

## A10. Protect and Restore the Native Diversity and Abundance of Puget Species

### The Challenge

The biodiversity of Puget Sound has provided valuable health, economic, and cultural benefits to humans, beginning with the earliest native residents. Many of these benefits are quantifiable in traditional terms, such as pounds of fish harvested or board-feet of timber produced. Other benefits, such as ecosystem services, are more difficult to quantify but are beginning to gain recognition through new and innovative metrics. The intrinsic value of biodiversity, such as its scenic beauty or contribution to quality of life, may never be fully measured but is nonetheless universally recognized as an important asset to protect. Protection and recovery of native species is an integral part of maintaining overall species diversity throughout Puget Sound. As a tidal estuary ecosystem, Puget Sound's terrestrial and freshwater species interact with marine species to form a complex and biologically rich food web which requires protection and responsible stewardship to maintain function and minimize disruption. Currently sixteen Puget Sound species are listed as federally threatened or endangered and sixteen additional species are on the state endangered and threatened species lists. Washington Department of Fish and Wildlife also lists eight species as sensitive; and approximately 35 Puget Sound marine fish and bird species are candidates for review and possible listing as State Endangered, Threatened, or Sensitive species.

One of many things that threaten biodiversity is the introduction of invasive plants and animals. It is significantly less expensive and more effective to prevent or rapidly respond to introductions of invasive species than to control and eradicate them once they have become established; however prevention and rapid response present many challenges especially in the context of the international shipping that occurs in Puget Sound. In recent years, a number of invasive species have taken hold in Puget Sound despite efforts to prevent them. These include such species as Japanese knotweed, *Spartina*, nutria, and New Zealand mud snails. Knotweeds are noxious weeds that spread quickly, particularly along rivers and streams, where they can out-compete native plants and destroy habitat for spawning fish. *Spartina* is a cord grass that severely disrupts the ecosystems of native saltwater estuaries. Nutria, large invasive rodents, threaten the health of marine and freshwater habitats. New Zealand mud snails are a highly invasive threat to freshwater and brackish water environments. They can dominate river and lakebed habitat by achieving densities of more than 100,000 per square meter.

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#### CLIMATE CHANGE

Climate change will have significant impacts on biodiversity including changes in habitat, what species are found in Puget Sound and where, species lifecycles, predator-prey interactions and timing. The state draft climate response strategy, *Preparing Washington for a Changing Climate*, recommends strategies to restore habitat connectivity to allow species and ecosystems to better withstand the impacts of climate change, as well as incorporating climate change assessments and adaptation into the management plans for protecting sensitive and vulnerable species and their habitats.

# Relationship to Recovery Targets

Protecting biodiversity, protecting and recovering native species, and preventing and rapidly responding to invasive species will support achievement of many of the recovery targets including those for southern resident killer whales, Chinook salmon, herring, eelgrass and upland birds.

## **A10.1 Implement species recovery plans in a coordinated way.**

Recovering at risk terrestrial and freshwater species is vital to restore the biological health and integrity of Puget Sound. Implementation of existing species recovery plans will be most effective if overlapping actions within these plans are identified and redundancies eliminated.

Existing terrestrial species recovery plans include:

- Fisher (<http://wdfw.wa.gov/publications/00228/wdfw00228.pdf>)
- Marbled Murrelet (<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B08C>)
- Northern Spotted Owl ([http://ecos.fws.gov/docs/recovery\\_plan/100915.pdf](http://ecos.fws.gov/docs/recovery_plan/100915.pdf))
- Western Gray Squirrel (<http://wdfw.wa.gov/publications/pub.php?id=00119>)
- Sandhill Crane (<http://wdfw.wa.gov/publications/pub.php?id=00396>)
- Streaked Horned Lark (<http://wdfw.wa.gov/publications/pub.php?id=00391>)

Existing freshwater species recovery plans include:

- Oregon Spotted Frog (<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=D02A>)
- Western Pond Turtle (<http://wdfw.wa.gov/publications/pub.php?id=00398>)

Each plan lays out a species-specific approach to ensure self-sustaining populations at appropriate levels of abundance. Recovery plans generally include an assessment of the stock status and an evaluation of the factors that contribute to declining populations and measures to mitigate them. These plans also recommend specific actions to protect species habitat needs, their food and forage requirements, and protection from human disturbance and harvest management. WDFW identified management recommendations for 101 species and five priority habitats. These can be found at [http://wdfw.wa.gov/conservation/phs/mgmt\\_recommendations/](http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/). Many of the actions to protect and restore habitat and to improve fresh and marine water quality and quantity described in other sections of the Action Agenda echo the types of actions called for in species recovery plans.

## **Ongoing Programs**

WDFW conserves and protects native fish and wildlife by:

1. Protecting Puget Sound species and habitats by regulating construction projects in or near water that may harm fish and their habitat, and enforcing environmental, fishing, and hunting laws
2. Identifying and implementing hatchery reform actions to reduce risks to native salmon and steelhead.

3. Ensuring fishery impacts on native fish are reduced to levels consistent with conservation goals.
4. Initiating new and enhancing existing partnerships with conservation and other organizations to help conserve Washington's fish and wildlife.
5. Completing and implementing the highest priority conservation actions.
6. Developing an integrated climate change response and adaptation strategy for species, habitats and ecosystems to maintain healthy and sustainable fish and wildlife populations and to prevent the loss of critical ecological functions.

Federal law requires states to develop comprehensive wildlife conservation strategies, known as Wildlife Action Plans (WAP), in order to receive federal funding through the Wildlife Conservation and Restoration Program and State Wildlife Grants program. The purpose of these strategies or plans is to conserve wildlife and vital natural areas before they become too rare and costly to protect. More information at <http://wdfw.wa.gov/conservation/cwcs/>

WDFW's Comprehensive Wildlife Conservation Strategy (CWCS) creates a framework to protect species and habitats in greatest need of conservation; moves from species management to an ecosystems-based management approach; and expands the emphasis on biodiversity conservation, at the statewide and eco-regional scales including the Puget Sound lowlands, the Cascade and Olympic eco-regions.

Through adaptive management, the strategy will do the following:

- Re-examine and redefine the relative priority of wildlife species and associated habitats
- Help coordinate land acquisitions among state and local agencies
- Improve coordination among federal and state agencies in conservation planning
- Complete habitat assessments at the local level
- Develop new and better databases and mapping products for local governments to use in Growth Management Planning
- Better integrate the management of marine and aquatic ecosystems with terrestrial ecosystems, both within WDFW and among state and federal agencies
- Incorporate management recommendations into operational work plans within WDFW and other conservation partners
- Incorporate specific conservation actions into WDFW's cost accounting systems to help develop and monitor project budgets and priorities

## Near-Term Actions

**A10.1 NTA 1: WDFW will complete a Fish and Wildlife Action Plan for Puget Sound by June 30, 2013. This action will carry out the agency's Comprehensive Wildlife Conservation Strategy in the Puget Trough, Cascades and Northwest Coast eco-regions to integrate terrestrial and aquatic species specific recovery plans, existing management tools, and interagency conservation plans into a unified ecosystem approach to set priorities, improve biodiversity protection and restoration efforts and better coordinate them.**

*Performance measure: A completed Fish and Wildlife Action Plan for Puget Trough by June 30, 2013.*

**A10.1 NTA 2:** Appropriate state agencies will prioritize implementation of restration projects identified within existing species recovery plans.

*Performance measure: to be determined.*

**A10.1 NTA 3:** WDFW will use an augmet existing species plans to create actional work plans for imperiled terrestrial and freshwater species without existing or specific plans.

*Performance measure: to be determined.*

## **A10.2 Create a more integrated planning approach to protect and enhance biodiversity in the Puget Sound basin.**

Multiple state and federal agencies, local governments, non-profit organizations, and tribes operate programs and create plans that either explicitly benefit biodiversity in Washington State or have the potential to impact biodiversity. An integrated approach to identify programmatic overlap and gaps is important for maximizing the impact of biodiversity work in Washington State, minimizing duplication of effort and maximizing coordination of resources and synergies across plan implementation.

Existing state biodiversity plans and/or programs and policies that benefit biodiversity include:

- Washington Biodiversity Conservation Strategy
- WDFW's Comprehensive Wildlife Conservation Strategy
- WDFW's Priority Habitat and Species
- The Washington Natural Heritage Plan (produced by the Washington Natural Heritage Program in DNR)
- DNR's Aquatic Lands Enhancement Account
- DNR's Aquatic Lands Habitat Conservation Plan
- DNR's Forest Practices Habitat Conservation Plan
- DNR's Natural Heritage Program for priority species and ecosystems
- Forest Practices Act (administered by DNR)
- Washington Wildlife and Recreation Program
- Washington Invasive Species Council's Invaders at the Gate Strategic Plan

The Washington Biodiversity Council (2004-2010) ([http://www.rco.wa.gov/biodiversity/about\\_the\\_council.shtml](http://www.rco.wa.gov/biodiversity/about_the_council.shtml)) created a comprehensive framework for securing Washington State's biodiversity, the Washington Biodiversity Conservation Strategy ([http://www.rco.wa.gov/doc\\_pages/other\\_pubs.shtml#biodiversity](http://www.rco.wa.gov/doc_pages/other_pubs.shtml#biodiversity)). The concepts and recommendations described in the strategy are instructive for crafting an integrated planning approach to biodiversity. In 2010, Governor Gregoire asked the Natural Resources Cabinet to absorb the Biodiversity Council's oversight role. The Council completed this transition in June 2011 by handing off ongoing projects to member agencies. Without a single point of contact for biodiversity policy work in the state, coordination and collaboration to carry out the biodiversity conservation strategy will remain a challenge.

## Ongoing Programs

**Priority Habitats and Species (PHS) Program:** The PHS program (<http://wdfw.wa.gov/conservation/phs/>) serves as the backbone of WDFW's proactive approach to the conservation of fish and wildlife. It is the ultimate resource and the principal means by which WDFW provides important fish, wildlife, and habitat information to local governments, state and federal agencies, private landowners and consultants, and tribal biologists for land use planning purposes. Using the best available science, PHS program identifies which common and at-risk species and habitat types are priorities for conservation, where these habitats and species are located, and what should be done to protect these resources when land use decisions are made. The program is supported by a [list](#) of priority habitats and species, [maps](#), [management recommendations](#) and [technical assistance staff](#).

The database may now be directly accessed at <http://wdfw.wa.gov/mapping/phs/>.

Landowner Assistance:

- WDFW Private Landowner Assistance: WDFW enrolls private landowners in a voluntary [private lands access program](#) and participants may request technical assistance from WDFW staff to help improve fish and wildlife habitat on their lands. Department staff may also be available to help landowners apply for or implement federal programs administered by the Farm Service Agency (FSA) or the Natural Resource Conservation Service (NRCS) (for example, Conservation Reserve Program (CRP) and Environmental Quality Incentives Program (EQIP)).

WDFW has developed guidance documents for the inventory, assessment, and prioritization of fish passage barriers and for the design of road culverts for fish passage. Additionally, biological and engineering assistance may be available from WDFW to help assess and review new and replacement fish passage structures.

- Incentive-based landowner conservation programs: WDNR provides financial and technical assistance to communities and forest stewardship assistance to non-industrial private landowners as well as technical assistance on leases of state-owned aquatic lands. (More information is available here: [http://www.landscape.org/washington/programs/wa\\_programs/watersheds/dnr/#cmz](http://www.landscape.org/washington/programs/wa_programs/watersheds/dnr/#cmz)). Financial and technical assistance includes:

- Helping rural landowners to remove or fix fish passage barriers.
- Compensating small forest landowners for not harvest timber along riparian corridors.
- Offering private landowners the option of donation or compensation to preserve timberlands on islands of timber within rivers or streams.
- Helping non-industrial private forest landowners manage their properties to improve timber production, forest health, wildlife and fish habitat, water quality, aesthetics, and fire safety.
- Supporting the Washington Register of Natural Areas to recognize voluntary participation to protect and conserve priority species or ecosystems, as identified in the Washington Natural Heritage Plan.

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**Biodiversity Scorecard:** Washington Biodiversity Council and University of Washington researchers collaborated to develop a draft scorecard model to track the status of the state's biodiversity, similar to PSP's dashboard indicators. The model considers the status of species and ecosystems, ecosystem processes, human activities, and ecosystem services. This project is now housed with the Washington Natural Heritage Program (at DNR).

**Conservation Opportunity Maps:** These maps assess the distribution of important species, plant communities, and ecological systems, and overlay that with human population trends. They provide high-level guidance on where to invest in biodiversity conservation activities in Washington.

- Washington DFW has developed a data viewer application for the maps using ArcGIS, which enables users to see the data underlying the maps.
- The Washington Natural Heritage Program is enhancing the map viewer on the [LandScope Washington](#) site to include these maps and data.

**Biodiversity Conservation Toolbox for Land Use Planners:** This toolbox aims to put biodiversity conservation information for Washington planners in one place. It is organized in six main categories to address the primary needs that planners identified: resources, guidance documents, case studies, policy language, data and maps, and training and conferences.

- The Washington Department of Commerce, Growth Management Services, now hosts this toolbox on its [Critical Areas and Best Available Science](#) page

**Biodiversity Project Web Site:** The Web site was created to provide a hub for biodiversity information in Washington State.

- [LandScope Washington](#), administered by the Washington Natural Heritage Program, now hosts the sections on stewardship and incentives, education, and Washington's ecoregions

**Aquatic Habitat Conservation Plan:** DNR's draft conservation plan includes management measures to minimize impacts on state owned lands from over water structures, log booming, and shellfish aquaculture and to meet the requirements of the federal Endangered Species Act. The plan is being finalized and implemented.

Forest Practices Habitat Conservation Plan: Carrying out DNR’s Forest Practices Habitat Conservation Plan (FPHCP) maintains and restores aquatic and riparian habitat in forests to meet the requirements of the federal Endangered Species Act, as well as those of the [federal Clean Water Act](#) (CWA) for species included in the plan.

WDFW and WDNR will integrate the Forest Practices Application and Hydraulics Project Approval permitting process to protect fish and other natural resources; as well as reduce paperwork burdens and uncertainty for applicants, and enhance compliance and effectiveness monitoring. To reduce reliance on the state General Fund, the agencies will assess fees for services to cover administrative costs.

### **Near-Term Actions**

None; work in the near-term will focus on implementation of ongoing programs.

### **Future Considerations**

Future considerations for this strategy include development of biodiversity markets, expansion of technical assistance to support local government efforts to plan and manage for biodiversity conservation, integrating the recommendations of the state climate response strategy into the specific plans for species and biodiversity, and implementing the Washington Biodiversity Council recommendations for a sustainable leadership strategy by identifying a single state agency or entity to coordinate Puget Sound biodiversity.