

# Watershed Work Plans Related to Key Puget Sound Recovery Objectives

June 28, 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 stimulate discussion of each of the objectives in greater detail between now and July 27th, when members of the Salmon Recovery Council meet to determine what the best investments are for salmon recovery over the next three years. This summary provides recommendations for six objectives addressed in the watershed work programs. There may be immediate consensus around some or all of the recommendations. Knowing the areas of consensus will help refine recommendations for the state biennial budget and other funding sources. It is also possible that some of the recommendations will require clarification, further discussion, or refinement. Identifying concerns and jointly determining possible solutions will provide the kind of input which Recovery Council members will need as they approach their work next month.

## Key Puget Sound Recovery Objectives

The following objectives were used to develop and evaluate work plans, staff recommendations, and 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 bull trout and 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.

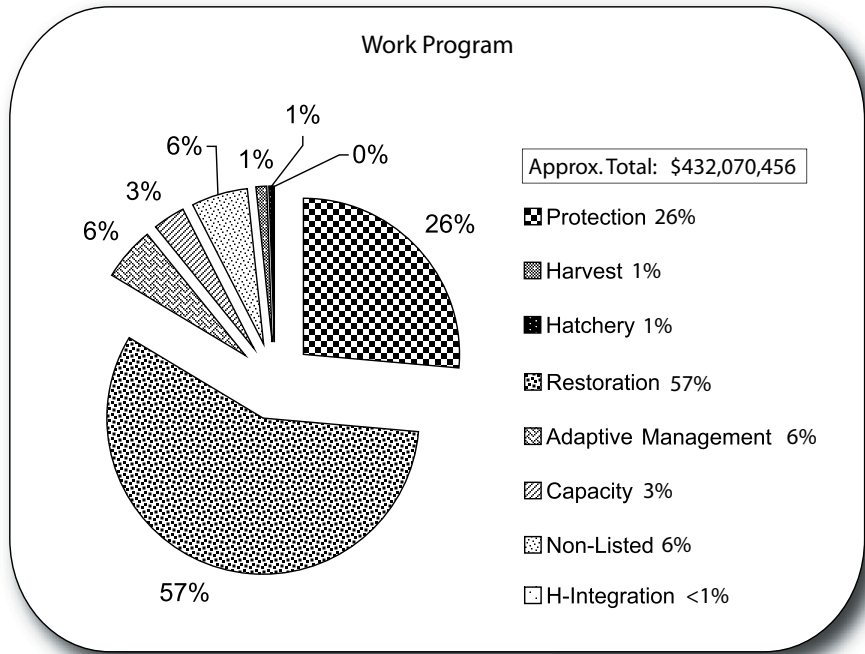
- Many watersheds have improved the detail, focus and sequence for implementation actions since the June 2005 plan submittal.

- 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 capacity objective is from \$125,000 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 an important consideration when deciding where to focus efforts and how to address gaps.

- The total amount requested by watersheds for actions identified in their work plans is approximately \$432 million. Funding needs requested are provided as percentages of the total request and presented by key objective (see *Work Program pie chart, right*).

### Work Programs and Regional Recommendations by Objective

Each objective is defined below and key activities are 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 under each objective for consideration by the Recovery Council.



Work Program Roll-Up

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

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.

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

Improving the level of certainty of protection for the 22 Chinook populations and ESU diversity requires efforts in habitat, hatchery, and harvest management. Each of these work elements is defined and activities that support its advancement are described below.

#### Habitat Protection

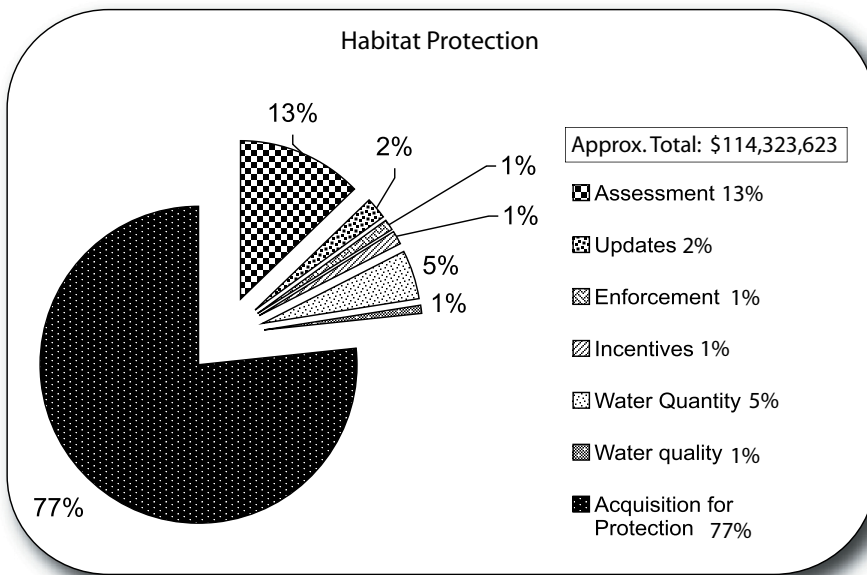
Improving the certainty of habitat protection is defined as activities which increase the

level of confidence that the existing habitats and processes (chemical, physical and biological) and harvest and hatchery management programs that support salmon will continue to provide key functions into the future. While the habitat focus rests primarily on habitats and processes that support recovery of Chinook, it is recognized that protecting ecological functions and processes also provides benefits for other species.

#### Activities for Habitat Protection

Key activities that support the habitat protection objective include:

- Assessments that inform habitat protection and restoration efforts by addressing:
  - current habitat quantity and quality relative to the ecological functions that support salmon recovery
  - current fish population (salmon and forage fish) use
  - Analysis and conclusions of the effectiveness of the



*Protection Roll-Up*

current suite of protection programs (education, incentive, regulatory, and voluntary)

- Acquisition programs focused on acquiring intact habitats for protection purposes.
- Updates of state, federal and local regulatory programs
- Enforcement
- Incentive programs
- Water quantity specific to the setting of in-stream flows
- Water quality efforts that result in maintaining continued protection of high water quality

*Number of Watersheds that Addressed Each Habitat Protection 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)

- Acquisition of land for intact habitat protection purposes (Note: Work programs did not always specify whether acquisition efforts were directed toward intact habitat for protection purposes as distinct from acquisition of habitat for restoration purposes. Staff used their best judgement to determine whether to include acquisition costs in protection or as a part of restoration).

- Some (5-9) watersheds provided initial estimates for:
  - Updates of state, federal and local regulatory programs
  - Water quantity
  - Enforcement
  - Incentives
  - Water quality (primarily focused on temperature)

*Focus of the Work Plans by Habitat Protection Activity*

The total request in the work programs for protection is

approximately \$115 million (see *Protection pie chart, left*).

*Harvest Management*

Improving the certainty of harvest management occurs through the implementation of the harvest management component of the Comprehensive Chinook Management plan and other activities identified by co-managers.

*Activities for Harvest Management*

Key activities that support harvest management that leads to protection of populations and the ESU:

- Harvest negotiations
- Enforcement of harvest regulations
- Implementation of the Comprehensive Chinook Management Plan: Harvest Management Component or other necessary harvest activities that lead to protection of Chinook populations

*Number of Watersheds that Addressed Each Harvest Protection Activity*

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

- A few (1-4) watersheds provided initial estimates for:
  - Harvest negotiations
  - Harvest program enforcement
  - Harvest Management Plan implementation and other activities

### *Focus of the Work Plans by Harvest Protection Activity*

The total request in the work programs for harvest activities is \$4.8 million.

### *Hatchery Management*

Improving the certainty of hatchery management occurs through the implementation of the Comprehensive Chinook Management Plan: Puget Sound Chinook Salmon Hatcheries, advancement of the Hatchery Reform Project recommendations, and protection of the populations through broodstock programs.

### *Activities for Hatchery Management*

Key activities that support hatchery management that leads to protection of populations and the ESU:

- Broodstock programs
- Hatchery Genetic Management Program, implementation of the Hatchery component of the Comprehensive Chinook Management Plan and Hatchery Reform Project recommendations

### *Number of Watersheds that Addressed Protection through Hatchery Management Actions*

- A few (1-4) watersheds provided initial estimates for:
  - Broodstock programs that support recovery
  - Hatchery program improvements

### *Focus of the Work Plans by Hatchery Protection Activity*

#### *Staff Perspective Recommendations*

The total request in the work programs for hatchery activities is \$2.4 million.

Protection of existing functions 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. The majority of work programs do not reflect current expenditures or the funds required to implement the suite of regulatory programs that protect habitat and fish populations. Nor do they include the complete set of costs to implement hatchery and harvest management actions that protect Chinook populations.

As a critical foundation for recovery, Shared Strategy staff recommends the Recovery Council consider the following additions to the watershed work program protection package.

#### *Habitat Protection*

- 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. Success of this program will require the involvement and participation of state and federal agencies, the tribes, and the environmental and business sectors.

- Enforcement of land use protection measures: This element is a significant gap in the watershed work plans. Staff is unable to determine an appropriate cost estimate for this element. Additional discussions at the watershed and regional scale are encourage to consider the extent to which enforcement measures might be enhanced to achieve more certainty in protection of existing functions.
- Acquisitions: More than three-quarters of the existing work program protection dollars are directed at acquisition of habitat for protection and restoration purposes. A key question for consideration is "How do we ensure we are spending dollars focused on acquisition wisely in this timeframe?"
- Updates: Staff recommends an additional \$4,900,000 be considered to advance Shoreline Management updates and other regulatory program advancements in the three-year timeframe. This is based on an estimated need of \$350,000 per watershed.
- Water Quality and Water Quantity: These two activities

are significant gaps in the watershed work plans and are expected to be advanced through the Puget Sound Partnership. Staff is unable to determine an appropriate cost estimate for 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 three years of funding at \$6,000,000. Staff recommends additional funding of \$2 million to support watershed incentive programs.

### *Hatchery and Harvest Management Protection Actions*

Few watersheds included capital or programmatic work

elements for hatchery and harvest management. The Tribes and WDFW as co-managers will meet with the watershed recovery groups to discuss harvest and hatchery management actions that protect Chinook within the context developed for H-Integration. Staff recommends continued Recovery Council support of these efforts.

Objective 2. Restore ecosystem processes for Chinook and other species by preserving options and addressing threats in: natal estuaries, mainstems, upper watersheds, 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.

### *Restoration Activities*

- Nearshore (includes independent Puget Sound drainages and pocket estuaries)
- Estuary (natal deltas for Chinook spawning populations)
- Mainstem, Mainstem forks and lowland tributaries
- Headwaters
- Water quantity specific to actions that define low flow problem areas, identify actions that resolve flow issues and cost out actions

- Water quality specific to management actions that correct temperature and other water quality issues
- Land acquisition for future restoration purposes

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

- Many (10-14) watersheds provided initial estimates for
  - Nearshore
  - Estuary
  - Mainstem and lowland tributaries
  - Headwaters
- A few (1-4) watersheds provided initial estimates for
  - Water quantity
  - Water quality

### *Focus of Work Plans by Activity*

The total request in the work programs for restoration is \$248 million (see *Restoration pie chart, next page, for work plan estimates*).

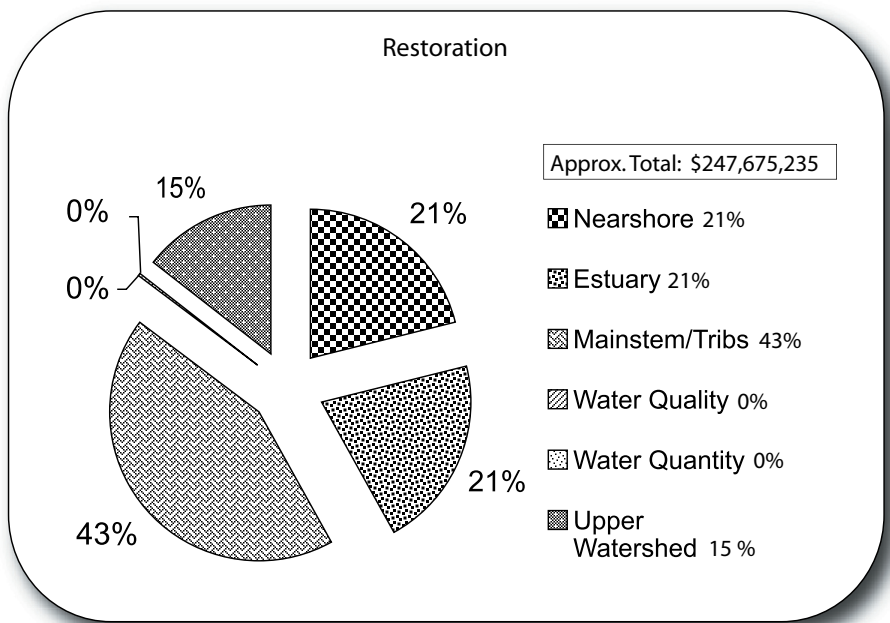
### *Staff Perspective Recommendations*

Staff recommends the Recovery Council consider the following:

- Use watershed priorities presented in recovery plans and three-year work programs and the TRT technical analysis (May 2006) for threat of near-term extinction and ecological integrity to aid in setting priorities for funding in estuaries, nearshore, mainstem, including mainstem tributaries, and headwaters.
- 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 will be completed by the end of the 2006.



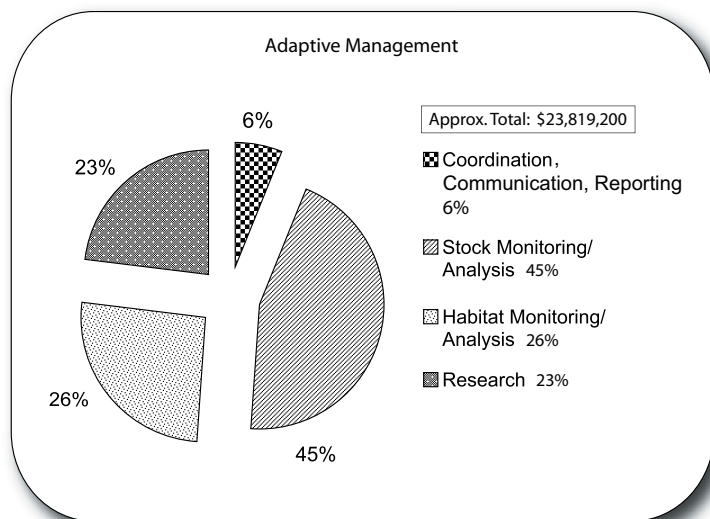
*Restoration Roll-Up*

### 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. Monitoring activities include those directed at validation and effectiveness monitoring and stock monitoring and analysis.

#### Activities

- Decision-making body coordination, communications and reporting specific to adaptive management
- Regional Monitoring Strategy (costs associated with this still need to be developed)
- Monitoring, Analysis, and Database Management (Note: Monitoring includes habitat and stock monitoring)



*Adaptive Management Roll-Up*

- Research activities that seek to answer specific scientific questions and are not directed at determining specific areas to protect or restore

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

- Many (10-14) watersheds provided initial estimates for:
  - Habitat and stock monitoring, analysis, and database management
  - Research
  - Coordination, communication and reporting

*Focus of the Work Plans by Activity*

The total request in the work programs for Adaptive Management is approximately \$24 million. (see *Adaptive Management pie chart above for work plan financial requests*).

*Staff Perspective Recommendations*

Staff recommends consideration of 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, monitoring, and research: The current work program proposal suggests a level of funding for adaptive management that is about 6% of the total watershed effort. The staff recommends a level of 5-10% of the overall recovery package to support watershed and regional adaptive management needs.

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.

*Activities*

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

*Focus of the Work Plans by Activity*

The total request in the work programs specific to the coordination of efforts related to H-Integration is \$400,000.

*Staff 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:

Few (1-4) watersheds requested financial support for coordination and technical analysis and modeling to advance H-integration. Staff recommends consideration of an additional \$5,200,000 to support H-integration at the watershed scale. This recommendation is based on a minimum of \$400,000 per watershed.

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.

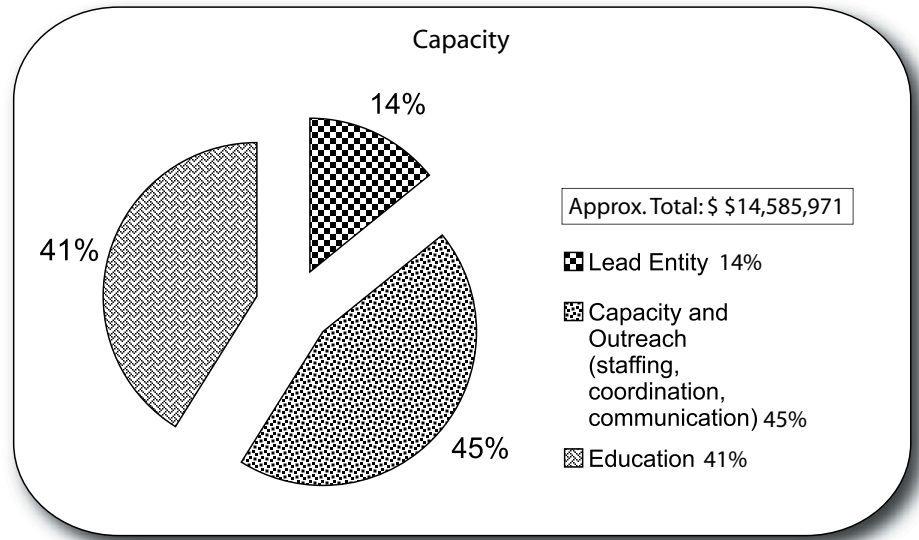
Individual and community support for the implementation of programmatic and project actions for salmon recovery are critical to success at the local and regional scale. Maintaining, expanding and deepening involvement and support requires staff capabilities and other resources to perform education and outreach, protection and restoration activities.

**Activities**

- Lead Entity functions
- Capacity and Outreach (staffing, coordination, communication, training)
- Education/Stewardship activities targeted toward increasing protection and public support for salmon recovery activities

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

- Many watersheds provided initial estimates for:
  - Lead Entity support
  - Capacity and outreach
  - Education/Stewardship



*Capacity Roll-Up*

**Focus of the Work Plans by Activity**

The total request in the work programs for supporting increased ability at the local scale to perform protection, education, and restoration activities is approximately 15 million.

**Staff 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 3% of the total effort and the range within watersheds varies from zero to \$1.5 million. Staff recommends an additional increase of \$150,000 per watershed, for a total additional amount of \$2,100,000.



## Objective 6. Support bull trout and 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, many (10-14) watershed work plans included:

- Initial estimates for non-listed species

It was not always possible to distinguish activities directed solely toward supporting bull

trout and non-listed salmon species. Areas that did not clearly distinguish these actions are: Stillaguamish, San Juan, Green/Duwamish, Puyallup/White, South Sound, Hood Canal, and Elwha-Dungeness.

### *Focus of the Work Plans by Activity*

The total request in the work programs for non-listed species is approximately \$25 million.

### *Staff 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.