Fish and Wildlife PLANNER

A Newsletter for Washington's Professional Planning Community

July 2012

IN THIS ISSUE:

New Guidance for Managing Puget Sound Shorelines

By Paul Cereghino, *National Oceanic and Atmospheric Administration*

A major challenge to managing and protecting coastal systems is that they're dynamic. The daily tidal flows, the episodic erosion of bluffs, and the drift of beaches all lead shorelines to meander, migrate, and erode. Many of the services these systems provide to fish and wildlife are dependent not only on shoreline condition but also the processes that sustain habitat conditions, including erosion and sediment transport. Small prey fish, such as sand lance, need beaches with certain sizes of sand and gravel, while salmon benefit from the wetlands that form behind barrier beaches at the mouths of creeks.

But as we have built along our coast we've stopped erosion, drained wetlands of water, brought in fill, and cleared forests to improve our view of Puget Sound. This has lead to the degradation of many coastal habitats that once supported robust fish and wildlife populations.

In some cases our development of landscapes has changed processes that contribute to the formation of habitat. For instance, we've changed the hydrology of watersheds, impounded many sources of beach sediment, and constricted the tides. These large scale changes are likely to affect our ability to protect and restore our shorelines into the future.

Tools for Puget Sound Shoreline Planning, Protection, and Recovery

To protect intact shoreline habitat and to restore what has been degraded, project planners need the tools to make informed decisions. To help guide planning for Puget Sound's shoreline environment, the Puget Sound Nearshore Ecosystem Restoration Project (PSNERP) recently published a synthesis along with a geodatabase with support from the NOAA Restoration Center.

The synthesis titled *Strategies for Nearshore Protection and Restoration in Puget Sound* is meant as a guide to help local and regional planners understand the condition of coastal ecosystems and to strategically select sites to manage and restore habitat functions. For instance, it points to sites where lost barrier beach lagoons could be restored to support shoreline recovery, but also where those same barriers may be at risk due to sediment starvation. It also offers guidance for setting project goals.

The publically accessible geodatabase is where you will find useful spatial shoreline data. With this data you can get a better handle on the value and feasibility of protecting or restoring shoreline sites throughout Puget Sound (Figure 1).

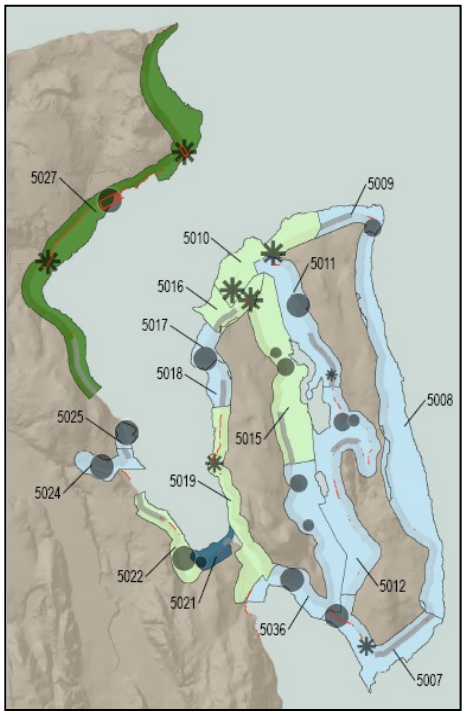

Figure 1. Barrier embayment assessment of drift cells near Port Townsend. Dots are existing embayments, while stars are lost embayments. The color indicates relative degradation, while tone (dark to light) shows relative historical potential of sites to provide services.

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Washington Department of FISH and WILDLIFE

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The geodatabase includes data on drift cells, shoreline stressors, historic and current shorelines, and wetlands. The data along with the synthesis describe more than 1,000 overlapping Puget Sound shoreline sites comprised of 744 beach drift cells (518 containing barrier embayments), 16 deltas, and 266 coastal inlets (Figure 2). With this data you can learn about the historic shorelines features of Puget Sound, locate large complex sites, and get a site-by-site estimate of ecosystem service degradation. In addition, we identified risks to successful restoration and protection as one of the data attributes. We also sorted shoreline sites so practitioners can more efficiently group sites with similar management requirements.

Figure 2. Images of representative sites.

Shoreline Sites: Puget Sound's Ecological Building Blocks

Both the synthesis and geodatabase look at each shoreline site as an ecological unit sustained by critical physical processes. By gaining a good understanding of the character and condition of these sites, you will be better prepared to develop a more robust nearshore conservation strategy. The synthesis and geodatabase were specifically designed to give users this level of understanding.

We ranked each shoreline site from the largest and most complex to the smallest and simplest. When planning a broad-scale protection or restoration effort, we recommend you first focus your resources on the larger, more complex sites where it's still possible to protect or restore critical ecosystem processes. The reason is that after a point, degradation of processes is difficult to reverse, and restoring ecosystem function where processes are degraded is less reliable. We believe an excess amount of process degradation at too many of these large and complex sites could 'make or break' ecosystem recovery for Puget Sound.

Project and Planning Assistance

The work of the Watershed characterization project described in another article in this issue of the *Fish and Wildlife Planner* article will compliment PSNERP's findings. Specifically, it will give users of the PSNERP tools a way of assessing the relative value of watersheds in Puget Sound for their fish and wildlife habitat.

Please contact Curtis Tanner with questions about PSNERP's ongoing work at 360.902.2815 or by email at curtis.tanner@dfw.wa.gov. For questions specifically about work described in this article, please contact Paul Cereghino at 360.902.2603 or by emailing him at paul.r.cereghino@noaa.gov.

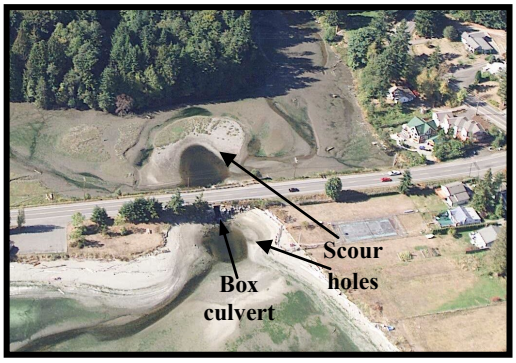
Carpenter Creek Estuary Runs Unrestricted Once Again!

On a cool overcast day last February, Carpenter Creek estuary began realigning estuarine channels that since 1959 were restricted by a small culvert. On that day, workers removed a narrow box culvert that restricted tidal flows. Over time abnormal flows lead to the formation of deep scour holes. In place of the culvert, a new fish-friendly concrete bridge spanning 90 feet allowed the tide to freely move for the first time in 50 years! It took 12 years of planning and work by many government, non-profit, and tribal entities to restore this estuary's natural tidal flow .

Arrow in bottom right inset points to Carpenter Creek estuary. On the air photo an arrow points to where the box culvert was removed to help restore the Carpenter Creek estuary.

"The culvert under South Kingston Road was one of the most important estuary recovery projects on the Kitsap Peninsula." said Chris Waldbillig, an Area Habitat Biologist for WDFW. He noted "the restricted flow increased sedimentation of the estuary and that freshwater wetland species were encroaching into the upper salt marsh." Waldbillig also pointed out that "the deep scour holes trapped juvenile salmonids at low tide making them easy prey…the fish also experienced high temperatures and low dissolved oxygen when trapped in the warmer months."

Three streams flow into the estuary, the largest being Carpenter Creek. Carpenter Creek supports coho and chum salmon, cutthroat trout, and other resident fish. Carpenter Creek is the last significantly functional estuary for migrating juvenile salmonids along the eastern Kitsap shoreline. The estuary is important in the early life history of many marine fish species. Great Blue Heron, eagles, Osprey, and shorebirds hunt within the estuary's rich mudflats, and the estuary serves as excellent migratory waterfowl wintering habitat.




At the top is an aerial photo showing the mouth of Carpenter Creek prior to restoration. At the bottom is the new bridge spanning across Carpenter Creek.

Estuary Restoration

The main project objectives were to:

- restore natural tidal hydrology.
- reclaim historical intertidal habitat.
- remove fish passage barriers.
- reduce problems of sediment scour and deposition.
- reduce habitat fragmentation of shoreline/upstream.

Please see **CARPENTER CREEK** on Page Four

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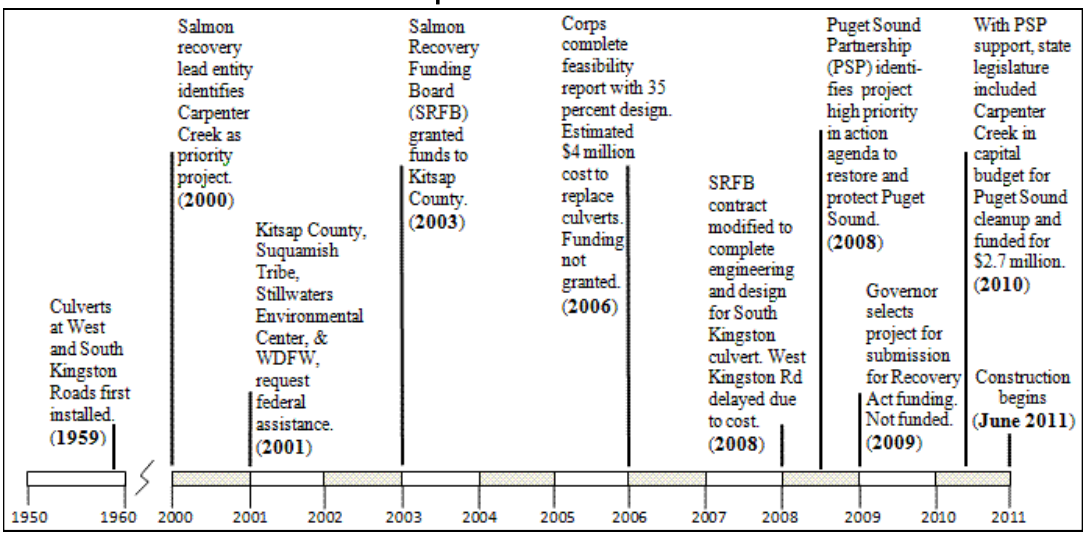
Through 12 years of planning and attempts to fund the project, staff and members of Stillwaters Environmental Center kept the project alive. They secured funding and equipment and began over eight years of monitoring the estuary's condition. They also were the primary voice of the community to state and federal legislators in support of restoration.

While constructing the bridge, workers installed a temporary traffic bypass. They built the new bridge from June 2011 through January 2012. Permitting required filling the deep scour holes to "kick start" estuary recovery. Kitsap County relied on WDFW, the Suquamish Tribe, and many Stillwaters Environmental volunteers to relocate fish from the scour hole.

Carpenter Creek Timeline



While contractors slowly pushed clean sand into the hole workers and volunteers seined for and relocated as many fish and crabs as possible. Hundreds of juvenile Dungeness Crab made up a large part of the catch. The catch also included chum and pink salmon fry, cutthroat trout, sculpin, gunnels, sand lance, surf smelt, as well as some relatively rare tidepool and slimy snailfish.

While the completion and success of the project has been a great testament to the teamwork between federal, state, tribal, and local governments as well as non-profits, equally important is the ongoing monitoring by Stillwater's dedicated citizen scientists.

Workers and volunteers seining scour hole for fish and other aquatic life.

A New Way to Assess Watershed Quality in Puget Sound

By George Wilhere, *Washington Department of Fish and Wildlife*

This summer the Washington Departments of Fish and Wildlife (WDFW) and Ecology (ECY) released a set of tools to help land use professionals identify important areas for protection and restoration. Developed as part of the Puget Sound Watershed Characterization Project (PSWCP), these tools offer a way to assess the condition of water and habitat resources across landscapes.

We developed these tools with information from other environmental assessments. The end product provides users with the relative value of landscapes throughout the Puget Sound drainage – from the Olympic Mountains to the Cascades, including the San Juan Islands.

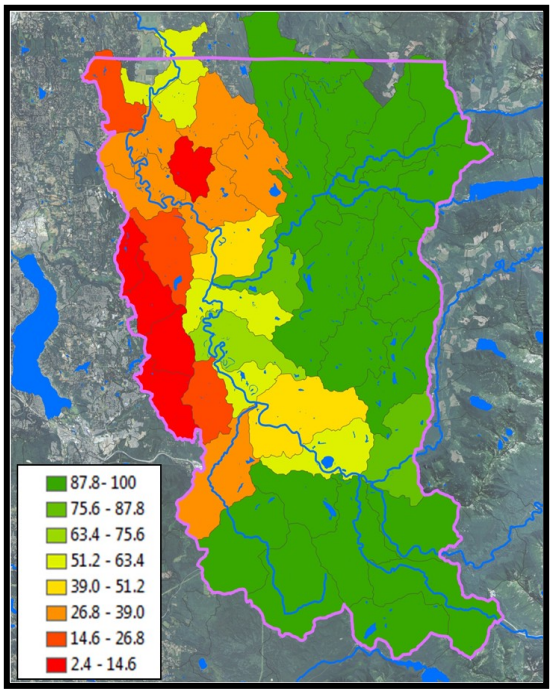


Figure 1. Relative value of terrestrial habitat in King County's Snoqualmie River drainage. Green watersheds have the highest relative value.

What is Watershed Characterization?

The Watershed Characterization Team developed these tools to help you evaluate key parameters within small watershed-sized assessment units. These tools can help you get a better understanding of the relative value of local watersheds by examining:

- water flow
- water quality
- fish and wildlife habitat

To measure water flow we evaluated surface water storage, recharge, and discharge. We characterized water quality by looking at sediments, nutrients, pathogens, and metals.

We looked at fish and wildlife habitat in three distinct environments to help users distinguish the relative value of a watershed for terrestrial, freshwater, and marine species.

To measure the relative value of the terrestrial environment, we assessed habitat fragmentation, land use, and vegetation within each watershed. We also incorporated a subset of the species data from WDFW's Priority Habitat and Species database. Figure 1 shows the terrestrial habitat results for King County.

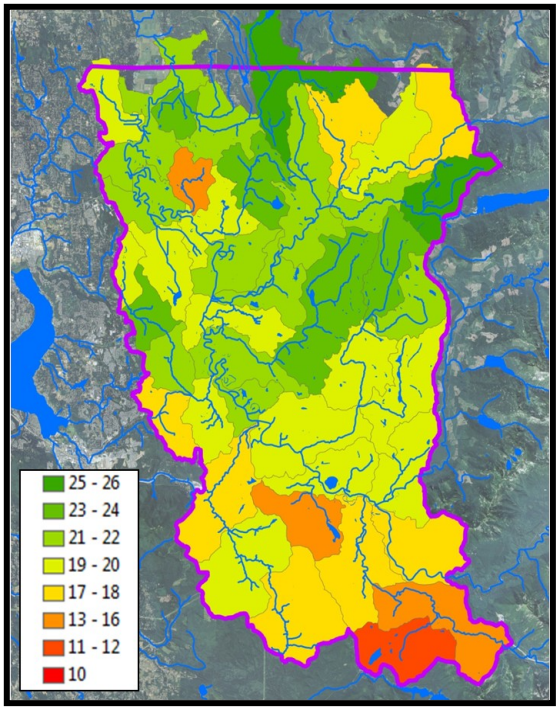


Figure 2. Results of freshwater habitat (flowing watercourses only) assessment for Snoqualmie River drainage in King County. Green watersheds have highest relative value.

To assess the relative value of the freshwater environment, we measured wetland and undeveloped floodplain habitat. We also looked at salmonid species numbers as well as amount and quality of salmonid habitat within and downstream of each watershed. Figure 2 shows the results of the freshwater analysis in King County.

In the marine habitat assessment, we measured the relative value of habitat by evaluating presence and abundance of key fish, wildlife, and plant species. We also incorporated data for groups of species such as waterfowl.

Please see **PUGET SOUND** on Page Six

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Guiding Local Land Use Planning

The tools can readily guide the work of local long-range planners. In particular, the small watershed scale of the units makes them particularly helpful for guiding comprehensive and sub-area planning or for updating shoreline master programs. These tools can also help to develop or implement a transfer of development rights or mitigation program.

The watershed characterization tools also can complement other sources of data. For example, connectivity data generated by the Washington Wildlife Habitat Connectivity Working Group can offer an enhanced perspective when used in combination with the PSWCP data. In the marine environment, data from Puget Sound Nearshore Ecosystem Restoration Project can be used along with watershed characterization data to gain a perspective on habitat-forming processes that contribute to the formation of habitat.

Accessing the Watershed Characterization Tools

The watershed characterization data can be accessed and downloaded as an ArcGIS geodatabase at http://www.ecy.wa.gov/services/gis/data/pugetsound/characterization.htm. A report describing the methods for the terrestrial and freshwater habitat assessments also is on this site. A detailed explanation of the water flow and water quality assessments is available at http://www.ecy.wa.gov/puget_sound/characterization/index.html.

A web-based tool is also under development. With this tool you will be able to display PSWCP data, run queries, and download results.

Getting Assistance with Local Projects

We will be forming a technical assistance team to help local planners use the watershed characterization tools in local land-use planning projects. Contact Colin Hume for assistance from the team at 425.649.7139 or by emailing him at colin.hume@ecy.wa.gov.

Conferences, workshops & training

- 2012 Washington Planners' Forums:

  Summer Forums

  - July 25 – Eastern Wash……...Moses Lake…… Email Contact: Dee Caputo

  Fall Forums

  - October 17 – Northwest Wash……..Bellingham…….Email Contact: Janet Rogerson
  - October 18 – Peninsula…….....Port Orchard ……..Email Contact: Ike Nwankwo
  - October 18 – Southwest Wash……..TBA…….... Email Contact: Ike Nwankwo
  - October 24 – Eastern Wash……...Moses Lake…… Email Contact: Dee Caputo

  Forums provide an opportunity for planners, planning commissioners and elected officials to discuss local issues, share ideas, and receive updates from state and federal agencies whose work may affect land use. The dates and locations are subject to change, so make sure to email the forum contact prior to attendance. The agenda for upcoming forums are posted online a few weeks prior to the scheduled dates.

- Shoreline Master Program Planners Coordination

  Ecology sponsors regular coordination meetings for towns, cities and counties conducting comprehensive Shoreline Master Program updates. Quarterly meetings are in Tumwater for Western Washington jurisdictions. Semi-annual meetings are in Moses Lake for Central and Eastern Washington jurisdictions. The meetings provide a forum to share information and experiences and to hear the latest news and state guidance. The next meeting will be held at the Comfort Inn Conference Center in Tumwater on July 26.

- Ecological Society of America's Annual Conference

  This year's annual ESA conference will be in Portland, Oregon, August 5-10, 2012.

- The 2012 Western Planner's Conference

  The Montana Association of Planners is hosting this conference in Billings, Montana, August 7-10. The focus will be on impacts associated with energy development, urban revitalization, transportation, as well as training.

- Pacific Northwest Climate Science Conference

  Save the date! The third annual climate science conference will include presentations and workshops to exchange information about emerging climate, climate impacts, and climate adaptation for the Pacific Northwest. The conference will be held at the Boise Center in Boise, Idaho, October 1-2.

- APA Washington Chapter's 2012 Conference

  Save the date! The theme of this year's annual conference is "Breaking Gridlock — Creating New Alliances." The conference will be held October 11-12, 2012 at the Red Lion Hotel in Olympia.

- The Wildlife Society's Annual Conference

  Save the date! The Wildlife Society 19th Annual Conference is taking place in Portland, Oregon, October 13-18, 2012. The conference will be held at the Oregon Convention Center. You will receive a discount if you register by August 3.

- Stream Restoration Symposium

  Save the date! The 12th annual Northwest Stream Restoration Symposium will be held February 5-7, 2013 at Skamania Lodge in Stevenson, Washington. This Symposium focuses on stream restoration ques tions of concern to project planners, designers, engineers, biologists, regulators, land managers, landown ers, and community stewards.

- WSU Extension Forest Stewardship Classes

  Throughout the year WSU Extension Puget Sound Forest Stewardship Program provides educational re sources and technical assistance to forest owners and managers in Snohomish, Skagit, King, and Island Counties.

More conferences, workshops & training

- **Coastal Management Courses**
  The Coastal Training Program (CTP) is a coordinated effort among several agencies to provide practical, science-based training to professionals about coastal management. CTP offers valuable courses for shoreline planners and resource managers. The upcoming course schedule is on CTP's website.

- **Short Courses/Planning Education**
  Free three-hour workshops explain the legal basis of planning in Washington, comprehensive planning and plan implementation, and the role of the planning commission. Co-sponsored by the Department of Commerce and the Planning Association of Washington (PAW), the course is presented by professional planners and attorneys and is open to all. Attendees receive handouts prepared by the presenters, and are referred to the on-line version of the Short Course Manual that accompanies the course. Twenty pre-scheduled regional courses are provided each year. Commerce and PAW also offer the short courses online at http://www.commerce.wa.gov/site/1380/default.aspx.

  Please see the Current Short Course Schedule for dates, times, locations, and registration information. For more information, visit the Short Course Web page or email Janet Rogerson.

Grant opportunities

- **Candidate Conservation Action Funds**
  Financial assistance is available to secure candidate and other at-risk species information or to undertake restoration actions to help avert a federal listing of a species. The application deadline is August 31.

- **North American Wetlands Conservation Act**
  The North American Wetlands Conservation Act provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects for the benefit of wetlands-associated wildlife. Both the standard and small grants programs require no less than a one-to-one match. Funds from U.S. Federal sources may contribute towards a project, but are not eligible as match. The small grant deadline is October 25.

- **Water Quality Financial Assistance**
  The Washington Department of Ecology manages three water quality grant and loan programs with one combined funding cycle, one application form and submittal period, and a combined funding offer list. Each year, Ecology's Water Quality Program accepts applications from cities, counties, tribes, conservation districts, and qualified non-profit organizations seeking financial help to improve or protect water quality. Applications are being accepted from September 1 to November 2, 2012.

- **River restoration grants**
  American Rivers, through its partnership with NOAA's Community-based Restoration Program, provides funding for dam removal or fish passage projects to individuals and organizations such as civic associations and conservation groups; state, local and tribal governments; and other commercial and non-profit organizations. The partnership funds projects that benefit anadromous fish and support the restoration of habitat for anadromous species. Questions about the grant and about upcoming funding cycles can be directed to Serena McClain at rivergrants@AmericanRivers.org.

- **Washington State Recreation and Conservation Office grants**
  The Recreation and Conservation Funding Board administers several grant programs for recreation and habitat conservation. Depending on the program, eligible project applicants include cities, towns, counties, and ports, Native American tribes, state agencies, and in some cases, federal agencies and non profit organizations.

- **Get your community involved in watershed restoration**
  The Bonneville Environmental Foundation (BEF) supports science-based watershed restoration initiatives that demonstrate strong community engagement and strive to implement a long-term restoration approach**.** Awards range from $5,000 to $40,000 annually for up to a 10-year period. BEF accepts letters of inquiry on an open basis, and there is no official cycle for the review and solicitation of proposed Model Watershed Projects. Any individual, organization, tribe, or local government in the Pacific Northwest may submit a letter of inquiry.

- **Columbia Basin Water Transaction Program**
  As a result of water withdrawals during the peak growing season, stretches of many streams and rivers run low — and sometimes dry — with significant consequences for salmon, steelhead, trout and other creatures. Using permanent acquisitions, leases, investments in efficiency and other incentive-based approaches, the CBWTP supports partners by assisting landowners who wish to restore flow.

  The CBWTP is managed by the National Fish and Wildlife Foundation working in partnership with the Bonneville Power Administration (BPA). The majority of funding is provided by BPA in cooperation with the Northwest Power and Conservation Council.

- Additional grant opportunities
  - The Washington Department of Fish and Wildlife list of grants.
  - The federal government's primary grant search engine is grants.gov.
  - Grant Programs to Local Governments from the U.S. Fish and Wildlife Service
  - The Washington Department of Commerce list of grants relevant to GMA planning.

WDFW Contacts for Fish and Wildlife Planning

GMA and SMA Technical Assistance Web Page

Regional Technical Assistance

Eastern Washington:

Karin Divens, 509.892-1001 x 323, (Asotin, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Spokane, Stevens,Walla Walla, Whitman); karin.divens@dfw.wa.gov

North-central Washington:

509.754.4624 (Chelan, Okanogan, Douglas, Grant, Adams)

South-central Washington:

Mark Teske, 509.962.3421, (Kittitas, Yakima, Benton, Franklin); mark.teske@dfw.wa.gov

Southwest Washington:

George Fornes, 360.906.6731, (Wahkiakum, Cowlitz, Lewis, Clark, Skamania, Klickitat); george.fornes@dfw.wa.gov

Puget Sound & Olympic Peninsula:

Theresa Nation, 360.902. 2562, (Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pacific, Pierce, San Juan,Skagit, Snohomish, Thurston, Whatcom); theresa.nation@dfw.wa.gov

Statewide Program Development

Policy and Technical Assistance Coordination:

Margen Carlson, 360.902.2229; margen.carlson@dfw.wa.gov

Priority Habitats & Species Publications:

Jeff Azerrad, 360.906.6754; jeffrey.azerrad@dfw.wa.gov

Local Habitat Assessment:

George Wilhere, 360.902.2369; george.wilhere@dfw.wa.gov

Priority Habitats and Species Data:

PHS on the Web:	http://www.wdfw.wa.gov/mapping/phs/
Data Request Hotline:	360.902.2543; phsproducts@dfw.wa.gov
Data Stewardship:	Terry Johnson, 360.902-2494; terry.johnson@dfw.wa.gov

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