
**Habitat Restoration and Conservation Plan for Anadromous Salmonid
Habitat in Selected Tributaries of the Russian River Basin**

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DRAFT

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EXECUTIVE SUMMARY [TO BE COMPLETED]

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INTRODUCTION

The salmon and steelhead runs in California's Russian River have been listed as threatened or endangered under the Federal Endangered Species Act (ESA). The Federal agency responsible for recovering these species is the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS). This agency routinely provides guidance and consults with diverse entities on ways to minimize impacts from development on salmonid species. However, the actual recovery of these species will necessitate the collaboration and cooperation of Federal, state, and municipal agencies, non-governmental organizations, and private entities including landowners and business enterprises that affect critical habitat supporting these species. This report is the product of one such collaborative effort.

The Russian River, a 1,485 square mile watershed in Mendocino and Sonoma County, historically supported large runs of salmon and steelhead. Citing 19th century records of the U.S. Bureau of Fish and Fisheries, Steiner Environmental Consulting (SEC 1996) reports that coho salmon (*Oncorhynchus kisutch*) were once so prevalent in the Russian River that they supported a commercial fishery. In 1888, 183,597 pounds of fish were caught near Duncan Mills for cannery and personal use. The river also supported the third largest runs of steelhead (*O. mykiss*) in California; only the Sacramento and Klamath Rivers had larger steelhead runs in the state (SEC 1996). Today, however, widespread habitat degradation has reduced numbers of coho salmon to the point where they are difficult to detect, and steelhead abundance has declined to less than 15 percent of historic levels (SEC 1996). In general, the Russian River has historically supported relatively low numbers of Chinook salmon (*O. tshawytscha*).

The salmon and steelhead runs in the Russian River belong to larger distinct population segments that are substantially reproductively isolated from other population units. For purpose of conservation, NMFS manages and, as necessary, lists these distinct population segments as threatened or endangered under the ESA. Coho salmon in the Russian River are a component of the Central California Coast (CCC) coho salmon Evolutionarily Significant Unit that was initially listed as *threatened* in 1996, and then listed as *endangered* in 2005 (70 Federal Register (FR) 37160, June 28, 2005). The CCC coho salmon includes coastal populations in rivers entering the ocean along the coasts of Mendocino, Sonoma, Marin, San Mateo and Santa Cruz Counties. Russian River steelhead are part of the CCC steelhead Distinct Population Segment, which has been listed as threatened since 1997 (62 FR 43937, August 18, 1997). The CCC steelhead includes populations ranging from those in the Russian River south to streams in Santa Cruz counties, plus populations in streams entering San Francisco Bay (*e.g.*, Sonoma Creek and the Napa River). The Russian River's Chinook salmon runs belong to the California Coastal (CC) Chinook salmon Evolutionarily Significant Unit that was listed as threatened in 1999 (64 FR 50394, September 16, 1999). CC Chinook salmon include populations of this species in coastal streams ranging from the Russian River north to Humboldt County's Redwood Creek.

In 2005, NMFS designated critical habitat for the listed threatened and endangered populations of steelhead and Chinook salmon in California (70 FR 52488, September 2, 2005). In response to these designations, the Russian River Watershed Salmonid Coalition ('Salmon Coalition') formed for the purpose of opening a dialogue with NMFS to address landowner and other private sector concerns. Initially comprised of representatives of the viticulture and winemaking industry, instream gravel miners, the Sonoma County Water Agency, Northern California Homebuilders Association, Russian River Property Owners Association, and municipal interests,

the Salmon Coalition had concerns over the regulatory implications of critical habitat designations for private landowners. To address its concerns, the Salmon Coalition sought the development of a collaborative strategy for conserving habitat for federally listed threatened and endangered salmonid species in several streams designated as critical habitat in Sonoma County. Specifically, their stated mission is to protect and enhance existing habitat, restore historic habitat, and promote the recovery and maintenance of salmonid populations in the Alexander, Dry Creek and Knights Valleys of the Russian River Watershed while balancing the need to provide for regional economic viability and regulatory certainty. The group's mission statement states that it seeks to create sustainable partnerships, both public and private, that allow property owners, public agencies and conservation groups to achieve its mission.

NMFS recognized the value of working cooperatively with the Salmon Coalition to identify necessary measures to recover listed species in sub-watersheds within the Russian River Basin. NMFS also recognizes the value of previous habitat restoration projects to population recovery in several watersheds in the Russian River Basin. To these ends, NMFS developed a strategy for completing a plan for conserving habitat in selected streams within Dry Creek, Alexander, and Knights Valleys that were designated as critical habitat for steelhead. The streams chosen for this effort were not listed as critical habitat for Chinook salmon, a species that generally spawns and rears in larger rivers such as Dry Creek and the Russian River mainstem. However, critical habitat for CCC coho salmon (*O. kisutch*) was designated in these streams under a separate rule (64 FR 24049, May 5, 1999). Therefore, this planning effort, if implemented, should benefit both steelhead and coho salmon. The specific scope for this conservation plan initially included 16 streams; however, logistical considerations necessitated reducing the scope to 12 streams, including four tributaries to Dry Creek (Dutcher, Wine, Grape, and Crane Creeks), four tributaries to the mainstem Russian River in Alexander Valley (Crocker, Gill, Miller, Gird Creeks) and four streams in the Maacama sub-basin in Knights Valley, (Maacama, Franz, Redwood, and Foote Creeks, see Figure 1). This effort entailed: 1) the review of existing habitat data obtained by the California Department of Fish and Game (CDFG), Sotoyome Resource Conservation District (SRCD), North Coast Regional Water Quality Control Board (NCRWQCB), and municipal agencies during the past 15 years, 2) follow-up field surveys that ground-truthed historical habitat data, 3) the development of a conservation plan for restoring degraded habitat and 4) reviewing and recommending beneficial management practices (BMPs) to protect those habitat elements that have not been degraded. This report provides the results of this conservation planning effort.

Land use in these valleys is dominated by viticulture but also includes cattle ranching. Therefore, this plan considers approaches for minimizing impacts to anadromous salmonid habitat that primarily stem from agriculture. Approaches for addressing other habitat concerns are covered elsewhere (*e.g.*, gravel mining, NMFS 2004). Because the life cycle of anadromous fish includes both a freshwater component and marine component, anadromous populations are influenced by habitat features of both environments. While recognizing this is important to consider when setting population recovery goals, our intention in this document is to create a guide for future efforts to restore and protect anadromous salmonid habitat in freshwater and, specifically, the watersheds listed above. The process we undertook to arrive at these recommendations was scientifically-based, objective, collaborative and transparent so that anyone can clearly follow the pathway leading to a particular habitat assessment result, recommendation for a beneficial management practice (BMP), or watershed improvement project. Although the measures we suggest for habitat restoration are focused on recovering

anadromous salmonid populations, implementing these recommendations will also benefit other species that rely on healthy aquatic habitat and riparian function.

This plan is founded on assessments of current habitat conditions for anadromous salmonids in the above listed streams. Assessments are mainly from existing CDFG habitat surveys (1996-2001) and field work conducted in 2007 but include data from other sources as well. The initial scope for this work included the Russian River mainstem, Sausal Creek, Kellogg Creek, Yellowjacket Creek as well as the 12 streams listed above. However, because of insufficient resources to conduct field assessments on the Russian River mainstem and insufficient landowner access on Sausal, Kellogg, and Yellowjacket, our assessments were limited to only 12 streams that we hereafter refer to as the ‘project streams’ (Figure 1).

Document organization

This document consists of two parts. Part I summarizes current habitat conditions and habitat restoration priorities in the project streams. Part II considers BMPs for protecting instream habitat for anadromous salmonids.

Part I begins by outlining the habitat factors that are fundamental for the persistence of anadromous salmonid populations in freshwater. In the Methods Section, we present the approaches and data we used for assessing those habitat factors. The Results Section summarizes habitat conditions in each of the 12 project streams. Existing data (*e.g.*, from CDFG) and additional field surveys conducted during spring 2007 were useful for examining existing conditions related to four principal aspects of stream habitat (channel complexity, substrate quality, riparian quality and the presence of artificial barriers to movement). Data for two other principal habitat factors, water quality and water quantity, were limited and the collection of new data pertaining to these two habitat factors was well beyond the scope of this project. Therefore, rather than providing stream specific analyses of water quality or water quantity, we have provided a general review of these issues for the all project streams, collectively, in Results Sections 3.2 and 3.3. After reviewing the physical habitat conditions in each stream (*i.e.*, channel complexity, substrate quality, riparian conditions and artificial barriers), we present a prioritized list of habitat-focused restoration actions that should serve as a guide to improving habitat conditions in each stream. In the Discussion Section, we present some common land use activities that have contributed to degraded habitat conditions. Additionally, we provide an overview of information gaps and recommendations for addressing those gaps. Finally, we present a framework for recommending an overall priority list of habitat restoration actions for all project streams.

Part II...[**TO BE COMPLETED**]

