

# Watershed Work Plans Related to Key Puget Sound Recovery Objectives

May 2006

## Purpose

*This document provides a summary of the content of the April 2006 Watershed Work Plans, and Shared Strategy staff recommendations. The summary and recommendations are intended to inform discussions of each of the objectives in greater detail.*

### Key Puget Sound Recovery Objectives

The following objectives were used to evaluate work plans, develop regional recommendations and develop investment scenarios.

1. Improve the level of certainty of protection for habitat, 22 Chinook populations and ESU diversity.
2. Restore ecosystem processes for Chinook and other species by preserving options and addressing threats in: estuaries, mainstem, upper watershed, freshwater tributaries and nearshore, water quality and quantity.
3. Develop and implement adaptive management and monitoring.
4. Advance integrated management of harvest, hatchery and habitat.
5. Continue to expand and

deepen individual and community support to implement a suite of prioritized programs and projects needed to get on a recovery trajectory.

6. Support non-listed salmon species.

### *Overall Findings from Work Programs*

The following Shared Strategy staff findings, based on the Puget Sound TRT and Work Group review process and analysis, are important to consider when determining what the best investment for salmon recovery is in the next three years.

- Many watersheds have improved the detail, focus and sequence for implementation actions since the June 2005 plan submittal.
- All 14 salmon recovery planning areas submitted work plans.
- Cost estimate ranges for proposed actions across Puget Sound remain wide -partly

because of varying local needs and partly because of local capacity to create detailed work plans in the timeframe that was allowed. For example, the range for education and outreach activities within the habitat protection objective is from \$19,000 in one watershed to \$1,400,000 in another.

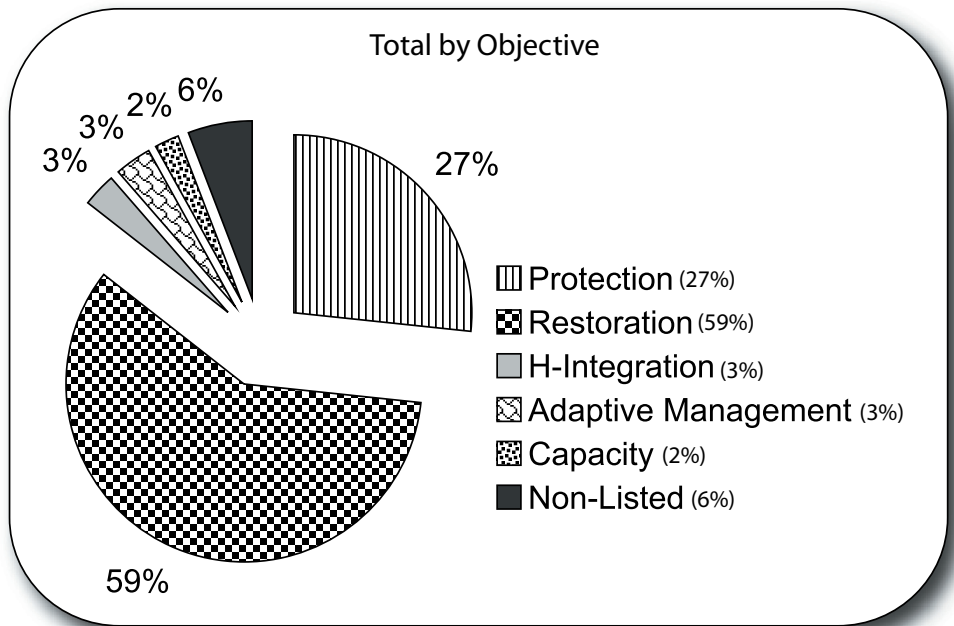
- The region's capacity (funding, political will, and infrastructure, including existing staff levels and the potential experience level of newly hired staff, to implement these work plans is a serious consideration when considering where to focus efforts and how to address gaps).
- The total amount requested by watersheds for actions identified in their work plans is \$426,652,099. Funding needs requested are provided as percentages of the total request and presented by key objective (*see Work Program pie chart below*).

## Work Programs and Regional Recommendations by Objective

Each objective is defined below and key activities listed. The activity detail within each objective is used to describe how funds within this objective are allocated. Watershed scale information is presented as the number of watersheds addressing each objective and the focus of the work plans by activity. Recommendations to address potential gaps in the work plans are presented in the building blocks section for consideration by the Recovery Council.

The number of watersheds that included actions in their work plans is summarized according to this key:

- 0 Watersheds = None
- 1-4 Watersheds = Few
- 5-9 Watersheds = Some
- 10-14 Watersheds = Many



### Work Program Roll-Up by Objective

The focus of the watershed work plans is characterized by activity within an objective as a percent of the total cost for each activity type within that objective.

Recommendations may contain suggested region-wide cost figures for consideration by the Recovery Council.

#### Investment Scenario Objectives

Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6
Protection	Restoration	Adaptive Management	H-Integration	Capacity	Non-listed Species

## Objective 1. Improve the level of certainty of protection for habitat, 22 Chinook populations and ESU diversity.

Improving the certainty of habitat protection is defined as activities which increase the level of confidence that the existing habitats and processes (chemical, physical and biological) that support salmon will continue to provide these key functions into the future. While the focus is on habitats and processes that support Chinook recovery, there is recognition of the importance of a landscape-process based approach that sequences actions based on Chinook priorities that

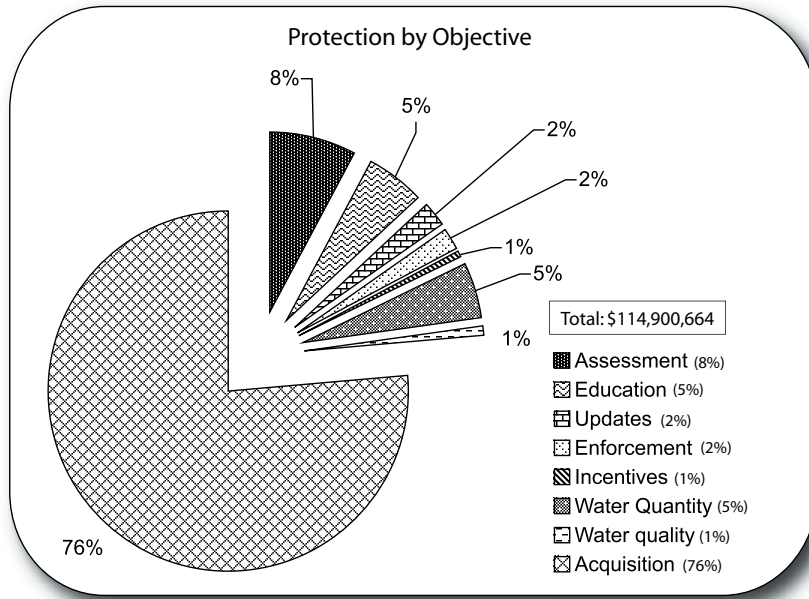
also provide benefits for other species.

### Activities

Key activities that support the habitat protection objective include:

- Assessments that inform protection efforts by addressing:
  - current habitat quantity and quality relative to the ecological functions that support salmon recovery

- current salmon use
- the results provided by the current suite of protection programs (education, incentive, regulatory, voluntary)
- Acquisition programs
- Updates of state, federal and local regulatory programs
- Enforcement
- Education and outreach
- Incentive programs
- Water quantity: setting of in-stream flows
- Water quality: protection of high water quality



*Protection Roll-Up*

### Number of Watersheds that Addressed Each Activity

Across Puget Sound relative to the actions above, watershed work plans included:

- Many (10-14) watersheds provided initial estimates for:
  - Assessments (primarily focused on current salmon use and habitat quantity and quality)
  - Education and outreach
  - Acquisition of land for intact habitat protection purposes
- Some (5-9) watersheds provided initial estimates for:
  - Updates of state, federal and local regulatory programs
  - Water quantity
- A few (1-4) watersheds provided initial estimates for:
  - Assessing the effectiveness of existing protection programs
  - Enforcement
  - Incentives
  - Water quality (primarily focused on temperature)

### Focus of the Work Plans by Activity

The total request in the work programs for protection is \$114,900,664 (see *Protection pie chart above for work plan estimates*).

### Regional Perspective Recommendations

Protection of existing function was a key uncertainty highlighted in the draft Puget Sound Salmon Recovery Plan (June 2005). Most of the work plans have advanced since that time to include more protection effort and focus. As a critical foundation for recovery, Shared Strategy staff recommends the Recovery Council consider the following additions to the watershed work program protection package.

- Assessments: Few work programs included actions to address the effectiveness of existing protection tools and programs. An additional

\$500,000 per watershed, for a total of \$7 million, should be added to enable each watershed to undertake an analysis of effectiveness using common protocols across the region. The \$500,000 estimate is based on the initial costing of the San Juan Protection Pilot which analyzes the assessment of protection programs including regulatory, voluntary, incentive and education.

- Education: A focus on education varied significantly across Puget Sound. Staff recommend considering an additional expenditure of \$3,200,000 for watersheds who did not include estimates for education and outreach and for those whose estimates for education were below \$400,000.
- Updates: Staff recommends an additional \$4,900,000 be considered to advance updates in the three-year timeframe. This is based on an estimated need of \$350,000 per watershed.
- Enforcement, Water Quality, Water Quantity: These three activities are significant gaps in the watershed work plans. Staff is unable to determine an appropriate cost estimate for each of these elements per watershed.
- Incentives: Only a few watersheds provided cost estimates for incentives. Given the importance of incentives a part of a watershed protection package, staff recommends Recovery Council support of the Fish Friendly Farm incentive package for 2,000,000.

## Objective 2. Restore ecosystem processes for Chinook and other species by preserving options and addressing threats in: estuaries, mainstem, upper watershed, freshwater tributaries and nearshore, water quality and quantity.

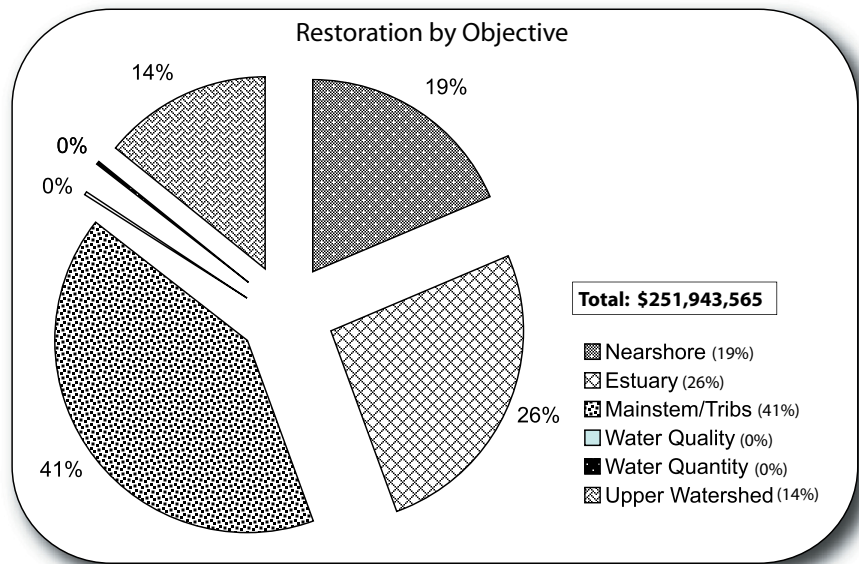
Restoration is defined as those activities in the nearshore, estuary, mainstem/tributaries, and headwaters that preserve options for future habitat restoration or restore the most immediate and potentially greatest threats to the populations. This objective also addresses water quantity and quality issues of most immediate or greatest threat.

### Activities

- Nearshore (includes independent Puget Sound drainages and pocket estuaries)
- Estuary (natal deltas for Chinook spawning populations)
- Mainstem and lowland tributaries
- Headwaters (including mainstem forks)
- Water quantity
- Water quality

Across Puget Sound relative to the actions above, watershed work plans included:

- Many watersheds provided initial estimates for:
  - Nearshore
  - Estuary
  - Mainstem and lowland tributaries
- Some watersheds provided initial estimates for:
  - Headwaters



Restoration Roll-Up

- A few watersheds provided initial estimates for:
  - Water quantity
  - Water quality
- It was not possible to distinguish projects that preserved future options.

Work programs reflect the magnitude of effort from the watershed work plans as follows:

- Nooksack accounts for 74% of the headwater work
- Snohomish, Puyallup/White and Skagit account for 61% of the mainstem restoration work

### Focus of the Work Plans by Activity

The total request in the work programs for restoration is \$251,943,565 (see Restoration pie chart above for work plan estimates).

### Regional Perspective Recommendations

Staff recommends the Recovery Council consider the following:

- In areas experiencing high development pressures, preserve future options by acquiring restoration sites and delay restoration projects when funding levels are too low to allow for both acquisition and restoration
- Determine where water quality and quantity are high priorities and develop work programs and costs to implement needed actions.
- Evaluate nearshore restoration efforts outside of natal deltas through the Nearshore Partnership process that is being established.

### Objective 3. Develop and implement adaptive management and monitoring.

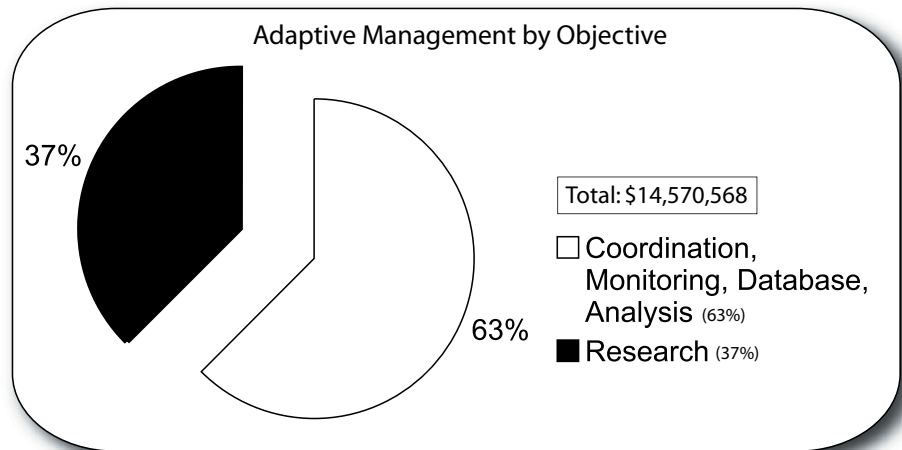
Adaptive management is defined as those activities that support local and regional decision-making processes in gaining and using new information to inform harvest, hatchery and habitat management decisions.

#### Activities

- Decision-making body coordination, communications and reporting
  - Local (note that this is included in the capacity objective)
  - Regional (note this only applies at the regional scale)
- Regional Monitoring Strategy (this only applies at the regional scale)
- Monitoring, analysis, and database management
- Research

Across Puget Sound relative to the actions above, watershed work plans reflect the following:

- Many watersheds provided initial estimates for monitoring, analysis, database management
- Some watersheds provided initial estimates for research



#### Adaptive Management Roll-Up

- Few watersheds provided estimates for coordination of decision-making bodies.

#### Focus of the Work Plans by Activity

The total request in the work programs for Adaptive Management is \$14,570,568 (see adaptive management pie chart above for work plan financial requests).

#### Regional Perspective Recommendations

Staff recommends additional support for adaptive management activities. The draft Recovery Plan still has a high degree of

uncertainty. To be successful it is necessary to learn more about the success of actions taken and change management actions as we proceed based on this new information. Staff recommends the following for consideration by the Recovery Council:

- Coordination and research: The current work program proposal suggests a level of funding for coordination and research that is about 3% of the total effort. The staff recommends a level of 5-10% of the total. At a minimum, this would increase funding being sought for adaptive management to \$20,500,000.

### Objective 4. Advance integrated management of harvest, hatchery and habitat.

H-integration is defined as a coordinated combination of actions among all the H-sectors—harvest, hatchery and habitat (inclusive of hydro)—that together work to achieve the goal of recovering self-sustaining, harvestable salmon runs. H-

Integration is understood to exist on a continuum from ensuring actions across the “Hs” don’t conflict with each other, to working in concert together in time and space. Work plans that included actions from all H-sectors are included in this objective.

Habitat actions are listed underneath other objectives.

#### Activities:

- Coordination among harvest, hatchery and habitat managers (includes both technical and process activities).

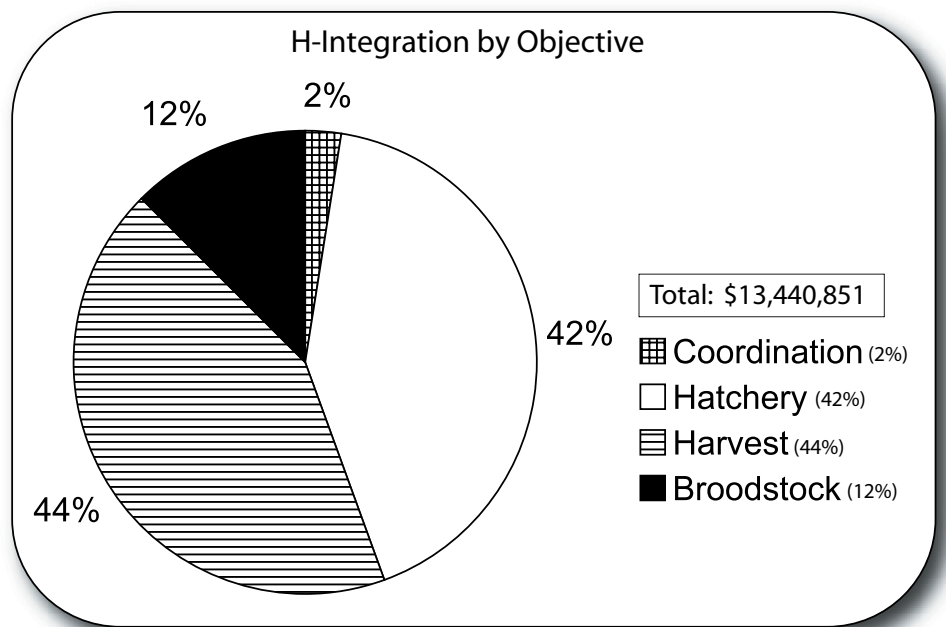
- Harvest and hatchery improvements necessary to ensure complementary actions consistent with recovery.
  - Stock monitoring
  - Enforcement
  - Harvest management negotiations
  - Hatchery capital improvements
  - Broodstock programs that support recovery.

Across Puget Sound relative to the actions above, watershed work plans included the following:

- Many watersheds provided initial estimates for:
  - Stock monitoring
- A few watersheds provided initial estimates for:
  - Harvest negotiations
  - Hatchery capital improvements
  - Enforcement
  - Coordination
  - Broodstock program support

Work plans reflect the magnitude of effort from the watersheds as follows:

- Stillaguamish and Nooksack account for 97% of the broodstock costs.
- 85% of the H-integration effort is directed predominately at stock monitoring to determine fish response to changes in harvest, hatchery and habitat management actions.



*H-Integration Roll-Up*

**Focus of the Work Plans by Activity**

The total request in the work programs for H-integration is \$13,440,000 (see H-Integration roll-up above).

**Regional Perspective Recommendations**

The Technical Recovery Team and Policy Work group suggest that advancing H-integration in this 3-year timeframe is a high priority for the region. Staff recommends the Recovery Council consider the following:

- Coordination: Few watersheds requested financial support for coordination and technical analysis and modeling to advance H-integration. Staff recommends consideration

of an additional \$5,600,000 to support H-integration at the watershed scale. This recommendation is based on a minimum of \$400,000 per watershed.

- Hatchery: Few watersheds included capital or programmatic work items for hatcheries. WDFW has offered to work with the co-managers to meet with the watershed groups to ensure that hatchery reform is consistent with salmon recovery efforts. Staff recommends the Recovery Council support this effort.

**Objective 5. Continue to expand and deepen individual and community support to implement a suite of prioritized programs and projects needed to get on a recovery trajectory.**

Capacity is defined as those activities that maintain and support increased ability at the local scale to perform protection and restoration activities.

Activities:

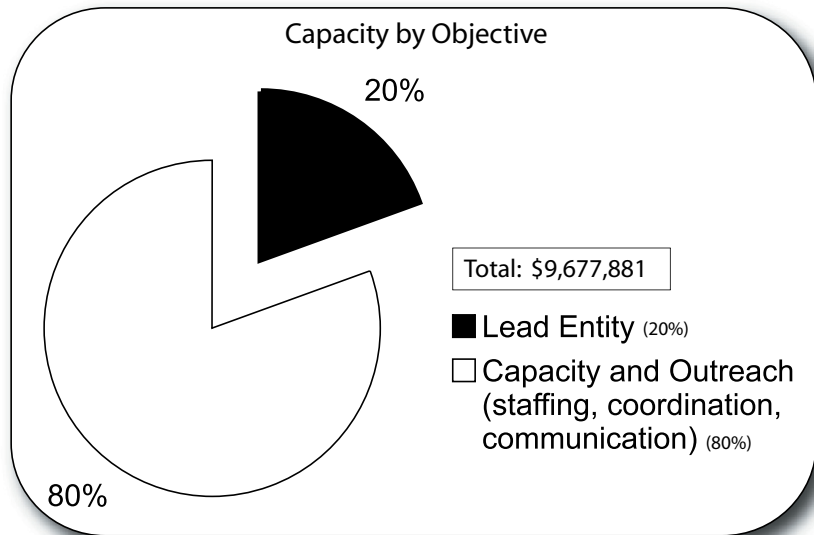
- Lead Entity functions
- Capacity and Outreach (staffing, coordination, communication, training)

Across Puget Sound relative to the actions above, watershed work plans estimates reflected the following:

- Many watersheds provided initial estimates for:
  - Monitoring, analysis, database management
- Some watersheds provided initial estimates for:
  - Lead Entity support

*Focus of the Work Plans by Activity*

The total request in the work programs for Capacity is \$9,677,881 (see Capacity roll-up above).



*Capacity Roll-Up*

*Regional Perspective Recommendations*

Local and regional capacity is a critical component of implementation. Staff recommends that the Recovery Council consider additional support for watershed capacity needs.

Capacity: The requests in the work programs represent about 2% of the total effort and the range within watersheds varies

from zero to \$1,200,000. Staff recommends an additional increase of \$300,000 per watershed, for a total amount of \$4,200,000. This estimate for capacity needs takes into consideration the support recommended for coordination and other activities within H-Integration, and adaptive management.

**Objective 6. Support non-listed salmon species.**

Activities that prevent future listings and generally support the health of bull trout and non-listed species.

Across Puget Sound relative to the actions above, some watershed work plans included:

- Initial estimates for non-listed species. It was not possible to distinguish support for non-Chinook specific projects in the Stillaguamish, San Juan, Green/Duwamish, Puyallup/White, Hood Canal, and Elwha-Dungeness.

The magnitude of effort from the watershed work plans that provided an estimates for non-listed species is as follows:

- South Sound Recovery Planning Group work plan accounts for 53% of the estimate

- Skagit, Snohomish, Lake Washington/Cedar/Sammamish, and Nisqually account for 29% of the estimate.
- Island, San Juan and east Kitsap account for 13% of the total estimate.
- Nooksack accounts for 5% of the estimate.

*Focus of the Work Plans by Activity*

The total request in the work programs for non-listed species is \$24,750,800.

*Regional Perspective Recommendations*

- Staff recommends that the Recovery Council consider supporting non-listed species at 6% of total available funds. This would support the current request for funds and retain the same proportion over time.

