Napa River Watershed Fish Barrier Inventory

Silverado Trail, Selby Creek

Napa River, Calistoga foot path

Chinook salmon spawning in the Napa River near St. Helena, December 2006.

Steelhead in Heath Canyon Creek, April 2007.

Ritchey Creek, Bothe State Park

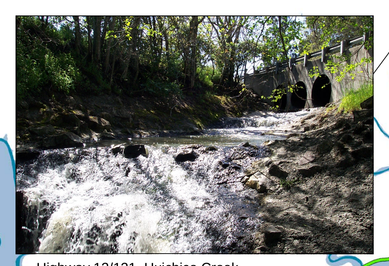
Zinfandel Lane, Napa River

Dry Creek Road, Campbell Creek (trib to Dry

Silverado Trail, Soda Creek

Browns Valley Creek

Murphy Creek



Highway 12/121, Huichica Creek

Passage Ranking

- Green - Passable under most conditions
- Gray - Partial or complete barrier under some conditions
- Red - Severe or complete barrier under most conditions
- Unknown - Insufficient data

Location Map

SUMMARY

The Napa River basin currently supports two salmonid species: steelhead (*Oncorhynchus mykiss*) and Chinook salmon (*Oncorhynchus tshawytscha*). Artificial migration barriers constructed during the past century have contributed substantially to population declines of salmonids in Napa, especially steelhead, which rely on access to tributary streams for spawning and rearing. Until very recently, little was known about the full extent and distribution of these migration barriers.

In order to improve fish passage, it is necessary to document the location and relative severity of each barrier. There have been some recent attempts by various agencies and groups to quantify migration barriers in the Napa River watershed, but unfortunately they have been largely incomplete and somewhat inaccurate. This is mainly because barriers are difficult to count – they are spread throughout the landscape, often located in remote areas on private property, and their severity can change through time. In an attempt to generate a truly useful barrier dataset, the RCD completed an inventory of all known and potential passage sites using our extensive stream survey data, current and historical records, and field verification. With the high quality of these source data, the resulting list is the most comprehensive and accurate description of passage sites ever compiled for the basin.

In total, we identified 99 current fish passage obstructions on streams known to support salmonids. Nearly one third (30) of these sites are natural features and are generally not considered for modification or removal. The remaining 69 artificial passage sites consist mostly of dams (26) and road crossings such as bridges (9) and culverts (18). All sites were ranked by severity using California Department of Fish and Game (DFG) guidelines. The ranking system categorizes a site as *green* if it is mostly passable, *gray* if it is partially passable, and *red* if it represents a severe or complete obstacle. Approximately 75% of the artificial sites scored either gray or red, while the remaining sites were either scored green or lacked sufficient data to be ranked.

Road crossings proved to be the most common type of migration barriers, accounting for nearly half (49%) of all sites. During our surveys, we found that most bridges are protected with either concrete or riprap , forming steep cascades that are passable only at higher flows. Plans to improve these conditions at some key bridges, including Zinfandel Lane, are already underway.

With funding from the California Coastal Commission and the Napa County Wildlife Conservation Commission, the RCD has begun assessing the highest priority 20 sites on the list. The assessments will provide hydraulic and fish passage analysis needed to guide future planning efforts to improve conditions at each site.