

Formation of "Team Arundo del Norte" in Northern and Central California

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Based on the model developed in southern California by the original Team Arundo, a group of agency staff, scientists, students, and representatives from non-governmental organizations formed a team in the summer of 1996 dedicated to the control of giant cane (*Arundo donax*) and other non-native plants in the greater San Francisco Bay area. We agreed to promote eradication efforts and public awareness, and secure funding for eradication within the context of sound watershed management practices.

We are working cooperatively with existing watershed groups and other organizations to address the problem of *Arundo donax* through building capacity and expanding watershed stewardship practices. We also hope to see new riparian stations emerge to work on developing historical and current pictures of their waterways and to work in an expanding network to control erosion, pollution, invasive species, and other stressors in the environment.

Team Arundo del Norte consists of representatives from a variety of governmental agencies, non-profit organizations, and universities, including the following:

California Department of Fish and Game,
California Department of Water Resources,
California Environmental Resources Evaluation System (CERES),
Circuit Rider Productions,
Coyote Creek Riparian Station,
Jones & Stokes Inc.,
Napa Agricultural Commissioner's Office,
Napa County Resource Conservation District,
San Francisco Estuary Institute,
San Francisco State University,
Southern Sonoma County Resource Conservation District,
Sonoma Ecology Center,
US Environmental Protection Agency,
US Fish and Wildlife Service, and
UC Berkeley.

Team Arundo del Norte wrote a mission statement and agreed to form five committees to focus on specific duties. Our mission statement is:

Team Arundo del Norte is a partnership that is dedicated to the reduction and eventual elimination of giant reed (*Arundo donax*) in central and northern California where it threatens rivers, creeks, and wetlands.

To advance our specific *Arundo* eradication efforts, the California Department of Fish and Game (DFG) applied for and received a grant from the U.S. Environmental Protection Agency under its competitively awarded State Wetland Grant Program. The roles of the five committees and accomplishments to date are described below.

Public Outreach and Education Committee

The Resources Agency has assisted the Team in setting up a list-serve, a convenient means of communicating by Internet mail. By signing up for this service, all interested persons can communicate quickly and easily with the

rest of the Team. This was one of the first actions by the Team and has been instrumental in helping to announce meetings, develop the mission statement, and generally communicate on a variety of technical subjects. Persons interested in becoming part of this service should send an E-mail message to the following address:

Team_arundo@ceres.ca.gov.

There will be a confirmation message sent within a few days.
The Team also has a web site which can be found at

<http://www.ceres.ca.gov/tadn>.

We have posted giant reed survey protocols, public outreach materials, and other information on our eradication efforts at the web site.

Under the DFG grant, we are going to develop two brochures for public education. The first is targeted for landowners where eradication efforts might occur. This brochure will address private property issues, trespass and liability concerns, the pros and cons of herbicide application, and revegetation processes. The second brochure will be for the general public and will likely appear in the newsletter Estuary. That brochure will be an insert in the quarterly publication and can be used for separate distribution to the public at large.

We are creating a slide show or a video of the slide show on *Arundo* to use through a speaker's bureau to spread the word to citizen's groups, local government agencies, elected officials, etc. Team Arundo del Norte will also prioritize the public education effort by reaching out to nursery owners and others in a way that is most effective in preventing new sources of *Arundo* introduction.

Science and Technical Committee

UC Berkeley and the San Francisco Estuary Institute are leading this committee in developing a consortium of scientists interested in the problems and issues associated with *Arundo* control in our region. These issues include the following:

- herbicide risk assessment
- plant-plant interactions
- plant-animal interactions (e.g., insect and bird use of *Arundo* compared to native vegetation)
- soil changes
- water quality and supply effects
- refinement of eradication methods (including cut-stump and foliar application of
- herbicides, mechanical removal, bio-controls, and ways to most effectively remove *Arundo* with varying levels of infestation)
- quality assurance and quality control procedures/protocols for data collection (hydro-geomorphic measurements, associated plant species, etc)
- establishing historic condition in watersheds of interest

In addition to working on these issues, the committee will be completing a regional survey of streams and rivers infected with *Arundo donax* under the DFG grant. This committee will also strive to coordinate research on related subjects. Results of our efforts will be posted on the Team Arundo del Norte web site.

Policy, Regulations, and Permits Committee

The focus of this committee will be to address the need for permits to perform eradication of *Arundo* and other invasive plant species in wetlands and other waters of the United States. To eradicate *Arundo*, permits are typically needed from the following agencies: U.S. Army Corps of Engineers (404 dredge and fill permit), Regional Water Quality Control Boards (401 Water Quality Certification), the California Dept. of Fish and Game (1600 Streambed Alteration Agreements), and Air Quality Management Districts (permits to burn biomass). We hope to secure Regional General Permits through the San Francisco and Sacramento Corps Districts and perhaps

to work with the Air Quality Management Districts to streamline permitting. Also, policy issues related to *Arundo* removal are emerging. Notably, the appropriateness of allowing invasive plant control measures as full mitigation for permanent impacts to waters of the U.S. has yet to be resolved. This and other issues, such as mitigation banking for *Arundo* control, are being addressed by Team Arundo del Norte, working with our counterparts from the other Teams in the state and the California Exotic Pest Plant Council (CalEPPC).

Coordination and Funding Committee

Coordination of our efforts is essential in order to leverage funds, avoid duplication of effort, provide feedback mechanisms so that we learn from our mistakes, and to disseminate information from the public, science, policy, and permits efforts to the various stakeholders. Team Arundo del Norte has agreed that our efforts to control non-natives must be done within the context of sound watershed management practices and that a problem-based approach is likely to be much less effective.

We want to work cooperatively with existing watershed groups; such as the Coyote Creek Riparian Station and the Sonoma Ecology Center, to address the problem of *Arundo donax* through sound watershed stewardship practices. We also hope to see new riparian stations emerge to work on developing historical and current pictures of their waterways and to work in an expanding network to control erosion, pollution, invasive species, and other stressors in the environment.

This committee also has the responsibility for securing grants and other funding opportunities and for organizing efforts to apply for or obtain funds in order to support public outreach and eradication efforts.

Eradication Committee

Clearly, one of the main goals of Team Arundo del Norte is to eradicate giant reed. We plan to do this by using work teams from the Conservation Corps or the California Dept. of Forestry, citizen volunteers, and government sponsored projects. Under the DFG grant, Fish and Game personnel will demonstrate eradication efforts at two demonstration sites starting in the spring of 1998. The demonstration sites are Gray Lodge State Wildlife Refuge and the DFG Healdsburg Boat Facility on the Russian River. The Sonoma Ecology Center sponsors several eradication sites on Sonoma Creek.