

TAMARISK AND ARUNDO CONTROL ON CACHE CREEK

The Cache Creek Conservancy is a 501(c)(3) non-profit corporation dedicated to the restoration of the lower 15 miles of Cache Creek. Our mission is to promote the restoration, enhancement and prudent management of the stream environment along the Creek from Capay Dam to the settling basin, east of Woodland, California. The Conservancy developed and manages a 130 acre Nature Preserve for Yolo County in addition to working on stream bank stabilization and revegetation with native species. Early in our seven-year existence it became obvious that removal and control of Tamarix and Arundo had to precede revegetation if restoration was to be successful.

In 2001 the Conservancy received grant awards from California's Wildlife Conservation Board (riparian program) and the California Bay Delta Authority (then known as CALFED) to remove and control Tamarix and Arundo donax along a 12 mile reach of the lower creek. In preparation for this project the Conservancy had formed partnerships with Yolo County's Resources Manager, Yolo County Flood Control and Water Conservation District, USDA-ARS, and 43 of 45 landowners. The project kicked off in October of 2001 for a short season to initiate mechanized mulching, train and equip spray crews, orient hand crews to remove invasives around native trees and educate cooperating landowners in the methods that would be employed over the next five years.

Our strategy was and is to employ the best tools available for each type of treatment method to achieve maximum resultant control for the least cost and effort. To develop the most efficient and effective machine to mulch Tamarix and Arundo vegetation we consulted with Holt of California, the regional Caterpillar Tractor dealer and Pacific Gas and Electric Co. who has extensive experience in brush control along utility easements. This was critical to properly size and equip the power unit with the "slash buster" chopping head that was to be used. Rather than cut the plants at the base and remove the vegetative mass from the corridor, the Tamarix and Arundo were chopped from the top down and the mulch that remained was left to desiccate in the summer sun. Chemical company representatives with extensive knowledge in invasives control, including Scott Johnson-Wilbur Ellis, Mike Krebsbach-Monsanto and John Smith-BASF, were asked to advise us on the best materials to spray, the most effective application techniques, equipment, timing and necessary safety training and clothing. We met with Pest Control Advisors, the County Agricultural Commissioner and local farmers to ensure that project implementation would comply with all regulations and recommendations.

The initial proposal to Wildlife Conservation Board and CALFED required 300 acres of Tam and Arundo to be removed and controlled over the five-season life of the grant. To date we have treated over 1,000 acres with excellent (we think) results of 80%+ control in all treated areas. The equipment that we used to mulch Tamarix and Arundo turned out to be so effective and efficient that we stopped using it after the second season because all necessary chopping was done! We continue treatment with hand crews and application of herbicides by trained agricultural worker crews.

From the initial planning phases of the project, bio-control was seen as the long-term management tool. We started working with Dr. Ray Carruthers of USDA-ARS, Albany, CA in 1999 on caged studies of leaf beetles (*diorhabda*) from China. The Saltcedar Consortium obtained funding for studies in three watersheds in California (and in other states), Cache Creek was chosen as one of those watersheds. The expertise and experience that comes with the Consortium's involvement is invaluable and certainly helped to make our project a success.

Integrating all aspects (mechanical, manual, chemical, biological, educational and outreach) of the project was a challenge in and of itself. Both the project manager, John Watson, and Conservancy Executive Director, Jan Lowrey, are acquainted with integrated pest management through our agricultural backgrounds. By hiring a local progressive farming operation as sub-contractor to implement mechanical and chemical work, we were able to speak the same language of IPM weed control and take advantage of the economies of a local operation with all necessary infrastructure already in place.

While the outside contacts with state and federal agencies, university specialists, equipment dealerships and chemical companies was and is important, local networking with landowners, neighbors and the local community in general is crucial. Because the project manager was a local agricultural manager and the on-the-ground contractor is a well known and respected farming family, the riparian landowners were open to discussing and signing the 10-year licensing agreements that allowed treatment, monitoring and revegetation work on their property. And after all, if the landowners would not agree to the work the project would never happen.

We now find ourselves in the position of being approached by landowners outside of the original project area to do work on their property. The Rumsey Band of Wintun Indians (Rumsey Rancheria) approached us last summer to partner on a five-year project that will remove Tamarix, Arundo, yellow starthistle, perennial pepper weed and Ravenna grass from their riparian corridor and replace them with native plants that are culturally significant to the Tribe. There will also be education and outreach components to the project which is being funded equally by the Tribe and F&WS. Other property owners, especially upland folks are interested in removing Tamarix from their rangeland to improve water quantity and quality for livestock.

Partnerships with the Bureau of Land Management (Gregg Mangan at the Ukiah, CA office), American Land Conservancy, Lake County Public Works and Colusa County RCD are expanding. It is only through these collaborations that watershed-wide control of invasives is possible.

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