


A COALITION FOR WORKING RIVERS

# PACIFIC SEDIMENT ACTION COALITION

**Recovering trapped sediment. Restoring downstream habitat. Building practical pathways for beneficial reuse.**

Pacific Sediment Action Coalition advances collaborative, science-based sediment management in the Pacific Northwest and beyond.

WHY SEDIMENT MATTERS

# DAMS HOLD BACK MORE THAN WATER

Reservoirs interrupt the movement of gravel, sand, silt, organic material, and nutrients through a watershed. Material accumulates upstream while many downstream reaches lose the sediment needed to build spawning beds, bars, banks, floodplains, and productive habitat.

### UPSTREAM

Storage and capacity

### DOWNSTREAM

Gravel and habitat

### COMMUNITIES

Cost and resilience

## ONE MATERIAL. CONNECTED CONSEQUENCES.

- **RESERVOIR FUNCTION**

  Accumulation can reduce storage and complicate long-term operations, maintenance, and water management.

- **RIVER HABITAT**

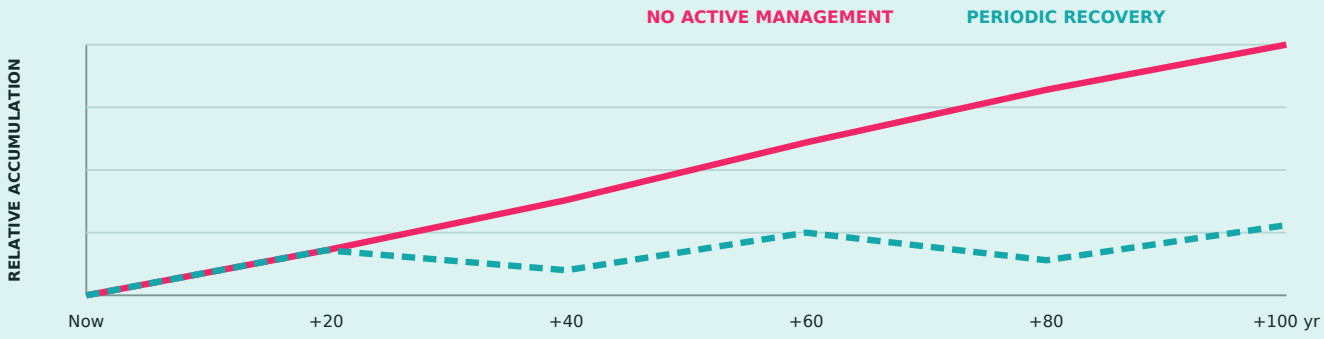
  Sediment-starved channels may lose gravel and structural complexity important to salmon and other aquatic life.

- **PUBLIC COST**

  Disposal-only thinking can miss opportunities to return suitable material to watersheds, shorelines, soils, and restoration projects.

### SEDIMENT ACCUMULATION OVER TIME

ILLUSTRATIVE CONCEPT - SITE CONDITIONS VARY




## THE OPPORTUNITY

Treat appropriate sediment as a managed resource - tested, matched, transported, and placed where it can create measurable public and ecological value.

OUR APPROACH

# FROM ACCUMULATION TO RESTORATION

PSAC brings engineering, watershed science, field demonstration, and local knowledge into one practical project pathway.

1

**01 CHARACTERIZE**

Map deposits and test physical, chemical, and biological suitability.

2

**02 RECOVER**

Select methods suited to site conditions, scale, access, and ecological risk.

3

**03 TRANSPORT**

Move sediment through pipelines, barges, trucks, bypass systems, or other appropriate means.

4

**04 PLACE + MONITOR**

Match material to habitat, floodplain, shoreline, soil, or land-restoration needs; measure outcomes.

## BENEFICIAL USE, GUIDED BY SUITABILITY

**RIVER RESTORATION**

Spawning gravel, channel complexity, banks, bars, and floodplains.

**LAND + SOIL RESTORATION**

Appropriate fine material considered for soil rebuilding and agricultural applications after testing.

**RESERVOIR STEWARDSHIP**

Strategies that protect useful storage and reduce future sediment liabilities.

**RESEARCH + DEMONSTRATION**

Pilot projects designed to answer technical, regulatory, ecological, and economic questions.

## TECHNOLOGY SPOTLIGHT SLURRY PULSEJET ENGINE

Mazdak International is developing an immersible pulsejet engine for reservoir sediment removal and methane capture. The company describes custom-designed, laboratory-tested units intended for depths exceeding 60 m (200 ft). The invention is covered by U.S. Patent 11,634,884 B1.

**mazdak.international/slurry-piston-turbo-dredger/**

BUILD THE FIRST DEMONSTRATION

# PARTNERSHIPS TURN IDEAS INTO FIELD EVIDENCE

PSAC is seeking collaborators who can identify a suitable site, define the sediment and habitat need, navigate permitting, assemble funding, and measure results.



MAZDAK SLURRY AND SEDIMENTS RESEARCH LAB

## WHO WE WANT AT THE TABLE

- **Tribes and First Nations**
- **Watershed and salmon organizations**
- **Public agencies and grantmakers**
- **Reservoir owners and operators**
- **Engineers, scientists, and universities**
- **Farmers and land-restoration partners**

## OUR MISSION

Pacific Sediment Action Coalition advances practical solutions for recovering and beneficially reusing sediment trapped in reservoirs and waterways. Our mission is to restore sediment and gravel to downstream ecosystems, improve salmon and aquatic habitat, extend reservoir life, and explore the beneficial use of suitable sediments for agriculture and land restoration. Through research, field demonstration, and collaboration, we work to transform accumulated sediment from a costly management problem into a valuable ecological resource.

## LET'S DEVELOP A PILOT PROJECT

**Alex Fahad | Pacific Sediment Action Coalition**

(360) 224-2154 | alexfahad@splitvane.com

Selected grounding: NOAA Fisheries, Washington dam-removal habitat account (2025); U.S. Army Corps of Engineers, Beneficial Use of Dredged Material; U.S. EPA, Evaluating Environmental Effects of Dredged Material Management Alternatives. Project-specific use requires sediment testing, permitting, and consultation.