



PugetSoundPartnership
our sound, our community, our chance



Salmon, Steelhead and Bull Trout ESA VSP Assessment

Puget Sound

GOALS

- Develop a detailed assessment of ongoing monitoring for VSP, Hatchery effectiveness.
- Develop a list of crucial monitoring gaps
- Prioritize monitoring gaps
- Develop proposals for funding

WHY DO A VSP ASSESSMENT?

- Puget Sound Partnership Is Building a Coordinated Ecosystem Monitoring Program for Puget Sound.
- Salmon and steelhead are part of that program.
- NOAA is conducting a five year review of all listed salmon and steelhead populations
- VSP monitoring gaps need to be identified and crucial ones funded.
- Provide transparency and confidence in VSP data and reporting
- USFWS is conducting bull trout monitoring assessment

COORDINATION

- Process is consistent with VSP assessment completed in the Columbia Basin
- Assists WDFW 21st Century Salmon and Steelhead Initiative
- Consistent with Work Group concept of the PSP Launch Committee For the PSP Coordinated Monitoring Program
- Consistent with the PSP Regional Implementation Technical Team Open Standards templates and Key Ecological Attributes
- Consistent with the Federal Caucus priorities

Side Boards

- Discussion will not include wildlife, resident fish, lamprey, and sturgeon.
- Unlisted salmon stocks will not be included unless desired by the co-managers.
- Discussions will not include ongoing hatchery monitoring at a facility such as spawner ratios, disease, and other monitoring specific to an HGMP
- Habitat monitoring discussion will take place in a series of follow up meetings.

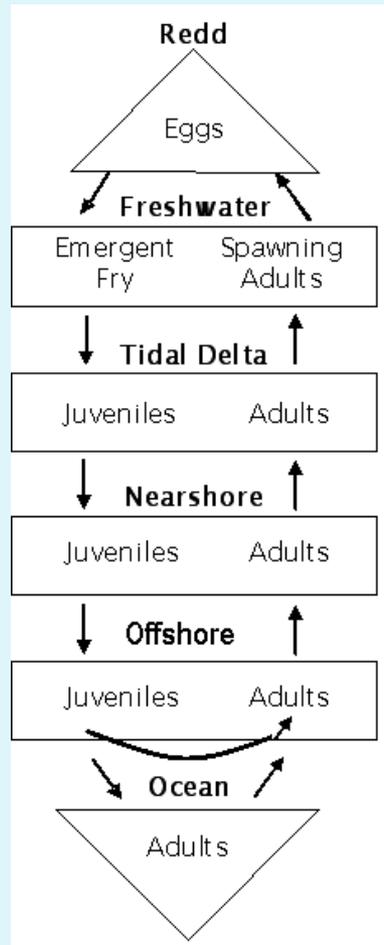
PROCESS AND PROCEDURE

- **Assessment performed for five regions: Hood Canal, Juan de Fuca, North Sound, Georgia Strait, South–Central Sound.**
- **Assessment will include: early chum, Chinook salmon, steelhead, and bull trout. Other species as desired by co-managers.**
- **Participants will include: Treaty tribes by their appropriate region, PSP, WDFW, NOAA, USFWS, and others as needed.**
- **Work requirement: At least 2 meetings per region to develop data and resolve any errors or conflicting information.**
- **Prioritize gaps by MPG: Requires development of basinwide population prioritization table within MPG.**
- **Development of actual funding proposals with estimated costs**

Monitoring Tables Used

- VSP MPG Population Monitoring Analysis tables. These tables provide specific information about each TRT population by VSP characteristic
- MPG Summary Tables. Provides a scoring of attributes
- Basinwide Prioritization Tables
- Funding Prioritization Tables
- NOAA Monitoring Guidance used as yardstick

RITT Open Standards Key Ecological Attributes



VSP MPG Population Monitoring Analysis tables

MPG Population	Primary Indicator	Desired Certainty NOAA Guidance	Current Monitoring	Data Quality & Certainty	Data Improvement Actions Needed	Proposed New Monitoring
Union River	<u>Adult Abundance</u>	Annual population-level estimates with a CV value on average of 15% or less. Power analysis calculated for data?	<p>What is the method used to determine # of spawners, redds? Frequency? Is it a full estimate of entire population?</p> <p>Who calculates the spawner abundance? What is the formula? Where are the data stored?</p> <p>How are # of adult recruits prior to fishing calculated?</p>	Is there a calculated precision in terms of confidence limit or CV value? If so what is it?		

MPG SUMMARY TABLES

MPG Population Olympic Sub-population	WRIA, Stream number	Adult spawner Abundance measured?	Ave Egg deposition determined?	Egg to fry survival calculated?	Hatchery Fish are marked? Recruits Prior to Fishing estimated?	PHOS Measured?	Fecundity Measured?	Sex ratios and age determined?	Juvenile migrant Abundance & Productivity SAR?	Cohort reconstruction?	Harvest Estimates are reliable?	Marine survival measured?	Juvenile marine nearshore densities measured? Juvenile FW pair or fry densities measured?	FW Spatial Distribution? Offshore densities are measured?	Species Diversity Age, run timing, cohort structure, Marine nearshore spatial distribution?	Species Diversity DNA and genetic diversity	Score	Highest Priority Data Improvement Actions Needed	Key Funding Sources	Proposed Projects
NF Nooksack	16.0251	2															0			

Scoring Criteria

VSP Attribute	Score	Scoring Criteria
Adult Abundance Score	10	<ul style="list-style-type: none"> Abundance meets CV guidelines, Unbiased estimate, Full estimate of entire population
	8	<ul style="list-style-type: none"> Abundance meets CV guidelines, Unbiased estimate, Full estimate of tributary population or part of mainstem as an index
	6	<ul style="list-style-type: none"> Abundance estimate does not meets CV guidelines, Unbiased estimate, Full estimate of entire population
	4	<ul style="list-style-type: none"> Biased index sites coupled with broad full watershed census of redds or fish
	2	<ul style="list-style-type: none"> Biased index sites sampled periodically for redds or fish
	0	<ul style="list-style-type: none"> No estimates

Basinwide Prioritization Tables

- ▶ Evaluates populations within MPGs for following criteria:
 - Fish in–fish out
 - Existing key TRT dataset
 - Opportunity to contribute to habitat effectiveness monitoring
 - Opportunity as reference stream for habitat
 - Recovery plan scenario
 - VSP Data gap
 - Hatchery program supplementation
 - Opportunity for hatchery effectiveness monitoring

Basinwide Prioritization Table

ESU	MPG	Population	Fish In - Fish Out	Existing Key data set for analyses (e.g., life-cycle modelling)	Opportunity contributing to habitat effectiveness monitoring	Opportunity as reference stream for habitat	Recovery Scenario	VSP Data Gap	Hatchery Program (supplementation)	Opportunities for hatchery effectiveness monitoring	
Hood Canal Chum	Hood Canal Chum	Union River	NO						YES 70-90 adults		
		Lilliwaup	NO						Yes since 2001		
		Hamma Hamma	Yes LLTK/HCSEG/Port Gamble							Yes since 2001	
		Duckabush	Yes Gap in smolt timing WDFW							No	
		Dosewallips	NO							No	
		B&L Quilcene	NO							Yes	
		Skokomish	NO							No	
		Finch	NO							Yes	
		Dewatto	NO							No	
		Tahuya	NO							No	
		Anderson	Yes IMW				Yes SRFB IMW since 2003				No
		Big Beef	Yes IMW				Yes SRFB IMW since 2003				Yes
		Chimacum	NO								Yes
			Snow/Salmon	Yes Gap in smolt timing WDFW						Yes Salmon Cr	
	Eastern Juan de Fuca	Jimmy come lately	NO						Yes since 1992?		

Next Steps

- Report results to policy level representatives within PSP, WDFW, tribes for funding discussions
- Prioritize funding proposals
- Fund most needed VSP monitoring gaps
- Address habitat monitoring in a similar manner