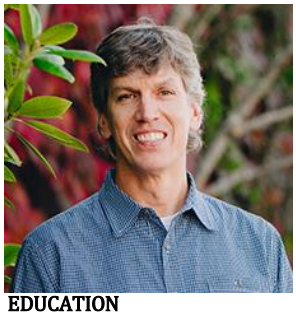
Paul Schlenger

Senior Fisheries Biologist



EDUCATION

M.S., Fisheries, University of Washington

B.A., Environmental Sciences, University of Virginia

22 YEARS OF EXPERIENCE

CERTIFICATIONS
Certified Fisheries Professional, American Fisheries Society, No 3470, 2003-present

Forage Fish Biologist, WDFW, 2001

Eelgrass and Macroalgae Surveyor, WDFW, 2000

Open-Water 1 SCUBA, NAUI, 1991

Lightweight Commercial Surface-Supplied Air Diver, NAUI, 2002

TRAINING
Theory and Application of IFIM and PHABSIM Modeling, Utah State University, 2000

PROFESSIONAL AFFILIATIONS
American Fisheries Society, 1999-present

EXPERTISE
Fish Ecology
Marine Biology
Habitat Restoration

Paul is a senior fisheries biologist with 22 years of experience who specializes in salmon biology, aquatic ecology, habitat assessment, and habitat restoration planning and design. He has extensive experience working in marine nearshore and estuarine environments, as well as in large and small rivers and lakes. Paul has a strong background in ecological assessment, and much of his work has focused on characterizing the ecological benefits of proposed restoration projects. This work has been conducted at the site scale to inform the development and evaluation of restoration alternatives, as well as at broader spatial scales to prioritize potential restoration and protection projects based on their ecological benefits. Paul has served as lead ecologist for numerous projects in river, floodplain, and coastal shoreline settings.

Relevant Experience

Meadowdale Beach County Park Estuary Restoration, Snohomish County, WA. *Lead Ecologist.* As part of a multidisciplinary team, Paul provided ecological input to the development and evaluation of restoration alternatives, as well as the design of the selected alternative. The selected alternative was the maximum restoration alternative. The design entails replacing an undersized culvert with a 120-foot wide bridge through the BNSF railroad embankment to restore the estuary of Lunds Gulch Creek. Paul also led the ecological assessment of existing conditions of Lunds Gulch Creek in Meadowdale Beach County Park. He participated in stakeholder and public meetings to garner input and support for the project. Paul supported the County's efforts to secure grant funding by preparing text for the applications and participating in the site visits.

Prioritization of Coastal Streams and Embayments Impacted by Railroad, Washington Department of Fish and Wildlife (WDFW), Various Counties, WA. *Project Manager and Lead Ecologist.* Paul led the prioritization of more than 200 coastal streams and embayments along the eastern shore of Puget Sound which are impacted by the BNSF railroad. Paul developed an analysis framework to characterize the potential benefits of shoreline restoration to replace the culverts with structures properly sized for fish passage, as well as transport of water, sediment, and large wood. To help guide the analysis, Paul convened an advisory group that included representatives from BNSF, WDFW, Washington Department of Ecology, Tulalip Tribes, as well as local and salmon enhancement group representatives.

McSorley Creek Pocket Estuary Restoration Project at Saltwater State Park, King County, Des Moines, WA. *Lead Ecologist.* Paul is leading the nearshore and stream assessment for this multidisciplinary project that will reconstruct the lower reach of McSorley Creek, restore a pocket estuary, and reconnect sediment sources along approximately 1,000 feet of the Puget Sound shoreline. The project is located in Saltwater State Park and an overarching goal is to restore ecological processes and habitats in a sustainable manner that also continues to meet the landowner requirements for the area.

Edmonds Marsh Restoration and Willow Creek Daylighting, City of Edmonds, Edmonds, WA. *Lead Ecologist.* Paul led the ecological analysis of a feasibility study to restore the 28-acre saltmarsh complex. The restoration project would

entail daylighting and expanding the connection of a saltmarsh and freshwater wetland to the Puget Sound shoreline in order to restore the marsh's historic functions. The early feasibility study included identifying the best route of reconnection through the BNSF railroad right-of-way and assessing the projected fish passage benefits.

Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), U.S. Army Corps of Engineers (Corps), Puget Sound, WA. *Assistant Project Manager and Estuarine Ecologist.* Paul managed a diverse range of on-call technical services to the Corps while serving as the primary point of contact and technical lead on a series of task orders. He led the consultant team's effort to implement a Soundwide analysis of changes in shoreline and watershed conditions between current and historic (late 1800s) habitat conditions. Paul was also the lead author of the Strategic Needs Assessment Report, which analyzed ecological process degradation along the shorelines and deltas of the Puget Sound planning area.

Salmon Recovery Funding Board (SRFB) Review Panel, Recreation and Conservation Office, Olympia, WA. *Technical Review Panel Member*. Paul serves as a Review Panel member on the Washington State SRFB, which has an annual grant program for salmon-focused projects addressing restoration and conservation needs of watersheds around the state. Paul reviews applications to ensure they are technically-sound and comply with SRFB evaluation criteria.

Sound Friendly Parks, Washington State Parks and Recreation, multiple locations WA. *Lead Ecologist.* Paul supported this multi-disciplinary study at three Washington State Parks to identify ways to lessen the ecological impacts of parks while balancing the restoration concepts with recreational opportunities for park users. The team work with Park Rangers and stakeholders to identify constraints and opportunities related to habitat, stormwater management, and recreational uses. Paul provided ecological input to the development of site design alternatives incorporating elements of habitat restoration and stormwater management while also maintaining desired recreational uses. Conceptual designs included armor removal, stormwater upgrades including vegetated bioswales, lessened flooding from stream and tidal waters, and reduced energy demands.

Elliott Bay Seawall Replacement Project, City of Seattle, Seattle, WA. *Marine Ecologist.* Paul provided input to the design of habitat restoration elements that will be included in alternatives evaluated for the seawall replacement project. Habitat restoration along the highly developed shoreline is particularly challenging given the infrastructure (e.g., piers and roads) into which the habitat restoration elements must be incorporated. The design includes features focused on juvenile salmonid and forage fish migrations, as well as habitat for rockfish, Dungeness crab, and benthic invertebrates. To fill key data gaps, Paul developed and led biological investigations of habitat quality, submerged aquatic vegetation, and salmon movements along the shoreline.