



## IRENE SATO

### Senior Biologist



Irene has 21 years of experience in wetland and stream ecology, environmental regulatory compliance, and permitting. She has extensive knowledge of local, state, and federal regulations, including local critical area ordinances; U.S. Army Corps of Engineers (Corps) Section 404 and Section 10 regulations; Washington's State Environmental Policy Act (SEPA), Shoreline Management Act, Forest Practices Act, and Hydraulic Code; and the federal Endangered Species Act (ESA) and Clean Water Act. Irene analyzes potential impacts to natural resources from various land uses and construction methods to determine effects on fish and wildlife habitat, and prepares appropriate documentation (e.g., ESA biological assessments, no effect letters, SEPA checklists, and critical area reports) to meet local, state, and federal environmental regulations. Irene is trained in natural resource issues, native flora and fauna, and field biology methods, including wetland and stream delineation using Corps methodology, and rating and categorization using Washington State methodology. Irene is a solution-oriented project manager who is well-respected by regulators and agency staff for her ability to effectively communicate and negotiate regulatory requirements. Formerly a Snohomish County Senior Planner, Irene brings a unique perspective to development proposals, having reviewed and authorized projects in a regulatory capacity and facilitated them through the regulatory process as a project proponent.

### Representative Projects

**South Fork Wind Farm (SFWF) Environmental Impact Statement (EIS), Deepwater Wind South Fork, LLC, Outer Continental Shelf Offshore of Rhode Island and Massachusetts.** *Senior Biologist.* Co-authored the Benthic Habitat, Essential Fish Habitat (EFH), Invertebrates, and Finfish resource section of a National Environmental Policy Act EIS for a proposed Construction and Operations Plan for the SFWF. The proposed wind energy project would construct 15 wind turbines on Bureau of Ocean Energy Management land leased by Deepwater Wind. Identified species impacts that could be avoided or minimized through known design features or best management practices. The analysis describes existing benthic habitat, EFH, invertebrates, and finfish near the proposed project, as well as the direct, indirect, and cumulative effects of the project on these species, habitat, and their associated physical, chemical, and biological properties that are important to species survival.

**Permitting for Bridge Replacement Projects, Snohomish County Public Works, Snohomish County, WA.** *Senior Environmental Planner.* Coordinated the environmental compliance for multiple bridge replacements in Snohomish County. Conducted field studies to determine potential resource impacts, and prepared documentation to support ESA compliance, Corps permit application, Washington State Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA) submittal, and local critical areas compliance. Collaborated with the design team to develop projects with minimal adverse impacts to natural resources, while incorporating bridge abutment protection that also served as fish habitat elements. Worked with design engineers to put environmental permit conditions and

#### EDUCATION

B.S., Oceanography, University of Washington, 1991  
Certificate, Wetland Science and Management, University of Washington, Seattle, WA, 1998

#### CERTIFICATIONS

Certified Erosion and Sediment Control Lead (CESCL), #81606, Northwest Environmental Training Center, April 2019

#### EXPERTISE

Wetland / Freshwater Ecology  
Endangered Species Act Compliance  
State Environmental Policy Act (SEPA)  
Environmental Planning and Permitting  
Mitigation and Restoration Design  
Habitat Management Plans  
Watershed Analysis



requirements into the bid documents and special provisions. Provided guidance during construction for inwater work and work isolation.

**Critical Areas, Forest Practices, and Grading Administration, Snohomish County Planning and Development Services, Snohomish County, WA.** *Biologist / Planner.* Served as site reviewer, permit application, and environmental documentation reviewer. Reviewed critical area reports and mitigation plans, and prepared mitigation plans and Critical Area Site Plans for recording with the auditor's office. Also delineated wetlands for multiple development types, including grading, shoreline, single-family residential, forest practices, and flood zone development. Performed field visits in support of critical areas compliance, as well as additional land development regulations such as grading, drainage, and shoreline management compliance.

**Wetlands Monitoring, Washington State Department of Transportation (WSDOT), Statewide.** *Field Scientist.* Collected vegetation, wildlife, and water quality data on WSDOT wetland mitigation sites. Worked on a team that conducted survey of vegetation, birds, and benthic aquatic macro-invertebrates using formal monitoring protocols. Identified vegetation and macro-invertebrates in the lab with the use of technical identification keys and a microscope.

**State Route 530 Landslide, Snohomish County Public Works, Oso, WA.** *Senior Environmental Planner.* Provided environmental guidance during recovery work. Delineated streams and prepared documents for environmental permits for debris removal project. Coordinated with WDFW, WSDOT, and the Federal Emergency Management Agency. Provided environmental documents for permits to remove the berm that was constructed during recovery efforts and to restore the Whitehorse Trail (including the installation of two fish passage culverts). Managed consultant task order to provide fish removal and water quality monitoring for in-water work.

**5-Year General Hydraulic Project Approval, Snohomish County Public Works, Everett, WA.** *Senior Environmental Planner.* Worked with internal Snohomish County stakeholders to determine WDFW HPA needs and led the coordination with WDFW for a 5-year General HPA that covers maintenance activities. The effort required extensive discussions with WDFW and 5 affected tribes. Negotiated a Memorandum of Understanding between the County, WDFW, and the tribes. Completed this process a second time to renew the HPA.

**South Machias/Machias Cutoff Intersection Improvement, Snohomish County Public Works, Lake Stevens, WA.** *Biologist.* Responsible for delineating wetlands and streams and assessing project impacts to critical areas. Project involved replacing an undersized culvert with a large arch culvert to meet WDFW fish passage requirements. Worked with design engineers to minimize stream and wetland impacts. Worked with project engineers and WDFW to address comments from the tribes. Coordinated with the Corps to address comments. Prepared biological assessment for ESA consultation.

**Index-Galena Road Flood Damage Repair Projects, Snohomish County Public Works, Index, WA.** Index-Galena Road runs along the North Fork Skykomish River, north of the town of Skykomish. This road sustains frequent damage by the flooding North Fork Skykomish River. Wrote a batched biological assessment and obtained HPAs for 11 repairs from the 2006 event. Coordinated emergency work with environmental agencies during flooding to prevent or limit damage. Wrote a biological assessment for a project at MP 10.9 to install armoring in the road and build a rock embankment with roughened rounded rock barbs in the river. Managed the environmental consultant task order for fish removal along a 300-foot section of the Index-Galena Road and water quality monitoring to ensure construction activities did not result in an increase in turbidity downstream. Ensured that project complied with the terms and conditions of the National Marine Fisheries Service/U.S. Fish and Wildlife Service Biological Opinion.