State of
Washington

# An Outline for Salmon Recovery Plans

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Washington Department of FISH and WILDLIFE

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# FOREWORD

The salmon recovery planning environment is rapidly evolving. The roles and expectations of various players, and availability of scientific information and tools will also continue to evolve. The Outline for Salmon Recovery Plans attempts to capture state expectations for recovery plans as of today (Fall 2003); however, it is acknowledged that not all planning groups will be able to meet all those expectations in their initial planning cycle.

Clearly, it will take a number of iterations, or "planning cycles," before recovery plans are as comprehensive as the Outline for Salmon Recovery Plans suggests. Bob Lohn (National Oceanic and Atmospheric Administration, National Marine Fisheries Service Northwest Regional Administrator) states,

> *"The initial rounds of local recovery planning are not expected to be perfect. Initial rounds need to be based on existing information. As we do assessments, we will find that existing information leaves us with critical uncertainties and data gaps. Local recovery plans should be viewed as iterative documents that can adapt to new information and that will become more sophisticated with time."* [1]

The Outline for Salmon Recovery Plans does not answer every planning question, as many are still under discussion. Examples include:

- Capacity to complete plans
- "All-H" integration
- Integration of economic, social and cultural goals and impacts
- Endangered Species Act (ESA) compliance mechanisms
- Local versus regional-scale recovery
- Contingency / default actions
- Recovery plan review process
- Implementation funding
- Future institutional framework to continue recovery implementation

Most of these outstanding issues require resolution before completion of the first plans. The State of Washington Governor's Salmon Recovery Office (GSRO) is working with state and federal agencies, tribes, and the Northwest Power and Conservation Council (NPCC; formerly the Northwest Power Planning Council or NWPPC) to develop advice on "all-H" integration, and to define ESA compliance opportunities at each stage of recovery plan breadth and depth. Conclusions drawn, and advice on how to proceed, will be distributed as they become available.

Salmon recovery activity does not end with completion of a recovery plan document. Salmon recovery represents a long-term commitment – a cycle of implementation of plans, monitoring to see if expectations are realized, and adaptation of actions to improve effectiveness, until populations have returned to viability and delisting can occur. Such cycles of implementation, monitoring, and adaptation of actions – or adaptive management – can provide a useful framework during both the planning and implementation stages of salmon recovery.

The Outline for Salmon Recovery Plans is intended to provide a framework that can be used to structure our thinking about how to proceed to recover salmon. The Outline, itself, does not provide much guidance on how to organize to “do” recovery planning, on where to get data, on how to go about answering necessary questions, or on how to proceed to implementation and beyond – there are as many ways to address those questions as there are recovery planning groups. The Outline is just the beginning of the journey.

# CONTEXT

## GENESIS OF THE "OUTLINE"

The Washington State Department of Fish and Wildlife (WDFW) originally began development of this guidance in 2001, when the Washington Legislature allocated $1,000,000 of pass-through funding to WDFW for development of adopted and ready-to-implement salmon recovery plans at the local or regional scale. Within this allocation, the Washington Legislature directed WDFW to establish a model for local and regional salmon* recovery plans.

WDFW's intent with this document is to assist Washington citizens and policy makers who are interested in developing a salmon recovery plan to organize their efforts in a manner most likely to result in a plan that can be implemented and leads to recovery of salmon.

WDFW has developed this Outline for Salmon Recovery Plans in collaboration with tribes, state agencies, National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries; also known as National Marine Fisheries Service (NMFS)), U.S. Fish and Wildlife Service (USFWS), the NPCC, and local and regional salmon recovery planning organizations. It has received endorsement from the Governor's Joint Natural Resources Cabinet, and is supported by the Governor.

The Outline incorporates the essential elements of a salmon recovery plan, acknowledges differences in process and goals for a wide array of planning activities, and suggests ways to economize by achieving multiple planning goals with one planning activity.

There are a number of existing guidance documents and restoration/recovery plans (referenced throughout this outline) available to help local recovery planning groups delineate their own recovery plan. The Outline does not intend to supersede any of those documents, rather to bring together ideas and major themes gleaned through review of these documents into one succinct plan outline. Most of these other resources provide valuable additional guidance and should be referenced when developing plan content.

The general and essential elements of a recovery plan are not mysterious, but providing a template for those elements will generate a consistency in process and product that ensures the successful implementation of plans and achievement of their goals statewide.

* "Salmon" in this context refers to all species of salmon, steelhead, trout and char native to Washington.

## OBJECTIVE OF THE "OUTLINE"

The objective of this outline is to provide guidance that lends consistency among the different salmon recovery planning groups and products being developed in Washington.

It is critical to demonstrate how plans developed under this guidance can meet multiple needs – especially in these lean budget times. One obvious connection within salmon recovery work is subbasin planning under the NPCC. In addition, Lead Entities established under Engrossed Substitute House Bill 2496 (Salmon Recovery Act, 1998), are refining strategies that contribute significantly to subbasin and/or recovery plans. When any or all of these are occurring simultaneously in the same watershed or region, planners can follow the guidance provided here with the expectation that, for overlapping topics, following this outline will meet the needs for Lead Entity strategies, subbasin planning and recovery planning. Another vital part will be provided by watershed plans developed under the Watershed Planning Act (ESHB 2514).

Many planners will want their recovery plans to be adopted by NOAA Fisheries and/or USFWS to meet requirements under section 4(f) of the ESA. Accordingly, another objective for this document is to define what is needed for successful inclusion in a federal recovery plan. Though an ESA Recovery Plan is an advisory document, the information provided by following this outline may be essential to other conservation options NOAA and the U.S. Fish and Wildlife Service (USFWS) (collectively, the Services) use to provide ESA coverage. ESA compliance mechanisms include Section 10 Habitat Conservation Plans (HCPs), Section 7 Biological Assessments and Opinions (BAs and Bi-Ops), Section 4(d) limits and others. Clearly, the level of ESA coverage granted would depend not only on the topics and specificity in the plan, but also on the certainty the plan can/will be implemented as written.

## "SALMON RECOVERY PLAN" DEFINED

According to ESA, a recovery plan must include:

> *…"objective, measurable criteria which, when met, would result in a determination … that the species be removed from the list;"*
>
> *… "a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species;"*
>
> *…"estimates of the time required and the cost to carry out those measures needed to achieve the plan's goals and to achieve intermediate steps toward that goal."* *

A salmon recovery plan developed in Washington, in the context of this outline, is a comprehensive document that defines the actions necessary to recover one or more

* Endangered Species Act, Section 4 [16 U.S.C. 1533] (f) (1) (B)

salmonid populations within a specified local area or region. A comprehensive salmon recovery plan includes:

- **scientific assessments** of the status of the species and its habitat;
- **factors for decline**, threats to viability, and/or factors limiting recovery of the species, and factors supporting current populations;
- **measurable goals** that describe recovery for the listed species (in terms of population performance, environmental health, and administrative accountability) and against which the success of actions will be measured;
- **actions and commitments** for habitat, harvest, hatcheries and hydropower (the four "H" risk factors) that are necessary to reduce or eliminate the limiting factors and recover fish populations;
- **implementation** components such as time lines, funding, identification of responsible parties and authorities, research needs, monitoring plans and a method for evaluating actions and adapting the plan.

A comprehensive salmon recovery plan integrates habitat actions developed primarily at the local scale with actions and implementation steps for hatchery and harvest management developed primarily by WDFW, tribes, NOAA Fisheries and USFWS (i.e. integrates across "H's). The plan also could show how actions by various jurisdictions, authorities, geographies, ownerships and programs, including planning and regulations under Washington's Growth Management Act (GMA), Shorelines Management Act (SMA), and the federal Clean Water Act (CWA), work together to achieve recovery (integration both by geography and by authority).

## "REGION" DEFINED

A salmon recovery region, in the context of recovery planning in Washington, is defined in "*Extinction is Not an Option – a Statewide Strategy to Recover Salmon"* [2] as Snake River, Northeast Washington, Upper Columbia Basin, Middle Columbia Basin, Lower Columbia River, Puget Sound, and the Washington Coast.

NOAA Fisheries' recovery planning activities are organized around discrete geographic areas, or domains: Puget Sound and the Olympic Peninsula, Willamette and Lower Columbia River basins; and the combined Mid- and Upper-Columbia River and Snake River basins are NOAA domains in Washington. The number of Evolutionarily Significant Units (ESU) varies by domain.

USFWS bull trout recovery planning is organized into five distinct population segments (DPS), of which the Columbia Basin and Puget Sound–Coastal DPS's are within Washington. The Columbia Basin segment is further divided into 22 recovery units, and the Coastal-Puget Sound DPS is divided into two units.

The NPCC has organized the Columbia Basin into provinces, seven of which include lands within Washington: Intermountain, Blue Mountain, Columbia Cascade, Columbia Plateau, Columbia Gorge, Lower Columbia, and Columbia River Estuary.

A geographic translation of planning boundaries, WRIAs and ESU/DPS is depicted on Table 1.

## TABLE 1 – GEOGRAPHIC TRANSLATION OF WASHINGTON PLANNING AREAS AND LISTED SPECIES

| WRIAs | Subbasins | NPCC Province | NOAA Fisheries ESUs | USFWS DPS Unit | Regional Salmon Recovery Organization |
|---|---|---|---|---|---|
| 1-14 | Nooksack to Kennedy-Goldsborough | N/a | Puget Sound Chinook, Hood Canal Summer Chum | Puget Sound Bull Trout RU | Puget Sound Shared Strategy |
| 15-18 | Kitsap to Dungeness-Elwha | | | Coastal Bull Trout RU | |
| 19 | Hoko | | N/a | | |
| 18-24 | Soleduck to Willapa | | Ozette Sockeye | | N/a |
| 25 | Grays-Elochoman | Estuary | Lower Columbia River Chinook, Columbia River Chum, Lower Columbia River Steelhead | Lower Columbia Bull Trout RU | Lower Columbia Fish Recovery Board |
| 26-28 | Cowlitz to Salmon-Washougal | Lower Columbia | | | |
| 29 | Wind-White | Columbia Gorge | Lower Columbia River Chinook, Middle Columbia River Steelhead | | |
| 30 | Klickitat | | | | N/a |
| 37-39 | Lower, Upper Yakima, Naches | Columbia Plateau | Middle Columbia River Steelhead | Middle Columbia Bull Trout RU | Yakima Subbasin Fish and Wildlife Planning Board |
| 31, 34, 36, 40-43 | Rock-Glade, Palouse, Esquatzel Coulee, Alkali/Squilchuck, Lower Crab, Grand Coulee, Upper Crab | | N/a | N/a | [Columbia Plateau] |
| 32, 33, Part of 35 | Walla Walla, Lower Snake, Middle Snake (Tucannon) | | Snake Spring-Summer and Fall Chinook, Snake Sockeye, Snake Steelhead | Snake Bull Trout RU | Snake River Salmon Recovery Board |
| Part of 35 | Middle Snake (Asotin) | Blue Mountain | | | |
| 44-50 | Moses Coulee, Wenatchee, Entiat, Chelan (no listings), Methow, Okanogan, Foster | Columbia Cascade | UC Spring Chinook, UC Steelhead | Upper Columbia Bull Trout RU | Upper Columbia Salmon Recovery Board |
| 51-62 | Nespelem to Pend Oreille | Intermountain | - | Northeast Washington Bull Trout RU | N/a |

## LINKAGES WITH OTHER SALMON RECOVERY PLANNING ACTIVITIES

As noted above, numerous natural resource planning activities are underway in Washington that affect, and are affected by, salmon recovery activities. The focus of this document is the development of salmon recovery plans at a regional/ESU scale. Outline concepts also apply for plans developed at sub-regional and watershed scales, and should inform Lead Entity strategy development. Coordinating and sharing participation, ideas and products among planning activities occurring at many geographic scales can achieve efficiencies.

### Lead Entity Strategies and Project Lists

Under the 1998 ESHB 2496 Salmon Recovery Act (RCW 75.85), Lead Entities were established as strong, locally-based efforts to provide a framework for citizen volunteers to work effectively to restore salmon habitat. Lead Entity restoration strategies and project lists developed for SRFB funding provide critical foundation for the habitat restoration strategies and actions presented in an all-H recovery plan. As Lead Entities move their strategies to the next level of sophistication, it is imperative that watershed-centered actions, or actions directed to specific populations, be linked to the all-H, multi-watershed, regional, and/or ESU/DPS scale.

### Watershed Planning

Likewise, the ESHB 2514 Watershed Planning Act (RCW 90.82) established local groups to conduct watershed planning. Those Watershed Planning Units can contribute assessment information on water-related habitat processes, and their water resource management plans can provide water supply, water quality, instream-flow, and habitat related solutions in watersheds where water quantity or quality is a factor limiting fish recovery.

### Clean Water Act

Activities in planning for and compliance with the Clean Water Act contribute significant information and actions that relate to water quality and watershed health.

### NPCC Subbasin Planning

Subbasin planning for the Columbia Basin Fish and Wildlife Program provides a unique opportunity to collaborate in developing products that not only aid recovery planning, but also help the NPCC and other funding entities prioritize spending for fish protection and restoration activities. Completed subbasin plans comprise major elements needed for a complete recovery plan. Recovery plans as defined by the State of Washington, however, include additional key elements, such as land and water use regulation and site-specific actions and commitments, which are not called for in subbasin plans. Table 3 shows key elements of both subbasin plans and Washington State recovery plans, and identifies common elements.

The relationship between subbasin planning and recovery planning is further described in a letter from Robert Lohn, NOAA Fisheries Regional Director, to Larry Cassidy,

Northwest Power Planning Council Chair, dated May 24, 2002[2]. This letter includes an attachment entitled *NMFS Local Recovery Plan Guidelines,*[3] which provides subbasin planners with initial guidance on what elements subbasin plans must include in order to meet ESA section 4(f) legal requirements – those requirements generally fall into the key component categories listed for recovery plans in the Outline for Salmon Recovery Plans.

***Wy-Kan-Ush-Mi, Wa-Kish-Wit***

This Columbia Basin tribal fish restoration plan,[4] developed by the Columbia River Intertribal Fish Commission with the Nez Perce, Umatilla, Warm Springs and Yakama Tribes, should be referenced and considered in plans for regions within Columbia Basin tribal territory.

**Other planning activities**

A number of other local regulation development activities are anticipated to be initiated within the same timeframe as recovery planning. Rather than view these as separate processes, opportunities exist to combine processes to gain efficiency not only in planning timeframe, but also in content and public participation.

## ROLE OF LOCAL RECOVERY PLANNING ORGANIZATIONS

Theoretically, every Puget Sound and Columbia Basin watershed/subbasin or group of watersheds/subbasins containing or influencing ESA-listed salmonid populations will have a chapter in an ESU-scale recovery plan. A variety of local organizations (e.g., Lead Entities, Watershed Planning Units, Subbasin Planning groups, counties, cities, tribes) will contribute to each local chapter. If one group forms to coordinate recovery planning for a local area, or agrees to take on that responsibility, its role may include (but not be limited to):

- maintain an inclusive organizational structure conducive to recovery planning;
- integrate with other planning groups within the watershed or subbasin;
- develop and execute public outreach activities;
- develop a vision for salmon recovery and how recovery fits with other community interests for the future;
- gather and analyze information at the watershed or subbasin scale;
- facilitate a process for decisionmaking and prioritization within the watershed;
- develop prioritized habitat protection and restoration strategies and project lists for funding through state and federal programs;
- develop the habitat assessment and action priorities components for local-based recovery plans, as described in this outline;
- provide a forum for coordinating with other authorities from the harvest, hatcheries and hydropower sectors at the watershed scale;
- ensure connection to the appropriate regional recovery planning entity.

## ROLE OF REGIONAL RECOVERY PLANNING ORGANIZATIONS

The primary purpose of the regional recovery planning organization is to integrate effects of all programs, from local to regional to statewide scale activities, to coordinate plans across watersheds into one regional plan, and to help connect local planning to ESA science. **A regional planning organization** may have several roles, depending on the organization:

- ensure coordination and integration between planning scales;
- ensure the recovery plan contains the necessary elements, as described in this outline;
- provide a forum for communities to create a local vision of the goals they are striving to achieve;
- broaden support for salmon recovery activities across the region;
- provide a forum for coordinating with other authorities in broader habitat, harvest, hatcheries and hydropower sectors relevant at the regional scale;
- maintain active participation of local, state and federal agencies and tribes in the regional process at both the policy and technical levels;
- demonstrate how cross-watershed and cross-activity (e.g., Lead Entity strategies, subbasin planning, water resource planning, salmon recovery planning) coordination can enhance effectiveness and/or efficiency for individual local planning efforts;
- clearly distinguish between activities conducted at scales which participants can influence from activities which participants have little ability to influence within this recovery planning process;
- provide technical or facilitation support to local efforts and/or link local groups with experts from state, tribal or federal agencies;
- facilitate a process for integrated decision making and prioritization across multiple watersheds;
- facilitate an iterative process for combining local plans to produce a regional recovery plan;
- articulate how those local plans are coordinated across watersheds;
- analyze and demonstrate how the combined actions of all the contributing local or watershed plans integrate to meet the salmon recovery goals.

## ROLE OF FEDERAL ESA AGENCIES IN RECOVERY PLANNING

The federal ESA agencies (NOAA Fisheries and USFWS, the Services) are engaged in the recovery planning process through authorities provided under the ESA and through participation in the development of this outline. The fundamental obligation of the Services is to use any and all means within their authority to conserve and to recover listed species such that the protections of the ESA are no longer necessary and the species can be de-listed. The recovery planning guidance in this outline provides a consistent, local, and action-based foundation which may ultimately inform federal decisions to de-list species.

The Services have many roles in the recovery planning process that are distinct from the obligations that come with species listed under the ESA. A primary function of the Services will be to work at policy and technical levels to create flexible and defensible approaches to management and recovery of listed species. As watersheds are understood, actions are undertaken, and commitments secured, various sections (tools) of the ESA may come to be used. Here the Services' role will be to balance specific requirements under the ESA with expectations of ESA coverage generated through recovery planning. Permits, agreements, and individual conservation plans that confer assurances are incentives that facilitate and encourage the recovery of species and that can be built from fundamental information developed by planners. Planners should view the recovery process as a continuum of accomplishments earning different aspects of ESA recognition over time.

# OUTLINE FOR SALMON RECOVERY PLANS

The following tables list key elements of the recovery plan process (Table 2) and key elements of a recovery plan document (Table 3). This guidance is not intended to dictate a table of contents for a recovery plan, but rather to provide a guide for thinking through questions that could and/or should be addressed in a recovery plan. The questions posed in Table 2 for the recovery plan process are questions to be considered as the organization is forming and designing the planning process. Keeping in mind flexibility in planning objective and plan organization, questions appearing next to each recovery plan element in Table 3 can/should be considered by planners during plan development, and answered by the plan as appropriate. By reading the recovery plan document, the reader should understand how the plan addresses each applicable question listed in the table.

Table 3 lists two interrelated planning processes/documents (NPCC subbasin plans and Washington recovery plans), and identifies which plan elements can/should be included for each type. Some interpretation will be needed to determine the scope of the question/answer relative to the type of document being prepared - some elements may increase in scope as one moves left-to-right in the document columns.

Elements identified in this table, especially those that are indicated as elements of a Washington recovery plan, are not meant to be one-size-fits-all. For example, if a group chooses to write about the Responsibilities and Commitments elements[*], the table lists some of the questions they are likely to want to answer. It's possible that a planning group may choose not to answer all questions within a specific element (for example, a group may be able to generalize the "expected social, cultural and economic outcomes from implementing the plan," but be unable to quantify the "$ losses to affected economic sectors" portion of the "outcomes" element) or to skip an element.

Clearly, the more completely the plan addresses elements listed in Washington's Outline, the more likely it is to receive favorable science and policy reviews, be adopted by federal agencies, be useful in working toward actual recovery, qualify for local, state and federal funding, provide support for achieving desired federal recognition, and achieve desired results in an **implemented** recovery plan.

Throughout the plan, assumptions, unknowns and uncertainties should be identified. Likewise, it's important to explain how each action identified in the plan is risk-averse relative to fluctuations in climatic conditions, poor compliance, and other variables.

## PLANNING INITIATION & PROCESS STEPS

### Process Steps

Questions posed for the recovery plan process should be considered as an organization is forming and designing the planning process. Not all questions will apply to every situation. In general, however, these are the kinds of "process questions" evaluators and other critics would like to have answered as they consider the context for planning

[*] Commitments are not required for federal recovery plans under ESA section 4(f)

objectives, actions, and certainty of implementation. Answers to these questions are not necessary elements to the plan – they are only intended as planning aids.

**Who provides what?**

It is important to identify early on who will assume responsibility for developing information for each element. The answers will differ from watershed to watershed and region to region, and finding those answers is an important part of organizing the planning process. This outline purposely does not attempt to identify who will be responsible to develop specific parts of the plan or how the "H" factors will be integrated, except as noted below.

In general, Washington Department of Fish and Wildlife, treaty Indian tribes and NOAA Fisheries can provide information needed about species life histories and status. Authority and responsibility to describe harvest, hatchery and hydropower impacts and actions lie outside the typical local group, though it is assumed that those authorities involved in harvest, hatcheries and hydropower also will be actively participating at the local and regional scales. In general, evaluations of harvest and hatchery effects, and identification of actions will be provided by Washington Department of Fish and Wildlife, treaty Indian tribes and NOAA Fisheries. Hydropower information is available through FERC licensing and/or ESA Section 7 Biological Opinions or Section 10 HCPs.

Habitat assessments are developed/available from a variety of local, state or federal sources. It is anticipated that watershed-scale voluntary and/or regulatory habitat management strategies and specific action portfolios will be developed by local recovery planning groups, and that ESU-scale "roll-ups" will be completed by regional salmon recovery groups.

In their "*Technical Guidance for Watershed Groups in Puget Sound",*[5] the Puget Sound Technical Recovery Team (TRT) and Shared Strategy Staff Group illustrate a stepwise approach to the planning process and plan elements, and identify who will provide each element for the Puget Sound recovery plan. Though directed at Puget Sound planning, much of this advice is applicable statewide.

**Outreach**

Public support is key to successful plan development and implementation. It is strongly recommended that public involvement be a key element throughout plan development, and that a specific outreach and communication strategy be developed, articulated and implemented early in the planning process. It is extremely important to identify all stakeholders up front, and to develop a strategy to recruit those stakeholders into the process. An outreach strategy should include how to communicate the goals of this plan, as well as providing advice for how people can get involved with the planning and recovery process, and identifying ways to communicate about the progress of the plan and decisions being made along the way.

## TABLE 2 – SUMMARY OF PLANNING PROCESS ELEMENTS

| PLANNING PROCESS ELEMENT | KEY PLANNING PROCESS QUESTIONS<br>How are we developing our planning process? |
|---|---|
| Board organization, bylaws, mission, vision & goals | ➢ What is the purpose of our organization?<br>➢ What is our vision for our watershed/subbasin/region in the future? What sort of legacy do we want to leave for future generations of salmon and people?<br>➢ What outcome do we expect from this process?<br>➢ Who should participate?<br>➢ Who leads?<br>➢ What is the infrastructure of our organization? What are our committees and how do committees interrelate?<br>➢ What are the roles and responsibilities of entities participating in the process?<br>➢ What authorities, if any, does this organization have?<br>➢ What are the forces that support or limit our success? |
| Ensure participation: Key local gov't & citizen stakeholders, State, federal, tribal participation | ➢ How does our organization ensure participation by key authorities and stakeholders? Is everyone at the table who has a stake/authority to implement the plan?<br>➢ How do we engage, inspire and motivate participation?<br>➢ What will be our strategy for getting all key stakeholders at the table?<br>➢ What segments of the community and stakeholder groups were or need to be involved in developing our strategy?<br>➢ Provide a roster of participants |
| Coordinator appointed/hired | ➢ Who will keep our organization and product on-track? |
| Draft/Final Work Program, schedule & budget | ➢ What are we going to accomplish?<br>➢ What is the timeline, including key milestones?<br>➢ How much will it cost to do? |
| Plan Outline/TOC | ➢ What key responsibilities and issues can only be addressed through a Recovery Plan yet not through a Sub-basin Plan or Lead Entity Strategy?<br>➢ What will be included in the plan? |
| Plan Promotion / Outreach | ➢ How does our organization inspire interest and support of the general public?<br>➢ How will the general public and interest groups be involved in plan development?<br>➢ What are next steps for involvement and implementation? |
| Commitments for technical contributions; Hiring necessary consultants | ➢ Do we have commitments from agencies from which we need information or analyses?<br>➢ Do we need more help collating information, analyzing, and/or writing the plan? |
| Cultivate relationships with land owners and project sponsors | ➢ How will we identify, foster and encourage project sponsors to participate in implementing the strategy? |
| Resolution of Issues in Final Plan | ➢ What is the process to identify and resolve state, tribal, federal, local (and potentially NPCC) issues in a submitted recovery plan?<br>➢ What ESA assurances can be granted, based on implementation measures and commitments within the submitted plan [federal responsibility, with state coordination]?<br>➢ What is the dispute resolution process established to resolve differences in developing final plan elements? |

## TABLE 3 – SUMMARY OF PLAN ELEMENTS

| PLAN ELEMENT | KEY PLANNING QUESTIONS | NPCC SUB-BASIN PLAN | WASHINGTON STATE RECOVERY PLAN |
|---|---|---|---|
| INTRODUCTION | What information is necessary to set the stage for our plan? | | |
| Executive Summary | ➢ What is the problem or opportunity our process is addressing?<br>➢ What is the goal of the plan? …Vision for the community?<br>➢ How does this plan support that goal/vision?<br>➢ What is the scope of the plan?<br>➢ What were the major findings, conclusions, actions and commitments? | X | X |
| Introduction | ➢ What is the problem or opportunity (current condition)?<br>➢ What is our desired outcome?<br>➢ Describe the gap between our goal and the current condition?<br>➢ What is the history of our planning entity?<br>➢ What is the infrastructure of our organization?<br>➢ Who participated in planning?<br>➢ What is the overall philosophical approach we applied to solve the problem?<br>➢ What is the procedural approach for conducting the planning activity? | X | X |
| ASSESSMENTS | What are the current conditions (status and relationships) of the populations and environments? | | |
| Key or Focal Species & Habitats/ Geography | ➢ What are our high priority stocks ("focal species"), geographical areas, and actions?<br>➢ What process and criteria did we use to choose them? | X | X |
| Fish Population Identification, Life History and Assessment/ Status | ➢ What were the historical populations?<br>➢ What are the current abundance, productivity/growth rate, diversity and spatial structure (i.e. Viable Salmon Population, or VSP, parameters) of each population?<br>➢ How do they compare with the historical characteristics of the population? | X | X |
| Habitat Overview / Environmental Conditions | ➢ Overview of geography/spatial layout;<br>➢ What are the current and habitat conditions affecting the focal species?<br>➢ What habitats are used at which life stages? | X | X |
| Ecological Relationships | ➢ What other species and conditions interact with the focal species? | X | X |

| PLAN ELEMENT | KEY PLANNING QUESTIONS | NPCC SUB-BASIN PLAN | WASHINGTON STATE RECOVERY PLAN |
|---|---|---|---|
| FACTORS SUPPORTING CURRENT POPULATIONS, CAUSING DECLINE OR LIMITING RECOVERY; THREATS TO VIABILITY | ➢ What are the key factors supporting existing populations?<br>➢ What are the key factors that caused the decline and/or threats to viability?<br>➢ What are the current trends of the effects of those factors?<br>➢ What factors continue to threaten the viability of populations?<br>➢ What are the key unknowns or uncertainties? | | |
| Policy/Social/Economic Factors for Decline | ➢ What historical policies and social, behavioral and cultural factors contributed to the decline of salmonids in this region? | X | X |
| Inventory Existing Activities, Projects, Programs by Watershed / Jurisdiction | ➢ What management programs (regulations, contracts, agreements) are currently in place and how do they support or threaten the viability of wild salmonid populations?<br>➢ What Habitat Conservation Plans (HCPs) under Section 10 ESA, Section 7 consultations, FERC licenses and other long-term agreements support or threaten the viability of wild salmonid populations?<br>➢ Identify elements within the plan's geographic (watershed/subbasin or regional/ESU) scope<br>➢ How do existing policies, programs, commitments and regulations affect our overall salmon recovery approach or strategy?<br>➢ Identify gaps – elements at which no current program is directed. | X | X |
| Mortality outside the watershed or ESU: Columbia Basin "Out-of-Subbasin" Impacts & Assumptions | ➢ [It is anticipated that collaborative, federal-led efforts will be conducted to identify common assumptions for "non-local" effects. Those values will be provided to local planning groups, who may choose to use, or not to use, the collaborative results. In any case, the local group is expected to answer the following questions about their assumptions on out-of-subbasin effects.]<br>➢ What are your assumptions concerning ocean conditions, climate, harvest mortality and other factors that occur outside the watershed or ESU?<br>➢ For the purposes of isolating strategies within the subbasin, what is the total mortality (survival) outside of the subbasin (provide source for estimate used)?<br>➢ [Additionally, TRTs are anticipated to contribute information on the sources, locations and amount of mortality (survival) for each life stage.] | X | X |

| PLAN ELEMENT | KEY PLANNING QUESTIONS | NPCC SUB-BASIN PLAN | WASHINGTON STATE RECOVERY PLAN |
|---|---|---|---|
| Factors for Decline or Limiting Recovery; Threats to Viability: habitat, harvest, hydro, hatchery | ➢ What have been/are the key habitat characteristics and processes that most affect (support or threaten) the viability (abundance, productivity, diversity, spatial structure) of each wild fish population?<br>➢ How has/do current artificial production programs and facilities affect the viability of wild fish?<br>➢ Which other fish or wildlife species directly or indirectly affect the ability of the species to thrive? How?<br>➢ How has/does harvest management affect the viability of wild fish?<br>➢ What has been/are the effects of hydro dams or other major projects on the viability of wild fish?<br>➢ How do the cumulative benefits and impacts associated with Habitat Conservation Plans (HCPs) under Section 10 ESA, Section 7 consultations, FERC licenses and other long-term agreements support or threaten the viability of wild salmonid populations?<br>➢ How will changes in one "H" factor affect the other "H" factors? | X | X |
| Integrated Assessment & Working Hypothesis | ➢ What are the plausible hypotheses for how habitat (harvest, hydro, hatchery) management actions can affect the viability characteristics of the population?<br>➢ How do all the "H" factors for decline or threats interact – what are the most important factors?<br>➢ What are the key unknowns or uncertainties? | X | X |
| DESIRED FUTURE CONDITION – RECOVERY GOALS | ➢ Desired Future Condition<br>➢ Community Goals<br>➢ Biological Goals | | |
| Plan Goals/ Vision for Watershed/Subbasin/Province/Region: Desired Future Conditions | ➢ What is the strategy/plan vision; how does it reflect local [subbasin/watershed/provincial/regional] policies, legal requirements and local conditions, values and priorities?<br>➢ What are our vision and short and long-term goals for our watershed in relation to salmon habitat restoration and population recovery? What is the gap between current and desired conditions?<br>➢ What is the desired future condition in terms of biological population goals as well as other ecological, social, economic and cultural interests of the region?<br>➢ What is our definition of recovery and how does it relate to the State and Federal definitions? | X | X |

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| Biological Objectives – Recovery Goals | ➢ What are the viability criteria, in terms of abundance, productivity, spatial distribution and genetic diversity?<br>➢ What are your population planning targets?<br>➢ What is the relationship between population-scale goals and goals for the entire ESU/DPS?<br>➢ What is the expected time frame for meeting the goals?<br>➢ What are the significant benchmarks for meeting planning goals/targets?<br>➢ What are key considerations in measuring achievement of the goals? | **X** | **X** |
| Delisting Criteria for Listed Species | ➢ What additional policy criteria can we include that improve or demonstrate the likelihood of implementation and efficacy of identified actions?<br>➢ [Biological and policy delisting criteria at the ESU scale will be provided by federal agencies]<br>➢ How do our planning targets satisfy or contribute to achieving ESU delisting criteria?<br>➢ Describe how our planning targets relate to "recovery." | | **X** |
| MANAGEMENT STRATEGY | ➢ What are the kinds of actions needing to be done in order to [meet our planning goal] and/or [recover populations]?<br>➢ Provide a relative sense of what level of effort is needed, and the general costs. | | |
| Strategies to Achieve Biological Objectives-Opportunities & Priorities | ➢ What are our strategies to achieve our desired future condition? What are the opportunities & priorities?<br>➢ i.e. What is our conceptual approach (strategy) for habitat protection and restoration in this watershed?<br>➢ What method(s)/criteria/principles were used to prioritize among strategies?<br>➢ What trade-offs were made (between science and socio-economic considerations) in choosing strategies?<br>➢ What are the social and economic forces that limit or support our vision and goals?<br>➢ What scientific knowledge (or lack thereof) limits or supports our vision and goals?<br>➢ How will we address limiting forces and strengthen supportive forces, where needed?<br>➢ How will we address and integrate socio-economic and scientific factors?<br>➢ How is the management plan consistent with ESA/CWA, local GMA/SMA, Water Resource Plans and other relevant laws and plans?<br>➢ [Refer to Technical Guidance for Subbasin Planners] | **X** | **X** |

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| ACTION PLAN | ➢ What is the specific set of actions that [need to be done] and/or [we commit to implement] in order to protect and recover populations?<br>[Plans will vary in scale or breadth, and in levels of detail (depth).]<br>➢ **Generic questions:**<br>➢ Have all major threats identified in the assessments been addressed through actions in this plan?<br>➢ What measures are needed to continue protection for geographies that currently support salmon populations?<br>➢ Why was each set of actions chosen?<br>➢ What are the linkages among different sets of actions occurring in salmon recovery?<br>➢ How does each set of actions target the causes for decline as well as symptoms of decline?<br>➢ What are the individual and cumulative benefits to fish from this action plan?<br>➢ What are the costs and estimated timetable for each action and set of actions?<br>➢ Who is responsible to implement each set of actions? | | |
| Programmatic Actions & Effects | ➢ What regulations or other means have been/will be employed to preserve and improve the base level of protection?<br>➢ How do these protective actions interact with actions in hatcheries and harvest?<br>➢ Should/How can HCPs, Section 7 consultations, FERC agreements and other long-term agreements be adapted/improved to better meet the plan goals?<br>➢ [Examples of programs with potential to preserve base levels of protection and/or minimize & mitigate for take include: Growth Management Act (GMA), Shorelines Management Act (SMA), the Forests and Fish agreement, Federal Energy Regulatory Commission (FERC) licensing actions, water resource management planning pursuant to the 1998 Watershed Act (ESHB 2514), Lead Entity restoration strategies pursuant to the 1998 Salmon Recovery Act (ESHB 2496), subbasin planning for the NPCC, programs for compliance with the Clean Water Act (CWA), and broad or local Habitat Conservation Plans (HCPs) such as the Forests and Fish Initiative.] | | **X** |
| Site-Specific Habitat Protection & Restoration Actions & Effects | ➢ What specific actions (recovery plan) or kinds of actions (strategy/subbasin plan) need to be done in order to protect and recover populations?<br>➢ How does each proposed action/project target the causes as well as symptoms of decline and/or threats?<br>➢ What measures are needed to continue protection for geographies that currently support salmon populations?<br>➢ Have all major habitat threats identified in the assessments been addressed through actions/projects in this plan/strategy?<br>➢ How do these actions affect hatcheries, harvest and/or hydro?<br>➢ How is the success of the action affected by hatcheries, harvest and/or hydro?<br>➢ What is the predicted biological result (quantitative or qualitative benefit) to population(s) of each action/project?<br>➢ How will the effectiveness of each action be measured?<br>➢ What is the likely $ cost and estimated timetable for each action/project?<br>➢ What considerations other than financial affected our selection of action/project to implement? | | **X** |

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| Artificial Production Actions & Effects | ➢ What changes, if any, to hatchery programs and facilities are necessary to support recovery?<br>➢ How will those changes affect harvest and habitat?<br>➢ How will the effectiveness of the action be measured?<br>➢ How can hatchery supplementation programs support or threaten recovery?<br>➢ How can/does mass marking support or threaten recovery? | | **X** |
| Harvest Actions & Effects | ➢ What further changes, if any, must occur in management of harvest to contribute to recovery?<br>➢ How will those harvest changes influence hatcheries and habitat?<br>➢ How will the effectiveness of harvest actions be measured? | | **X** |
| Hydro Actions & Effects | ➢ How can HCPs, Section 7 consultations, FERC licenses, and other long-term agreements, be adapted/improved to better meet the plan goals? | | **X** |
| Education Actions | ➢ What new education initiatives and/or volunteer opportunities can contribute to recovery and maintenance of healthy salmonid populations?<br>➢ How will the effectiveness of education actions be measured? | | **X** |
| Enforcement Actions | ➢ What laws need better enforcement?<br>➢ How can that better enforcement be provided?<br>➢ What motivational programs can be initiated to increase compliance with laws?<br>➢ How will the effectiveness of the proposed changes be measured? | | **X** |
| Integrating and Prioritizing Action Options | ➢ Note: This set of questions is seeking to discover which independent actions are most important for protection and/or recovery of our focal species. Anticipated outcomes, costs and timeframes are evaluated for each action.<br>➢ What process and criteria were used to prioritize among actions within and across "H" sectors?<br>➢ What are the individual (action-specific) benefits to fish from each action?<br>➢ What specific actions are necessary (critical) to protect and recover populations?<br>➢ How does each action target the causes for decline as well as symptoms of decline?<br>➢ What are the projected costs and estimated timetable for each action? | | **X** |

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| Action Scenarios / Portfolios | ➢ Note: Once the range of key actions is identified, it is anticipated that more than one all-H recovery scenario (portfolio) will be developed, and that only one of those portfolio options will be chosen for implementation. This set of questions is seeking to discover which actions are grouped into a portfolio and why, as well as to quantify the likely outcome and $ cost for each portfolio. Following are the types of questions that can be useful in developing this section:<br>➢ What are our portfolio options? On what basis are sets of actions grouped into portfolios? How does each portfolio option address objectives outlined in the management strategy?<br>➢ What are the linkages among actions from different forums (Lead Entity strategy, 2514 watershed planning, RFEGs, GMA, SMA, mitigation, recovery planning, subbasin planning, etc.) that affect salmon recovery?<br>➢ How do benefits from each portfolio option add up across populations, watersheds and risk factors? (Integration of the H's)<br>➢ Which portfolio was selected for implementation?<br>➢ What are the projected costs (and FTEs, etc.) and timetable for each action in our selected portfolio?<br>➢ Who is responsible to implement each action in our selected portfolio?<br>➢ What is the proposed sequence of actions and what are the milestones to measure progress as we implement our selected portfolio? | | **X** |
| PLAN IMPLEMENTATION | | | |
| Identification of Uncertainties & Information Gaps -Research Plan | ➢ What are the key biological and/or policy unknowns or uncertainties?<br>➢ What are the key information gaps?<br>➢ What is the plan to fill those gaps? | **X** | **X** |
| Monitoring & Evaluation/ Adaptive Mgt. Plan | ➢ How will we measure the progress and success of our plan?<br>➢ What types of monitoring will occur (and what metrics employed) to measure effectiveness of the recovery plan?<br>➢ How will we use monitoring results to adapt the plan?<br>➢ How is this monitoring plan consistent with the statewide monitoring program?<br>➢ What steps are we taking to ensure that adaptive management continues to occur at appropriate scales? (Include the strategy for integrated decisionmaking across the H's.) | **X** | **X** |
| Education, Outreach: | ➢ How will plan marketing be sustained?<br>➢ How will support for implementation be sustained?<br>➢ How will new willing implementers be recruited?<br>➢ [Actions, activities and programs identified in the plan may require separate processes to address ESA compliance (e.g., HCP, Section 7 or Section 4(d) development and approval) or public participation (e.g., formal rulemaking; ordinance proposal and adoption, SEPA/NEPA) beyond the outreach processes associated with plan development.] | | **X** |
| Funding Strategy & Options | ➢ How might actions be funded?<br>➢ What is the overall strategy to ensure actions identified in our plan will be funded?<br>➢ What funding sources other than the [SRFB] [NPCC] [private foundations] can we leverage in order to implement the strategy?<br>➢ Describe local funding commitments and overall costs.<br>➢ Describe funding stages, if appropriate. | | **X** |

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| Economic, social and cultural outcomes | ➢ What are the expected social, cultural and economic outcomes from implementing the plan?<br>➢ What would the $ losses to affected economic sectors be from implementing the plan? | **X** | **X** |
| Implementation Schedule & Responsibilities | ➢ Who is [responsible for] [committed to implement] which actions?<br>➢ What is the proposed sequence of actions and what are the milestones (projected timetable) to measure progress?<br>➢ Is there a particular order for projects to be funded that maximizes benefits?<br>➢ [Implementation milestones can be included here, in a separate section, or integrated with action identification or monitoring] | **X** | **X** |
| Commitments & Approval / Adoption [not required for ESA section 4(f) plan] | ➢ What is the commitment level for each action? (Approval indicates a good-faith commitment to implement actions as described in the plan.)<br>➢ [Actions, activities and programs identified in the plan may require separate processes to address ESA compliance (e.g., HCP, Section 7 or Section 4(d) development and approval) or public participation (e.g., formal rulemaking; ordinance proposal and adoption, SEPA/NEPA) beyond the outreach processes associated with plan development.] | | **X** |
| Technical Appendices / References | ➢ What analysis tools and data sources were employed, and why were those tools/sources chosen?<br>➢ Maps, bibliography/ references, documentation of steps, assumptions & analyses. | **X** | **X** |

## PLAN INTRODUCTION

### Executive Summary

An executive summary includes an overview of the problem, the goal of the plan (e.g., to meet the numeric regional fish recovery goal), the scope of the plan (geography, species, etc.) and a synopsis of major findings, conclusions, actions and commitments. The executive summary should provide a brief yet complete overview of the document so that it can be distributed independent of the entire plan document. A vision statement for what the community desires to achieve and how the plan will guide them in achieving their goal should be included.

### Introductory Section

First, provide a brief history of the planning entity - its infrastructure, participants, and overall approach for conducting the planning activity. The introduction also includes a background of the problem(s) addressed by the plan. Discussion of existing laws, orders and agreements that may affect recommendations or implementation of actions can appear in the introduction or factors for decline sections.

A plan must contain a clearly articulated goal and/or desired future condition/outcome if the plan is executed as written (for example, "*recover fish populations to healthy, harvestable levels and improve habitats on which fish rely*" from *"Extinction is Not an Option"*). Plans may be enhanced by a discussion of social, cultural and economic goals that provide a context for fish recovery actions: for example, if the region's goal is to recover fish AND maintain economic viability, then say so.

Subbasin Plan goals developed for the NPCC Columbia Basin Fish and Wildlife Program are broader than those developed for ESA purposes - subbasin plans not only address listed anadromous stocks, but also include goals that provide for protection, mitigation and enhancement of non-listed anadromous stocks, resident fish and wildlife.

Many planners will want their recovery plans to be adopted by NOAA Fisheries and/or USFWS to meet requirements under section 4(f) ESA. That goal, or goals for subsequent ESA take authorization under sections 4(d), 6, 7, or 10, should also be clearly stated.

## ASSESSMENT

### Population Identification & Assessment

This section includes life history characteristics such as spawner and abundance trends, productivity, intra- and inter-population diversity, and spatial distribution within the watershed and between watersheds; population structure; population status and extinction risk. In this section, the key, or focus, species for the plan will be identified.

### Habitat Status & Assessment Of Ecological Processes

The habitat assessment includes investigation of water quality (including point source and non-point source pollution) and quantity issues (primarily instream flow for fish) as well as impacts of physical changes to habitat structure (temperature, sedimentation, etc.) and function. This section also includes characterizations of crucial habitat needs at all life stages, including key intra- and inter-species interactions, environment/species relationships, and special habitat needs.

Assessment methodologies are identified, and strengths and limitations of, or impediments to, various techniques presented, as well as comments regarding data completeness and quality. Data gaps in all areas should be noted.

The scope of habitat assessment for a regional document includes estuarine, nearshore, marine and freshwater habitats. Many documents, including the Puget Sound TRT technical guidance, NPCC Subbasin Assessment Template[6] and GSRO watershed assessment[7] and planning guidance,[8] provide assistance in determining what questions must be answered in order for the assessment to be complete.

It must be acknowledged that many assessments will not be as complete as is desired. In this initial round of planning, it's important to be as specific as possible given any limitations in the assessment, and to carefully identify not only the gaps in the assessment but also the research that will be needed to fill those gaps.

## FACTORS SUPPORTING CURRENT POPULATIONS, CAUSING DECLINE OR LIMITING RECOVERY; THREATS TO VIABILITY

Most Pacific Northwest ESUs were listed due to a combination of all five ESA listing factors[*]:

- present or threatened destruction, modification or curtailment of habitat or its range;
- overutilization;
- disease or predation;
- inadequacy of existing regulatory mechanisms;
- other natural or manmade factors.

This section of the recovery plan constitutes a synthesis of the impacts of harvest, hatchery, habitat and hydropower (all "H") risk factors. It discusses status of fish resources and the watershed relative to recovery goals, and addresses effects of other regulations including, but not limited to, the Clean Water Act (CWA), Growth Management Act (GMA) and the Shorelines Management Act (SMA).

### Policy/Social/Economic Factors for Decline / Threats

Past political or cultural influences and/or socioeconomic forces may figure prominently when evaluating factors for decline. Without belaboring the past, it's important to have

[*] ESA, section 4 [16 U.S.C. 1533] (a) (1)

this historical context to support or contrast with current political, cultural, social, or economic goals in the recovery plan.

**Inventory of Existing Activities, Projects, Programs by Watershed / Jurisdiction**

An inventory and assessment of effectiveness of current and ongoing projects, activities and regulations is important in assessing cumulative effects from plan actions, and in developing a working hypothesis. It is anticipated that local governments, tribes, individuals, and state and federal agencies will provide information on land management and other issues and actions for which they have authority. Tribes, WDFW, NOAA Fisheries and USFWS (the entities with authority over harvest and hatcheries) will provide information to fulfill the hatchery and harvest sections. The role of the planning organization will be to integrate expected results of these actions with results of actions in other sectors to demonstrate how, together, they represent a strategic approach to the stated plan goal.

For example, state and federal agencies maintain programs that address such issues as: oil spill prevention and response, forest practices, agricultural practices (e.g., CREP), Hydraulic Project Approvals, Army Corps of Engineers "404" permits and other CWA programs and permits, contaminated sediments, control of invasive non-native species, transportation plans, roads maintenance, ferry terminal plans, and habitat protection on government-owned (state, tribal, federal) lands. These programs, though not directed at salmon recovery, can significantly benefit or threaten salmon recovery progress. Local actions implementing these programs should be included in this inventory.

**Mortality Outside the Watershed/ESU/Plan Area**

Planners should use a consistent set of assumptions regarding the many natural and human-caused influences on salmon survival that occur outside the plan area. Initially, a single estimate reflecting survival from the time fish leave their natal subbasin to their return should be made. This allows attention to be focused on effects within the planning area. Ideally, specific estimates would also be available for each individual mortality factor. For example, assumptions for natural and climatic variability, survival through hydropower systems, ocean and "pre-terminal" (e.g., Columbia River mainstem, Strait of Juan de Fuca, West Coast of Vancouver Island) fishing mortality, and estuarine survival would be identified separately.

To facilitate this consistency, collaborative efforts are underway to develop estimates of mortality outside the watershed/subbasin/ESU/plan area that would be available to local recovery planners. For example, Columbia Basin "out-of-subbasin-effects" products are being developed by a workgroup led by the NPCC. These initial estimates or ranges are anticipated to be available to planners by early fall 2003. Initial products will be developed estimating total mortality from the time a fish leaves the watershed or plan area to the time the adult re-enters the plan area. Finer estimates of mortality by factor or life stage can be developed later.

Though it is up to local groups to decide how or if to use the jointly developed product, the topic of mortality outside the immediate planning area is a topic that must be addressed. If planners choose not to use the joint products, then alternative procedures

and assumptions employed by local planners to assess "non-local" effects must be well documented.

**Habitat Factors/Threats**

Descriptions of habitat factors contributing to decline, limiting recovery, or threatening future existence must include an evaluation of effects of the historic progression of habitat changes on abundance, productivity, diversity and spatial distribution of wild fish. This section includes an evaluation of existing local management and regulatory programs (e.g., restoration, harvest, land and water use, water quality), their strengths and/or inadequacies in either design or implementation, and ability of the programs to fix the limiting factors. Restoration programs and regulatory programs must be examined together – the benefit of restoration programs can only be measured within the context of the future condition of the affected habitat. The habitat section should distinguish between environmental (non-human-caused) variables and human-caused factors in order to distinguish between habitat changes that can be influenced and those that cannot.

**Hydropower, Dams, and other Major Projects Factors/Threats**

Impacts from hydropower projects and other major dams can be discussed separately, or incorporated into the general habitat discussion, as appropriate. Clearly, where hydropower projects are major limiting factors, a separate section is warranted. It is not necessary, however, to re-create information already provided in existing documents (e.g., HCPs, FERC licenses, etc.) - those documents are best incorporated by reference.

**Hatcheries Factors/Threats**

A discussion of hatchery factors includes an assessment of the genetic (interbreeding and domestication) and ecological (predation, competition and disease-transmission) impacts to wild fish caused by interactions with hatchery fish. An evaluation of the effects of the hatchery facility (e.g., fish migration barriers, water supply, intake screens, pollution) on wild fish must also be included. HGMPs or Section 10 permits are in development by the state, tribes and Services for all hatchery programs in Washington that affect listed fish. If an HGMP is available, and or the specific programs have been the subject of review by the Hatchery Science Review Group or Artificial Production Advisory Committee, those results should be summarized and/or referenced as sources.

In Puget Sound and Coastal Washington, the Hatchery Reform Initiative is providing information to planners on the evaluation of western Washington (non-Columbia Basin) hatchery programs and facilities. The Hatchery Science Review Group is working through the region, basin by basin, and will share products as they become available. Final recommendations for hatchery programs in all basins will be available by the end of 2004.*

* See the Long Live the Kings web site for more information on Hatchery Reform: www.lltk.org

In the Columbia Basin, NOAA Fisheries has initiated a multi-party collaborative process to develop updated HGMPs for all artificial production programs throughout the Basin. Their process has been developed to implement Action 169 of *Reasonable and Prudent Alternatives* identified in the NMFS December 2000 Biological Opinion (Bi-Op) on the Federal Columbia River Power System (FCRPS).[9] This HGMP effort overlaps with a number of concurrent and interrelated processes underway in the basin, and it is important to maintain linkages among all recovery-related efforts. Indeed, NOAA Fisheries and NPCC are engaged in significant coordination between NPCC hatchery reform activities, subbasin planning and HGMP development.[10]

It is anticipated that the NPCC and NOAA Fisheries will be providing information to subbasin planning groups on evaluation of hatcheries in the basin. Specifically, the evaluation process will address 1) whether the program matches the stated purpose; 2) whether the program is consistent with legal, policy and scientific criteria; 3) operational costs, production, and adult return information; 4) recommended interim changes; and 5) preliminary budget/costs to implement interim changes and possible future costs.

The process for integrating hatchery elements with other "H" factors is just beginning to be defined, and will inevitably evolve slightly differently in each planning area. Key pieces of the hatchery integration puzzle for salmon are the federal hatchery policies, which will be incorporated by NOAA in the results of the listing decisions for which reviews are currently underway.

**Harvest Factors/Threats**

A description of harvest factors includes an analysis of directed and incidental fishing impacts to the selected population over time. It also addresses the overall trend in exploitation for each population, and examines the success of previous and current management plans at achieving population objectives.

It may also be important to examine effects of harvest strategies on size structure of the population, age at return, fecundity and run timing.

Much of this information for salmon species has been developed by state and federal agencies and tribes in the contexts of the Pacific Salmon Treaty and annual salmon fisheries management planning. Further, a state/tribal comprehensive chinook harvest management plan for Puget Sound populations has been adopted under ESA Section 4(d)[11] and is implemented through the annual Pacific Fisheries Management Council "North of Cape Falcon" management process. WDFW, tribes and NOAA Fisheries annually review performance of the plan and assumptions on which the plan is based, and a longer-term plan is under development. Harvest within the Columbia Basin is managed in accordance with the U.S. v. Oregon lawsuit and associated state, tribal and federal management plans adopted thereunder. Mainstem fishery regulations are promulgated through annual and inseason meetings of the Columbia River Compact.

As with artificial production actions, the process for integrating harvest elements with other "H" factors is just beginning to be defined, and will inevitably evolve slightly differently in each planning area.

### Ecological Interactions

In some cases, the presence of one naturally-producing (native or non-native) species inhibits the ability of a species of concern to persist and recover, either through competition, predation or hybridization. These effects should be evaluated for relative importance to the focal species.

### Integrated Assessment and Working Hypothesis

The ultimate objective in conducting an assessment of habitat and populations is to determine which limiting factors most affect recovery of the population. From these conclusions, hypotheses can be developed for how best to recover the fish, and, using those hypotheses, strategies and actions can be identified. There are a few analytical tools, including Ecosystem Diagnosis and Treatment (EDT)* that help planners prioritize among limiting factors and stream reaches to determine which are most important.

## DESIRED FUTURE CONDITION - RECOVERY GOALS

Biological recovery goals and/or ESA delisting criteria are key components of a recovery plan. Specific planning targets and/or goals are identified for individual populations, and delisting criteria apply to the ESU/DPS as a whole. Goals, targets and delisting criteria may include population-based measurements as well as habitat, ecosystem, and implementation criteria that must be met. Generally, local, state and tribal biologists together with federal TRT members will develop the technical basis for planning targets, recovery goals and delisting criteria. TRTs are responsible to recommend population and ESU viability criteria. It is anticipated that policymakers will responsible for adopting targets for their planning area. This process and its outcomes will differ among the regions. Timing of goal development may be problematic given limited technical capacity, however goals must be articulated in the plan along with actions to achieve those goals.

In review of recovery plans, the federal services will also be evaluating whether identified strategies and actions adequately reduce or eliminate the threats/factors for decline. The package of biological (or viability) criteria and criteria addressing threats/factors for decline, together, comprise the minimum set of biological improvements needed for delisting. Federal agencies must also evaluate the adequacies of existing regulatory mechanisms, and the certainty of implementation and efficacy of identified actions, when making delisting decisions.

For subbasin planning, a vision describes the desired future condition in terms of a common goal for the subbasin. The vision is qualititative and reflects the policies, legal requirements and local conditions, values and priorities, consistent with the vision for the Columbia Basin described in the NPCC Fish and Wildlife Program. Biological objectives are also needed to serve as a benchmark to evaluate progress toward the subbasin vision. Biological objectives for subbasin planning describe and quantify the

* For more information on Ecosystem Diagnosis and Treatment (EDT) refer to the EDT web site at: http://www.edthome.org/

degree to which the limiting factors can be improved, as well as changes in biological performance of population that will result from actions taken to address limiting factors.

Performance measures and interim goals must be built into the plan to accurately gauge effectiveness of prescribed actions - these would typically be presented in a monitoring and evaluation section. Monitoring elements should include measures of environmental health, fish population performance, and administrative accountability.

The development of, and decisions about, ESU-wide population scenarios provide a good opportunity for policy input from subbasin and recovery planners.

## MANAGEMENT STRATEGIES & PRIORITIES

Strategies are sets or categories of actions that are expected to accomplish biological objectives. Strategies are not projects or "site-specific actions," but instead are guidance for identification and development of actions and projects. The focus of the subbasin planning process, for example, is identification and prioritization of strategies that can direct development of projects for funding through the Columbia Basin Fish and Wildlife Program. The NPCC Technical Guide for Subbasin Planners[6] delineates how strategies should be developed, and what questions they should address.

## ACTIONS TO ACHIEVE GOALS

The objective of this section is ultimately to answer the question:

> *What are the specific sets of actions that [need to be done] and/or [we commit to implement] in order to protect and recover populations?*

A plan intended to satisfy section 4(f) ESA must identify specific and complementary actions addressing habitat, hydropower, harvest and hatcheries that will achieve plan goals. "Local" actions should be considered independent from, but in context with, the many larger-scale actions and programs underway. When the reader has completed this section, he/she should understand, for each category of action:

- Have all the identified major threats, factors for decline and factors supporting current fish populations been addressed through actions in this plan?
- Why was each set of actions chosen?
- What are the linkages among different sets of actions occurring in salmon recovery?
- How does each set of actions target the causes for decline as well as symptoms of decline?
- What are the individual and cumulative benefits to fish from this action plan?
- How will actions within the plan be sequenced? What is the overall implementation time frame?
- What are the costs for each action or set of actions?
- Who is responsible to implement each action or set of actions?

It is important to identify a variety of action alternatives, their costs and expected effectiveness, and to clearly state why each particular action or action portfolio was chosen. For example, the chosen option may be the one likely to achieve the highest habitat/species benefits. Alternatively, the option might have been chosen not on its purely scientific merits, but because the merits are good and economic, social and/or political costs are lower than with the first alternative. Clearly, demonstrating that options were considered - and why this particular option was chosen - is critical in gaining and maintaining public support for the plan.

Planners will want to generate cost estimates in an iterative fashion. For the initial round of evaluation of alternatives, perhaps only general or "ballpark" figures are needed. Cost figures should be refined as the planning group moves closer to a final product. The final plan must include costs to implement plan provisions.

If there are conflicting perspectives, or an inability to commit to actions at the time the plan is written, these challenges should be documented in the plan. This section should also describe how the proposed actions are consistent with requirements of the ESA. For each "H" risk factor (habitat, hydropower, harvest and hatchery), the plan must describe the relationship of the planning area to the population of interest and to the ESU/DPS as a whole. Descriptions of regulations and formal policies (e.g., CWA, land use, harvest, hatchery practices) that preserve or improve base level protections for wild fish will need to be provided or cited for each governmental jurisdiction within the planning area (see references to "inventory").

All actions, in combination, need to be assessed for their effectiveness at achieving the recovery goals and addressing the threats to viability and factors for decline. Planners will first want to evaluate whether actions already identified will achieve the goals and address factors for decline. If those are not sufficient, new actions or groups of actions need to be identified and evaluated. The relationship between available data, assumptions used, analyses, and decisions made about actions should be transparent. Quantitative tools such as EDT are available to assist planners with this step of the planning process.

**State and Federal Regulatory and Programmatic Actions**

State and federal agencies maintain programs that address such issues as: oil spill prevention and response, forest practices, agricultural practices (e.g., CREP), Hydraulic Project Approvals, Army Corps of Engineers "404" permits and other CWA programs and permits, contaminated sediments, control of invasive non-native species, transportation plans, roads maintenance, ferry terminal plans, and habitat protection on government-owned (state, tribal, federal) lands. Local actions implementing these programs should be included in the plan, and placed in context with the broad scale of these programmatic elements. In most cases, local and regional plans can incorporate specific provisions of these programs by reference.

**Hatcheries / Artificial Production Actions - "Hatchery Reform"**

Artificial production issues must be applied narrowly to the specific population or ESU. Topics should include opportunities for supplementation and reintroduction of species of concern and expected outcomes of those measures in terms of meeting recovery goals;

facility upgrades and fish barrier removal, and funding priorities for those projects; and changes in production programs to mitigate predation, competition, and interbreeding impacts to wild fish. Activities and products such as Benefit-Risk Assessment Procedure (BRAP), HGMPs, and ESA section 6 agreements and section 7 and 10 take authorizations contribute significantly to describing actions in this category and must be analyzed in the context of their contribution to achieving stated goals (as opposed to the context of minimizing "take").

State and tribal governmental authorities share primary responsibility for development of HGMPs, 4(d) plans and other ESA compliance mechanisms. Recovery planning groups are encouraged to become familiar with such plans and to provide comments to the affected co-managers, recognizing that effective implementation of the hatchery elements of a recovery plan requires consistency with state and tribal plans.

**Harvest Actions**

Topics should include description of current management, geographic distribution of fishery-related mortality, strengths and limitations of harvest impact assessment techniques, changes in management actions, expected results, compliance and enforcement. Activities and products such as comprehensive species management plans [4(d)], Fishery Management and Evaluation Plans (FMEPs) and ESA section 7 and 10 take authorizations contribute significantly to describing actions in this category and must be analyzed in the context of their contribution to achieving stated goals (as opposed to the context of minimizing "take").

State and tribal governmental authorities share primary responsibility for development of FMEPs, 4(d) plans and other ESA compliance mechanisms. Recovery planning groups are encouraged to become familiar with such plans and to provide comments to the affected co-managers, recognizing that effective implementation of the harvest elements of a recovery plan requires consistency with state and tribal plans.

**Habitat Actions**

Topics should include sources and magnitude of non-harvest mortality, or reduction in productivity, in watersheds and marine/nearshore areas. Activities and products such as CWA compliance measures, GMA critical areas ordinances and other land use plans, SMA master programs, and other local government regulations and activities contribute significantly to identifying actions under this section and must be analyzed in the context of their contribution to achieving stated goals (as opposed to the context of the original regulatory intent). Restoration and mitigation actions identified under this section will be site- and/or project-specific, where appropriate, or will describe the affected geography.

Actions should be identified in estuarine, nearshore, marine and freshwater areas as appropriate. Linkages should be made between past/ongoing activities, identified in the Inventory of Existing Activities, and anticipated future activities in order to demonstrate the potential cumulative benefits of the plan.

## Hydropower Actions

Topics include sources and magnitude of non-harvest mortality attributable to hydropower/dams at each life stage. Activities and products such as HCPs, Federal Energy Regulatory Commission (FERC) license provisions and Bi-Ops contribute significantly to identifying actions under this section and must be analyzed in the context of their contribution to achieving the stated goals (as opposed to the context of the original regulatory intent). Mitigation actions recommended under this section will be site- and/or project-specific, where appropriate, or will describe affected geography. An inventory of licensing and other review timeframes would be helpful in identifying timing of any expected future mitigation. Again, final decisions on changes to existing long-term licenses and agreements remain the responsibility of the regulating authority, and the likelihood of those changes being implemented should be carefully weighed.

## Education Actions

Actions designed to modify human behaviors that adversely affect fish should be considered during plan development. Education activities can be cost-effective ways to ensure public support is maintained for fish recovery over the long term. The plan should consider education programs for students as well as adults. Many such programs are already developed and available for local implementation. Projects and groups such as Naturemapping, Regional Fishery Enhancement Groups, Lead Entity project opportunities, Stream Team and others are all good ways to get people involved, learning, and caring about the salmon resource and how it can be conserved.

## Enforcement Actions

In some cases, protective regulations are already in place, but lack adequate enforcement and are, thus, ineffective. Enhancing enforcement may be necessary, and the plan should identify, either with actions for the pertinent “H” factor or in a separate section, specific state, local, federal and tribal agency commitments to increase regional enforcement or otherwise help enforcement efforts be more effective. One example of an effective enforcement program is the Cooperative Compliance Program initiated between regulatory agencies and irrigators in the Walla Walla watershed. In this program, irrigators learn proper techniques to screen their irrigation intakes to prevent injury to fish, and commit to upgrading their non-compliant screens. In return, regulatory agencies are working with irrigators to identify a specific time frame and funding for their project, with specific consequences for not complying according to plan.

Costs for new enforcement programs should be included in the plan.

## PLAN IMPLEMENTATION & COMMITMENTS

The objective of this section is to present implementation details (adoption process, time line, sequencing, milestones), including specific responsibilities and commitments generated through the planning process. Especially important are funding commitments and commitments to take action within a specific timeframe.

### Research, Monitoring And Adaptive Management

Bob Lohn, NOAA Fisheries Northwest Regional Administrator, states,

> *"The initial rounds of local recovery planning are not expected to be perfect. Initial rounds need to be based on existing information. As we do assessments, we will find that existing information leaves us with critical uncertainties and data gaps. Research and monitoring needs to be directed toward filling those gaps. Also, as the ESU scale of recovery planning evolves, it will provide additional context for the subbasins and the independent populations. Local recovery plans should be viewed as iterative documents that can adapt to new information and that will become more sophisticated with time."*

Data gaps and areas of uncertainty must be identified throughout the planning process. The recovery plan should include an evaluation of research needs and a plan for meeting those needs. Examples include improving knowledge about species freshwater and marine/estuarine distribution and learning what capacity of estuarine/nearshore habitat is necessary to support salmonid populations at recovered levels. It is also important to set up monitoring programs that measure cause-effect relationships of particular actions; for example, site-specific projects, modification of local land use regulations, and beefing up enforcement. As with other actions, costs estimates and funding options should be identified. How the organization will respond to new information must be addressed in the adaptive management plan.

Monitoring progress toward achievement of recovery goals is critical to the success of recovery plan implementation. The December 2002 *Comprehensive Monitoring Strategy*[12] (CMS) identifies three scales for monitoring: a) project effectiveness monitoring, b) status and trend (extensive) monitoring, and c) validation (intensive) monitoring. The CMS provides guidance in the formation of watershed, regional and statewide monitoring plans.

Each recovery plan must include a strategy and actions to monitor the environment and populations in order to measure progress toward recovery. Progress is measured in terms of fish population characteristics as well as watershed health and administrative accountability. The geographic scale of the plan, as well as types of actions identified, will have some bearing on the types of monitoring needed. Monitoring activities must occur for each of the four "H" factors (habitat, harvest, hatcheries, hydropower).

Each plan must include a discussion of how the plan's monitoring strategy is consistent with CMS elements and directives and meets requirements of the federal agencies. It is crucial that monitoring be integrated across programs and land ownerships within the

planning area, consistent with monitoring programs in adjacent watersheds, and integrated with larger-scale monitoring at the regional/ESU and statewide scales

Each planning group must identify how effectiveness of the plan is being tracked. What is the process for:

1) reviewing progress toward achieving plan goals?
2) assessing effectiveness of individual elements of the plan?
3) incorporating new information from research?
4) identifying and ensuring implementation of adaptive management?

The basic monitoring questions are: "What must be monitored to determine whether goals are being achieved?" "What is the cost of that monitoring?" and "How will we use that monitoring information to adapt the plan?"

**Plan Implementation Outreach**

A plan for dissemination, generation of support for actions, and recruitment for willing implementers is an essential element to success of plan implementation.

**Funding Strategy and Options**

An important part of implementation is assessment of local and regional funding needs to implement the plan, and identification of funding opportunities. This assessment must anticipate rising costs over time, and identify committed or potential funding sources. It must also make suggestions for allocating funds, or describe how it was decided to allocate funds. The intent in describing potential funding sources and allocation structures is to provide information and guidance to those who will be implementing actions in the future (as opposed to immediate commitments to implement actions). An inventory of funding sources is a helpful component.

**Economic, Social and Cultural Outcomes**

This discussion is a fundamental component of a recovery plan, but very little guidance exists to assist in developing these concepts. Plan developers may wish to include a qualitative assessment of impacts to socio-economic sectors, or even to provide quantitative perspectives on affected economic sectors.

**Implementation Schedule, Responsibilities and Commitments**

Each plan must include an implementation schedule that provides a synopsis of recovery and monitoring actions and acting agents and identifies milestones during implementation. Responsibilities and commitments of acting agents should be clearly stated so that certainty of implementation can be assessed. Include the planning group's expectation of the duration of the plan and the amount of time expected for the populations/ESU to achieve recovery. Also include a schedule for revising and updating the plan based on new information.

## Adoption

A page containing signatures of all key jurisdictions and stakeholders must be attached to the plan to indicate adoption and commitment to implement the plan.

## Technical Appendices and Bibliography/References

All pertinent information should be referenced or included as appendices to maintain the plan as a valuable resource document. Raw data should NOT be included - rather, use the appendices to document steps, assumptions, analyses, etc. Examples to be included are maps, tables and figures depicting population and/or habitat information, bibliography/reference and source lists, and descriptions of analytical tools that support decisionmaking in the plan process.

# ACKNOWLEDGEMENTS & AFTERWORD

Much recognition is due to Teresa Scott (WDFW), who fleshed out the initial concept for the document, took the lead in gathering input of local, regional, state and federal recovery partners, and described in the document how the many pieces and parts could contribute to recovery planning. By drawing that picture, Teresa made that coordination a reality. Many thanks are also extended to the following contributors and reviewers: Chris Drivdahl, Phil Miller, Bob Bugert, Lloyd Moody (Washington Governor's Salmon Recovery Office); Elizabeth Gaar, Elizabeth Babcock, Patty Dornbusch, Lynn Hatcher, Steve Landino, Mike Parton, Norma Sands, Larry Rutter Puget Sound TRT (NOAA Fisheries); Ken Berg, Susan Martin, Vicki Finn, Mark Bagdovitz, Jeff Chan (U.S. Fish & Wildlife Service); Bill Tweit, Jane Banyard, Brian Walsh, Kristi Lynett, Phil Trask (WDFW); Dick Wallace (Washington Department of Ecology); John Dohrmann (Puget Sound Action Team); Tim Hilliard (Washington Department of Transportation); Lynn Palensky , Brian Walsh (formerly of Northwest Power and Conservation Council); Jim Kramer, Margaret Duncan, Carol MacIlroy, Jagoda Perich-Anderson (Shared Strategy for Puget Sound); Scott Brewer (Hood Canal Coordinating Council and Shared Strategy Work Group); Jeff Breckel, Phil Trask (Lower Columbia Fish Recovery Board); Robert Hayman (Skagit System Cooperative); Denise Krownbell (Seattle City Light); Allen Zulauf (Puyallup River Watershed Council); Keith Wolf (Colville Confederated Tribes), Bob Rose (Yakama Nation); Mike Kaputa (Chelan County); Ron Walter (Upper Columbia Salmon Recovery Board); Paul Kraynak (Nez Perce Tribe).

Salmon recovery policy is still evolving, and though the basic elements of a recovery plan have not changed, guidance for writing the plan, as well as answers to policy and process questions, will continue to be developed. New information will be posted as it becomes available on the WDFW website at:

http://www.wa.gov/wdfw/

and on the Governor's Salmon Recovery Office website at:

http://www.governor.wa.gov/gsro

Other useful websites include:

- Northwest Indian Fisheries Commission: http://www.nwifc.wa.gov/
- Columbia River Intertribal Fish Commission: http://www.critfc.org/
- The Endangered Species Act: http://www.house.gov/resources/105cong/reports/105_c/esaidx.htm
- NOAA Fisheries Salmon ESA web site: http://www.nwr.noaa.gov/1salmon/salmesa/index.htm
- Northwest Fisheries Science Center Salmon Recovery Planning: http://www.nwfsc.noaa.gov/trt/index.html
- USFWS ESA web site: http://endangered.fws.gov/
- Northwest Power & Conservation Council Fish & Wildlife Program: http://www.nwcouncil.org/fw/Default.htm
- Puget Sound Salmon Forum: http://www.sharedsalmonstrategy.org
- Lower Columbia Fish Recovery Board: http://www.lcfrb.gen.wa.us/default1.htm
- Upper Columbia Salmon Recovery Board: http://www.ucsrb.org/
- Access Washington: http://www.access.wa.gov
- Salmon Information Center: http://www.salmoninfo.org
- StreamNet: http://www.streamnet.org/

# FOR FURTHER INFORMATION

Brian Walsh
Salmon Grants Manager
Washington Department of Fish and Wildlife
(360) 902-2805 walshbjw@dfw.wa.gov

# FOOTNOTES & ANNOTATED BIBLIOGRAPHY


1 *Letter re: Subbasin Planning and the ESA*, Robert Lohn to Frank (Larry) Cassidy. May 24, 2002.

This letter describes the relationship between subbasin planning and recovery planning from the NOAA viewpoint. This letter includes an attachment entitled *NMFS Local Recovery Plan Guidelines* that provides subbasin planners with initial guidance on what elements subbasin plans must include in order to meet ESA legal requirements.
Available at:
http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/esaletter.htm
Questions from the letter:
http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/default.htm
Attachment: Local Recovery Plan Guidelines:
http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/recoveryplanguidelines.htm

2 *Statewide Strategy to Recover Salmon – Extinction is not an option*. State of Washington Governor's Salmon Recovery Office. November 1999. 324 p. + appendices.

The SSRS provides overall guidance for the kinds of issues to be addressed in regional and local salmon recovery plans, including such topics as agriculture, forestry, land use, water quality and quantity, fish passage, harvest, artificial production, and hydropower/dams. The SSRS also provides general guidance on the topics of enforcement, education, monitoring, technical assistance, and other tools in the salmon recovery toolbox. The SSRS stresses the importance of a strong scientific foundation, a collaborative and open public process, and a long-term adaptive management strategy to be based on comprehensive monitoring of salmon recovery and watershed health.
Available at: http://www.governor.wa.gov/gsro/default.htm

3 *Local Recovery Plan Guidelines.* NOAA Fisheries. May 24, 2002.

Available at:
http://www.nwcouncil.org/fw/subbasinplanning/admin/esa/recoveryplanguidelines.htm

Companion to Lohn/Cassidy letter, above.

4 *Wy-Kan-Ush-Mi, Wa-Kish-Wit. Spirit of the Salmon: The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs and Yakama Tribes*. Columbia River Intertribal Fish Commission. 1996. Two volumes: Vol. 1: Science and Culture; Vol. 2: Individual Subbasin Plans

Available at: http://www.critfc.org/text/trp.html

5 *Integrated Recovery Planning for Listed Salmon: Technical Guidance for Watershed Groups in Puget Sound.* Puget Sound Technical Recovery Team and the Shared Strategy Staff Group. Draft, February 3, 2003.

The goal of this document is to ensure that the biological content of recovery plans is developed in sufficient detail and with sufficient information that the plans can likely be adopted as federal recovery plans. The document integrates approaches provided in previous NMFS guidance as well as NWPPC guidance to subbasin planners, and describes the process, tools and criteria for evaluating the **substance** of local-scale salmon recovery plans. In contrast, many other guidance documents (including the outline) address primarily the **content**, or topics, that need to be covered by the assessment or plan. The Integrated Recovery Planning document is geared toward the Puget Sound domain, but its principles apply universally.

The document identifies the concepts of a viable salmonid population (VSP) as the basic building block of a recovery plan. It further provides a series of technical questions that link VSP with each planning step. This approach promotes an integrated analysis of habitat, harvest and hatchery actions, illustrates the steps in plan development using examples from existing tools, and discusses criteria that can be used to evaluate the certainty of the results predicted by the plan.
Available at
http://www.sharedsalmonstrategy.org/files/Guidance%20Document02-03-03a.pdf

6 *Technical Guide for Subbasin Planners*. 2001. Northwest Power Planning Council document 2001-20. Summary + 24 p.

This document provides an outline and suggested contents for a subbasin plan, and "assists planning technicians on specific issues that may be encountered in the course of developing a subbasin plan." The guide poses several questions that must be answered in a subbasin plan.
Available at: http://www.nwcouncil.org/library/2001/2001-20.pdf

The seven-page appendix to the subbasin planning manual, *Technical Guide for Developing Subbasin Assessments; Attachment 1 to Technical Guide for Subbasin Planners,* provides greater detail on what should be included in the assessment portion of the plan. The appendix lays out issues in the format of questions to be answered, coupled with tasks that lead the plan developer to develop the answers to the questions.

7 *Guidance on Watershed Assessment for Salmon.* Joint Natural Resources Cabinet. May 2001. 54 p.

A "science-based framework that will help watershed groups, agencies, and others understand what kinds of assessments are needed to support decisions they make on various types of projects to protect and restore habitat for salmon." Also intended to assist the SRFB and project development groups in reviewing the adequacy of assessment information, identifying areas that need further

assessment, and supporting projects with the greatest potential to benefit salmon. Available at http://www.governor.wa.gov/gsro/regions.htm

8 *Roadmap for Salmon Habitat Conservation at the Watershed Level*. Joint Natural Resources Cabinet. February 2002. 20 p. + appendices.

The Roadmap picks up where an earlier document, the Guidance on Watershed Assessment for Salmon (May 2001), leaves off. The Roadmap is designed to help agency representatives and local partners determine what is needed to develop effective habitat conservation actions tailored to their specific watershed needs. The document helps in determining the most effective and efficient ways to address past, current and future effects of human activities on salmon. It provides a "roadmap" of the steps necessary to develop and implement strategic conservation activities, and to coordinate the efforts of all salmon recovery partners within a watershed. Available at:
http://www.governor.wa.gov/gsro/regions.htm

9 *Biological Opinion: Reinitiation of Consultation on Operation of the Federal Columbia River Power System, Including the Juvenile Fish Transportation Program, and 19 Bureau of Reclamation Projects in the Columbia Basin*. National Marine Fisheries Service. December 21, 2000

Available at:
http://www.nwr.noaa.gov/1hydrop/hydroweb/docs/Final/2000Biop.html

10 Rutter, Larry. *Draft white paper: The Hatchery and Genetic Management Plan Process and Integration with Subbasin Planning, TRT/Recovery Planning, and U.S. v. Oregon.* Draft April 2003. NOAA Fisheries, Lacey, Washington.

11 *Puget Sound Comprehensive Chinook Management Plan: Harvest Management Component.* Puget Sound Indian Tribes and Washington Department of Fish and Wildlife. March 23, 2001.

12 *Washington Comprehensive Monitoring Strategy and Action Plan for Watershed Health and Salmon Recovery*. Monitoring Oversight Committee. Interagency Committee for Outdoor Recreation. December 2002. 3 volumes.

The Comprehensive Monitoring Strategy and action plan identifies the most important types of monitoring activities, both current and future, in Washington, and can help local and regional recovery planners determine what types of monitoring are critical in measuring progress toward recovery.
Available at: http://www.iac.wa.gov/salmonmonitoring.htm

**Additional Resources:**

*4(d) Rule Implementation Binder for Threatened Salmon and Steelhead on the West Coast*. NMFS. September 22, 2000. lots of pages.

Detailed guidance for local governments and individuals submitting programs for take exception under the 4(d) rule.
Available at http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/4dwsbinder.htm
And http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/impbinder.pdf

*A Citizen's Guide to the 4(d) Rule for Threatened Salmon and Steelhead on the West Coast*. NMFS. June 20, 2000. approx. 30 p.

This web document introduces and explains the 4(d) rule. It complements the final rule published in the *Federal Register* in June of 2000 by providing a more user-friendly description of why the rule is needed, what it contains, how it will affect citizens, and how to get more information.
Available at: http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/citguide.htm
And http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/4dcg.pdf

*Bull Trout (Salvelinus confluentus) Draft Recovery Plan*. U.S. Fish and Wildlife Service. 2003. Chapters 1-28. Portland, Oregon.

(Note that chapters for Puget Sound, the Olympia Peninsula, and Jarbridge River are not yet completed)
Available at: http://pacific.fws.gov/bulltrout/recovery/Default.htm

*Coastal Salmon Conservation: Working Guidance for Comprehensive Salmon Restoration Initiatives on the Pacific Coast*. National Marine Fisheries Service. September 15, 1996. 23 + 28 p.

Intended to assist the Pacific Coast states, tribes and other entities in "taking the initiative for coastal salmon restoration." The document was distributed prior to many listings at a time when states and tribes were beginning to develop plans that might avert listing, and to get a head start on restoration planning. As such, this was one of the first planning guidance documents. This document includes, as its Appendix II, "*Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale"* containing the so-called "matrix of pathways and indicators" that define "properly functioning", "at risk", and "not properly functioning" for a series of habitat characteristics. This appendix provides guidance to NMFS staff for making determinations of the effects of actions on the listed animal or its habitat. Appendix II also provides a "checklist for documenting environmental baseline effects of proposed action(s) on relevant indicators."
Available at: http://www.nwr.noaa.gov/1salmon/salmesa/pubs/salmrest.pdf

*The ESA and Local Governments: Information on 4(d) Rules*. NMFS. May 7, 1999. approx. 7 p.

Web pamphlet describing the 4(d) rules using a "Frequently Asked Questions" format.
Available at: http://www.nwr.noaa.gov/1salmon/salmesa/4dguid2.htm
Additional 4(d) information at:
http://www.nwr.noaa.gov/1salmon/salmesa/final4d.htm

*Guide to Watershed Planning and Management – A manual to assist Washington's local governments and tribes with watershed planning and management under the Watershed Management Act (RCW 90.82/ESHB 2514*). Association of Washington Cities, et al. Draft January 11, 1999.

*Initial Snohomish River Basin Chinook Salmon Conservation/Recovery Technical Work Plan***.** Snohomish Basin Salmonid Recovery Technical Committee. October 6, 1999

*Interim Guidance for Protecting and Restoring Bull Trout Habitat in Watershed-based Recovery Planning in the Coastal/Puget Sound Distinct Population Segment-DRAFT* USFWS Puget Sound Bull Trout Recovery Unit Team: November 27, 2002

Available at: http://www.sharedsalmonstrategy.org/files/PSRUTguidancedoc.pdf

*Oregon Specific Guidance*. Oregon Subbasin Planning Coordination Group. October 2, 2002.

This guide, prepared by Oregon's statewide Subbasin Planning coordination group, builds upon the NWPPC Technical guide to provide a plan outline and further advice as to plan content. In doing so, it covers sometimes excruciating detail that may be of interest to Washington subbasin planners. It also extensively covers Oregon process topics, which should not be confused with the process Washington subbasins are following to develop subbasin plans (e.g., a Lead Entity in Oregon does not equal a Lead Entity in Washington).
Available at:
http://www.nwcouncil.org/fw/subbasinplanning/admin/level2/or/OregonGuidance.pdf

*Plan for Recovery of Puget Sound Salmon - Draft Outline.* Shared Strategy for Recovery of Salmon in Puget Sound. June 29, 2001. 7 pages

This outline provides an initial look at the intended layout of the Puget Sound salmon recovery plan to be developed under the Puget Sound Shared Strategy. As guidance, this outline reflects a compilation of the various plan-writing guidance documents available at that time.
Available at: http://www.sharedsalmonstrategy.org

*Policy for Evaluation of Conservation Efforts (PECE) when making listing decisions*. USDI, USFWS and USDC, NOAA. March 28, 2003. Fed. Regis. 68(60): 15100-15115.

Identifies criteria the agencies will use in determining whether formalized (federal, state, local, tribal, business, organizations and individual) conservation efforts contribute to making a listing unnecessary.

*Proposed Recovery Plan for Snake River Salmon*. National Marine Fisheries Service, Portland, Oregon. 1995, 364 p. + appendices.

*Recovery Plan Table of Contents*. Lower Columbia Fish Recovery Board. September 2002.

*Summer Chum Salmon Conservation Initiative – An implementation plan to recover summer chum salmon in the Hood Canal and Strait of Juan de Fuca region*. Washington Department of Fish and Wildlife and Point No Point Treaty Tribes. April 2000. 423 pages + appendices.

*Recommended Restoration Projects for the Dungeness River.* Dungeness River Restoration Work Group. 1997. Jamestown S'Klallam Tribe, Blyn, Washington.

*Recovery Planning Guidance for Technical Recovery Teams (TRTs)* (PDF) NMFS. Updated September 1, 2000. 21 p.

A summary of NMFS recovery policy, and detailed description of the charge and operation of TRTs. Directed at TRT coordinators and members.
Available at: http://research.nwfsc.noaa.gov/cbd/trt/overview.htm

*Recovery Planning for West Coast Salmon*. NMFS. Updated August, 2000. 7 parts.

This web document provides a brief overview of NMFS salmon recovery planning approach for NMFS Northwest and Southwest Regions.
Available at: http://research.nwfsc.noaa.gov/cbd/trt/overview.htm
FAQ at: http://research.nwfsc.noaa.gov/cbd/trt/faq.htm

*Reference Guide to Salmon Recovery*. Joint Natural Resources Cabinet. February 2002. 13 + 4 p.

This document helps clarify what salmon recovery means, what is happening, and who is involved at different geographic scales. It also provides information on the mechanics of various ESA compliance avenues, and a snapshot of recovery planning activities in Washington, from the federal and state levels all the way down to the watershed scale. After reading this document, people who are interested in salmon recovery activities in their watershed will better understand the broader context of salmon recovery and how to become involved. The Guide also identifies some of the sources of additional information that are available.
Available at: http://www.governor.wa.gov/gsro/regions.htm