

MAFAC Task Force

Potential Basin-Wide Scenarios -- Mid-Columbia Regional Meeting (January 30, 2020)

Meeting Notes (*italics* = a la carte menu; roman = meeting notes)

- Goal of all these scenarios would be to achieve the high-range goals. Some might achieve them sooner than others or might have higher certainty of achieving them.
- The biological strategies below focus on the strategies/actions during the early portion (e.g., first 25-years) of scenario implementation.

Theme	Continue existing level of effort	Moderate increased effort	Frontload Maximum Effort in All Threats
<b>Description</b>	Continues efforts similar to current levels on all fronts in the near term. Identifies benchmarks. Results evaluated relative to benchmarks after a certain time period and if benchmarks not met, additional actions are triggered.	Moderately increases efforts in the near term in all threats. Identifies benchmarks. Results evaluated relative to benchmarks after a certain time period and if benchmarks not met, additional actions are triggered.	Maximum effort in near term on all fronts directed toward achieving goals as soon as possible.
<b>Biological Strategies</b>	<b>Hydro:</b> <i>Enhanced measures to improve system survival (in river &amp; latent) within the (large-scale) limitations of current system configuration (experimental spill program, etc.)</i>	<b>Hydro:</b> <i>Enhanced measures to improve system survival (in river &amp; latent) within the (large-scale) limitations of current system configuration (experimental spill program, etc.)</i>  <b><u>1/30/20 notes:</u></b> Need management actions and monitoring to address tributary overshoot. Less barging of SR steelhead smolts to reduce strays into Mid C.	<b>Hydro:</b> <i>Targeted restoration of normative river conditions and function (dam breaching, natural hydrograph, flooding, temperature).</i>  <b><u>1/30/20 notes:</u></b> A max effort for the Mid-C would be one in which dams were managed for fish, and transportation and power “get the rest.” Specifics of what this looks like aren’t clear – but that should be the objective. Use management of mainstem hydrosystem to affect temps in mid-C mainstem as possible. Cold water refugia – Klickitat, White Salmon, Deschutes – need to be managed/protected.

	<p><b>Trib habitat:</b> <i>Continue current level of investment to implement small-scale restoration and protection prioritized based on a basic understanding of limiting factors. Where possible, protect and restore priority areas selected based on best available science to a high level of function.</i></p> <p><b><u>1/30/20 notes:</u></b> Existing efforts: hard to see effects given variability in ocean conditions. In the Yakima Basin – There has been a lot of investment in the lower Yakima in terms of addressing passage for adults and juveniles (fixing screens, diversions). Currently evaluating whether there’s more opportunities to fix screens/diversions. Have also done substantial screening and trib hab projects in upper portion of basin. Smolt survival in the Yakima mainstem is low, so improving that is a primary focus. Predation by fish and birds is an issue, as is water temp/low flow. Maintaining current level of investment would probably end up with status quo due to ongoing development/degradation from other activities. Level of investment has been flatlined. Most of low-hanging fruit projects have been completed so additional projects will be more complex/costly. Level of investment for effectiveness monitoring has also been flatlined or reduced. Impacts ability to be strategic. To get beyond status quo would need more funding for project implementation and for RME; would also need better land-use planning to hold the line on degradation. Have addressed most of major passage issues, starting to address floodplain where opportunities</p>	<p><b>Trib habitat:</b> <i>Substantially enhanced resources and large-scale, process-based restoration and protection of habitat function sufficient to demonstrably and significantly improve abundance and productivity at population scale.</i></p> <p><b><u>1/30/20 notes:</u></b> For impact reductions, see table from Chris F. that has restoration scenario for spring Chinook and steelhead in Yakima Basin. Restoration + trib passage + phase 1 passage = max feasible (use this for middle scenario; use 0.5 of that value for the existing effort scenario, and use 1.5 for max). Would need to start looking at large scale restoration efforts (e.g., large scale relocation of highways/embankments). Currently restoring some key reaches with regard to floodplain function. Implement Yakima Integrated Plan Would need more resources for implementation to get to de-listing.</p>	<p><b>Trib habitat:</b> <i>Substantially enhanced resources and large-scale, process-based restoration and protection of habitat function sufficient to demonstrably and significantly improve abundance and productivity at population scale.</i></p> <p><b><u>1/30/20 notes:</u></b> Restore all key reaches with regard to floodplain function. Need to look at innovative practices for cooling tributary water:</p> <ul style="list-style-type: none"> <li>• (e.g., wastewater dischargers required to cool water before discharging)</li> <li>• Geothermal, hyporheic cooling.</li> <li>• Pay landowners to allow property to flood.</li> </ul>
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	<p>exist – WA gorge (Klikitat, White Salmon, Rock Creek). Need to focus more on higher elevation work to restore summer base flows. Moving to next level requires thinking in terms of bigger, more complex projects.</p> <p>Lots of irrigation in Mid-C. Instead of fighting the infrastructure that’s in place, how do you use it to help fish?</p> <p>Miller Island (mouth of Deschutes) – gull colony. Predation is affecting Mid C + upriver fish.</p> <p><b>Estuary habitat:</b> <i>Protection and small-scale restoration prioritized based on a basic understanding of limiting habitats. Where possible, protect and restore priority areas selected based on best available science to a high level of function.</i></p> <p><b><u>1/30/20 notes:</u></b> Did not discuss estuary at 1/30/20 meeting. Discussed at LCR meeting.</p> <p><b>Blocked areas:</b> <i>Resident fish substitution in areas of the historical anadromous distribution which are currently not currently accessible.</i></p> <p><b><u>1/30/20 notes:</u></b> Did not discuss blocked areas at 1/30/20 meeting.</p>	<p><b>Estuary habitat:</b> <i>Substantially enhanced resources and large-scale, process-based restoration and protection of habitat function sufficient to demonstrably and significantly improve survival.</i></p> <p><b><u>1/30/20 notes:</u></b> Did not discuss estuary at 1/30/20 meeting. Discussed at LCR meeting.</p> <p><b>Blocked areas:</b> <i>Limited adult releases in currently blocked historical production areas to provide fishing opportunities and assess natural production potential of current habitats. Experimental reintroduction with interim hatchery supplementation concurrent with evaluation of passage potential.</i></p> <p><b><u>1/30/20 notes:</u></b> Did not discuss blocked areas at 1/30/20 meeting.</p>	<p><b>Estuary habitat:</b> <i>Substantially enhanced resources and large-scale, process-based restoration and protection of habitat function sufficient to demonstrably and significantly improve survival.</i></p> <p><b><u>1/30/20 notes:</u></b> Did not discuss estuary at 1/30/20 meeting. Discussed at LCR meeting.</p> <p><b>Blocked areas:</b> <i>Restore effective adult and juvenile passage consistent with high levels of self-sustaining natural abundance and production in historical ranges.</i></p> <p><b><u>1/30/20 notes:</u></b> Did not discuss blocked areas at 1/30/20 meeting.</p>
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	<p><b>Predation:</b> <i>Nonlethal measures designed to discourage predation by key predators in focal problem areas. Lethal but limited removal of problem animals of key predators in specific areas or as part of redistribution efforts.</i></p> <p><b><u>1/30/20 notes:</u></b>  Predation by fish and birds is an issue in lower Yakima mainstem.  Miller Island (mouth of Deschutes) – gull colony.  Predation is affecting Mid C + upriver fish.</p> <p><b>Hatchery:</b> <i>Continue to limit release numbers, strategically implement mitigation and supplementation programs, and incremental hatchery reforms to control impacts/risks in key natural production areas.</i></p> <p><b><u>1/30/20 notes:</u></b>  Did not discuss hatcheries in context of scenarios but did discuss in context of slider and in context of hatcheries having positive effects on abundance for populations with low abundance.</p> <p><b>Harvest:</b> <i>Abundance-based management to optimize and share harvest consistent with the needs of spawning escapement and weak stock limitations.</i></p> <p><b><u>1/30/20 notes:</u></b>  Did not discuss harvest.</p>	<p><b>Predation:</b> <i>Nonlethal measures designed to discourage predation by key predators in focal problem areas. Lethal but limited removal of problem animals of key predators in specific areas or as part of redistribution efforts.</i></p> <p><b>Hatchery:</b> <i>Continue to limit release numbers, strategically implement mitigation and supplementation programs, and incremental hatchery reforms to control impacts/risks in key natural production areas.</i></p> <p><b>Harvest:</b> <i>Curtail or eliminate directed fisheries and limit incidental impacts to de minimis levels which do not impede recovery.</i></p>	<p><b>Predation:</b> <i>Predator removals which substantially reduce numbers and corresponding predation impacts.</i></p> <p><b>Hatchery:</b> <i>Curtail hatchery production except for critical conservation or reintroduction purposes.</i></p> <p><b>Harvest:</b> <i>Close or severely limit all harvest to maximize natural spawning escapement. (Interim measure to restore natural diversity, distribution &amp; productivity.)</i></p>
<b>Benchmarks</b>	<i>For all strategies: Identify benchmarks. After 15-25 years, evaluate results relative to benchmarks. If not met, additional actions are triggered.</i>	<i>For all strategies: Identify benchmarks. After 15-25 years, evaluate results relative to benchmarks. If not met, additional actions are triggered.</i>	<i>For all strategies: Identify benchmarks. After 15-25 years, evaluate results relative to benchmarks. If not met, evaluate needed changes in strategies.</i>

<b>SCE&amp;E Considerations and Strategies</b>	<ul style="list-style-type: none"> <li>• <i>All H approach.</i></li> <li>• <i>Closest to status quo SCE&amp;E.</i></li> <li>• <i>By making some more radical decisions contingent on not meeting benchmarks, provides time for more public buy in and planning for addressing SCE&amp;E impacts of those actions.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>All H approach.</i></li> <li>• <i>Would require substantially increased funding for enhanced efforts.</i></li> <li>• <i>Habitat efforts could have implications for private landowners and public lands management; could also create jobs.</i></li> <li>• <i>By making some decisions contingent on benchmarks, provides time for more public/political buy in and planning for addressing SCE&amp;E impacts of those actions.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>All H approach.</i></li> <li>• <i>Costly: Would require drastically increased funding for enhanced efforts.</i></li> <li>• <i>Habitat efforts could have implications for private landowners and public lands management; could also create jobs.</i></li> <li>• <i>Do not have public consensus at this point.</i></li> <li>• <i>Disruptive to power and navigation sectors and to fishery interests.</i></li> <li>• <i>Current mitigation funds for habitat and hatchery production would likely be substantially reduced.</i></li> </ul>
<b>Critical Uncertainties/Research Needs</b>			
<b>Regional Considerations</b>			
<b>Innovation &amp; experimental management</b>	<p>Find areas where we can implement some approaches as pilots/experimental management. How do we test hypotheses? Can take a long time to get answers.</p> <p>Need to look at innovative practices for cooling tributary water:</p> <ul style="list-style-type: none"> <li>• (e.g., wastewater dischargers required to cool water before discharging)</li> <li>• Geothermal, hyporheic cooling.</li> <li>• Pay landowners to allow property to flood.</li> <li>• 15-Mile Creek project – volunteer program started in 2011. Stream temp and flow forecasting model – when lethal temps projected, alert system goes out to irrigators. Water rights holders are compensated for releasing water in stream. 2015 drought conditions – released enough water to avoid lethal temps.</li> </ul> <p>Elevate the power of life cycle models as tool to be tied to evaluating restoration opportunities. Elevated importance of integrated floodplain restoration strategies, including simple (BDAs) and more complex approaches. John Day steelhead LCM. McHugh et al. 2017 (or 2018).</p> <p>Need to think innovatively about how to build systems for human life that support fish. Build new systems.</p> <p>Importance of relationship building to change how things get done on the ground.</p>		

<b>Strategic choices, sequencing considerations, early successes, stock specificity</b>			
<b>Climate/population considerations</b>	Protect and restore stocks and populations regardless of their vulnerability to possible climate change effects.	Prioritize protection and restoration efforts for stocks and populations which are least vulnerable to climate.	Maximum improvement effort for stocks and populations which are least vulnerable to climate and/or actions most likely to improve climate resilience. Restore access to currently-blocked areas which are least vulnerable or most resilient to effects of climate change.

General comments:

- Scenario needs to be linked to CBP work over the last few years. Status quo is not consistent with the goals. Third column – “just go do everything” – may not be the best approach. Scenarios for some regions (e.g., Snake) might do more to address mainstem hydro. For middle scenario, consider ramped up efforts in proportion to the impacts. Mid C has highest impacts in trib hab. Floodplain restoration takes a long time and takes some time for benefits to accrue. Collective actions from all regions should address everything throughout the basin. Each subregion has a specific impetus behind its actions. When rolled up, looking across basin, would be addressing everything.
- The way the impacts are shown doesn’t adequately reflect hydro impacts.
- Consider synergistic effects.