

**From:** Scott Rumsey [mailto:Scott.Rumsey@noaa.gov]  
**Sent:** Monday, May 18, 2009 3:13 PM  
**To:** Leonard, Nancy  
**Cc:** Rob Walton; Rick Mogren  
**Subject:** NOAA Comments on NPCC proposed HLIs

Dear Dr. Leonard,

In addition to NOAA's comments on the Council's proposed High Level Indicators (HLIs) submitted through PNAMP, CBFWA, and the Federal Caucus, please consider the attached table providing more detailed comments on the specific indicators.

We fully support the development of a consistent set of HLIs to facilitate the clear communication of the shared progress and performance of our respective programs. We are eager to partner with the Council to refine the proposed HLIs, and suggest convening a collaborative workgroup to align the various ongoing HLI-development efforts in the Columbia Basin and Pacific Northwest.

Thank you again for the opportunity to provide comment, and do not hesitate to contact me with any questions.

Sincerely,  
Scott Rumsey, Ph.D.  
NOAA Fisheries  
Regional Monitoring Coordinator

**GENERAL COMMENTS**

- Many already report our results and accomplishments thru a variety of mechanisms, such as BPA’s PISCES system, StreamNet, and CBFWA’s Status of the Resources Report. Developing another reporting mechanism appears to be a significant duplication of effort. If the Council needs information to develop a summary report, on whatever they believe is important, they should commit to using existing reporting mechanisms. There is no need for Council staff to ask the State/Tribal/Federal agencies for information that is already available thru existing reporting mechanisms and data portals.
- Implementation indicators can be useful for reporting on the fiscal accountability of the program (e.g., demonstrating that program expenditures have indeed resulted in the implementation and completion of projects). However, care should be taken not to give the false impression that there is a causal relationship between implementation indicators and changes in other indicators. Demonstrating the benefits to fish and wildlife resources in the Columbia Basin from implemented projects requires effectiveness monitoring of physical, chemical, and biological metrics at the reach and watershed scales.

BIOLOGICAL INDICATORS			COMMENTS
<u>Abundance</u>			
Total adult salmon and steelhead returns to the Columbia	Adults & jacks passing Bonneville Dam (1938-present): <a href="#">Excel</a> (30k) or <a href="#">PDF</a> (20k) Smolt counts, Lower Granite and McNary to Bonneville: <a href="#">Excel</a> (60k) or <a href="#">PDF</a> (10k) Will include returns to mouth of the river and lamprey if available.	Fish Passage Center	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator?</li> <li>• What consideration will be given to hatchery-origin v. natural-origin fish in this indicator?</li> <li>• May want to consider companion indicators necessary to provide appropriate context (e.g., ocean productivity indices, marine survival estimates, etc.).</li> <li>• Indicators (1) and (2) reflect a desire among agencies in the Basin to summarize general fish status and trends. The Council should coordinate with NOAA and other reporting entities on the development of biologically meaningful performance measures for summarizing the overall status of fish resources in the Basin (e.g., current status relative to the time of listing, % of populations meeting or exceeding abundance and productivity recovery goals, % of populations exhibiting stable or increasing trends).</li> <li>• Effort must be made to corroborate Fish Passage Center data with that from the federal/state/tribal agencies.</li> </ul>
2. Abundance of adult fish in the Council's program	Number of salmon, steelhead, lamprey, resident fish, ...	Status of the Resources, CBFWA	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator?</li> <li>• Could benefit from better definition of what qualifies a fish as “in the Council’s program”</li> </ul>

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<p>3. Fish population status and trends for each ESU, especially listed ESUs</p>	<p>Based on NOAA definitions and USFWS (Bull trout and sturgeon)</p>	<p>NOAA, although data is not yet available</p>	<ul style="list-style-type: none"> <li>• As above, the treatment of hatchery v. natural-origin is important to clarify</li> <li>• Agree that population-level status and trends is the primary indicator for tracking progress toward ESA recovery and other management objectives. It is important to summarize the recovery targets to provide the necessary context for current status.</li> <li>• Please coordinate with NOAA to ensure that the indicators and targets are consistent with established recovery targets and guidance on monitoring for ESA recovery.</li> </ul>
<p><u>Habitat Productivity</u></p>			
<p>4. <b>Freshwater</b> Productivity of wild fish in select watersheds targeted by Council program</p>	<p>Juveniles/spawner for anadromous and resident fish. Will focus on adult fish in and juvenile fish out.</p>	<p>Focus on adult fish “in” and juvenile fish “out”. Juvenile fish counts could be added to Streamnet and Status of the Resources/</p>	<ul style="list-style-type: none"> <li>• Clarify the metric being reported here (smolt:adult).</li> <li>• What is the target for this indicator? How will you provide the necessary context for reported values or trends?</li> <li>• The scale of inference for the underlying data is an important consideration. Are estimates provided from index sites, or are they representative of the entire watershed? Do protocols/methods afford aggregating estimates from sub-watersheds and tributaries? In most cases we believe the answer is “no.”</li> </ul>
<p><u>Harvest and Hatcheries</u></p>			
<p>5. Harvest number and rate</p>	<p>Totals for all spring, summer, fall Chinook, sockeye, steelhead, lower river sturgeon and for each listed ESU and by fishing type as well as hatchery and natural</p>	<p>In-river harvest and rate information from the ODFW and WDFW Joint Staff Report on the stock status and fisheries for fall Chinook salmon, coho salmon, chum salmon, summer steelhead, and white sturgeon; ODFW and WDFW Joint Staff Report stock status and fisheries for spring Chinook, summer Chinook, sockeye, steelhead, and other species, and miscellaneous regulations; ODFW and WDFW Joint Staff Report concerning stock status and fisheries for sturgeon and smelt Ocean harvest estimated from PSMFC’s coded wire tag database.</p>	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator? The indicator should be evaluated relative to the levels established by managers, and relative to the natural population levels established for recovery goals.</li> <li>• Not clear if this indicator is providing harvest estimates by biological species as well as by listed ESU? What is meant by “fishing type?” Recreational v. commercial v. tribal? Or does it mean harvest rate by gear type (gill net, entanglement, hook-and-line, etc.)? Or both?</li> </ul>

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6. Harvest of hatchery fish in the Council's Program	Number by species and by hatchery for all hatcheries receiving BPA funds	PSMFC’s coded wire tag database	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator? Will this be reported relative to the approved harvest rates and targets articulated in ESA authorizations (HGMPs) for each hatchery and ESA population (e.g., % natural-origin and hatchery-origin spawners).</li> </ul>
7. Relative fitness of supplemented stocks from hatcheries in the Council's Program	Possible measures may include relative reproductive success (RSS), percent natural influence (PNI), or the number of natural origin spawners compared to control streams.	Being developed by the Ad Hoc Supplementation Workgroup and ISRP. May include number of natural origin spawners. Completion goal: 2009.	<ul style="list-style-type: none"> <li>• What is the target for this indicator? Will this be reported relative to the goals and ESA authorizations (HGMPs) for each hatchery and ESA population?</li> <li>• Establishing general targets for some indicators (e.g., PNI) can be difficult as it often depends on location-specific circumstances. Targets may differ between populations identified in recovery plans as “primary” v. “sustaining” etc. Targets may also differ among populations associated with conservation supplementation hatchery programs v. populations associated with harvest mitigation hatchery programs.</li> <li>• NOAA Fisheries will develop facility and population specific metrics and targets as part of its consultations on HGMPs. The Council should align with the HGMP metrics and targets as they become available.</li> </ul>
<u>Hydro survival</u>			
8. Survival rates through the hydrosystem for adult and juvenile fish passing in-river and barged	From LGR to Bonneville and McNary to Bonneville, total system survival and individual hydroelectric facility	NOAA	<ul style="list-style-type: none"> <li>• What is the target for this indicator? Ensure that targets are consistent with FCRPS BiOp benchmarks.</li> </ul>
<u>Life-cycle mortality</u>			
9. Life stage survival estimates for representative populations of Chinook and steelhead	Mortality rates at each life stage: egg to smolt, freshwater passage (reservoirs, dams), estuary, ocean, harvest, freshwater return. Include SARs.	To be determined. It will incorporate data from other HLIs.	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator?</li> <li>• Which “representative” populations are chosen will depend greatly on the management question being addressed. Will hatchery v. natural-origin survivals be distinguished?</li> </ul>
<u>Wildlife</u>			
10. Wildlife habitat units by dam: lost and	Measured in habitat units.	Bonneville Power Administration’s PISCES	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator?</li> </ul>

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acquired		database.	<ul style="list-style-type: none"> <li>• Can “habitat units” be better defined?</li> <li>• It doesn’t seem that PISCES can provide the information necessary to inform this indicator. The council should consider land-use/land-cover analyses to provide a more synoptic picture of the gain or loss of habitats in the basin.</li> </ul>
<b>IMPLEMENTATION INDICATORS</b>			
<u>Passage Barriers</u>			
1. Instream passage improvement. Additional habitat made accessible	# of miles of habitat accessed, number of barriers removed	Bonneville Power Administration’s PISCES database. Specifically combining work elements #84, 85, 184	<ul style="list-style-type: none"> <li>• What is the target for this indicator?</li> <li>• Need to further clarify the definition for this indicator. The # of stream miles made accessible differs among salmonid species. Will you report passage improvements by species or will you report the maximum (e.g., for steelhead)? There is the need to standardize how these estimates are generated among various reporting entities (PCSRF grantees, Restoration Center, PISCES, etc.)</li> <li>• Does “passage improvement” include projects where partial barriers (vs. outright impassible barriers) were improved by reconstructing fish ladders to increase rates of passage and adult survival, etc. How do we give “credit” for projects that have improved existing passage structures vs. those that have restored passage to otherwise inaccessible areas? Will you distinguish among types of barriers removed/improved?</li> <li>• Washington State of Salmon reports improvements relative to the total complete and partial blockages.</li> <li>• The number of associated project types and work elements in PISCES may change as RPA #73 is implemented</li> </ul>
<u>Water</u>			
2. Water conservation and irrigation practices and water transactions. Additional water available for fish, anadromous and resident	Acre-feet/yr., # of miles of primary stream reach improvement	Bonneville Power Administration’s PISCES database. Specifically combining work elements #82, 149, 150, 164	<ul style="list-style-type: none"> <li>• What is the target for this indicator?</li> <li>• This is a match with PCSRF reporting metrics.</li> <li>• The number of associated project types and work elements in PISCES may change as RPA #73 is implemented</li> </ul>
<u>Land</u>			
3. Land acquisition/conservation	# of riparian miles protected, # of acres	Bonneville Power Administration’s PISCES database. Specifically combining	<ul style="list-style-type: none"> <li>• What is target for this indicator?</li> <li>• Match with PCSRF reporting metrics (# miles streambank acquired or</li> </ul>

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easement. Additional land acquired or leased for fish habitat		work elements #5, 92	protected, # acres acquired or protected)
<b>Habitat Improvement</b>			
4. Habitat	Miles, acres. Increase Instream Habitat Complexity, Realign, Connect, and/or Create Channel, Create, Restore, and/or Enhance Wetland, Enhance Floodplain, Install Fence, Plant Vegetation, Practice No-till & Conservation Tillage Systems, Upland Erosion & Sedimentation Control...)	Bonneville Power Administration’s PISCES database. Specifically combining work elements #29, 30, 40, 55, 180, 181	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator? Does this really measure “habitat improvement” or rather does it track the implementation of habitat restoration projects?</li> <li>• Unclear what the actual metric or metrics are being reported. Is it lumping all these project types into one metric? Isn’t this adding apples and oranges (e.g., how do you add miles fenced + acres wetland restored)?</li> <li>• Does not match with PCSRF reporting metrics which distinguish among habitat types. Also, we need to ensure consistency in how habitat and project types are defined (for example, PCSRF defines wetlands as adjacent to anadromous waters while PISCES includes upland (non-contiguous) wetland areas).</li> </ul>
<b>Screens</b>			
5. Installed fish screens	Quantity of water protected in acre-feet	Bonneville Power Administration’s PISCES database. Specifically, work element #69	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator?</li> <li>• PCSRF also reports the number of fish screens installed or improved.</li> </ul>
<b>Predators</b>			
6. Number of juvenile salmon saved from all predators	Include pikeminnow, avian predators, sea lions and others as appropriate.	Pikeminnow project: 2007 37% reduction in predation, about 5 million fish. Avian predation is available and sea lions are pending.	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator?</li> <li>• This isn’t really an “implementation indicator.” An implementation indicator would be the number of predators of different types that were removed or deterred. The proposed indicator is an “effectiveness indicator.” Effectiveness indicators might include reductions in predator populations as a result of the removals/deterrence, and (as proposed) the reduction in predation rates on juvenile salmonids.</li> </ul>
<b>Watershed Health Indicator</b>			
7. Number and percentage of targeted watersheds that provide	Need to develop watershed health indicator for fish. Should include	Being developed through Executive Summit, Task 3.	<ul style="list-style-type: none"> <li>• What is the management question being addressed? What is the target for this indicator?</li> <li>• This isn’t really an “implementation indicator.” This is an “effectiveness</li> </ul>

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adequate fish habitat	measures of water quality.		<p>indicator.”</p> <ul style="list-style-type: none"> <li>Executive Summit Task #3 at this point is very Puget Sound centric. CBFWA has been coordinating with federal land managers to report watershed health indicators from the PIBO and AREMP programs. Washington State of Salmon reports the number of stream segments meeting water quality standards for fecal coliform, dissolved oxygen, pH, and temperature at the watershed scale, and reports the proportion of healthy watersheds using the Water Quality Index at the state-wide scale.</li> </ul>
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