City of Corvallis Salmon Response Plan

Chapter 3. Project Structure

Prepared for:

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DISCLAIMER

The authors have attempted to replace all references to Squaw Creek with the creek's new name, Dunawi Creek. This includes replacing the creek's full name as well as changing Squaw Creek Reach reference labels to indicate Dunawi Creek.

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INTRODUCTION

When the City of Corvallis decided to undertake a project to address the ESA and prepare an application using the Section 4 (d) Rules as guidance, the City involved itself with a process not previously accomplished. Few other local jurisdictions had evaluated the impact of their activities on listed salmonids in the Pacific Northwest. In jurisdictions that attempted to do so (e.g., Clark County, Washington; Clackamas County, Oregon; and the City of Sandy, Oregon) such attempts were considered inadequate by NOAA Fisheries. Without a template or road map to follow, the City had to develop a new and innovative approach if it wanted to meet the compliance requirements.

This chapter addresses the innovative project structure that the City developed to assess the baseline fish habitat conditions, evaluate city and citizen impacts on fish habitat, and identify and implement solutions that protect habitat and actually put habitat on a trajectory toward achieving PFC. The following project elements are addressed:

- Project area
- Data collection area and reach definition;
- Task structure of the two-phased project;
- Project team, coordination and oversight, project team management, Urban Services Committee (USC), Technical Advisory Committee (TAC), professional consultant,
- Agency/jurisdiction coordination (NOAA Fisheries and other regulating agencies), local jurisdiction coordination (i.e., Benton County, Oregon State University, other jurisdictions); and
- Public involvement (e.g., residents, interested public, conservation groups, business groups, etc.).

PROJECT AREA

When Corvallis was identifying the project boundary, it considered the area within the City limits and immediately outside the city limits within the urban growth boundary (UGB) as important to the project. While UGB land was in Benton County, because of the influence the City exerted on the surrounding county land and development activities, the City felt that the entire UGB should be included as part of the project area (see Figure 2 in Chapter 1).

This expanded City project area had advantages. First, the larger area allowed the City to address a much larger part of the watershed. Including the UGB doubled the project area to approximately 17,900 acres (8,962 for the UGB, 8,942 for the City). Second, the project would extend cooperation between the two jurisdictions to include environmental activities. Third, solution options and programs requiring joint implementation would

more likely be successful if both jurisdictions participated in the project. Finally, cooperation between jurisdictions would meet one of NOAA Fisheries main goals, which was to encourage collaborative efforts to address salmon habitat protection.

DATA COLLECTION AREA AND REACH IDENTIFICATION

One of the main tasks of the project was to create an environmental baseline or existing conditions database that accurately described the chinook salmon habitat in the project area. Accomplishing this task required a review of existing data and information, identification of data gaps and fieldwork to fill the data gaps.

A critical concern for developing the environmental baseline was related to the areas that were to be surveyed. What steams would be included, how would the data be organized and, for efficiency purposes, could the project rely on previous or on-going City environmental projects to minimize duplication of effort?

Stream Corridor Width and Basin Organization

One of the first steps was to determine the research area to be studied. While the project would obviously review and collect data on all water-courses (streams and rivers) within the project area, how far back from the top-of-bank would be reasonable to conduct research and collect data? Guidance on the width of the investigation area came from a NOAA Fisheries discussion on salmonid critical habitat (Federal Register February 16, 2000).

Salmonid research suggested that the most significant area of habitat influence on salmon habitat was the riparian area as it provides shade, sediment transport, nutrient or chemical regulation, stream bank stability, and input of large woody debris or organic matter. While the literature varied on how wide the riparian area should be (varying from 300 feet to formula based on the length of one "site potential" tree), there was agreement that widths should be wide enough to capture these important habitat-sustaining functions. NOAA Fisheries also recognized that different land uses and activities (e.g., urban land types, development, agriculture, etc.) could severely diminish the riparian area's habitat sustaining functions.

The project team decided that although much of the project area was impacted by urban land uses, which reduced the width of a riparian area's habitat-sustaining function, they were concerned about evaluating as much of the potential riparian area as reasonable, even if it did not currently provide chinook habitat-sustaining functions. Therefore, a 400-foot-wide corridor (200 feet from top of bank on both sides of the watercourse) was selected as the area of research. The project team considered this a reasonable corridor width because it would ensure developing a database covering any future buffer width restrictions that NOAA Fisheries could require for ESA compliance. Data collected from within this 400-foot width also would be useful in meeting the Oregon statewide Goal 5 (Open Spaces, Scenic and Historic Areas and Natural Resources Goal) significant natural features identification project objectives.

The project team also decided to organize the project and existing conditions database around the stormwater basins used for the Stormwater Master Plan (SMP). The SMP had divided the City into a series of stormwater basins. All work on the SMP from data collection to project improvement identification was categorized into these stormwater basins. By using the same format the ESA project had a ready-made template for data collection and analysis, as well as the ability to tie any future ESA solution options that were stormwater-related directly into the SMP to satisfy multiple objectives.

Reach Identification

In order to be able to accurately describe chinook salmon habitat, the project area was divided into discrete sections. This allowed for the collection and assembly of the data, and assessment of the varying conditions across the area. The major watercourses (Mary's and Willamette Rivers, and Dunawi [formerly known as Squaw Creek], Oak, and Dixon Creeks) were divided into 27 reaches. For study purposes, stormwater basins that either did not have one of the listed watercourses or had a watercourse above the Jackson Frazer Wetland, which acted as a natural barrier to fish passage, were each categorized as a reach. A total of 42 reaches were identified.

Reach boundaries along the watercourse were determined by break in riparian community structure (e.g., development features such as roadway intersections and bridge crossings, changes in land use, changes in riparian vegetation from native to non-native, and natural features such as creek confluences). Preliminary reach boundaries were identified by aerial photography. These were then "ground-truthed" and refined during fieldwork data collection. The SMP stormwater basin boundaries were used for the stormwater basin reaches. Table 1 defines the reaches and boundaries for the watercourses and Figure 3 displays the reaches that were used in this evaluation.

Table 1. Reach/Stormwater Basin Approximate Boundaries

Reach	Description	Approx. Beginning	Approx. End
DCR1	Dixon Creek Reach 1	Willamette River	SW 9th Ave
DCR2	Dixon Creek Reach 2	SW 9th Ave	NW Garfield
DCR3	Dixon Creek Reach 3	NW Garfield	NW Circle Blvd
DCR4	Dixon Creek Reach 4	NW Circle Blvd	Walnut Blvd
DCWF	Dixon Creek West Fork	Walnut Blvd	UGB
DCEF	Dixon Creek East Fork	Walnut Blvd	Headwaters
DCMF	Dixon Creek Middle Fork	Walnut Blvd.	UGB boundary

Table 1. Reach/Stormwater Basin Approximate Boundaries

Reach	Description	Approx. Beginning	Approx. End
OCR1	Oak Creek Reach 1	Mary's River	Hwy. 20
OCR2	Oak Creek Reach 2	Hwy. 20	SW Jefferson Ave
OCR3	Oak Creek Reach 3	SW Jefferson	Walnut Blvd
OCR4	Oak Creek Reach 4	Walnut Blvd	UGB
OCNTR1	Oak Creek North Tributary Reach 1	Walnut Blvd	0.75 mile upstream
OCNTR2	Oak Creek North Tributary Reach 2	0.75 mile upstream	Walnut Blvd
OCNTR3	Oak Creek North Tributary Reach 3	Walnut Blvd	UGB
OCNTWF	Oak Creek North Tributary West Fork	Walnut Blvd	UGB
DuCR1	Dunawi Creek Reach 1	Mary's River	Brooklane Dr/ Stratton Way
DuCR2	Dunawi Creek Reach 2	Brooklane Dr/ Stratton Way	0.25 mile upstream
DuCR3	Dunawi Creek Reach 3	0.25 mile upstream	SW 35th Ave
DuCR4	Dunawi Creek Reach 4	SW 35th Ave	Confluence S & N Fork Dunawi Creek
DuCNFR1	Dunawi Creek North Fork Reach 1	Confluence S & N Fork Dunawi Creek	Hwy 20
DuCNFR2	Dunawi Creek North Fork Reach 2	Hwy 20	NW 63rd St
DuCNFR3	Dunawi Creek North Fork Reach 3	NW 63rd St	UGB
DuCSFR1	Dunawi Creek South Fork Reach 1	Confluence S & N Fork Dunawi Creek	Sunset Park

Table 1. Reach/Stormwater Basin Approximate Boundaries

Reach	Description	Approx. Beginning	Approx. End
DuCSFR2	Dunawi Creek South Fork Reach 2	Sunset Park	Walnut Blvd
DuCSFR3	Dunawi Creek South Fork Reach 3	Walnut Blvd	UGB
MRR	Mary's River Reach	Willamette River	UGB
WRR	Willamette River Reach	Entire east project boundary	
Adams Jefferson	Adams Jefferson	Stormwater MasterPlan (SMP)	SMP
Dry Creek	Dry Creek	SMP	SMP
Fillmore	Fillmore	SMP	SMP
FRAZIER	Frazier Creek	SMP	SMP
Garfield	Garfield	SMP	SMP
Goodnight	Goodnight	SMP	SMP
JACKSON	Jackson Creek	SMP	SMP
LEWISBURG	Lewisburg	SMP	SMP
Madison	Madison	SMP	SMP
Mill Race	Mill Race	SMP	SMP
North East Corvallis	North East Corvallis	SMP	SMP
Ryan Creek	Ryan Creek	SMP	SMP
SEQUOIA	Sequoia Creek	SMP	SMP
Village Green	Village Green	SMP	SMP
Western	Western	SMP	SMP

Figure 3. Stream Reaches with 400-foot Stream Corridor Evaluation Area Identified

See separate file

TWO PHASED PROJECT STRUCTURE

The project was divided into two phases. The phases can generally be categorized into baseline conditions/problem identification (Phase One), and solutions identification/plan preparation (Phase Two).

Phase One

Phase One was primarily data collection and analysis. The major effort was to develop a scientifically based dataset that would accurately describe the existing chinook salmon habitat conditions within the project area and to develop a pathways analysis that identified existing city activities and citizen behavior that could impact chinook habitat.

Project tasks were structured to focus on the scientific methodology that would be developed to collect and analyze the data, and the databases that would be prepared to conduct the analysis. While the following chapter (Chapter 4) describes the scientific methodology used, six distinct tasks were used to develop the baseline conditions. These tasks covered the following activities:

- Project initiation
  - Develop project goals and objectives
  - Identify problem set
  - Develop public involvement plan and outreach/education approach
  - Conduct initial public involvement (stakeholders meetings)
  - Conduct initial federal regulating agency contact (NOAA Fisheries)
- Methodology development and data collection
  - Develop the methodology for data collection and analysis, including approval of the methodology by NOAA Fisheries
  - Prepare the database structure for baseline data and pathways analysis
  - Identify project area and data collection area
  - Collect existing data and determine data gaps
  - Collect field data and enter into database
- Evaluate data
  - Conduct initial baseline conditions data analysis
  - Present findings to the TAC
  - Revise findings based on comments
- Risk assessment
  - Assess the City's risk for chinook salmon habitat degradation

- Pathways/Effects Analysis
  - Review and document city activities (reports, interviews, field investigation)
  - Review and document citizen activities (interviews and field investigation)
  - Develop preliminary pathways/effects database
- Preliminary reporting
  - Develop preliminary findings based on existing habitat conditions and pathways/effects analysis
  - Meet with NOAA Fisheries to review preliminary findings
  - Facilitate open house/public meeting to provide information and obtain public comment
  - Prepare initial report on baseline conditions and pathways analysis
  - Submit report to NOAA Fisheries for review and approval
  - Obtain NOAA Fisheries approval of baseline conditions and pathways/effects report (approved January 2002)
  - Facilitate open house/public meeting to present results of Phase One

Phase Two

Phase Two focused on identifying and developing solution options that would prevent chinook salmon habitat degradation and maintain water quality. The tasks were structured to take the results of the Phase One baseline conditions and pathways/effects analysis and craft a set of reasonable and cost effective solutions to meet the requirements of the ESA Section 4(d) Rule Limit 12 and that could be implemented by the City.

The following five tasks were developed to accomplish Phase Two:

- Integrate the baseline conditions and pathways/effects databases
  - Develop a database of weighted factor scores to determine the relative impact of city activities and citizen behavior on chinook salmon habitat
  - Identify geographic distribution of city activities (by reach) that impact chinook salmon habitat
  - Rank city activities and citizen behavior based on score
  - Present preliminary findings to NOAA Fisheries for review and comment

- Identify initial program options
  - Develop preliminary set of solution options based on categories of city activity (public infrastructure, transportation, planning, parks and recreation, city operation and maintenance activities, etc.)
  - Match program options to ESA Section 4(d) Limit 12 evaluation criteria to ensure that the options meet the requirements of Limit 12
  - Seek public input on solution options (stakeholder and public meetings)
  - Refine options based on public input
  - Present solution options to NOAA Fisheries for review and comment
- Develop program strategy
  - Refine solution options and develop an implementation program
  - Assign approximate costs to the refined solution options
  - Seek second round of input from public
  - Develop final solution options
  - Develop preliminary compliance program based on input from NOAA Fisheries and the public
- Develop implementation plan and report
  - Prepare implementation plan for ESA compliance
  - Prepare report that integrates the options, rationale for option selection, implementation plan, and monitoring plan to ensure compliance
  - Present implementation plan to NOAA Fisheries for review and comment
  - Refine implementation plan and present to City Council and public

PROJECT TEAM

The project team consisted of City project management/oversight, City and County technical advisory members, and the professional consulting team. In addition, there was elected official oversight provided by the Urban Services Committee (USC).

The project was managed through the City Public Works Department. City project management and oversight were the responsibility of the department's Utilities Division Manager and the Capital Planning and Projects Supervisor.

Since the ESA listing has an impact on City service delivery provided by several departments, the TAC was created to provide technical oversight. The TAC consisted of members from the following departments and divisions:

- Public Works Department
    - Transportation Division
    - Utilities Division
    - Engineering Division
- Parks and Recreation Department
- Community Development Department (planning division)

In addition, a representative from the Benton County Community Development Department was also a member of the TAC.

The TAC was responsible for helping set the project goals/objectives, approving the scope of work, and reviewing and approving all products and deliverables. The TAC met with the entire project team on a monthly basis. TAC members also attended and participated in all public meetings.

The professional consulting team included experts in a number of disciplines. The lead consulting firm managed the project tasks, scope of work and budget. The firm specialized in fish, wildlife, and plant biology, environmental compliance, land use planning, and economics.

The lead firm was supported by four sub-consultants: a civil engineering firm that focused on the public infrastructure issues and programs that could impact the chinook salmon habitat; a geographic information services (GIS) firm that provided GIS support to integrate the databases with GIS maps; a public involvement firm that guided the public education and outreach program; and an Oregon State University (OSU) professor who specializes in fish biology to provide additional science expertise and oversight.

AGENCY COORDINATION

There were a number of agencies that were important to the project. The most critical, of course, was NOAA Fisheries. As the federal regulatory agency for listed salmonids, approval by NOAA Fisheries of the Salmon Response Plan was needed. The City began contacting NOAA Fisheries early in the project. Frequent meetings (face-to-face and telephone conferences) were held between NOAA Fisheries, City representatives and the consultant team. In addition, technical memoranda related to project methodology and analysis, and project reports were forwarded to NOAA Fisheries for review and comment.

There were other public agencies that were critical to the project. The project team at various times contacted the following agencies for information, data, or reports:

- Oregon Department of Fish and Wildlife (ODFW)
- Oregon Department of State Lands (DSL)
- Oregon Department of Environmental Quality (DEQ)
- Oregon Department of Transportation (ODOT)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers (Corps)
- U.S. Environmental Protection Agency (EPA)
- Benton County
- Oregon State University (OSU)
- Corvallis School District
- Mary's River Watershed Council

PUBLIC INVOLVEMENT/EDUCATION

A critical component in the project was input from the public. Not only is public involvement an expressed goal of the ESA and the Section 4(d) Rules, but, strategically, it also was important to have citizen support for the Salmon Response Plan to be successful.

While Chapter 9 of this report details the public involvement activities, the following is a list of the public involvement elements that occurred throughout the project:

- Stakeholder meetings – stakeholders were identified and contacted to participate in special meetings to identify key issues of concern. These meetings were held during both phases of the project.
- Open house/public meetings – four open house/public meetings were held to present project information and to seek public input and comment. The meetings were structured to maximize public participation. Comment forms were provided to the participants and distributed throughout the community.
- An email mailing list was used to periodically inform Corvallis residents of ESA project activities and upcoming events.
- Press releases were sent to local media regarding project status.
- Fact sheet – an ESA fact sheet was prepared and distributed to the public.
- City event participation – City representatives provided information on the ESA project at events such as the County Fair and the Da Vinci Days Festival.

- Project website – a project website was developed to provided general and specific information about the project, including meeting summaries, reports, and technical memoranda that were prepared. In addition, there was a calendar included that listed upcoming public meetings and relevant deliverable dates. The website also included an online comment form for the public to use to comment on the solution options.