

WST Training: Shoreline Master Program Review

January 29, 2009
(Amended November 25, 2009)

Technical Assistance Resources

A. Mapping Data: WDFW WSTs and PHS/GMA staff will provide technical assistance based on field knowledge and resource data of existing shoreline conditions, which is imperative to inform inventory and characterizations, environment designations and restoration priorities. Sources of data include:

1. Priority Habitats and Species (PHS) Data. WDFW's PHS Program is a recognized source of best available science, upheld by the courts.
 - a. The PHS list is a catalog of priority species and habitats identified by WDFW. The list includes state and federal status of species listed, distribution maps that identify where a priority species has been documented (or is likely to occur given the existence of habitat with which that species is primarily associated), and links to management recommendations. This data should be used to inform inventory and characterization and environment designations.
 - b. To indicate the known location of priority species, WDFW maintains GIS data that includes anadromous fish distribution throughout the state ("fish bits"). PHS also includes potential and documented forage fish habitat, kelp and eelgrass beds, wetlands, and other indicators of salmon habitat (<http://wdfw.wa.gov/hab/phspage.htm>). This data is compiled from biologist field notes and we strongly recommend local governments use our data to inform land use decisions. Coastal counties are due for an update in 2008 and Puget Sound counties in 2009. Updates will depend on staff resources. Local governments are encouraged to update PHS every 6 months.
2. SaSI. WDFW maintains the Salmonid Stock Inventory (SaSI), a compilation of data on all wild stocks and a scientific determination of each stock's status

as: healthy, depressed, critical, unknown, or extinct
(<http://wdfw.wa.gov/fish/sasi>).

3. Salmonscape. This mapping application for the Salmon and Steelhead Habitat Inventory and Assessment Program (SSHIAP) characterizes salmonid habitat conditions and distribution of salmonid stocks in Washington. Data is co-managed by WDFW and the NW Indian Fisheries Commission. Salmonscape includes Fish Bits and SaSI data as well as the Ecosystem Diagnosis and Treatment (EDT) model establishing restoration and protection priorities within a watershed (<http://wdfw.wa.gov/mapping/salmonscape/index.html>).
4. Puget Sound Salmon Recovery Plan. Watershed profiles include recommendations for restoration management and protection areas (<http://www.sharedsalmonstrategy.org/plan/toc.htm>). Consult with Lead Entity's for site-specific projects identified in 3-year work plans (<http://www.rco.wa.gov/srpb/leadentities.htm>).
5. Watershed Management Plans. Developed by WRIA planning units, these plans must include water quality and may include instream flows, water quality, storage and fish habitat needs. Plans are adopted by county council and then receive funds from Ecology for drafting and implementing a Detailed Implementation Plan (<http://www.ecy.wa.gov/pubs/0806002.pdf>).
6. Habitat Limiting Factors Analysis. These reports identify habitat factors limiting production of salmon in the state in waters shared by salmon, steelhead trout and bull trout (<http://www.scc.wa.gov/index.php/174-Salmon-Habitat-Limiting-Factors-Reports/View-category/Page-6.html>).
7. Habitat Work Schedule (HWS). HWS is a centralized web-based tool that helps LEs and others interested in salmon recovery map habitat restoration projects and track the progress of recovery plan implementation (<http://hws.ekosystem.us/>). Because the HWS System is centralized and web-based with public access, non-sensitive information is available for anyone to take a local, regional, or statewide view of salmon habitat projects in Washington State.
8. Department of Natural Resources FPARs. DNR water type maps have many errors especially in urban areas, but are often the only source of data for local government stream typing (<http://fortress.wa.gov/dnr/app1/Fpars/viewer.htm>). Wild Fish Conservancy has conducted field studies to verify stream typing in a handful of watersheds around the Puget Sound. Corrections have been

submitted to DNR. To learn which watersheds have received water typing corrections visit (<http://www.wildfishconservancy.org/>).

9. DNR Shorezone Inventory. This data covers all of Washington's saltwater shorelines, from the Canadian border to the mouth of the Columbia River. It describes the geomorphic and biological resources of the intertidal and nearshore habitats. Features such as eroding cliffs, sand and gravel beaches, sandflats and wetlands are some of geomorphic forms mapped. Visible macrobiotic, such as wetland grasses, intertidal algae, and subtidal vegetation such as eelgrass or kelp, are also mapped (http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nrsh_publications.aspx).
10. Ecology Coastal Zone Atlas. The Coastal Atlas includes aerial photographs of marine shorelines, habitat types, physical features, changes in land cover, etc. near Puget Sound, the outer coast, and the estuarine portion of the Columbia River (http://www.ecy.wa.gov/programs/sea/sma/atlas_home.html).
11. Ecology Shoreline Jurisdiction Data. The Department of Ecology maintains a list and GIS data of marine shorelines, lakes, and rivers and streams that meet SMA criteria. The list can be found on-line at: <http://www.ecy.wa.gov/services/gis/data/data.htm#license>. (Please note: The data includes adopted and suggested shoreline data. Suggested data is likely to qualify as "shorelines" and "shorelines of statewide significance" as defined in the SMA. See additional comments on this topic under Tab 3, SMP Elements)
12. Marine Bird Density Atlas. WDFW was given responsibility to design and implement monitoring plans for marine birds, waterfowl, and marine mammals under the Puget Sound Ambient Monitoring Program (PSAMP). Study design was contracted out and aerial surveys began the summer of 1992. Both summer and winter aerial surveys have now been conducted each year in some degree between 1992 and 2008. These surveys sampled the entire marine shoreline of greater Puget Sound by two strata, nearshore (< 20 meters [m]) and offshore (> 20 m). Data available at: <http://wdfw.wa.gov/mapping/psamp/>
13. PSERNP Change Analysis. The Puget Sound Nearshore Ecosystem Restoration Project has assembled a nearshore geodatabase to detect and describe changes between the past and the present in Puget Sound's deltas, estuaries, and beaches. The geodatabase uses consistent data across Puget Sound organized for analysis at multiple scales: sound-wide, sub-basins and drift cells/river deltas. Data available at:

http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=PSNERP&pagename=Change_Analysis

B. Management Recommendations: WDFW produces management recommendations supported by best available science. Management recommendations are most appropriate to inform protection standards, but may also inform shoreline analysis recommendations. Sources include:

1. The updated PHS list includes electronic links to PHS management recommendations and single-page recommendations, recovery plans, living with wildlife program, and NatureServe Species Reports for all priority species (<http://wdfw.wa.gov/hab/phsrecs.htm>). Management recommendations most commonly applied to SMP updates are:
 - a. Washington's Priority Habitats: Riparian (Knutson and Naef 1997), <http://wdfw.wa.gov/hab/ripxsum.htm>
 - b. Protecting Nearshore Habitat and Functions in Puget Sound: An Interim Guide (Envirovision et al. 2007), http://wdfw.wa.gov/hab/nearshore_guidelines/. This document has specific SMP update language.
2. Salmon Recovery: WSTs are probably most familiar with the numerous sources of scientific guidance to protect and recover salmon habitat. A sampling of agency recommendations include:
 - a. Aquatic Habitat Guidelines, <http://wdfw.wa.gov/hab/ahg/>, covering a number of topics related to shoreline protection and restoration.
 - b. Pacific Salmon and Wildlife – Ecological Contexts, Relationships, and Implications for Management. Special Edition Technical Report (Cederholm et al. 2000): <http://wdfw.wa.gov/hab/salmonwild/>
 - c. Forage Fish Management Recommendations (Bargmann 1998): <http://wdfw.wa.gov/fish/forage/manage/foragman.pdf>
 - d. Statewide Strategy to Recover Salmon (GSRO 1999): <http://www.governor.wa.gov/gсро/publications/strategy/default.asp>

- e. Adaptive Management of ESA-listed Salmon and Steelhead Recovery Guidance (NMFS 2007): http://www.nwr.noaa.gov/Salmon-Recovery-Planning/ESA-Recovery-Plans/upload/Adaptive_Mngmnt.pdf
- f. Examples of Regulatory Language for Nearshore and Marine Shoreline Protection (GeoEngineers 2005): http://scidiv.bcc.ctc.edu/gj/ups2005/regulatory_examples_final.pdf
- g. WDFW, Ecology, and DOT Alternative Mitigation Policy Guidance: <http://wdfw.wa.gov/hab/ahg/altmtgtn.pdf>
- h. Watershed Processes and Aquatic Resources: A Literature Review (May 2009): <http://wdfw.wa.gov/hab/phisrecs.htm>
- i. Land Use Planning for Salmon, Steelhead and Trout (Knight 2009): <http://wdfw.wa.gov/habitat/plannersguide/index.html>