

Because of access and equipment limitations, individual components of the system were sized so that one or two people working with only hand tools would be able to both install the screen and later remove the screen and most of the piping each winter. Likewise the instream support ramp is hinged so that it can be tipped up and back on itself for the winter to minimize risk of damage.

This system is designed to meet the pump capacity of 1000, gal/minute (approximately 2 cfs.) within the criteria jointly agreed upon by both the California Department of Fish and Game, and the National Marine Fisheries Service to protect salmon and steelhead.

The screen relies on the fact that water is moving past the screen several times faster than it is moving into the screen to keep it clean. It has no moving parts, requires no additional power, and reduces the labor input of the landowner from what it had been without the screen. Several other tube screens either designed and built or assisted by the Shasta CRMP have been working for several years throughout the Shasta Watershed.



Final installation of the Nelson screen, at the beginning of the 2003 irrigation season.

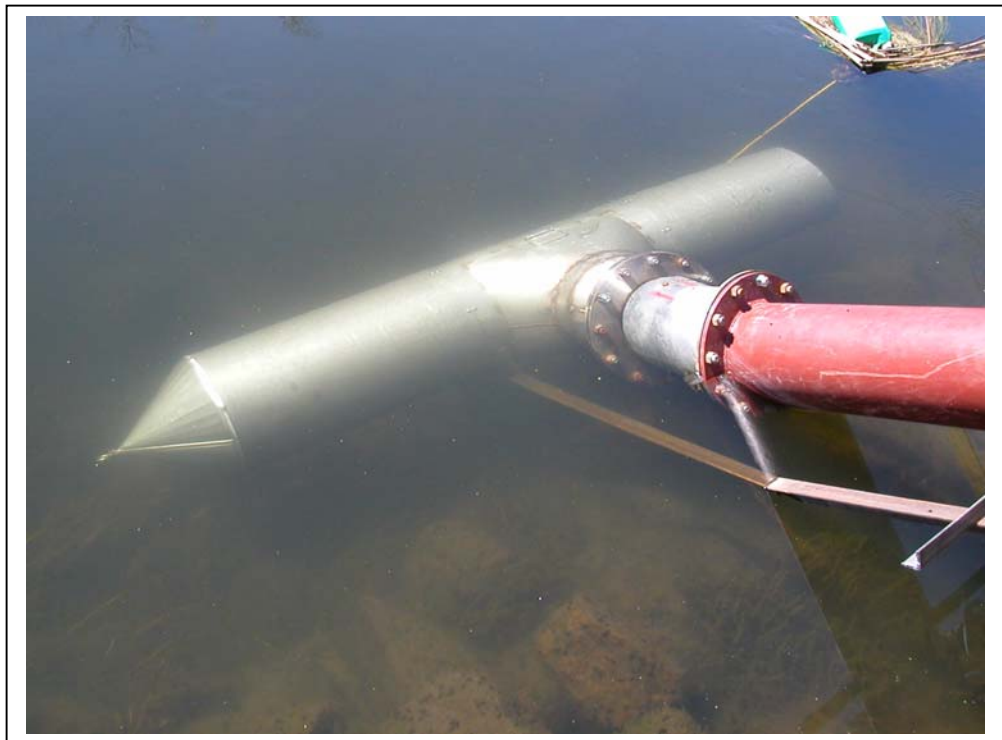
Nelson Tubular Fish Screen



The Nelson Ranch Is located several miles upstream of County Road A-12, and pumps irrigation water directly from the Shasta River. Over the course of the summer of 2002 and winter of 2003 Chuck Nelson, the owner, Jack Cowley, the lessee of the ranch, and Dave Webb, Shasta River Coordinated Resources Management and Planning (CRMP) committee coordinator worked together to

design, construct and install a screen to excluded juvenile salmon and steelhead from the intake of the pump, protecting the fish from entrainment, and the landowner and lessee from worries about the endangered species act. The screen also excludes turtles and other aquatic life that periodically were drawn into the pump prior to installation of the screen.

All screen components are stainless steel. An internal baffle assures that inflow to the screen will be uniform, eliminating the impingement of small fish, and minimizing the tendency of aquatic debris to adhere to the screen. Prior to installation of this



screen, a coarse mesh trash excluder had to be cleaned 2x per day. Expectation is that this new screen will need cleaning 1x/week or less.