PUGET SOUND INSTITUTE
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SCIENTIFIC RESEARCH PRIORITIES FOR REDUCING FECAL POLLUTION IN PUGET SOUND

The Shellfish Beds Implementation Strategy led by the Washington State Department of Health (DOH) is a plan to restore and protect shellfish growing areas in Puget Sound through reducing pathogen pollution, specifically fecal pollution, with the goal of increasing harvestable acreage (the Puget Sound Shellfish Beds Vital Sign).

Photo: Clara Hard

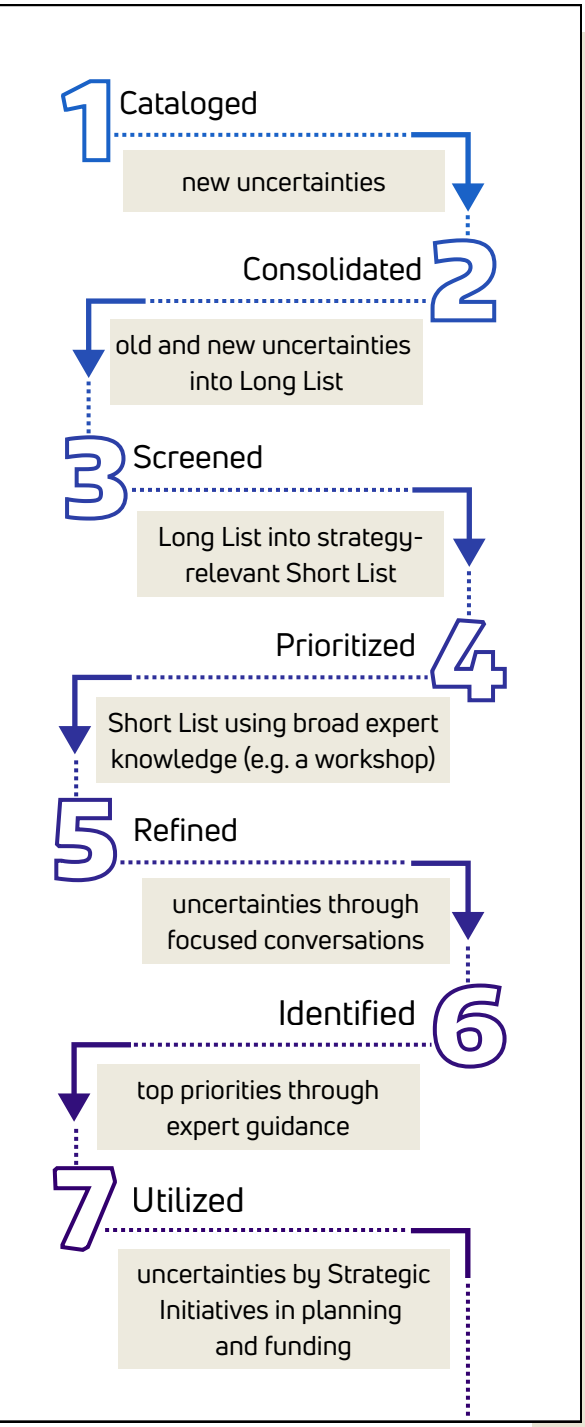
TOP 3 FECAL POLLUTION RESEARCH PRIORITIES

During the prioritization process detailed in the Shellfish Research Agenda Memo, three research topics on fecal pollution were identified by experts as most important for the region:

- Where can aging Onsite Sewage Systems (OSS) that cannot be repaired or reinstalled be replaced with alternative septic systems (Large OSS or wastewater treatment plants)?
- What elements of agriculture incentives from different counties are most effective at reducing fecal bacteria contamination? and what additional barriers could be addressed through incentives?
- What's the range of potential costs to a) property owners and b) the government to relocate septic systems at risk from sea level rise vs. inaction?

How do priorities connect to management?

Coastal OSS failures are a leading cause of shellfish bed closures. County and state regulators now must determine the best approaches to repair, replace, or relocate these systems.



Process Diagram, describing the methodology used to determine top research priorities

PROCESS

The University of Washington Puget Sound Institute (PSI) provided support to DOH during the 2015 development of the Shellfish Beds Implementation Strategy, helping to curate a research agenda that identified barriers to reducing pathogen pollution. DOH reviewed the research agenda in 2021 in preparation for a 2023 update to the Implementation Strategy. In 2024, PSI embarked on a full update to the research agenda, in collaboration with DOH and topical experts specializing in Pollution Identification and Correction programs, Onsite Sewage System management, and manure management.

PSI worked with experts to prioritize, refine, and identify scientific uncertainties that were most critical for improving management and planning activities in Puget Sound (see process diagram and the Shellfish Research Agenda Memo). These uncertainties formed the Shellfish Beds research agenda.

Research to address critical uncertainties will support planning and activities to reduce fecal pollution in Puget Sound and increase shellfish bed acreage. The full list of uncertainties is documented in PSI's Grand Uncertainties Matrix, a database of research priorities for Puget Sound recovery as part of the National Estuary Program and Puget Sound Geographic Program.

LEARN MORE

Learn more about PSI's work to identify priority research questions for Puget Sound at our Research Agenda webpage. Researchers and funders are encouraged to pursue projects that will contribute new information related to these shellfish research priorities; this research agenda aims to mobilize and coordinate regional research activity to resolve knowledge gaps. Please contact Raye Evrard at rayeo@uw.edu with any questions about the research agenda, its management context, or its development.

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