PUGET SOUND INSTITUTE
UNIVERSITY of WASHINGTON TACOMA

SELECTED CONTRIBUTIONS

The Puget Sound Institute (PSI) was established at the University of Washington to identify and catalyze the science driving Puget Sound and Salish Sea ecosystem recovery. Since its founding in 2010, PSI has advanced our understanding of the region through synthesis, original research and communication in support of state and federal agencies, tribes and other organizations working in the region. PSI receives major funding from the Puget Sound Partnership and the EPA.

SYNTHESIS AND REVIEW

SYNTHESIS & COMMUNICATION OF PUGET SOUND RECOVERY GRANTS

Ongoing
PSI is contracted to analyze, synthesize, and communicate the results of Marine and Nearshore Grant Program projects from 2012-2015 to identify how those results can support future recovery efforts. The project aims are to ensure the continued contribution of funded work to marine and nearshore recovery efforts, to highlight successful strategies that could be the focus of future efforts, and to communicate key findings and messages from the program."

[PARTNER] PUGET SOUND SYNTHESIS: CLIMATE IMPACTS AND ADAPTATION FROM THE MOUNTAINS TO THE SOUND

October 2015
We commissioned the University of Washington Climate Impacts Group to prepare an in-depth synthesis of expected climate change impacts for the Puget Sound watershed. The EPA provided funding for this project.

[PARTNER] 2014-2016 BIENNIAL SCIENCE WORK PLAN

April 2015
The biennial science work plan supports state efforts to identify and address decision-critical uncertainties related to the recovery of Puget Sound. PSI's Nick Georgiadis co-authored the report in collaboration with the Puget Sound Science Panel and the Puget Sound Partnership.

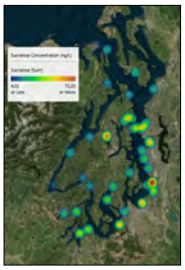
[PARTNER] SOCIAL SCIENCES IN PUGET SOUND RECOVERY

July 2014
PSI's Lead Social Scientist Kelly Biedenweg was co-editor of a special issue of the journal Coastal Management that focused on the role of social sciences in Puget Sound recovery. Biedenweg also authored an article in the issue describing the development of Puget Sound human wellbeing indicators.

REVIEW OF AVAILABLE SCIENCE FOR DISSOLVED OXYGEN IMPACTS IN HOOD CANAL

May 2012
An independent review convened by PSI was featured in findings released by the EPA and the state Department of Ecology that there is currently "no compelling evidence" that humans are the cause of recent trends in declines in dissolved oxygen in Hood Canal.

RESEARCH



CONTAMINANTS OF EMERGING CONCERN

Ongoing

Research by PSI chemist and engineer Andy James is expanding the scientific understanding of contaminants of emerging concern (CECs) in Puget Sound. These compounds range from pharmaceuticals, personal care products, food additives to compounds used in industrial and commercial applications. James' studies will inform state water quality monitoring and groups such as the Puget Sound Ecosystem Monitoring Program.

HUMAN WELLBEING INDICATORS

July 2015

This year, the state adopted a series of human wellbeing indicators for Puget Sound based on research led by PSI social scientist Kelly Biedenweg. These indicators are now part of the state's 'Vital Signs' for Puget Sound recovery.

PACIFIC HERRING

2014-2015

Recent efforts by PSI Lead Ecologist Tessa Francis in collaboration with NOAA and DFW have helped to digitize and analyze more than 40 years of state data related to herring spawning habitat. The scientists hope that it will help to answer some of the key questions behind recent declines in Puget Sound herring populations.

DOZENS OF PUBLISHED PAPERS

Ongoing

Overall, PSI-affiliated researchers have authored or co-authored dozens of papers in peer-reviewed journals.

POLICY

[PARTNER] ACTION AGENDA

2015

PSI research scientist Nick Georgiadis drafted initial versions of shellfish and estuaries Implementation Strategy documents for the Puget Sound Partnership. The Partnership describes its Implementation Strategies as "plans for achieving the Puget Sound 2020 Ecosystem Recovery Targets, which are associated with the Puget Sound Vital Signs. The plans are designed to inform the Puget Sound Action Agenda, the State of the Sound, the Biennial Science Work Plan, the Puget Sound Ecosystem Monitoring Program, and salmon recovery planning."

LEGISLATIVE TESTIMONY

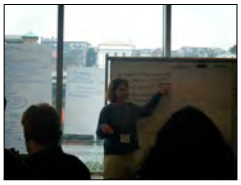
March 2014

PSI research scientist Tessa Francis testified before the Washington House Environment Committee about the ecological importance of the region's forage fish. She discussed findings from PSI's recent Study Panel on Ecosystem-based Management of Forage Fish in Puget Sound.

WORKSHOPS AND PANELS

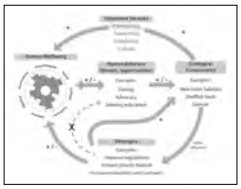
UW WATER SYMPOSIUM

Ongoing
This semi-annual symposium brings together nationally recognized scientists and engineers to present and discuss water-related research in Washington and beyond. It is convened jointly by PSI and the Center for Urban Waters.



PANEL DISCUSSIONS

Ongoing
PSI organizes a wide range of panels and discussion sessions on topics such as science communications, open standards, social sciences, the Ocean Health Index, and other areas of current interest.



SOCIAL SCIENCE AND MONITORING NEEDS FOR PUGET SOUND RECOVERY

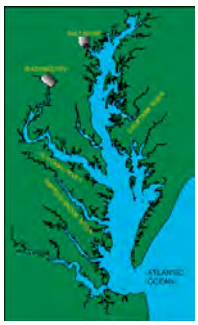
October 2013
Seventeen regional social scientists from public agencies, universities and consulting firms gathered to compile existing social research and monitoring related to Puget Sound recovery and to identify social research and monitoring gaps.

STUDY PANEL ON ECOSYSTEM-BASED MANAGEMENT OF FORAGE FISH IN PUGET SOUND

August 2013
PSI convened a Study Panel on Ecosystem-based Management of Puget Sound Forage Fish at the Whiteley Center at the University of Washington's Friday Harbor Labs. Forage fish populations are considered a key indicator of the health of the Salish Sea, and these expert panels were some of the first to examine research questions related to status and trends, vulnerabilities and spatial variation of species.

FLOODPLAINS

June 2013
A workshop at the Center for Urban Waters in Tacoma explored the state of the science of floodplains in the region. The workshop was jointly organized by the Puget Sound Partnership, the Puget Sound Institute and the Puget Sound Science Panel. Participants discussed floodplains from the perspectives of both the biophysical and social sciences.



THE ROLE OF SCIENCE IN LARGE SCALE COASTAL ECOSYSTEM RECOVERY PROJECTS

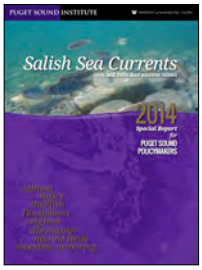
May 2013
A two-day workshop convened by PSI brought leading scientists and managers to Seattle to compare and contrast the role of science in large-scale coastal ecosystem recovery projects. Participants represented Chesapeake Bay, the Everglades, Long Island Sound, San Joaquin/Sacramento Delta, Columbia River Estuary, the Louisiana Coast and Puget Sound. Topics included challenges relating to scope, complexity and cost in large and complex systems.

COMMUNICATIONS

ENCYCLOPEDIA OF PUGET SOUND

Ongoing

EoPS is an online compendium of the latest scientific information related to Salish Sea ecosystem recovery. It features species accounts, maps and peer-reviewed synthesis, among other documents. Available at: www.eopugetsound.org.



SALISH SEA CURRENTS MAGAZINE

Ongoing

PSI with support from the EPA and in collaboration with the Puget Sound Partnership assembled a team of writers to document new scientific research presented at the 2014 Salish Sea Ecosystem Conference. These writers worked closely with the Encyclopedia of Puget Sound editorial board to provide the most accurate and timely information, and to place it into the context of other work going on in the region. A second series of articles is scheduled for the 2016 conference in Vancouver, B.C.

PUGET SOUND FACT BOOK

2015

The 2015 Puget Sound Fact Book brings together statistics and other information about the health and makeup of the Puget Sound ecosystem.

MAPS AND HABITATS

[PARTNER] GIS DATA ANALYSIS AND PUBLISHING

Ongoing

Our team has contributed hundreds of map layers and other data to NOAA's Pacific Northwest Environmental Response Management Application (ERMA). This resource will aid with rapid analysis in the event of natural disasters and also supports general scientific research by making GIS data publicly accessible.

SHORELINE HABITAT CLASSIFICATIONS

2014

Species and their habitats are a foundation of the ecosystem framework, but there are currently no generally agreed upon habitat classification systems for Puget Sound. We worked with Drs. Megan Dethier and Si Simenstad to update Dethier's 1990 resource *A Marine and Estuarine Habitat Classification System for Washington State*.

BROADER IMPACTS

STUDENT INTERNSHIPS AND EDUCATION

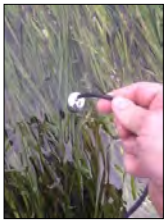
Ongoing

We provide academic and research opportunities for UW Tacoma and South Sound students through our summer internship program, student employment, curricular integration, on-campus lectures and access to renowned scientists.

CATALYST FOR ECONOMIC DEVELOPMENT

Ongoing

Our office location at the LEED Platinum Center for Urban Waters and resulting relationships with the Puget Sound Partnership and City of Tacoma Environmental Services provide collaboration opportunities and contribute to environmentally oriented economic development.



MULTIMEDIA

Ongoing

Scientists, educators and the general public often use media such as audio recordings from the Encyclopedia of Puget Sound. Our species recordings have appeared on national radio programs such as Birdnote and Living on Earth, and are even used as popular ringtones.

FROM PUGET SOUND TO EVEREST

2014-2015

The same techniques used by PSI to analyze water quality in Puget Sound are being applied at Everest base camp. Water samples were collected on the mountain and sent back to PSI researchers Andy James and Justin Miller-Schulze as part of a study on potential human impacts on drinking water. New techniques can identify chemical tracers known as CECs that indicate human sources.

MEDIA COVERAGE

Our work has been featured in many national and local media outlets.

The Seattle Times · THE NEWS TRIBUNE · living on earth® · Crosscut.com News of the Great Nearby · KUOW 94.9 kuow.org · Kitsap Sun · Outside · KPLU 88.5 · theguardian · AP Associated Press · The New York Times