

Phase 1 Outline

Aquatic Species Restoration Plan

Cover design TBD

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
1 INTRODUCTION	1
1.1 Background.....	1
1.2 Purpose and Vision	1
1.3 Approach and Scope.....	1
1.4 ASRP Development.....	1
2 CONDITIONS IN THE BASIN	2
2.1 Geographic Overview	2
2.2 Historical Conditions.....	2
2.3 Social Setting and Land Use.....	2
2.4 Habitats for Aquatic Species.....	3
2.5 Future Conditions	3
2.5.1 Climate Change.....	3
2.5.2 Developmental Trends and Future Land Use	3
3 KEY AQUATIC SPECIES.....	4
3.1 Identifying Key Species	4
3.2 Salmonids	4
3.3 Non-Salmonid Fishes	4
3.4 Amphibians and Reptiles	4
3.5 Mammals and Birds.....	4
4 GOALS AND OBJECTIVES.....	5
4.1 Goals	5
4.2 Objectives	5
5 SCIENTIFIC FOUNDATION.....	7
6 STRATEGIES.....	8
6.1 Habitat and Process Protection	8
6.2 Restoration	8

6.3	Planning	9
6.4	Institutional Capacity	9
6.5	Community Involvement	9
7	ACTIONS	10
8	IMPLEMENTATION	11
8.1	Implementing Parties	11
8.2	Prioritization and Selection of Projects	11
8.2.1	Early Actions	11
8.2.2	Near-term Actions	11
8.2.3	Long-term Actions	11
8.3	Regulatory Processes and Legal Requirements	11
8.4	Funding Strategies	11
8.5	Alignment with Other Programs and Efforts	11
8.6	Design Guidelines	11
9	MEASURING SUCCESS	12
9.1	Monitoring and Adaptive Management Process	12
9.2	Metrics and Indicators	12
9.3	Monitoring Protocols	12
9.4	Process for Updating the ASRP	12
10	REFERENCES	13

LIST OF TABLES

Table 1	Basin-scale Objectives	5
Table 2	Habitat and Process Protection Sub-strategies	8
Table 3	Restoration Sub-strategies	8
Table 4	Planning Sub-strategies	9
Table 5	Institutional Capacity Sub-strategies	9
Table 6	Community Involvement Sub-strategies	9
Table 6	Recommended Actions Related to Strategies and Costs	10

LIST OF FIGURES

Figure 1	Restoration Actions by Sub-basin	10
----------	--	----

LIST OF APPENDICES

Appendix A Chehalis Basin Setting

Appendix B Aquatic Species in the Chehalis Basin

Appendix C Scientific Foundation for the Aquatic Species Restoration Plan

Appendix D Models and Analyses

Appendix E Derivation of Cost Estimates

ACRONYMS AND ABBREVIATIONS

Abbreviation here

Definition here

EXECUTIVE SUMMARY

Placeholder to retain document outline – section to be completed during Phase 2.

Summary will include:

- *Brief introduction to the ASRP*
- *Vision statement*
- *Summary of strategies and implementation*
- *User's guide to the document*

1 INTRODUCTION

1.1 Background

Brief intro to the Chehalis Basin Strategy and how the ASRP fits into the overall strategy

Will include how ASRP relates to RFP, dam alternative, other strategy elements

What is the ASRP – what is it meant to do, what does it address, what can it not address (ocean conditions, other external factors)

1.2 Purpose and Vision

Purpose and vision statements

1.3 Approach and Scope

Includes logic chain to show clear linkages and introduce the concepts of goals, objectives, strategies, and actions

1.4 ASRP Development

Includes collaborative approach to decision making

Will include how Phase 1 document draft relates to Phase 2 document

2 CONDITIONS IN THE BASIN

Work for Phases 1 and 2 of this chapter is largely complete, based on existing information developed for the Programmatic EIS and previous drafts of the ASRP.

The text will be brief, referencing/summarizing from existing documents instead of repeating all of their content. Brief summary subsections will be completed during Phase 1 to demonstrate importance/need of ASRP. Phase 2 will update the sections to include a comparison of existing and historical conditions. Additional supporting land use and habitat information will be in Appendix A (to be completed during Phase 2).

2.1 Geographic Overview

Overview of geographic scope/delineation of the subbasins (includes an overview figure showing the subbasins – detailed subbasin figures could be provided in an appendix if desired)

Include geologic setting of the basin, what are the unique geomorphic features

2.2 Historical Conditions

Phase I – summary overview of the history of the basin, what is unique about the basin – will expand upon this section for Phase II

2.3 Social Setting and Land Use

Brief summary of local communities, history of natural resource management and culture, current economic and cultural factors, current land use, existing flood damage reduction infrastructure, and mitigation practices

Summary paragraph & pie chart (or similar visual) summarizing land uses (details in Appendix A to be completed during Phase 2)

2.4 Habitats for Aquatic Species

Summary information & charts of habitat types/existing conditions (details and history in Appendix A to be completed during Phase 2)

Include high-level summary of stressors (including non-native invasive species)

2.5 Future Conditions

2.5.1 Climate Change

Summary of possible future scenarios and effects on aquatic species, describing the assumptions about climate change (how we anticipate it will impact the basin by 2080)

2.5.2 Developmental Trends and Future Land Use

Prospective view of land use, population growth, development, and what is stated in local plans for land use

3 KEY AQUATIC SPECIES

This chapter will be a high-level summary of key species and the methods used to identify them. Phase 1 will include a list of the species, with additional information to be added during Phase 2. Appendix B (to be completed during Phase 2) will include more detailed species/life history information.

The majority of the detailed information that will become Appendix B was developed for the previous draft ASRP.

3.1 Identifying Key Species

Methodology summary

3.2 Salmonids

Brief summary section – additional context/detail in Appendix B (to be completed during Phase 2)

3.3 Non-Salmonid Fishes

Brief summary section – additional context/detail in Appendix B (to be completed during Phase 2)

3.4 Amphibians and Reptiles

Brief summary section – additional context/detail in Appendix B (to be completed during Phase 2)

3.5 Mammals and Birds

Brief summary section – additional context/detail in Appendix B (to be completed during Phase 2)

4 GOALS AND OBJECTIVES

4.1 Goals

Basin-wide, describing the desired future outcomes that will compose the state identified in the vision statement

4.2 Objectives

Basin-wide accomplishments, to provide a clear standard with metrics/indicators for measuring progress

Table 1
Basin-scale Objectives

SALMONID OBJECTIVES	
COHO SALMON	
Abundance	(objective statement that includes metrics)
Productivity	
Etc.	
FALL-RUN CHINOOK SALMON	
SPRING-RUN CHINOOK SALMON	
WINTER-RUN STEELHEAD	
CHUM SALMON	

NON-SALMONID FISHES OBJECTIVES	
TBD	
AMPHIBIANS AND REPTILES OBJECTIVES	
TBD	
MAMMALS AND BIRDS OBJECTIVES	
TBD	
BASIN-WIDE OBJECTIVES	
TBD	
TBD	
TBD	

Notes:
See Appendix D for EDT outputs used to develop the species objectives.

5 SCIENTIFIC FOUNDATION

Brief summary – detailed Scientific Foundation in Appendix C

6 STRATEGIES

Approaches necessary to achieve the objectives

6.1 Habitat and Process Protection

Protect intact ecosystems, unique habitats, and strategic areas that support critical ecosystem functions and priority species.

Table 2
Habitat and Process Protection Sub-strategies

ID	SUBSTRATEGY
P1	(strategy)
P2	(strategy)
Etc.	

6.2 Restoration

Restore ecosystem functions to healthy and self-sustaining levels for the benefit of native aquatic and semi-aquatic species.

Table 3
Restoration Sub-strategies

ID	SUBSTRATEGY
R1	(strategy)
R2	(strategy)
Etc.	

6.3 Planning

Effectively plan for current and future conditions in the Chehalis Basin.

Table 4

Planning Sub-strategies

ID	SUBSTRATEGY
L1	(strategy)
L2	(strategy)
Etc.	

6.4 Institutional Capacity

Build institutional capacity for restoration, protection, and planning processes.

Table 5

Institutional Capacity Sub-strategies

ID	SUBSTRATEGY
I1	(strategy)
I2	(strategy)
Etc.	

6.5 Community Involvement

Engage landowners and the community to ensure a successful plan and support implementation of actions.

Table 6

Community Involvement Sub-strategies

ID	SUBSTRATEGY
C1	(strategy)
C2	(strategy)
Etc.	

7 ACTIONS

Actions are specific approaches with clear relevance to strategies. Text will acknowledge that actions will be voluntary.

Actions will be presented at the sub-basin scale in Phase 1. Phase 2 will include actions developed to a more detailed geography (diagnostic unit, reach-scale, priority locations) and temporal scope (near-term, long-term).

Cost estimates will be included appropriate to each phase (summary numbers in the table in this section, and cost estimate details/backup provided in Appendix E at a level of detail available for Phase 1, with more detail in Phase 2).

There will be a short intro here but the majority of the section will be in the figure and table.

Figure 1
Restoration Actions by Sub-basin
To be determined

Table 6
Recommended Actions Related to Strategies and Costs

8 IMPLEMENTATION

8.1 Implementing Parties

Phase 1 will list existing implementing partners, and the section will be further developed during Phase 2.

8.2 Prioritization and Selection of Projects

Preliminary discussion in Phase 1 to focus on prioritization process and selection of early actions. Text will acknowledge that actions will be voluntary. Remainder of section to be completed during Phase 2.

8.2.1 Early Actions

Development, approach summary, and implementation discussion

8.2.2 Near-term Actions

8.2.3 Long-term Actions

8.3 Regulatory Processes and Legal Requirements

Placeholder to retain document outline numbering – section to be completed during Phase 2.

8.4 Funding Strategies

Placeholder to retain document outline numbering – section to be completed during Phase 2.

8.5 Alignment with Other Programs and Efforts

Placeholder to retain document outline numbering – section to be completed during Phase 2.

8.6 Design Guidelines

Placeholder to retain document outline numbering – section to be completed during Phase 2.

9 MEASURING SUCCESS

9.1 Monitoring and Adaptive Management Process

Placeholder to retain document outline numbering – principles to be developed by science foundation and further developed in Phase 2 for this section.

9.2 Metrics and Indicators

To be framed in Objectives section during Phase 1; additional metrics and indicators information to be developed in Phase 2.

9.3 Monitoring Protocols

Placeholder to retain document outline numbering – section to be completed during Phase 2.

9.4 Process for Updating the ASRP

Section to be summarized during Phase 1 and updated during Phase 2.

10 REFERENCES

Appendix A

Chehalis Basin Setting

To be completed for Phase 2

LAND USE

Forestry and Logging

Production of Paper Pulp

Agriculture

Development

Transportation Infrastructure

Dredging and Gravel Mining

Dam Construction and Operations

Hatcheries

AQUATIC SPECIES HABITAT

Key Habitat-forming Processes

Historical Habitat Conditions

Current Habitat Conditions and Contributing Factors

Upper Watershed Channels

Floodplain Systems

Estuaries

Appendix B

Aquatic Species in the Chehalis Basin

To be completed for Phase 2

SALMONIDS

Coho Salmon

Chinook Salmon

Fall-run Chinook Salmon

Spring-run Chinook Salmon

Winter-run Steelhead

Chum Salmon

Coastal Cutthroat Trout

NON-SALMONID FISHES

Pacific Eulachon

Largescale Sucker

Olympic Mudminnow

Pacific Lamprey

Riffle and Reticulate Sculpin

Speckled Dace

White Sturgeon

Largemouth and Smallmouth Bass

AMPHIBIANS AND REPTILES

American Bullfrog

Coastal Tailed Frog

Northern Red-legged Frog

Oregon Spotted Frog

Van Dyke's Salamander

Western Toad

Western Pond Turtle

MAMMALS AND BIRDS

North American Beaver

Waterfowl

Appendix C

Scientific Foundation for the Aquatic Species Restoration Plan

To be completed for Phase 2

FOUNDATIONAL RESTORATION PRINCIPLES

ASSUMPTIONS AND HYPOTHESES

VIABLE SALMONID POPULATION CONCEPTS

Introduction to VSP

VSP Parameters at Basin Scale

MAJOR PROCESS AND ENVIRONMENTAL DOMAINS AND DRIVERS

Upper Watershed Channels

Floodplain Systems

Estuaries

Appendix D

Models and Analyses

To be completed for Phase 2

MODELING APPROACH TO CURRENTLY PROPOSED ACTIONS

Ecosystem Diagnosis and Treatment

Watershed Characterization

Amphibian Occupancy

Ecological Corridor

Appendix E

Derivation of Cost Estimates

To be initially developed for Phase 1, then refined for Phase 2

LAND ACQUISITION AND EASEMENTS

RESTORATION

MONITORING AND MAINTENANCE

PLANNING AND INSTITUTIONAL COSTS
