

Ellicott**Beneficial Uses**

Cold freshwater fish spawning and rearing habitat to sustain aquatic resources within Ellicott watershed and downstream waters:

The Rubicon River within the Ellicott watershed supports naturally reproducing rainbow and brown trout fisheries. Three native non-salmonid fish species also inhabit the river; Sacramento suckers, speckled dace, and riffle sculpins (Gerstung and Snider 1979). There are no reports of fish use of any of the tributary streams within this watershed. A 1973 stream survey identified rainbow trout as common and few brown trout were observed in this reach of the river. Electrofishing surveys conducted in 1978 and 1979 resulted in biomass estimates ranging from 33 to 48 pounds per acre at three sites and 269 pounds per acre at a fourth site. Rainbow trout were the predominant species at the three sites with the lower biomass estimates. Large numbers of adult brown trout provided 88% of the estimated biomass at the fourth site. The biomass estimates are all equal to or greater than the 33 pounds per acre reported by Gerstung (1973) for streams of this size. Young-of-the-year trout of both species were well represented at all but the fourth site, indicating adequate reproductive success. There are no confirmed reports of amphibians or reptiles on record for this watershed.

The Rubicon River downstream from Hell Hole Reservoir is being managed by the California Department of Fish and Game as a wild trout stream. In addition, this reach of the river is currently a candidate Wild and Scenic River, pending Congressional approval.

Key elements of fish habitat that could be impacted by cumulative land management activities are large woody debris, spawning gravels, streamside vegetation, and pool habitat. Sedimentation from land management activities, such as timber harvest and road construction, can degrade spawning and pool habitat. Large woody debris recruitment and stream shade could be affected if trees are harvested from the riparian zones. Fish cover, stream shade, and aquatic invertebrate production could be affected if riparian vegetation is damaged or removed.

Aquatic Ecosystem

The Rubicon River is one of the major drainages on the Eldorado National Forest. The Ellicott watershed encompasses the river reach between the Ellicott Bridge and Hell Hole Reservoir and several small, Class III tributaries, including Long John and Stoney Creeks as well as four unnamed streams. The main stem Rubicon River flows through a deep, steep walled canyon within this watershed. The canyon walls directly confine the river channel in most of the lower portion of the watershed while several reaches in the upper portion are less confined with a broader floodplain. Deep pools are common, especially in the confined lower portion. Overall stream gradient in the mainstem is 2% and the channel substrate is dominated by boulders and cobbles. In 1964, the nearly completed Hell Hole dam failed, scouring much of the riparian area throughout the watershed and depositing large amounts of material in the channel and floodplain for several miles below the dam site.

The Rubicon River was surveyed in 1973 to assess the stream channel condition and fish habitat. Key habitat features surveyed included pool occurrence, riffle substrate composition, canopy cover for shade, and aquatic invertebrate abundance. Pools were considered abundant throughout the surveyed reach which encompassed the entire watershed reach. The fine substrate component in riffles was 5% which is considered high quality for aquatic invertebrate production and salmonid embryo development. The gravel substrate component in riffles was 25% which is considered low capability for trout and may limit spawning. However, a high proportion of fry collected during biomass estimate surveys in 1978 and 1979 indicate recruitment is adequate to maintain a strong population. Canopy cover was rated as moderate. Riparian vegetation was noted to be recovering well from the 1964 dam break. Aquatic invertebrate occurrence was rated as common to few.

Stoney Creek was surveyed in 1976 to assess channel condition and fish habitat. No fish were observed in the stream. Erosion from logging activity was noted at several locations that was contributing silt to the stream. Stoney Creek is considered a Class III intermittent stream that contributes seasonal flow to the Rubicon River.

References

- Gerstung, E. R. 1973. Fish populations and yield estimated from California trout streams. Cal-Neva Wildlife: 9-19.
- Gerstung, E. R. and W. M. Snider. 1979. Rubicon River Management Plan. California Wild Trout Program, California Department of Fish and Game, Rancho Cordova, California.