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The 2013 State of the Sound: Status of the ecosystem

Nathalie Hamel
Puget Sound Partnership, nathalie.hamel@psp.wa.gov

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Reporting the State of the Puget Sound Ecosystem

Nathalie Hamel
Salish Sea Ecosystem Conference 2014
Reporting Tool

Puget Sound Vital Signs
Indicators of Puget Sound’s Health and Vitality

- Water Quality
  - Freshwater Quality
  - Marine Sediment Quality
  - Toxics in Fish
- On-site Sewage
- Swimming Beaches
- Shellfish Beds
- Healthy Human Population
- Human Quality of Life
  - Sound Behavior
  - Recreational Fishing
  - Commercial Fisheries
- Species and Food Web
  - Orcas
  - Pacific Herring
  - Chinook Salmon
- Protect and Restore Habitat
  - Eelgrass
  - Shoreline Armoring
  - Birds
  - Land Development and Cover
  - Forestlands
  - Estuaries
Collaborators

State
Adam Lindquist, Washington Department of Fish and Wildlife
Alex Mitchell, Puget Sound Partnership
Christopher Clinton, Washington Department of Ecology
Christopher Krembs, Washington Department of Ecology
Dave Ward, Puget Sound Partnership
Dayv Lowry, Washington Department of Fish and Wildlife
Fred Short, Washington Department of Natural Resources
Hugh Shipman, Washington Department of Ecology
Jim West, Washington Department of Fish and Wildlife
Julie Lowe, Washington Department of Ecology
Kari Stiles, Puget Sound Partnership
Ken Koch, Washington Department of Ecology
Kenneth B. Pierce Jr., Washington Department of Fish and Wildlife
Kurt Stick, Washington Department of Fish and Wildlife
Leska Fore, Puget Sound Partnership
Maggie Dutch, Washington Department of Ecology
Markus Van Prause, Washington Department of Ecology
Mindy Roberts, Washington Department of Ecology
Paul Pickett, Washington Department of Ecology
Pete Dowty, Washington Department of Natural Resources
Randy Carman, Washington Department of Fish and Wildlife
Scott Berbells, Washington Department of Health
Scott Pearson, Washington Department of Fish and Wildlife
Stuart Glasoe, Washington Department of Health

Federal
Paul Cereghino, NOAA
Christopher Konrad, U.S. Geological Survey
Mindy Rowse, NOAA

NGOs
Ken Balcomb, Center for Whale Research
Bob Carey, The Nature Conservancy

Local
Jo Wilhelm, King County
and the Recovery Implementation Technical Team (RITT)
Sediments

Toxics in fish

Herring
Characteristics of Vital Signs

• Communication
  ✓ Appeals to wide audience

• Scientific foundation, e.g.,
  ✓ Good surrogates
  ✓ Historic data
  ✓ Responds predictably

• Connections to recovery goals
  ✓ Ecosystem wide
  ✓ Baselines and targets
We gauge status of progress with baselines and targets

Eelgrass target:
20% more by 2020

Baseline

Target

Source: F. Short, DNR
Progress, in a nutshell

* The baseline is for years 2000-2008. The status is for year 2011.
Characteristics of Vital Signs

• Communication
  ✓ Appeals to wide audience
• Scientific foundation, e.g.,
  ✓ Good surrogates
  ✓ Historic data
  ✓ Responds predictably
• Connections to recovery goals
  ✓ Ecosystem wide
  ✓ Baselines and targets
  ✓ Synthesis and scaling up
Freshwater Vital Sign

1. Water Quality Index

2. Bugs in streams
   (Benthic Index of Biotic Integrity)

3. Impaired waters
Freshwater Vital Sign Progress

### Water Quality Index

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<th>River/Location</th>
<th>2000</th>
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### Impairments

- Better than the baseline
- Worse than the baseline

Conclusion: Mixed
Vital Sign Progress – 2013

- Yes (3)
- No: no change (3)
- No: worse (3)
- Mixed (6)
- N/A (6)
Summary of Ecosystem Status

• Few Vital Signs are showing progress
• Some have lost ground, e.g., orcas
• Far from 2020 targets

Many Vital Signs are long–term, outcome indicators

Need for more short term, responsive indicators
Vital Signs Online

Eelgrass

Eelgrass and other seagrass species are used as indicators of estuarine health throughout the world.

Indicator Lead: Fred Short, Washington State Department of Natural Resources

Importance to Puget Sound recovery

Is there progress? Indicators and targets

Latest data and maps

What you can do

What our partners are doing

Links for more information

Puget Sound Partnership
326 East D Street, Tacoma, WA 98421
Phone: 360.464.1232 | Email: vitalsigns@psp.wa.gov

www.psp.wa.gov/vitalsigns/index.php
Thank you!

- Indicator Leads
- National Estuary Program, EPA