



PSEMP

PUGET SOUND ECOSYSTEM
MONITORING PROGRAM



Dave Peeler
Puget Sound Partnership



- Quick History
- Current Status
- Directions
- Emerging Issues

Indicator	Indicator
Marine Water Quality	Summer Stream Flows
Fresh Water Quality	
Sediment Quality	On-site Sewage *
Toxics in Fish	Swimming Beaches
	Shellfish Beaches
Birds *	
Pacific Herring	Quality of Life Index *
Orcas	Sound Behavior Index *
Chinook Abundance *	Recreational Fishing Licenses
	Commercial Fisheries Harvest
Estuaries	
Floodplains *	
Land Development and Cover *	
Eelgrass	<i>TBI: (Marine Species at Risk)</i>
Shoreline Armoring	<i>TBI: (Fine Particulates)</i>

Red = consistent with Transboundary Indicators

* = finalizing development

Dashboard Wheel

- 6 Segments = PSP goals
- Click on individual indicators
- Key message
- “Learn More”
- Accordion pages
- Links for more info



Pacific Herring

The population of one stock of Pacific Herring, Cherry Point herring in North Puget Sound, has declined 90 percent since 1970

Indicator Champion: Kurt Stick, Washington State Department of Fish and Wildlife

[View Projects](#)

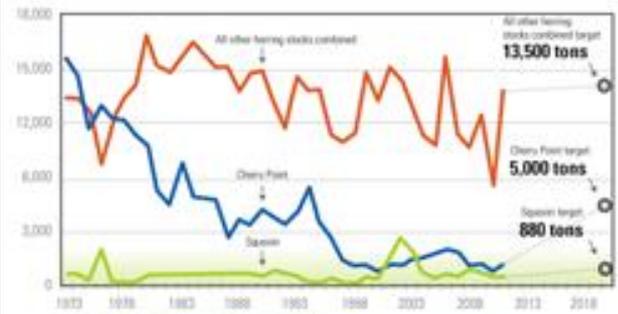


Indicator and Target Data

2020 Target: 19,000 tons of herring

The 2020 target for Pacific Herring is to increase the overall amount of spawning herring throughout Puget Sound to about 19,000 tons.

Spawning biomass of Pacific herring stocks in Puget Sound
In tons, 1973-2020



Source: Washington State Department of Fish and Wildlife

More information about the graph

The graph represents the tons of adult Pacific Herring estimated to be in Puget Sound, based on annual surveys. The estimated number of tons that spawn each year is called the spawning biomass. The herring targets are grouped based on results of genetic studies that indicate Cherry Point and Squaxin Pass herring stocks are genetically distinct and that all other sampled Puget Sound herring stocks are not genetically distinguishable from each other.



PUGET SOUND ECOSYSTEM MONITORING PROGRAM

PSEMP feeds the indicators

Emphasis on coordinating existing programs and building partnerships

A Steering Committee of 23 state, federal, tribal, local, NGO, business, academic, and watershed agencies/organizations

Technical Working Groups include many more agencies and organizations

Building a monitoring framework that supports the Action Agenda and recovery goals

Origins: Launch Committee (July 2010 – Feb 2011)

Jim Simmonds	King County
Scott Powell	Seattle City Light
Ken Warheit	WDFW
Tom Mumford	DNR
Rob Duff	ECY
Kate Litle	Washington Sea Grant
Michael Cox	EPA
Bruce Crawford	NOAA
Rick Dinicola	USGS
Terry Wright	NWIFC
Terry Williams	Tulalip Tribes
Dave Peeler	People for Puget Sound
Jan Newton	University of Washington
Bill Wilkerson	Monitoring Forum
Lincoln Loehr	Stoel Rives LLP
Richard Brocksmith	Hood Canal Coordinating Council



Launch Committee Work

July – Dec 2010: Lots of debate, exchange, and collaborative writing/review. What do we want this to look like?

Late Dec 2010: Launch Committee's Draft Charter distributed for public feedback - 53 pages of comments received.

Jan-Feb 2011: Charter significantly revised/refined

Feb 3, 2011: Ecosystem Coordination Board briefed

Feb 17, 2011: Draft Charter presented to the Leadership Council for endorsement

The Leadership Council voted unanimously to:

- Endorse the Charter
- **Convene a Steering Committee**
- **Directed Partnership to commission a 3rd party review in 2 years to evaluate transparency, credibility, accountability, trust, etc. (~summer 2013)**

“Convene a Steering Committee”

Inclusive (23 members initially)

Tribes - 3

Non-profit environmental sector - 2

Business - 2

Local governments - 4

Watershed-based groups - 1

Local Integrating Organizations - 2

State government - 4

Federal government - 3

Academia - 1

Citizen-science programs - 1

Steering Committee

APPOINTED BY CAUCUSES, ASSOCIATIONS, BOARDS

**not appointed by PSP **

Tribal caucus

Environmental caucus

Association of Washington Businesses

Associations of Cities, Counties

Salmon Recovery Council

Puget Sound Partnership

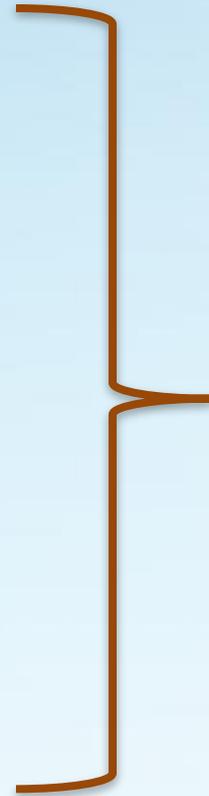
State caucus

Federal caucus

Science Panel

Essential Characteristics of the Monitoring Program

Inclusive
Transparent
Effective
Links science to management
Strategic & Efficient
Credible
Accountable
Stable



**MONITORING
PROGRAM
CHARTER**

Independent Steering Committee



Decisions

- Priorities
- Monitoring Plans
- Funding Strategies
- Protocols
- Reports

Multi-Stakeholder

Broadly Representative

- Steering Committee
- Topical workgroups
- Cross-topic workgroups

Advisory Panels

- Science Panel
- ECB
- LC sets overall recovery goals thru the Action Agenda, etc.



SUMMARY:

1. Steering Committee operates as an independent, decision-making body
2. Operates at science-policy (*and management/operations*) interface
3. SC members are typically senior managers or advisors in monitoring operations, research, or policy with ability to commit organizational resources and make decisions
4. Work Group members typically hands-on scientists and practitioners at agencies, tribes, NGOs, and universities
5. Goal: build a world-class, cooperative, transparent, trusted monitoring program that provides credible, relevant data

Monitoring Program Structure



Toxics Work Group Tasks

1. Develop a 2012 workplan
2. Develop an inventory of active, on-going toxics monitoring programs (historical programs may be included)
3. Identify monitoring gaps and prioritize monitoring
4. Identify and provide links or citations to relevant technical documents and identify how and where the documents can be accessed
5. Assist indicator champions to develop summary reports on vital signs for the State of the Sound Report -- toxics in fish and marine sediment quality

Other Toxics Work Group Tasks

1. Identify other critical indicators/targets to track the health of Puget Sound and necessary data to evaluate the success of meeting indicators/targets, including costs
2. Ensure coordination between workgroups (e.g., stormwater workgroup) on toxics monitoring and assessment
3. Review and provide advice on monitoring plans, protocols, study designs, and QA plans for monitoring projects
4. Assist the Monitoring Program and other organizations in the interpretation and synthesis of findings from monitoring and assessment studies as requested
5. Assist in reviewing reports on monitoring findings

Toxics Work Group Contacts

April Markiewicz -- WWU

Dale Norton -- Ecology

Joan Hardy -- Health

Dave Peeler -- PSP (staff)

Deborah Lester -- King County

Denice Taylor -- Suquamish Tribe

Glen St. Amant -- Muckelshoot
Tribe

Greg Pelletier -- Ecology

Heather Trim -- People for Puget
Sound

Jay Davis -- USFWS

Jeff Gaeckle -- DNR

Jill Brandenberger -- Battelle

Jim Cowles -- WSDA

Jim West -- WDFW

Kathy Godtfredsen -- Windward

Ken Dzinbal -- PSP (staff)

Lincoln Loehr -- Stoel Rives

Lon Kissinger -- EPA

Maggie Dutch -- Ecology

Mike Cox -- USEPA *

Robert Black -- USGS

Robert Johnston -- USNavy

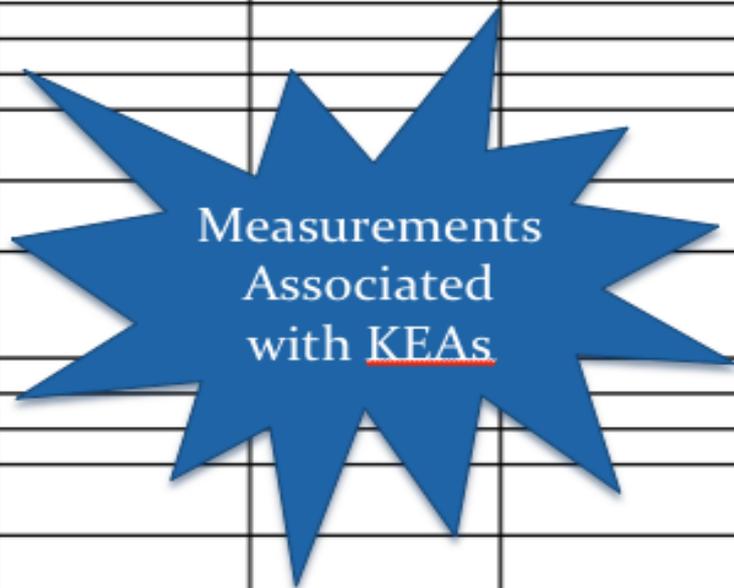
Sandie O'Neill -- NOAA

Scott Redman -- PSP *

* = co-chair

Proposed Framework

Ecosystem Pressure	Information Needs	Information Type	Measure of Stress	Ecosystem Components		
				Freshwater	Marine	Terrestrial
				Key Receptors	Key Receptors	Key Receptors
Pressure 1	Data Synthesis & Retrospective Analysis	Raw Data; Literature				
		Status				
	Monitoring	Trend				
		Regulatory				
	Science Support	Diagnostic Studies				
		Modeling & Integration				
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		Status				
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		Regulatory				
	Science Support	Diagnostic Studies				
		Modeling & Integration				



High level summary only – details in monitoring information template

Who

What

Where

When

Why

How

Monitoring Program Name	
Lead Agency/Organization	Standardize names
Contact name <ul style="list-style-type: none"> • Email • phone 	
Short narrative description (1-3 sentences)	
Main objective/questions answered	Standardize as possible
Ecosystem component & attribute	Drop-down menu
Media sampled	Drop-down menu
Type of monitoring	Drop-down menu
Action Area	Drop-down menu
WRIA	Drop-down menu
Fixed, rotating, or variable sampling?	
Sampling frequency	
Approx # of sites	
Legal mandate / requirement	Legal reference
Action Agenda – this monitoring supports: <ul style="list-style-type: none"> • Dashboard vital sign indicator • Other indicators of the status of ecosystem components, KEAs, or pressures • Outcomes of actions or strategies as depicted in Open Standards results chains in the Action Agenda (or other logic models) 	Drop-down menu As 2 nd pass?
Other	
Monitoring program website <ul style="list-style-type: none"> • Links to Plan, QAPP, reports, etc. 	
Data access <ul style="list-style-type: none"> • Links to database access • Email/phone to data admin 	
Estimated (direct, annual) costs	

Complete information “template” for each monitoring program.

Toxics Monitoring Inventory

Criteria for Deciding Which Monitoring Programs Need Completed Inventories

Tier 1 includes:

1. status and trends monitoring
2. exploratory monitoring
3. regulatory monitoring
4. effectiveness monitoring (not covered by regulatory monitoring)

Tier 1 – Sept. 2012

- *“Active and ongoing” monitoring programs and activities (we intend that this includes repeated measures and recent, one-time activities), and*
- *Monitoring of KEAs of Ecosystem Condition as they Relate to Toxics, or*
- *Regulatory monitoring and mandates, or*
- *Monitoring of “toxics stress” for PSP identified toxic pressures (sources and inputs)*

Tier 2: Science Support – Winter 2012/13

1. Diagnostic Studies

- *thresholds associated with contaminant exposure*
- *inter-laboratory comparisons*
- *studies to develop sampling protocols and methodologies*

2. Modeling and Integration

- *fate and transport models*
- *bioaccumulation models*
- *models of toxics effects to populations, communities and ecosystems*

Tier 3: Historical Monitoring – 2013?

- Monitoring older than 5 years
- Discontinuous monitoring
- Others??

**Criteria for Prioritizing Monitoring Gaps
– next effort**

We have a Google Site - <https://sites.google.com/site/pugetsoundmonitoring/home>
<https://sites.google.com/a/psemp.org/psemp/home> (new)



Welcome! Public on the web Updated Jun 8, 2011 1:59 PM

search-site

[Puget Sound Coordinated Ecosystem Monitoring and Assessment Program](#)

- Welcome!
- [About The Program](#)
- [Program News and Updates](#)
- [Steering Committee](#)
- [Work Groups](#)
- [Launch Committee](#)
- [Files](#)
- [Sitemap](#)

Welcome!

Welcome to the website for the Puget Sound Coordinated Ecosystem Monitoring and Assessment Program.

On this website you can find information on the program goals and plans, meeting schedules and agendas, meeting summaries, and a variety of reports and background documents.

Messages

[Stormwater Work Group officially commissioned; 8 other possible groups will be scoped.](#) At yesterday's meeting of the Steering Committee, the existing Stormwater Work Group was unanimously accepted as the Program's first "commissioned" work group. As part of the larger Coordinated ...
Posted Aug 3, 2011 3:13 PM
by ken.dzinbal@psp.wa.gov

PSP Science Reports

- Vital Signs – indicators and targets papers (leads) and summaries (PSP staff)
- State of the Sound – synthesis of indicators, targets and other information (PSP staff & SP)
- Puget Sound Update – PSP staff, morphing into
- Encyclopedia of Puget Sound (EoPS by PSI)

