

Total Maximum Daily Load Progress Report		Shasta River Temperature TMDL	
Regional Water Board:	North Coast, Region 1	STATUS <input checked="" type="checkbox"/> Conditions Improving <input type="checkbox"/> Data Inconclusive <input type="checkbox"/> Improvement Needed <input type="checkbox"/> TMDL Achieved/Waterbody Delisted	
Beneficial uses affected:	COLD, COMM, CUL, MIGR, MUN, RARE, REC-1, SPWN		
Pollutant(s) addressed:	Water Temperature		
Implemented through:	319(h) Grants , Staff Outreach, Stakeholder Efforts, WDR Waiver		
Approval date:	January 26, 2007		

TMDL Summary

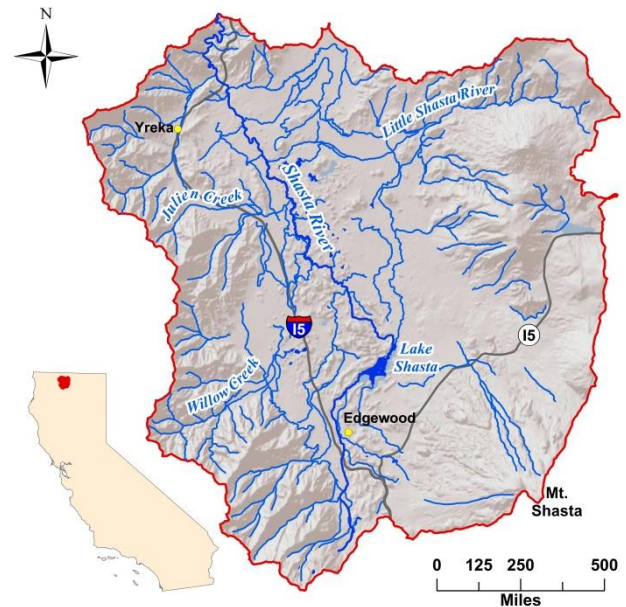
The Shasta River is a tributary to the Klamath River and drains a 795 mi² basin. Shasta River surface water diversions are used for irrigated agriculture and cow-calf grazing operations. Water temperatures do not meet water quality objectives as they regularly exceed chronic temperature thresholds for salmonids, contributing to a population decline in the basin. The river's temperature is affected by surface water diversions, reduced riparian shade, and warm irrigation tailwater return flows. To address elevated water temperatures, the North Coast Water Board adopted a [TMDL for temperature in Shasta River](#), which was approved by the U.S. EPA in January 2007.

The [Shasta River TMDL Action Plan](#) requires landowners to implement measures that will protect streams and enhance riparian vegetation and encourages landowners to work together to improve water conservation and management and prevent tailwater return flows from entering streams. The Regional Water Board is implementing these efforts through a mix of public funding assistance and permits, including the [Shasta River TMDL Conditional Waiver of WDRs](#), which was revised in October 2012.

TMDL Load Allocations

Source	Allocation
Change in Riparian Vegetation	<p>Shasta River below Dwinnell Dam: Reach average potential solar radiation; reach-specific values are listed in the TMDL Table 6.2.</p> <p>Shasta River above Dwinnell Dam and Tributaries: Potential effective riparian shade = 90% of site potential shade.</p>
Tailwater Return Flow	No net increase in receiving water temperature.
Surface Water Flow	Reductions in the maximum daily stream temperatures of 1.5°C, 1.2°C, and 2.1°C from baseline at River Mile (RM) 24.1, RM 15.5, and RM 5.6, respectively.

Shasta River Watershed



Water Quality Outcomes

- Water quality data show a decrease in stream temperatures at some locations; e.g., 2012 daily maximum temperatures were lower than 2008 daily maximum temperatures 78% of the time at the Montague Weir site.
- Conditions for coho have improved in the upper watershed areas.
- Four of six identified impoundments have been removed.
- 168 miles (63% of stream length) of riparian fencing has been installed along the Shasta River and five tributary segments to exclude livestock.
- Tailwater neighborhoods have been identified and mapped and improvements are being made by irrigators.
- Efforts to dedicate cold water flows through the [1707 water rights process](#), or the water trust process, are underway.
- Water Board staff are confirming TMDL Waiver participation and compliance through property-by-property assessments.

Shasta River Water Quality

