Northern California Coast Winter Steelhead *Oncorhynchus mykiss*

chances for survival: *average*

3

1 2 3 4 5

PHOTO: TOM WESELOH

Northern California coast winter steelhead return from the ocean as silvery trout with numerous black spots on their tail, adipose fin and dorsal fin. The spots on the tail are typically in radiating lines. Their back is an iridescent blue to nearly brown or olive. They are considered to be a DPS, together with summer steelhead. Northern California coast winter steelhead enter estuaries and rivers between September and March before spawning between December and early April. Repeat spawning varies considerably among runs and populations, from 18% to 64% of spawners, and females make up the majority. Because these fish spawn over a lengthy period of time, fry emergence also takes place over a long period of time. Juveniles rear in the streams for one to three years before leaving for the ocean. In the Navarro River some steelhead enter the ocean after spending at least one year in the estuary. Juvenile steelhead in streams favor areas with cool, clear, fast-flowing riffles, ample riparian cover, undercut banks, and abundant invertebrate food. They grow rapidly in the ocean, feeding on fish, squid, and crustaceans.

DISTRIBUTION: Northern California coast steelhead are present in California coastal river basins from Redwood Creek in Humboldt County to just south of the Gualala River in Mendocino County. This distribution includes the Eel River, the third largest watershed in California with its four forks (North, Middle, South, and Van Duzen) and their tributaries. There are an estimated 32 self-sustaining populations. An additional 33 small populations are likely dependent on immigration steelhead from other watershed populations.

CATEGORY	SCORE	EXPLANATION
Range	3	They exist in multiple watersheds in California
Population size	3	About 1,000 wild spawning steelhead are present annually in the Mad and Eel Rivers, and other populations (Redwood Creek, Mattole, and Garcia Rivers) may contain as many though information is lacking
Intervention needs	3	Habitat restoration and barrier removal is critical to juvenile and spawning habitat for Northern California coastal steelhead to prevent continued decline
Tolerance	4	Steelhead can spawn more than once and have broad tolerance in fresh water
Genetic risk	4	They are genetically diverse with gene flow among populations although hatchery influence is a concern
Climate change	3	The coast range has cooler temperatures and more consistent flow than in most basins, but effects can be high in altered watersheds
Overall status	3	
Reliability	3	Actual numbers of fish are poorly known

California Trout is There for the Fish!

In a precedent-setting 2006 decision, the California Court of Appeals ended a decades-long court case that began in 1993 when the North Fork Gualala Water Company in 1993 sued the California State Water Resources Control Board challenging its authority to regulate subterranean stream flows. Such underflow is critical to sustain healthy fisheries as a primary source of surface stream flow during the late summer/ early fall periods.

ABUNDANCE: Little historical abundance information exists for Northern California coast winter steelhead, but current abundance is low relative to historical estimates. The Eel River once supported a run of at least 82,000 steelhead. Optimistically, annual spawning returns in the entire DPS today range from 25,000 to 50,000 fish, down from an historical estimate of about 200,000 fish.

FACTORS AFFECTING STATUS: Due to their varied habitats and large ranges, a number of factors affect Northern California coast winter steelhead including, (1) dams, (2) logging, (3) agriculture, and (4) alien species. The biggest cumulative effect to the streams of winter steelhead has come from logging, beginning with the huge impacts of unrestricted logging in the 19th and early 20th centuries. Today, a significant proportion of steelhead habitat is industrial timberlands, both private and public, which have already undergone one or more cycles of tree removal. The cumulative effects of these operations in combination with historic logging is difficult to assess, although direct impacts include increased sedimentation and stream temperatures, reduced canopy cover, destruction of instream habitat, and altered flows. The channels of the Eel River and its tributaries have become shallower and less defined due to the massive flood of 1964. These changes have reduced the ability of adults to reproduce, juveniles to forage, and migrants to safely swim to the ocean. In addition aquatic invertebrates, which are an important food source for the fish, have been reduced. Increasingly, agriculture, including vineyards, is replacing forests as the dominant factor having a negative impact on coastal rivers.

STATUS 3: Northern California coast winter steelhead have a low to moderate risk of extinction in the next 50 to 100 years. The entire DPS, which includes summer steelhead, was listed as threatened under the Endangered Species Act on June 7, 2000, and reaffirmed in 2006. The listing resulted from the failure of California to follow guidelines in a 1998 National Marine Fisheries Service and State of California Memorandum of Agreement, and, in particular, improvements to the California Forest Practices Act. The objectives of this Memorandum remain critical to the recovery of Northern California coast winter steelhead, yet almost a decade later, most have not been implemented.

CONSERVATION RECOMMENDATIONS: The California Memorandum of Agreement should be enacted and enforced, along with fish-friendly improvements to the California Forest Practices Act. This would be the start of initiating hundreds of improvements needed on steelhead streams, from increased flows, to reduced sedimentation, to physical habitat restoration.

South Fork Eel River. PHOTO: THOMAS DUNKLIN

Northern California Coast Winter Steelhead Distribution