## **COORDINATED DATA ASSESSMENTS**

(Data to be exchanged as part of the initial focus)

To facilitate a successful first effort in coordinating assessments, the anadromous salmonid managers agreed to concentrate first on data addressing the VSP criteria of abundance and productivity. Many of these data also address other VSP criteria, hatchery effectiveness, and habitat action effectiveness. Expanding the effort to explicitly include data that addresses these other criteria or measures will follow successful implementation of this initial effort.

This matrix is intended to give a high-level overview of the information required for this initial effort. Each indicator, metric, or measurement may require further detailed information such as confidence intervals, etc. Additional information (measurements) may also be required, depending on the approach (type of measurement). These more detailed types of information will be provided with subsequent data flow diagrams. Detailed information will also be provided in the meta-data.

Metrics and Measurements are grouped by Indicator (each of the three Indicatores includes a suite of Metrics and Measurements). Not all Metrics may be available for each Indicator, and not all Measurements will be necessary to derive each Metric. The suite of Metrics and Measurements for each Indicator is a generalized list.

General definitions for the terms and cell formats used are provided at the bottom of the matrix. Final terminology and definitions will be consistent with those developed by PNAMP and used by BPA.

				VSP CRITERIA		AHSWG HATCHERY EFFECTIVENESS PERFORMANCE MEASURES						Habitat Action Effectiveness Measures		
INDICATOR	METRIC	MEASUREMENT	DEFINITION	ABUNDANCE	PRODUCTIVITY	SPATIAL STRUCTURE	DIVERSITY	Abundance	Productivity	Distribution	Genetic	Life-History	In-Hatchery Measures	
Abundance of Natural Spawners			Estimated number of natural origin (parents spawned in the wild) spawners contributing to spawning. Should specify whether or not both adults and jacks are included.	Х	х	х	х							Х
	Abundance of Total Adult Fish		Estimated number of total spawners on the spawning ground. Should specify whether or not both adults and jacks are included.	Х	Х									х
	Fraction: Adult Fish: Hatchery Origin and Natural Origin		Percent or number of fish on the spawning ground that originated from a hatchery.	Х	Х		Х	Х	Х		Х			
	Number of Pre-Spawn Mortalities: Hatchery Origin and Natural Origin		Percent or number of adults that die after reaching the spawning grounds but before spawning.	Х					х					х
	Number of Natural Origin Broodstock Removed		Fish of natural origin removed from the returning run for use as hatchery broodstock.	Х			Х				Х		Х	
	Number of Mortalities From Fisheries ( both Hatchery- origin and Natural-origin)		The number of additional wild fish that would have returned to spawn in a given year had there not been a catch (harvest). Ocean + Mainstem+Tributary (tribal, sport, or commercial) harvest. Includes mortality rate assigned to fish caught and released.	х				х						
		Fish Counts: Hatchery Origin and Natural Origin	The number of fish that return to a monitoring site (e.g., dam counts, weir counts, tag detections, estimates to specific tributaries, etc.)	Х	Х			Х	Х					
		Redd Counts	Counts of redds in spawning areas (index area (trend), extensive areas, and supplemental areas).	Х	Х	X								х
		Carcass Counts: Hatchery Origin and Natural Origin	Counts of carcasses in spawning areas (index area (trend), extensive areas, and supplemental areas).	Х	Х	х		х	х					
		Number of Fish Harvested: Hatchery Origin and Natural Origin	Number of fish caught in all fisheries.	х				х						
		Fish per Rédd	Number of fish divided by the total number of redds. How and when the estimate is derived will be included in the metadata. This may be considered a Metric if not measured on-site and time.											

		Female Spawner per Redd	Number of female spawners divided by the total number of redds above weir. How and when the estimate is derived will be included in the metadata. This may be considered a Metric if not measured on-site and time.	· Y							
Progeny-per-Parent Ratio: Adult to Adult			Adult to adult ratio calculated for naturally spawning fish and hatchery fish separately as the brood year ratio of return adult to parent spawner abundance.		х	х	х	х		х	
	Age Structure of Spawners		Age distribution of spawners on spawning ground. Calculated for wild and hatchery fish as appropriate.		х	Х	Х	х		х	
		Age -at-Return	Age determinations of individual fish. Assessed via scale method, dorsal fin ray ageing, or mark recoveries.		х	х	х	х		Х	
		Number of Spawners at Each Age	Number of spawners in each age category.		Х	х	х	х		Х	
Smolt -to-Adult Return Rate			The number of adult returns from a given brood year returning to a point (stream mouth, weir, dam) divided by the number of smolts that left this point previously.	5	х			х			х
	Abundance of Smolts		Smolt estimates, which result from juvenile emigrant trapping and PIT tagging, are derived by estimating the proportion of the total juvenile abundance estimate at the tributary comprised of each juvenile life stage (parr, presmolt, smolt).		Х			х			X
	Abundance of Total Adult Fish			х	х						
		Juvenile Emigrant Counts.	Counts of outmigrating juveniles (e.g., estimate from number collected in traps, tag detections, snorkel surveys, etc.).		Х			Х			Х
		Adult Counts	Estimated number of adult fish returning to a point (stream mouth, weir, dam).	Х	Х						

INDICATOR - Reported value resulting from the processing of Metrics and/or Measurements. Directly addresses VSP Criteria. DISTRIBUTION NECESSARY	METRIC- Derived value resulting from reduction or processing of Measurements. DISTRIBUTION RECOMMENDED	MEASUREMENT- Important value resulting from field or lab data collection (raw data) used to derive Metrics or Indicators. DISTRIBUTION RECOMMENDED
	resulting from reduction or processing of Measurements. (May be distributed by a different entity or personnel than	MEASUREMENT - Important value resulting from field or lab data collection (raw data) to derive Metrics or Indicators. Distribution not required during initial phase of coordinated assessments DISTRIBUTION OPTIONAL