Fact Sheet – December 2011

The **Hammon Bar Riparian Enhancement Pilot Project** involves the planting of large cuttings of cottonwood and willow on 5 acres on the lower Yuba River on land owned by the Bureau of Land Management. The cuttings are harvested branches or stems, stripped to poles 7 to 12 feet long and 1-4 inches in diameter. The goals of the project are to enhance habitat by creating new areas of riparian forest, and to learn as much as possible about how to effectively conduct this kind of enhancement. The project will be implemented over two years with effectiveness monitoring to occur for at least three years following.

This is the first habitat restoration project on the lower Yuba River. Rehabilitation Concepts for the Parks Bar Reach of the Lower Yuba River is a 2010 report which describes a variety of potential restoration projects, and provides a detailed analysis for choosing this pilot project. More ambitious projects such as creating side-channels or new floodplain areas would benefit from the lessons learned in this pilot project.

Project implementation began in July 2011 with the inventory and marking of cuttings available in the Goldfields. Planting began on November 11 following the soaking of cuttings for a minimum of ten days. Planting is arranged by pods. For each pod, a hole approximately 10' in diameter is dug to water level, then 12 cuttings of mixed species are placed, and the hole is refilled. A total of 140 pods were planted in November 2011. The pods are grouped in five experimental areas. The objective for 2012 is to complete the 5 acre planting area with 6720 cuttings. The project will be successful in substantially enhancing habitat if only 20% of the cuttings survive, yet much higher rates of survival are expected. Many factors potentially effecting survival are being tested in this pilot project design. The project includes detailed monitoring of groundwater levels in and around the planting area.

The project is permitted by Yuba County, the Army Corps of Engineers, the State Water Resources Control Board, and the State Office of Historic Preservation. The harvest of donor cuttings has been done to minimize impact to donor trees, and allow regeneration of stems for future harvest. The number of cuttings required for 2012 will require locating donor trees beyond the currently available parcels in the Goldfields.

Project Partners:

The U.S. Fish and Wildlife Service is the principal funder through the Anadromous Fish Restoration Program. A total of $315,000 in federal funds has been budgeted to the project.

The Bureau of Land Management provides land for planting, donor cuttings, soaking ponds and access routes. BLM staff has assisted with permit applications and logistical coordination.

Western Aggregates, LLC has provided land for donor cuttings and $50,000 in match funding.

CalTrans' Environmental Enhancement and Mitigation Program has provided $19,000 in match funding.

The main contractor for project implementation is MM Reforestation from Marysville. Two contracted supervisors are from Linda and Penn Valley. The technical contractor for project design and groundwater monitoring is Chris Bowles Environmental Consulting from Sacramento.

Volunteers have participated in the inventory and marking of donor cuttings and will be an important part of monitoring cutting survival. Interested volunteers should contact SYRCL by visiting www.yubariver.org and completing a simple volunteer application.

The Importance of Riparian Trees:

Riparian trees provide important habitat for wildlife and fish. For salmon and steelhead habitat, riparian trees provide food, cover and habitat complexity. Riparian vegetation provides habitat and forage for insects which are the primary food for juvenile salmon and trout. They also provide cover by overhead shading and interaction with flow. Even at low flow, the river interacts with the roots of riparian trees and fallen tree stems and branches. The velocity refuge provided by riparian vegetation is particularly important at high flows. Riparian trees provide large woody structure which creates scour pools and eddies.

Riparian trees are too rare on the lower Yuba River due to poor natural reproduction. Some species such as the bushy narrow leaf willow are doing well along the river bank because they have a very long seed dispersal period. Other species only disperse seeds for a few months during spring. Red willow, black willow and cottonwood are the species which grow to tree size, and are rare. Poor natural reproduction on the lower Yuba River results from a combination of factors including the legacy of hydraulic mining debris, the coarsening of the substrate caused by dredger mining and upstream dams, and the alteration of flows. To survive, riparian seedlings need an adequate amount of fine sediment and continual access to groundwater.

For more information on the need for and approach to rehabilitation of the lower Yuba River, see the 2010 Report: Concepts for Rehabilitation of the Parks Bar Reach of the Lower Yuba River. Available at www.yubariver.org/restoration.

Contact: Gary Reedy, River Science Program Director
South Yuba River Citizens League
(530) 265-5961 ext.208
gary@syrcl.org