

# Implement and Maintain Freshwater and Upland Restoration Projects

## The Challenge

Protecting the remaining ecosystem functions is critical for recovery, but will not be enough to restore the health of the Puget Sound ecosystem. This strategy (and associated sub-strategies and NTAs) is a modification of Strategy B.1 from the 2008 Action Agenda, one that focuses only on freshwater and upland restoration projects, not protection efforts, and incorporates the latest scientific information from the April 2011 Puget Sound Science Update. It also incorporates more specific reference to a watershed-based management approach and the need to assure that restoration projects are designed to improve the resilience of the ecosystem so that ecological functions will both be restored and continue in the face of climate change impacts (e.g., observed or projected changes in temperature, precipitation, stream flow, water quality) and the increasing human footprint in the coming years.

## Relationship to Recovery Targets

The 2020 ecosystem recovery targets most closely associated with implementing and maintaining freshwater and upland restoration projects are land cover, insects in small streams, freshwater quality, and wild Chinook salmon.

## A6. Implement and maintain freshwater and upland restoration projects

This strategy and sub-strategies focus on the upland and riparian restoration needs, as well as stewardship needs related to restoration. Other restoration needs are specifically covered elsewhere in Priorities A, B and C. These include: Floodplain restoration (A.5), Nearshore Marine and estuary restoration (B.3), and working lands (A.3, B.4, C.7, C.8 and C.9). Numerous restoration efforts are underway in the region. It's important to focus on those that give the Puget Sound the big lift for recovery.

### Local Strategies

The Strait identified implementing Elwha River ecosystem recovery efforts and associated projects, along with other watershed implementation and conservation plans, as key to addressing this pressure.

Restoration projects need to be maintained and monitored over time to ensure that they are functioning as intended, and adapted where needed.

Innovative maintenance methods such as partnerships with conservation organizations and citizen volunteers should be considered.

### **A6.1 Implement and maintain priority freshwater restoration projects.**

While freshwater restoration projects cover rivers, streams, lakes, and wetlands, a major focus of the Action Agenda is the riparian restoration needed to reach the recovery target. These gains will come from implementation of existing high priority projects in the salmon recovery three-year work plans that are part of the NOAA-approved Chinook Recovery Plan, other adopted species recovery plans, flood hazard management plans, road decommissioning plans, Shoreline Master Programs, Growth Management Act programs, and local watershed assessments.

Local Implementing Organizations will need to look across these existing local plans to identify the highest priority projects in each area. When prioritizing river and stream projects for implementation local organizations should consider the hierarchical restoration strategy of Roni et al., (2002), including (1) habitat reconnection (e.g., culvert improvements, off-channel connections), where prior disconnection is among the problems; (2) road work (e.g., removal, improvement); (3) riparian vegetation restoration; (4) in-stream habitat restoration (e.g., wood and boulder placement); (5) nutrient enhancement; and (6) habitat creation (e.g., in-stream with wood and boulders, off-channel).

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## **SALMON RECOVERY**

**Habitat Restoration – A Salmon Recovery Priority:** Habitat Restoration is an important part of recovery and needs to be done in a way that targets priority areas for ecosystem functions. Restoration priorities for each watershed are called out in Volume II and then further fleshed out in each of the annual three-year work plans.

**How are these priorities integrated:** This section of the Action Agenda includes restoration of riparian habitat not covered by the floodplain section, fish passage and other upland actions. Habitat restoration related to estuaries and the nearshore are in Section B. The Action Agenda strategies incorporate the actions in the three-year work plans as part of what is needed to recover the Puget Sound. Additionally, specific restoration projects are part of priorities of the Local Integrating Organizations.

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### **Ongoing Programs**

Ongoing programs related to this strategy include programs that implement species recovery plans (including salmon recovery three-year work plans implemented by the 15 Lead Entities), flood hazard management plans, road decommissioning plans, fish passage barrier removal via the Forest and Fish Agreement and other requirements, Shoreline Master Programs, Growth Management Act programs, DNR Aquatic Landscape Prioritization, and watershed assessments.

Major funding sources include Pacific Salmon Recovery Funding from through NOAA, which provides funding for elements necessary to achieve overall salmon recovery, including habitat projects and other

activities that result in sustainable and measurable benefits for salmon and other fish species; and Puget Sound Acquisition and Restoration (PSAR), a state capital program, which implements many of the Action Agenda and Salmon Recovery Plan’s habitat restoration priorities. Other significant sources include the Estuary and Salmon Restoration Program (ESRP) and Family Forest Fish Passage Program.

## Near-Term Actions

Sound-wide near-term actions were not identified for the December 2011 Draft Updated Action Agenda. They will be identified by for the final update.

### **A6.1 LNTA 1:** Elwha River Ecosystem Recovery

- › Stock preservation and weir operation
- › Monitoring (adults, juveniles, smolts)
- › Habitat restoration projects

*Performance measure: Continuous weir operation and monitoring of salmonids (adults, juveniles, and smolts) on the Elwha River*

### **A6.1 LNTA 2:** Implement the Puget Sound Salmon Recovery Plans (Puget Sound Salmon Recovery Plan and Hood Canal/ Eastern Strait of Juan de Fuca Summer Chum Recovery Plan) through the tool of the 3-year Work Plans

- › North Olympic Peninsula Lead Entity (NOPLE) 3-year Work Plan
- › NOPLE Elwha revegetation project
- › NOPLE Dungeness River floodplain restoration, Phase II
- › NOPLE Elwha Engineered Log Jams
- › Hood Canal Coordinating Council (HCCC) LE 3-year Work Plan
- › HCCC LE Snow Creek and Salmon Creek estuary restoration

*Performance measure: Initiate or significantly advance all of the four specific Priority Actions identified by the Strait ERN for the Strait Action Area*

In addition, strategies and actions related to maintaining and improving in stream flows are described in A8.

### **A6.2** Implement and maintain priority terrestrial restoration projects

In addition to the freshwater areas, restoration of forestlands, wildlife corridors, and prairies are also an important part of ecosystem recovery.

## Near-Term Actions

No near-term actions were identified.

### **A6.3** Implement restoration actions in urban and suburban areas while balancing the need for these areas to accommodate growth, density and infill development.

Restoration in urban areas is also needed. Examples of work include replanting native vegetation, stream restoration, as well as those associated with retrofitting existing the stormwater infrastructure. Restoration actions in urban areas need to be considered in concert with the needs of these areas to accommodate anticipated growth.

### **Ongoing Programs**

Many cities, counties and organizations in urban and suburban areas have programs to encourage planting native vegetation and restore creeks and streams.

### **Near-Term Actions**

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

## **Local Action**

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The South Central area identified sustainable funding sources and authorities for watershed restoration and protection priorities as a high-priority action. They called for WRIAs and watershed groups to establish sustainable funding sources and for cross-WRIA discussion of funding need and potential funding mechanisms.

### **A6.4 Implement stewardship incentive programs to increase the ability of private landowners to undertake and maintain restoration projects.**

Private landowners should continue to be encouraged to undertake restoration projects. Existing programs need to continue, expand, and be coordinated to further and effectively encourage private landowners to undertake and maintain restoration projects. Incentives for industrial and commercial landowners may also be needed.

### **Ongoing Programs**

There are numerous landowner programs that include incentives and technical assistance. The Conservation Commission, Conservation Districts, DNR, Washington State University Extension, Washington Sea Grant, local governments, and non-governmental organizations offer programs. Examples include direct financial incentives (e.g., grants, subsidized loans, cost-shares); indirect financial incentives (property tax relief); technical assistance (referrals, trainings, design assistance), recognition/certification for products or operations, and conservation leasing.

### **Near-Term Actions**

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