 years and while we have had some successes, no stock has yet achieved ESA de-listing or Partnership goals. Restoration is going to require an “all-hands-on-deck” approach. We anticipate a significant increase in federal funding for salmon habitat improvement due to the Bipartisan Infrastructure Law (BIL), the Inflation Reduction Act (IRA), and Infrastructure Investment and Jobs Act (IIJA) over the next few years. It is the goal of all the CBC members that this funding, in addition to ongoing funding sources, improves the habitat for salmon and steelhead and does not merely offset continued degradation and development.

Please consider improving conditions for salmon and steelhead as you proceed with your management responsibilities.

For questions please contact your State representative on the Integration/Recommendations Group to put you in contact with your local watershed coordinating group.

SIWG Narrative Feedback & Stock Benefits Report Card:

SIWG Feedback:

- This recommended action acknowledges that funding for habitat restoration has increased but that regulatory and policy protections are not keeping pace with restoration actions. The approach developed by the Habitat Work Group is to draft a letter that would be signed by the I/RG and sent to state and local water managers to identify the need for greater regulatory and policy protections to provide for net habitat gain.
- Habitat is identified as a high or medium impact for two thirds of all stocks. This action could potentially benefit all stocks in the Columbia River basin.
 - The action takes a broadcast approach. It is expected that the letter will get more responsiveness in some places than others, and there is no way to predict locally where the letter will receive the most traction.
- This action is complementary to the recent Presidential [Memorandum on Restoring Healthy and Abundant Salmon, Steelhead, and Other Native Fish Populations in the Columbia River Basin](#). The Biden administration has asked federal agencies to use their authorities to help achieve salmon and steelhead recovery goals; this recommendation makes a similar request of state and local agencies.
- SIWG members noted that changes need to be made to some state policies and rules. The draft letter asks the recipients to look at existing policies and rules that may need to be updated. The intent behind sending the letter to local and state managers is that local managers make individual permit decisions, and the states can push implementation and ensure that the rules are applied equally for everyone.
- SIWG members noted that there would be value in circulating the letter beyond the land and water managers. For example, it could also be sent to state legislative committee staff who could lead in changing laws.
 - Once the letter has been signed by the I/RG, the hope is that the letter would be distributed more broadly to entities such as recovery boards and watershed councils. Other groups and organizations would be able to use the letter to advocate for actions and policies that would promote net habitat gain.
- It could be beneficial to add a list of resources (e.g., grant programs) that are available to state and local agencies for habitat restoration. This could help encourage the managers to take action and inform them of resources and programs that they may not be aware of.
- SIWG members recommended that in addition to the initial outreach, there should be multiple follow-up communications and reminders to encourage implementation and build broad buy-in for the importance of this action.
- SIWG members also suggested including a contact list with the individual staff who the letter would be sent to and their contact information.
- Another benefit of the action is that the draft letter includes information on how to contact their state I/RG representative. The intent is to make managers aware of this key moment for salmon recovery and encourage them to be involved.

Stock Benefits Report Card:

Sub-Region	Stock	Status	Abundance			MAFAC Phase II Impact Priority									
			Current	MAFAC Medium goal	Current as % of Medium Goal	Tributary Habitat	Estuary Habitat	Hydro (Mainstem)	Hydro (Latent)	Hydro (Blocked)	Predation	Fishery	Hatchery	Harvest	
Low-C	L Col R Spring Chinook	Threatened	2,240	21,550	10%	1	3	3	3	2	3	3	2	3	
Low-C	L Col R Winter Steelhead	Threatened	5,989	27,900	21%	1	2	3	3	3	3	3	3	3	
Low-C	L Col R Fall (tule) Chinook	Threatened	12,329	54,100	23%	1	2	3	3	3	3	1	2	1	
Low-C	L Col R Coho	Threatened	31,524	129,550	24%	1	3	3	3	3	3	3	2	3	
Low-C	L Col R Summer Steelhead	Threatened	10,594	29,800	36%	2	4	4	4	2	4	4	4	4	
Low-C	Col R Chum	Threatened	11,762	33,000	36%	2	2	4	4	4	4	4	4		
Low-C	SW WA Winter Steelhead	Threatened	3,252	5,850	56%	2	4	5	5	5	5	5	5	5	
Low-C	L Col R Late Fall (bright) Chinook		10,800	16,700	65%										
Low-C	L Col R Fall (bright) Chinook	Threatened	11,000	11,000	100%	5	5	5	5	4	5	4	5	4	
Mid-C	M Col Sockeye	Not Listed	1,036	45,000	2%	3	3	3	2	1	3	3		3	
Mid-C	M Col R Spring Chinook	Not Listed	11,600	40,425	29%	2	4	4	4	4	4	4	4	4	
Mid-C	M Col R Summer Steelhead	Threatened	18,155	43,850	41%	2	4	4	4	4	2	4	4	4	
Mid-C	M Col R Coho	Not Listed	6,324	11,600	55%		5	4	5	5	5	4		4	
Mid-C	M Col R Summer/Fall Chinook	Not Listed	11,500	13,000	88%	5	5	5	5	5	5	4	5	4	
Up-C	U Col R Coho	Not Listed	392	15,000	3%										
Up-C	U Col R Summer Steelhead	Threatened	1480	31,000	5%	1	1	2	1	1	1	1	3	2	3
Up-C	U Col R Sockeye	Not Listed	40,850	580,000	7%	1	3	1	1	1	2	3	3	3	
Up-C	U Col R Spring Chinook	Endangered	1430	19,840	7%	1	3	1	1	1	2	3	1	3	
Up-C	U Col R Summer Chinook	Not Listed	16920	78,350	22%	1	2	1	1	1	3	1	2	1	
Up-C	U Col R Fall Chinook	Not Listed	92,400	62,215	149%	5	5	4	5	5	5	4	5	4	
Snake	Snake R Coho	Not Listed	100	26,600	0%										
Snake	Snake R Sockeye	Endangered	100	15,750	1%	3	3	1	1	1	2	3		3	
Snake	Snake R Spring/Summer Chinook	Threatened	6,988	98,750	7%	1	3	1	1	2	2	3	3	3	
Snake	Snake R Summer Steelhead	Threatened	28,000	75,000	37%	2	4	4	2	2	2	4	4	4	
Snake	Snake R Fall Chinook	Threatened	8,360	10,780	78%	5	5	4	4	4	5	4		3	
Willam	U Will R Spring Chinook	Threatened	4,278	47,850	9%	1	2	3	3	1	3	3	2	3	
Willam	U Will R Winter Steelhead	Threatened	2,816	27,805	10%	1	2	3	3	3	1	3	3	3	

Draft for Internal Review – 11/15/23

— Stocks most benefited

•••• Stocks receiving secondary benefit

Note that the stock benefits will likely vary by geography depending on implementation by local entities.

Hydropower Work Group

Maintain and Improve Mainstem Reach Survival Estimates and Smolt to Adult Return (SAR) Data

Summary of Action:

Maintain and improve mainstem reach survival estimates and Smolt to Adult Return (SAR) data by installing PIT tag detection systems at key mainstem hydro-projects so that reach-based juvenile salmon and steelhead survival and SAR estimates can be generated throughout the Columbia and Snake River basins. Maintaining and improving reach-based survival estimates will allow for changes in reach survival to be identified, investigated, and addressed. Improving juvenile detections at key projects (and downstream of Bonneville Dam) will allow for more accurate estimates of SARs from different ESUs/DPSs and populations within the Columbia River Basin. Recommended key projects and structures include: Wanapum Dam juvenile bypass; Wanapum Dam adult fishway; one McNary Dam surface spillbay; Bonneville Dam spillway; and the Columbia River estuary (where these “downstream” detections are needed to make survival estimates to Bonneville Dam and could serve as the basis for generating SAR information for ESUs/DPSs and populations within the Columbia River Basin – including the Willamette River basin).

Existing or New Program:

Both. Several mainstem Columbia and Snake River dams have juvenile PIT tag detection systems while many others do not. There is generally a lack of juvenile PIT tag detection at the five mid-Columbia Public Utility District owned dams. Detection capabilities at many federally owned dams in the lower Snake and lower Columbia rivers have been substantially reduced by recent (higher spring spill) operations and improvements are needed in order to maintain and enhance detection capabilities. Enhancing PIT tag detection capabilities in the Columbia River estuary will increase the accuracy of reach survival estimate to Bonneville Dam and will allow lower river ESUs/DPSs to be detected (which could support reach survival or SAR estimates for these stocks).

Benefit Provided by Action:

Both reach survival and SAR estimates include confounding factors which can complicate their interpretation and use as management tools, but each of these metrics are widely used to describe survival and productivity of salmon and steelhead stocks in the Columbia River Basin.

These data would maintain or enhance the means by which regional managers and dam operators identify reaches where juvenile and adult survival rates are changing unexpectedly. Coupled with increased PIT tagging of underrepresented natural origin juveniles (in many basins) we can potentially increase our understanding of stock specific survival through these same reaches. These data would also inform whether reach-based survival studies conducted entirely or predominantly with hatchery fish are a reasonable approximation of natural origin smolt survival. Increasing detections in the spillways at mainstem dams could also provide adult fallback and fallback/reascension estimates at these projects.

Currently, SAR estimates for Upper Columbia stocks are limited to release locations or McNary Dam (juvenile detections). The NPCC F&W Program relies on SAR data as a performance metric for the hydro system and overall stock performance. Improved SAR data for upper Columbia Stocks (via increased PIT

tag detection) is needed to assess stock performance, improve assessments of delayed mortality, and help evaluate in-river survival bottlenecks.

Stocks Benefited by the Action:

All stocks entering the Snake and Columbia rivers upstream of targeted reaches, especially Upper Columbia River (UCR spring Chinook, steelhead and Okanogan River and Lake Wenatchee sockeye) and lower Columbia River stocks to the extent they would be detected at Wanapum Dam or in the Columbia River estuary.

Data Supporting Benefits:

CSS Annual Report(s); NOAA Annual Report on Survival Estimates for the Passage of Spring-migrating Juvenile Salmonids Through Snake and Columbia River Dams and Reservoirs; NOAA Life Cycle Models.

Implementing Entities:

Federal and non-federal dam operators (key mainstem detection sites) at mainstem dams; multiple agencies might be capable of contributing to Columbia River estuary PIT tag detectors.

Time Needed to Implement:

Development of new PIT tag detection systems at key locations (Wanapum juvenile bypass, Wanapum adult fishway, McNary surface spillbay, Bonneville spillway, and Columbia River estuary – needed as a required downstream detection site and a detection site for lower Columbia River ESUs/DPSs) could take several years to develop and implement after funding is approved and systems are designed. Responses to the information provided by these enhancements could occur quickly – as early as the following migration season – using adaptive management; other responsive actions may require modification of existing agreements or requirements.

Time Needed to Benefit Fish Populations:

Data can be used to adaptively manage responsive actions – potentially in the outmigration season following identification of an issue. Longer time periods will be needed to build data sets (reach survival and SAR estimates) for many UCR, LCR, and Willamette River ESUs/DPSs.

Estimated Cost:

Unknown, likely many millions of dollars for each key location to develop, design, and implement.

Uncertainties:

Locating PIT tag detection systems that are effective and durable could be challenging (though the Lower Granite surface weir PIT tag detector and estuary pile dyke detectors demonstrate that success is possible). Bonneville Dam might be especially challenging because detectors will likely need to occur in either the forebay (prior to passage through one of the many spillbays) or in the tailrace (after passage through a spillbay) rather than in each of the spillbays themselves as this would likely be cost prohibitive and detection in a single spillbay would likely be very inefficient.

Associated Regulatory Processes or Policies:

NOAA 2020 CRS Biological Opinion; FERC licenses and BiOps, and potentially NOAA's Willamette River BiOp.

Potential Challenges:

Designing the spillway PIT tag detector at the Lower Granite Dam surface spillbay took many years. Future systems should take less effort to design as they can build upon the knowledge gathered from this earlier effort. Wanapum Dam's juvenile bypass system is unique as is the Bonneville spillway (located in a separate channel). NOAA has been investigating technologies (alternatives to the towed array and detections at bird colonies) to obtain PIT tag detections in the Columbia River estuary – these efforts should be useful to this effort.

Adaptive Management:

Data informing reach-based juvenile survival estimates can be used to identify survival issues within each reach. This information can alert managers to investigate potential causative factors and use adaptive management (i.e., alternative dam operations or predator management actions) to improve survival. This data could also be used to monitor adult fallback and fallback/reascension at the key mainstem locations. Lastly, SAR data is a basic metric used to assess ESU/DPS level (and potentially population level) survival across the smolt to adult life stages (from all factors); it might also be used to evaluate delayed mortality (comparisons between stocks with different treatments – hydro operations, etc.).

SIWG Narrative Feedback & Stock Benefits Report Card:

SIWG Feedback:

- Fishery managers have faced challenges acquiring funding for full SAR monitoring of wild populations in upper rivers. Most mitigation systems are set up for hatchery fish since tagging technology previously did not support tagging wild fish.
- This recommended action is highly integrated with other efforts and limiting factors in the Columbia River Basin. This is an overarching monitoring effort that would allow fishery managers to improve precision for population estimates for SAR and in-river survival rates. This information would help gauge progress towards the Columbia Basin Task Force (CBPTF) goals on a stock-by-stock basis. This action is primarily about addressing data gaps which will support adaptive management of several limiting factors, including hydropower operations, habitat, and predation.
- Some SIWG members expressed that they would like to see more specificity in the recommendation about where estimates are possible now with reasonable certainty, how much those return estimates could be improved by this action, and how those estimates will lead to improvements in the hydro system or management actions. It is always beneficial to have better data, yet this effort will take significant money and time and it is already possible to estimate SAR in some reaches.
 - The Northwest Fisheries Science Center (NWFSC) has a 20-year database for estimating reach survivals throughout the system. Since 2018 when maximum spill started being implemented, the precision around these estimates has gone down and estimates for the last three years are very low.
- SIWG members also noted that the recommendation is not specific about who should pay for and install the PIT detection technology. The recommendation would be strengthened by clarifying who the recommendation is directed to and who is being asked to support this action.
- This monitoring depends on the ability both to tag fish and to detect them. A lot of juvenile traps have already been placed in the system, and this action would leverage infrastructure investment that has already been put into the system.
- This action would more precisely define where mortality happens and help focus on bottlenecks.
- This action would address several major data gaps, such as, data for survival estimates in the Upper Columbia and the contrast between the Snake and the Upper Columbia reaches. This would significantly benefit the whole basin. It would also improve data sensitivities for each of the basins, including climate change effects.
- The benefits to individual stocks are project specific. For the Lower Granite Dam, the Snake River stocks are most likely to benefit. Improved detection at McNary Dam is very important for the Upper Snake stocks. Improvements at Bonneville Dam and in the estuary would benefit all stocks. More generally, the overall recommendation would benefit all listed stocks.

Stock Benefits Report Card:

Sub-Region	Stock	Status	Abundance			MAFAC Phase II Impact Priority									
			Current	MAFAC Medium goal	Current as % of Medium Goal	Tributary Habitat	Estuary Habitat	Hydro (Mainstem)	Hydro (Latent)	Hydro (Blocked)	Predation	Fishery	Hatchery	Harvest	
Low-C	L Col R Spring Chinook	Threatened	2,240	21,550	10%	1	3	3	3	2	3	3	2	3	
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Low-C	L Col R Coho	Threatened	31,524	129,550	24%	1	3	3	3	3	3	3	2	3	
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Low-C	L Col R Fall (bright) Chinook	Threatened	11,000	11,000	100%	5	5	5	5	4	5	4	5	4	
Mid-C	M Col Sockeye	Not Listed	1,036	45,000	2%	3	3	3	2	1	3	3		3	
Mid-C	M Col R Spring Chinook	Not Listed	11,600	40,425	29%	2	4	4	4	4	4	4	4	4	
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Up-C	U Col R Coho	Not Listed	392	15,000	3%										
Up-C	U Col R Summer Steelhead	Threatened	1480	31,000	5%	1	1	2	1	1	1	1	3	2	3
Up-C	U Col R Sockeye	Not Listed	40,850	580,000	7%	1	3	1	1	1	2	3	3	3	
Up-C	U Col R Spring Chinook	Endangered	1430	19,840	7%	1	3	1	1	1	2	3	1	3	
Up-C	U Col R Summer Chinook	Not Listed	16920	78,350	22%	1	2	1	1	1	3	1	2	1	
Up-C	U Col R Fall Chinook	Not Listed	92,400	62,215	149%	5	5	4	5	5	5	4	5	4	
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Snake	Snake R Sockeye	Endangered	100	15,750	1%	3	3	1	1	1	2	3		3	
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— Stocks most benefited

••••• Stocks receiving secondary benefit

Note that the stock benefits are project specific. The Snake River stocks would be most benefited by improvements at Lower Granite Dam and the Upper Columbia River Stocks would be most benefited by improvements at McNary Dam.

Blocked Areas Work Group

Increasing Salmon Production to Support and Sustain a Stable and Guaranteed Source of Fish in the Upper Snake

Background:

Historically, the Bannock, Paiute, and Shoshone peoples harvested salmon and trout throughout the Columbia River Basin for subsistence. Annual salmon and steelhead runs in what are now Idaho (ID), Nevada (NV), Oregon (OR), and Washington (WA) provided harvest opportunities throughout the year. Access to anadromous fish for subsistence and ceremonial purposes has been eliminated from much of the Upper Snake River Basin following the construction of dams for hydroelectric, flood control, and irrigation purposes within the Columbia and Snake basins. Upper Snake River tribes have an abiding interest in protecting and enhancing the fish and wildlife and cultural resources in ancestral territories and are actively working towards these goals.

Beyond the partnership goals, the Upper Snake River Tribes (USRT) Foundation, USRT member tribes, National Oceanic and Atmospheric Administration (NOAA), US Fish and Wildlife Service (USFWS), along with input from other stakeholders developed the Hells Canyon Complex Fisheries Resource Management Plan (Plan). Finalized in 2018, the Plan lists both short term goals (ex. anadromous fish for ceremonial fisheries) and long-term goals (ex. sustainable, harvestable populations of anadromous fish).

The major problem with the above goals is that hatcheries throughout the Columbia River Basin are struggling to meet production and escapement goals. The ID Governor's Salmon Workgroup recognized this struggle. The Hatchery Policy Recommendations of the ID Salmon Work Group Report (Report) states the importance of making sure the mitigation goals of the Lower Snake River Compensation Plan, Dworshak mitigation, and Idaho Power Company settlement agreements are being met. The Report also states the need for further funding to enhance hatchery production to meet current mitigation, supplementation, and conservation programs. The fact that hatcheries are struggling to meet current needs means the Upper Snake River member tribes are left to rely on "excess fish" even for ceremonial fish releases. The challenge is that there are no "excess fish." The USRT member tribes appreciate the efforts and importance that the states of ID and OR have put into providing fish, from the states harvest share, for ceremonial fisheries. However, this process is not sustainable, and unfortunately does nothing to move towards the goals of the Partnership or the Plan.

Summary of Action:

This recommendation is to either increase hatchery production or create new hatchery facilities with the production being dedicated to the Upper Snake River Basin and the goals outlined in the Partnership. Increased production would allow for a dedicated source of fish for ceremonial/subsistence fisheries and future reintroductions into select tributaries in the Upper Snake River. Some collaborative agreements are already in place to support developing solutions, for example, in the 2022 MOA "ODFW and BPT agreed to meet to review opportunities to increase fish hatchery production of Chinook salmon and steelhead [...]", and to support "efforts to form an advisory and coordination body referred to as a "Hells Canyon Advisory Committee" with representatives from federal and state agencies, Tribes, and hydropower interests."

The Partnership goals call for 9,500-13,500 returning unlisted hatchery-origin Spring/Summer Chinook and Summer Steelhead adults for the Upper Snake. Using current smolt to adult return rates, the proposed new, or expanded, hatchery facility would need to produce four million smolts annually to achieve these goals. In addition to the partnership goals, the plan lists three goals. A hatchery with dedicated production for the Upper Snake Basin would help accomplish goal one: Re-establish anadromous fisheries on unlisted, hatchery origin spring/summer/fall Chinook salmon and/or steelhead in select tributaries to provide subsistence, cultural, and recreational harvest opportunities.

The broodstock for this facility would most likely come from fish trapped at HCC. Another potential source for initial broodstock could be from the Rapid River Hatchery. Any fish used from these two locations for broodstock would need to be acquired through negotiations with the Nez Perce Tribe (NPT) and the States of ID and OR. The HCC and Rapid River hatchery fish are the best options as these fish are excluded from the Endangered Species Act (ESA). All fish in the new, or expanded, facility would not have ESA listing and all fish placed or reintroduced would follow the ID Governors Blocked Area policy listed in the Partnership.

Existing or New Program:

New program.

Benefit Provided by Action:

This action will provide salmon to the Shoshone, Bannock, and Paiute people that call the Upper Snake River Basin home. This will start a cultural healing that is long overdue. Salmon being returned to tributaries will be a benefit to all species as lost nutrients will begin to be restored.

The Plan does not only call for harvest by the tribes, but also a harvest share for public fishing opportunities in the states of ID and OR. Therefore, increased hatchery production and reintroductions would benefit the states of ID, NV, and OR. Further, increased production and reintroductions would increase the number of anadromous fish further downriver, which would increase potential harvest opportunities and decrease the stress due to harvest on the stocks that are currently harvestable.

Stocks Benefited by the Action:

Potentially all stocks may see a benefit, as there will be more salmon available for harvest which could potentially reduce the harvest of all stocks.

Data Supporting Benefits:

Implementing Entities:

- Shoshone Bannock Tribes
- Shoshone Paiute Tribes
- Burns Paiute Tribes
- Fort McDermitt Tribes
- Warm Springs Tribes
- Nez Perce Tribes
- State of Idaho
- State of Oregon

- State of Washington
- Bureau of Reclamation
- USFWS
- NOAA

Time Needed to Implement:

10-20 years.

Time Needed to Benefit Fish Populations:

10-20 years.

Estimated Cost:

Unknown at this time as planning has not occurred as to whether a new facility will be constructed or additions to a current facility may be made.

Uncertainties:

- Who would fund the project?
- Where would the hatchery be located?
- How will fish be distributed?

Associated Regulatory Processes or Policies:

- Idaho blocked area policy
- Harvest allocations
- United States v. Oregon

Potential Challenges:

- Idaho blocked area policy
- Harvest allocations
- United States v. Oregon
- Initial brood stock
- 2019 settlement agreement between Idaho, Oregon and IPC

Adaptive Management:

Adaptive management would be used to determine the best rearing and release strategy to return adults most successfully. As part of the adaptive management plan straying rates and the potential impacts of an additional four million smolts will be monitored and evaluated. The returning adults would be monitored in each tributary to best utilize them to meet short- and long-term goals of the Partnership phase two report. This recommendation is for the construction of a hatchery, the adaptive management will play a more important role in the operation of a hatchery once it is constructed and operational.

SIWG Narrative Feedback & Stock Benefits Report Card:

SIWG Feedback:

- The Upper Snake River has been blocked by federal and private dams for 100 years, and fishing opportunities for Upper Snake River tribes have been lost as a result. The CBPTF goals call for 9,500-13,500 returning unlisted hatchery-origin Spring/Summer Chinook and Summer Steelhead adults for the Upper Snake. This recommended action would either build a new hatchery or expand a current hatchery to produce four million smolts annually to achieve these goals. All fish in this hatchery facility would be non-listed fish and would likely come from Hells Canyon or Rapid River. The benefits of this action include that it would put higher numbers of fish in the river, providing more fish to harvest downriver and reducing fishing pressure on Endangered Species Act (ESA)-listed stocks.
- This action would integrate well with other efforts in the basin. Opening the habitat in the upper basin could help advance salmon and steelhead recovery throughout the Columbia Basin. It would also increase the non-ESA listed fish available for harvest. Increases in salmon abundance would result in harvest to be shared with the Upper Snake River Tribes and the States.
- This action is aligned with achieving the quantitative and qualitative goals within the CBPTF Phase 2 Report.
- This effort aligns well with the ongoing project at Grand Coulee and Chief Joseph Dams. That initiative could be used as a source of information on how that effort impacted factors downstream.
- This recommended action is also consistent with the recent Presidential [Memorandum on Restoring Healthy and Abundant Salmon, Steelhead, and Other Native Fish Populations in the Columbia River Basin](#) and actions asked of federal agencies by the Biden administration.
- SIWG members raised a concern related to disease management. The recommended action includes strategies to manage this risk in the long-term plan, which specifies that any stocks used would be examined for disease potential.
- There could be unintended consequences of this action related to predation.
 - Some SIWG members shared that increasing the number of outmigrants could promote greater predation. Increased avian presence and predation has been observed with increased numbers of hatchery fish, particularly if they are all released at the same time.
 - Other SIWG members shared that it is also possible that the recommended action could alleviate predation impacts since an increased number of smolts in the river system could reduce predation pressure on other stocks.
 - Others shared that the scale of this action may not be enough to have a measurable impact, since the four million smolt output called for in the recommended action is very small compared to the total smolt production in the system, so the impact on predator food budget would be minimal.
 - SIWG members suggested potentially having this recommendation reviewed by the Avian Predation subgroup and having a structured risk assessment included as part of implementation for this recommended action.
- SIWG members noted that any new hatchery program in the basin would need to undergo ESA consultation, which would include a NOAA analysis that evaluates these risks and impacts. They

also noted that this action relates to harvest allocations that are determined in the *United States vs. Oregon* process, and appropriate coordination would be needed.

- This action would likely benefit all stocks in the Columbia River, with a significant benefit to the Upper Snake River stocks above the blocked area. SIWG members noted that the main benefits of this recommendation are to fisheries by increasing the number of fish available for harvest. Others noted that increasing the number of fish could also create challenges for other limiting factors and the dynamics of downstream fisheries.
- The goal of this action is to gain regional support acknowledging that that Upper Snake Tribes have lost the cultural benefit of access to fish and that the only way to restore fish in the Upper Snake is to increase production. This is still a long-term goal and the intention of having this as a CBC recommendation is to demonstrate regional support when seeking funding for this effort. There are many uncertainties remaining and additional work that would need to happen to implement the action.

Stock Benefits Report Card:

Sub-Region	Stock	Status	Abundance			MAFAC Phase II Impact Priority								
			Current	MAFAC Medium goal	Current as % of Medium Goal	Tributary Habitat	Estuary Habitat	Hydro (Mainstem)	Hydro (Latent)	Hydro (Blocked)	Predation	Fishery	Hatchery	Harvest
Low-C	L Col R Spring Chinook	Threatened	2,240	21,550	10%	1	3	3	3	2	3	3	2	3
Low-C	L Col R Winter Steelhead	Threatened	5,989	27,900	21%	1	2	3	3	3	3	3	3	3
Low-C	L Col R Fall (tule) Chinook	Threatened	12,329	54,100	23%	1	2	3	3	3	3	1	2	1
Low-C	L Col R Coho	Threatened	31,524	129,550	24%	1	3	3	3	3	3	3	2	3
Low-C	L Col R Summer Steelhead	Threatened	10,594	29,800	36%	2	4	4	4	2	4	4	4	4
Low-C	Col R Chum	Threatened	11,762	33,000	36%	2	2	4	4	4	4	4	4	
Low-C	SW WA Winter Steelhead	Threatened	3,252	5,850	56%	2	4	5	5	5	5	5	5	5
Low-C	L Col R Late Fall (bright) Chinook		10,800	16,700	65%									
Low-C	L Col R Fall (bright) Chinook	Threatened	11,000	11,000	100%	5	5	5	5	4	5	4	5	4
Mid-C	M Col Sockeye	Not Listed	1,036	45,000	2%	3	3	3	2	1	3	3		3
Mid-C	M Col R Spring Chinook	Not Listed	11,600	40,425	29%	2	4	4	4	4	4	4	4	4
Mid-C	M Col R Summer Steelhead	Threatened	18,155	43,850	41%	2	4	4	4	4	2	4	4	4
Mid-C	M Col R Coho	Not Listed	6,324	11,600	55%		5	4	5	5	5	4		4
Mid-C	M Col R Summer/Fall Chinook	Not Listed	11,500	13,000	88%	5	5	5	5	5	5	4	5	4
Up-C	U Col R Coho	Not Listed	392	15,000	3%									
Up-C	U Col R Summer Steelhead	Threatened	1480	31,000	5%	1	1	2	1	1	1	3	2	3
Up-C	U Col R Sockeye	Not Listed	40,850	580,000	7%	1	3	1	1	1	2	3	3	3
Up-C	U Col R Spring Chinook	Endangered	1430	19,840	7%	1	3	1	1	1	2	3	1	3
Up-C	U Col R Summer Chinook	Not Listed	16920	78,350	22%	1	2	1	1	1	3	1	2	1
Up-C	U Col R Fall Chinook	Not Listed	92,400	62,215	149%	5	5	4	5	5	5	4	5	4
Snake	Snake R Coho	Not Listed	100	26,600	0%									
Snake	Snake R Sockeye	Endangered	100	15,750	1%	3	3	1	1	1	2	3		3
Snake	Snake R Spring/Summer Chinook	Threatened	6,988	98,750	7%	1	3	1	1	2	2	3	3	3
Snake	Snake R Summer Steelhead	Threatened	28,000	75,000	37%	2	4	4	2	2	2	4	4	4
Snake	Snake R Fall Chinook	Threatened	8,360	10,780	78%	5	5	4	4	4	5	4		3
Willam	U Will R Spring Chinook	Threatened	4,278	47,850	9%	1	2	3	3	1	3	3	2	3
Willam	U Will R Winter Steelhead	Threatened	2,816	27,805	10%	1	2	3	3	3	1	3	3	3

Draft for Internal Review – 11/15/23

Stocks most benefited
 Stocks receiving secondary benefit

