



Western Washington University  
**Western CEDAR**

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Salish Sea Ecosystem Conference

2014 Salish Sea Ecosystem Conference  
(Seattle, Wash.)

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May 2nd, 10:30 AM - 12:00 PM

## **Building the Encyclopedia of Puget Sound: A new resource for ecosystem recovery**

Jeff Rice

*University of Washington, jeffrice@uw.edu*

Joel E. Baker

*University of Washington Puget Sound Institute*

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Rice, Jeff and Baker, Joel E., "Building the Encyclopedia of Puget Sound: A new resource for ecosystem recovery" (2014). *Salish Sea Ecosystem Conference*. 79.

<https://cedar.wwu.edu/ssec/2014ssec/Day3/79>

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# **Building the Encyclopedia of Puget Sound: A new resource for ecosystem recovery**

Salish Sea Ecosystem Conference  
May 2, 2014

Jeff Rice, University of Washington Puget Sound Institute  
Joel Baker, Director, University of Washington Puget Sound Institute

# eopugetsound.org

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PUGET SOUND INSTITUTE

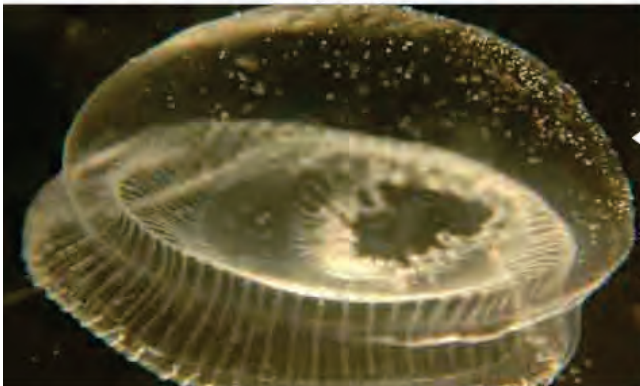
UNIVERSITY of WASHINGTON



## Encyclopedia of PUGET SOUND

Topics Science Review Species Habitats Maps / GIS Archive Blog Features

Search



### SPECIES LIBRARY

#### Species of the Puget Sound region

Our updated species library features checklists of species found in the Puget Sound watershed, from vertebrates and invertebrates, to plants and algae. Read thousands of descriptions from the Encyclopedia of Life and find status and trends for regional species of concern.



### TOPIC AREAS

Browse the encyclopedia

Biology

Chemistry

Physical environment

Social and economic sciences

### FEATURED REPORT

Biennial Science Work Plan for 2014-2016 (Draft)

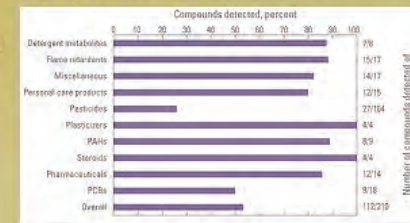


The Biennial Science Work Plan

### MONITORING

#### Contaminants of Emerging Concern

Thousands of different chemical compounds find their way into Puget Sound every day, but little is known about their effects on the



# Signal to noise

- Amount of data in the world doubles every two years.
- 90% of the world's digital data created since 2011.
- Amount of world's data projected to grow by a factor of 50 by 2020.

– Sources: IDC; Science Daily; SINTEF

# Not to mention...



Icons

Logos

PNG

Social Media People

Business



# SSEC14

- 450 science talks
- 150 posters
- 1,200 + scientists



## 2014 Salish Sea Ecosystem Conference



# Many different threats

## IMPERILED SOUND

Man's Pollutants Turning Puget Sound Into Chemical Time Bomb

## Don't Eat the Fish

Chemicals causing diseased fish in Puget Sound  
Scientists warn of toxins in Puget Sound

PCBs

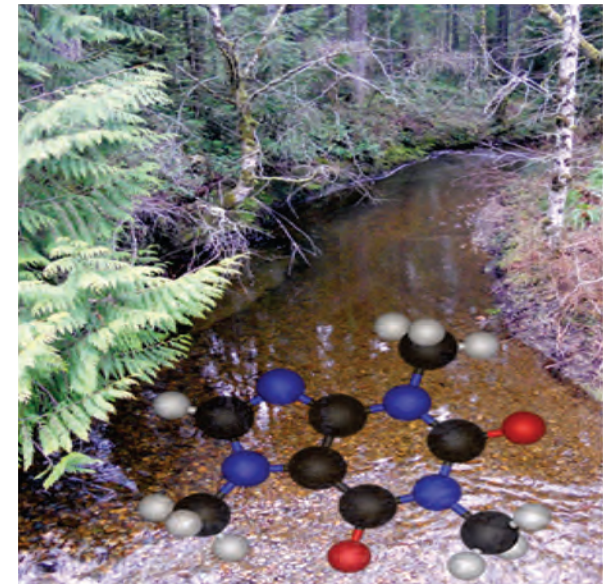
Habitat loss

Climate change

Stormwater

Population growth

Noise





www.theoi.com



# Responding to a “key need”

- “Synthesis and communication of relevant scientific information to the right people at the right times to support ecosystem recovery outcomes.”
- One of six “key needs” as identified by the Puget Sound Strategic Science Plan.

# Partnerships and funding



# Partnerships and funding

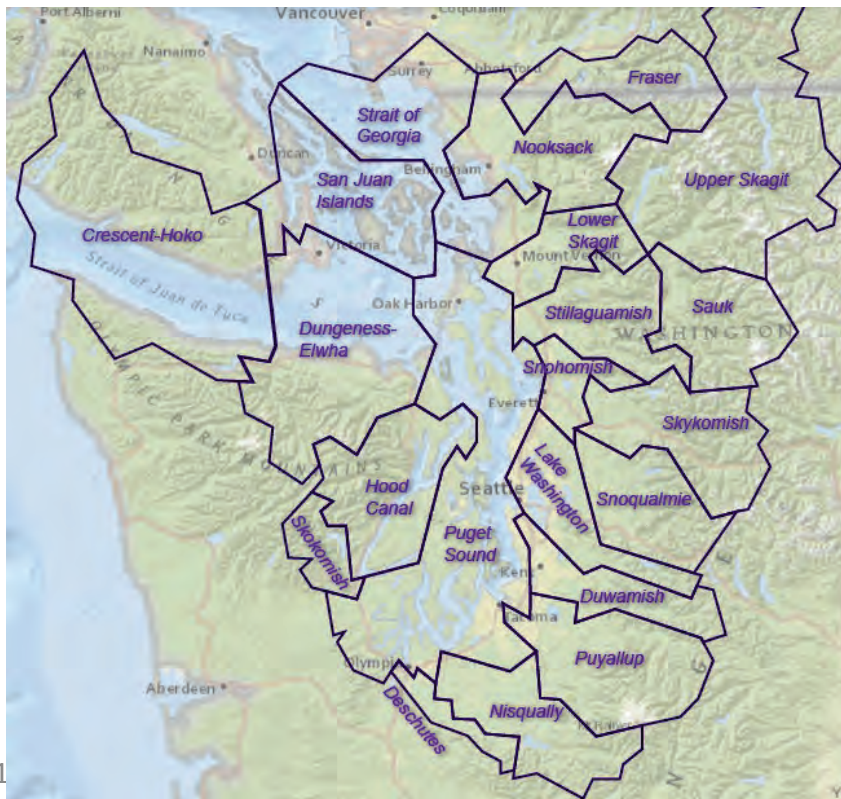


# Partnerships and funding



# Ecosystem thinking

- In support of the Puget Sound Action Agenda
- Interdisciplinary, watershed-based



# EoPS editorial board

## **Biology**

- Birds and mammals: Joe Gaydos, SeaDoc Society
- Uplands: Timothy Quinn, WDFW
- Fishes: Si Simenstad, UW SAFS

**Chemistry:** Joel Baker, UW Puget Sound Institute

**Physical Environment:** Parker MacCready, UW School of Oceanography

**Social Sciences:** Patrick Christie, UW School of Marine Affairs

**Ecosystem-based Management:** Tessa Francis, UW Puget Sound Institute

**Climate Change:** Amy Snover, UW Climate Impacts Group

# Curated crowd sourcing

- The editorial structure of the Encyclopedia of Puget Sound is modeled after the topic editor structure used at the [Encyclopedia of Earth](#), “a comprehensive resource built and maintained by a diverse community of scholars.”



- Additional inspiration for “curated crowd sourcing” comes from the Encyclopedia of Life.



# Launched October 24, 2012

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## Encyclopedia of PUGET SOUND

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- Chemistry
- Physical environment
- Social and economic sciences

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The Biennial Science Work Plan

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Thousands of different chemical compounds find their way into Puget Sound every day, but little is known about their effects on the



Compounds detected, percent

Category	Percentage
Detergent mixtures	73
Flavor colorants	1517
Miscellaneous	1417
Personal care products	1215
Pesticides	27164
Phycocyanin	44
PAHs	83
Steroids	44
Pharmaceuticals	1214
PCBs	918
Desirel	11219

Number of compounds detected of total number analyzed



# Content types

- Peer-reviewed synthesis
- Species accounts
- Habitat classifications
- Maps/GIS
- Document archive
- Features

# 700 pages of peer-reviewed synthesis from PSP

Contributors and partners

Editorial structure

## PUGET SOUND SCIENCE REVIEW

- ▶ Ecosystem-Based Management: Understanding Future and Desired System States
- ▶ Ecosystem-Based Management: Incorporating Human Well-being
- ▶ Ecosystem-Based Management: Ecosystem Protection and Restoration Strategies
- ▼ The Biophysical Condition of Puget Sound: Biology
  - Section 1. Introduction
  - ▶ Section 2. Species and Food Webs
  - ▼ Section 3. Habitats
    - 1. Eelgrass
    - 2. Kelp
    - 3. Tidal Wetlands
- ▶ The Biophysical Condition of Puget Sound: Chemistry
- ▶ The Biophysical Condition of Puget Sound: Physical Environment
- ▶ Threats: Impacts of Natural Events

## 2. Kelp

[View](#) [Edit](#) [Outline](#) [Revisions](#) [Log](#) [Devel](#)



# Upcoming syntheses: climate report

- Upcoming: Puget Sound-oriented climate report from the UW Climate Impacts Group. The report will update the 2009 Washington Climate Impact Assessment, as well as key information in the document *Uncertain Future: Climate Change and Its Effects on Puget Sound in 2005*.

# 7000+ species accounts

## PUGET SOUND/SALISH SEA WATERSHED

### Species of Concern

- Species of Concern in the Salish Sea
- Species of Concern in the Puget Sound Basin

### Marine Fishes and Invertebrates

- Fishes of Puget Sound and Adjacent Waters
- Marine Invertebrates of Puget Sound and Adjacent Waters
- Subtidal Surveys in Puget Sound

### Salish Sea-reliant Birds and Mammals

- Salish Sea-reliant Birds
- Salish Sea-reliant Mammals

### Terrestrial Vertebrates of the Puget Sound Watershed

- Gap Analysis: Amphibians

• Gap Analysis: Birds

## Brachyramphus marmoratus

### Marbled Murrelet



Flickr photos above were identified by the individual photographers but not vetted by EoPS. [Contact us](#) to report errors.

Found in: [Species of Concern in the Salish Sea](#), [Species of Concern in the Puget Sound Basin](#), [Salish Sea-reliant Birds](#), [Gap Analysis: Birds](#), [Puget Sound Partnership Indicator Species: Birds](#)

Encyclopedia of Puget Sound

Encyclopedia of Life

NatureServe

### Table of Contents

For more info, visit:



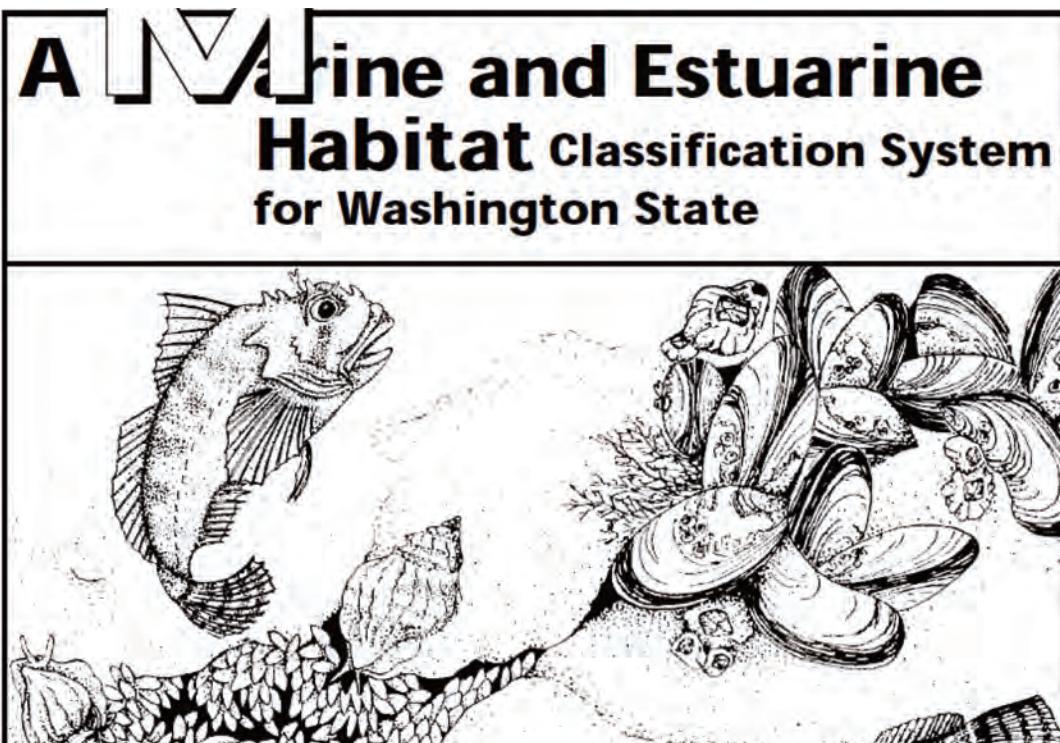
Encyclopedia of Life

Source:

- Brief Summary
- Morphology
- Diagnostic Description
- Migration
- Associations
- General Ecology
- Life Expectancy
- Molecular Biology
- Trends
- Management
- Distribution
- Size
- Habitat
- Trophic Strategy
- Population Biology
- Cyclicity
- Reproduction
- Conservation Status
- Threats
- Benefits

# Complete shoreline habitat classifications for Puget Sound

- Dethier
- WDFW/NatureServe

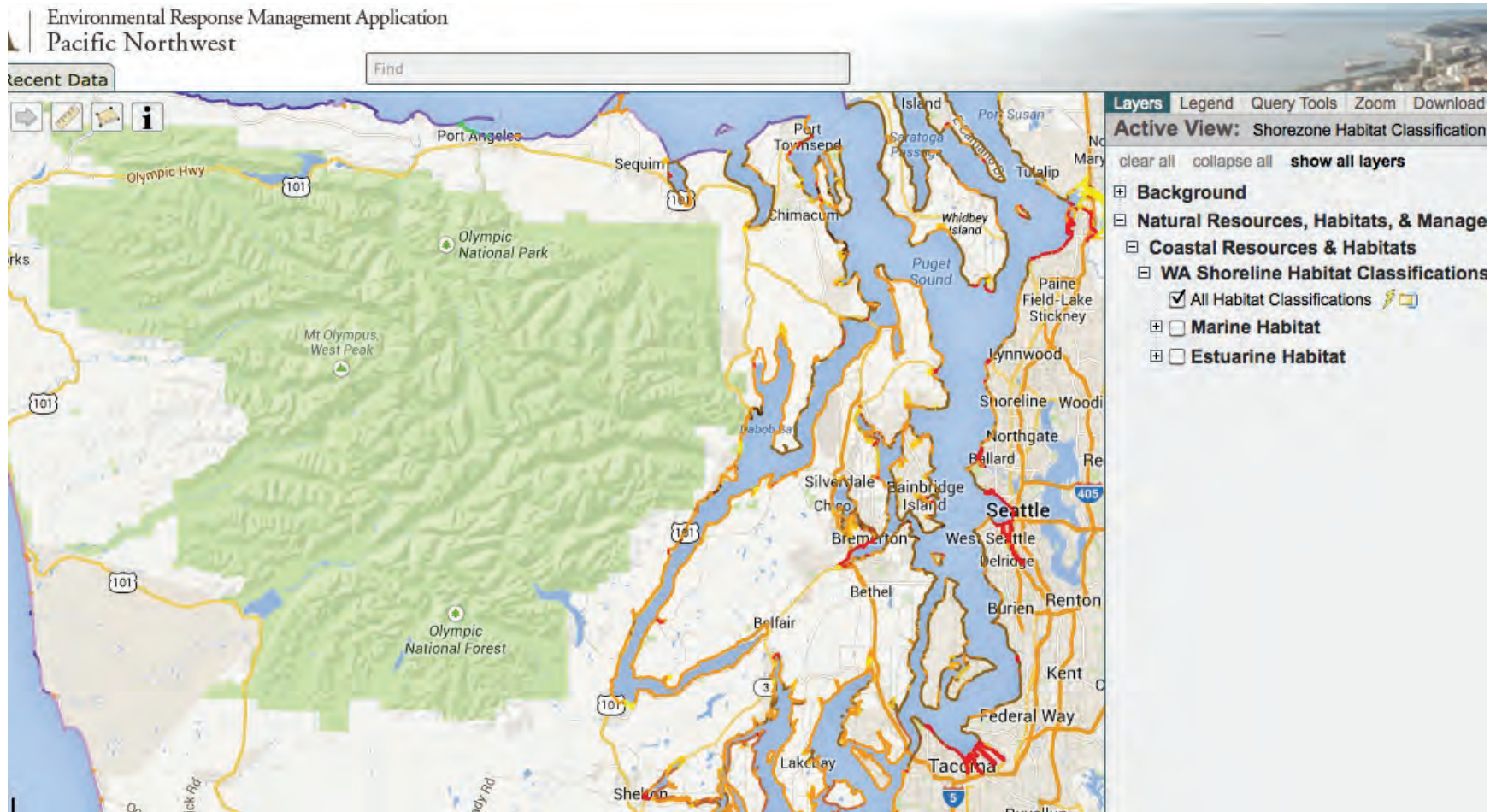


## MARINE

### Intertidal

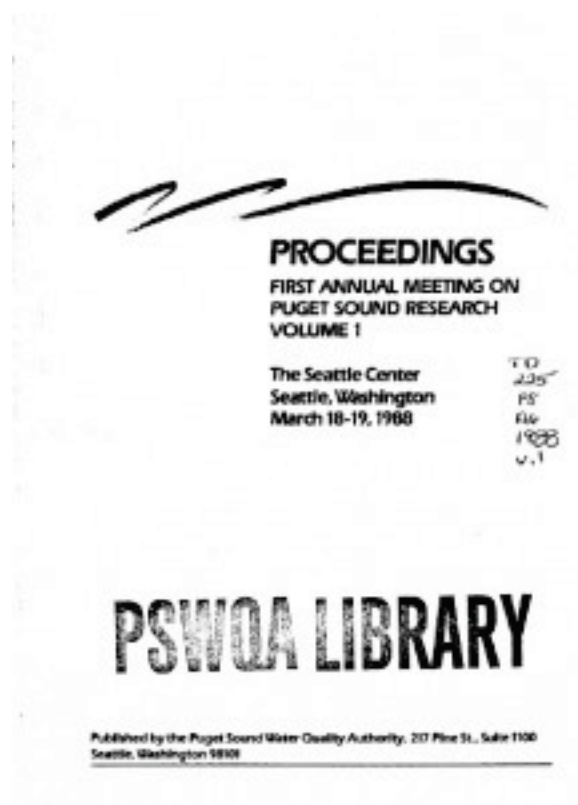
- Rock (Solid bedrock)
  - Exposed (wave action)
  - Partially exposed
  - Semi-protected and Protected
- Boulders
  - Exposed
  - Partially exposed
  - Semi-protected
- Hardpan
- Cobble
  - Partially exposed
- Mixed-Coarse
  - Semi-protected to Protected
- Gravel
  - Partially exposed
  - Semi-Protected
- Sand
  - Exposed and Partially exposed
  - Semi-protected
- Mixed-Fine
  - Semi-protected and Protected
- Mud
  - Protected
- Organic (e.g., wood chips, marine detritus)
- Artificial (e.g., pilings, tires, concrete)
- Reef (e.g., oyster, worm) (not important in Washington)

# Maps/GIS (collaboration w/NOAA)



# Document archive

- All Salish Sea conference proceedings



# Features

- SSEC14 science writers project



2014  
Salish Sea  
Ecosystem  
Conference



# Acknowledgements

- Funders:



**PugetSoundPartnership**

LEADING PUGET SOUND RECOVERY

- Executive Director: Joel Baker
- EoPS editorial board
- Web Architect: Kris Symer
- Editorial Assistant: Amelia Apfel
- Many strategic partners