

SANTA YNEZ RIVER TAMARISK AND ARUNDO PROJECT

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Treatment Approaches

Arundo is not easily controlled without the use of herbicides. This project proposes to use herbicides on arundo in the river bed, banks and overbanks along the Santa Ynez River.

Project staff will use handheld and backpack application equipment to apply glyphosate herbicide, the ingredient found in the commonly used garden herbicide Roundup®, to the arundo plants. The project will not be applying herbicides on arundo that is growing in water.

Because of the long distances between infestations, difficulty of access and the rural locations of many of the infestations, a helicopter will be used to transport project staff between infestations. We will be doing our best to avoid upsetting livestock, wildlife and people. The helicopter will drop off two-person teams of applicators who will access infestations on foot. If you have livestock, contact us to ensure we are aware of local conditions.



Materials and Methods

Following are the materials and methods that will be used in phase one of the project.



1. Foliar Treatment – Diluted glyphosate will be applied directly to arundo foliage. In some situations, the arundo will be bent down and glyphosate will be applied to the arundo on the ground. In other situations, the arundo will be sprayed as it stands.

2. Cut Stump Treatment – In certain situations, arundo will be cut, and undiluted glyphosate will be applied to the cut stump.



We will be using Aquamaster® (EPA Reg. # 524-343) brand glyphosate.

These methods and material have been selected for their environmental and human health safety. In all cases, great care will be taken to apply glyphosate only to arundo.

This project is part of Santa Barbara County's Integrated Regional Water Management Program. The project is funded by voter approved Proposition 50 – the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002; by qualified outer continental shelf oil and gas revenues from the Coastal Impact Assistance Program Branch of the US Fish and Wildlife Service, and by the California Department of Fish and Game's Fisheries Restoration Grant Program.

"Arundo and tamarisk are two of the biggest threats to the Santa Ynez River and its floodplain due to their potential widespread environmental degradation, habitat loss for aquatic and terrestrial species, water availability and supply, and general river water quality."

– Tim Robinson,
Senior Resources Scientist,
Cachuma Operation
and Maintenance Board



Arundo prior to treatment

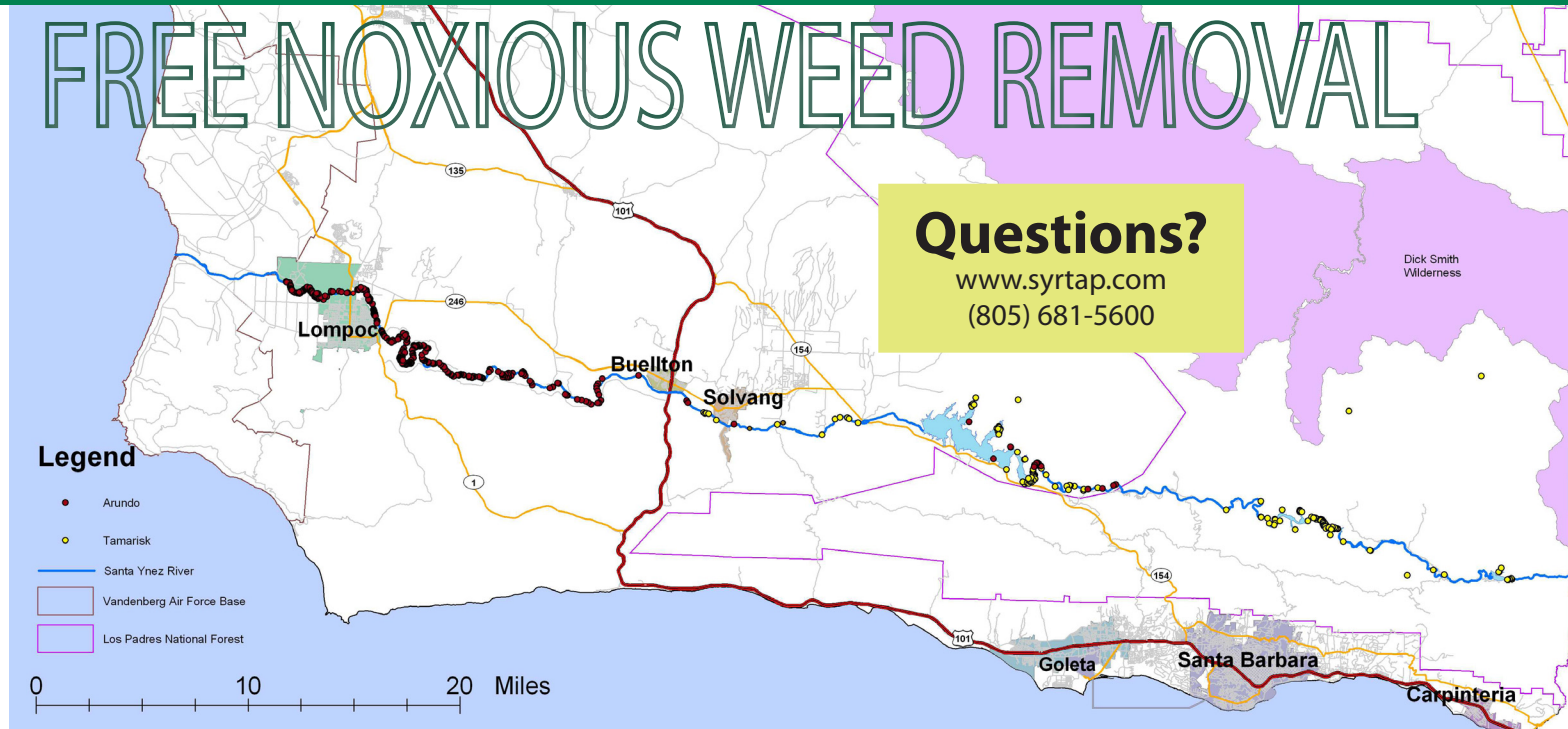


Decomposing stems



One to five years after treatment

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Questions?
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Cathleen M. Fisher Agricultural Commissioner
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Santa Barbara, CA 93110-1335

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Project Description

The County of Santa Barbara Agricultural Commissioner's Office is implementing an *Arundo donax* (phase one) weed control project on the Santa Ynez River. The control of *Tamarix ramosissima* (phase two) will not be implemented at this time.

This project will be conducted at no cost to you.

This Project phase's sole purpose is to control the growth of *Arundo donax* along the Santa Ynez River.

If *Arundo donax* is allowed to spread, infestations threaten homes and habitat by increasing the risk of flood and fire, reducing water availability and reducing plant and animal diversity.

The Agricultural Commissioner's Office requests your cooperation. If *Arundo donax* exists on your property, please read the Notice of Treatment that accompanies this newsletter. The Notice of Treatment indicates the schedule, provides for the expression of your concerns and includes an invitation to a public meeting. A Notice of Treatment is not included, if your property is not known to be infested with arundo.

The treatment of arundo is scheduled to begin on October 15, 2012 and proceed until all known infestations are treated. We hope that you appreciate the importance of this project and continue to cooperate as we annually revisit the infestations to re-treat infestations that survive the initial treatment. Phase one, the control of *Arundo donax*, is expected to end by 2017 or sooner. Phase two, the control of *Tamarix ramosissima*, is waiting for additional funding.

Your cooperation is essential to the success of this project. For more information, please contact David Chang at (805) 681-5600 or dchang@agcommissioner.com. A detailed project description, including maps of the infestations, methods and materials, treatment calendar and updates is on the internet at:

www.syrtap.com

Thank You!

Your cooperation in protecting homes and conserving habitat in Santa Barbara County is sincerely appreciated.

Property Risks

Arundo increases the risk of damage to homes, property, roads and bridges from flooding and fire. Floods can result when water is diverted by arundo patches that retain soil and block water flow; and by loose stalks of arundo that have been trapped in the river. Arundo breaks easily during floods. The weight of an arundo patch can cause stream banks to fall into the creek when floods or normal water flow undercut arundo patches. Arundo contributes to increased flooding. Flooding spreads arundo.

Arundo is highly flammable and can change a usually fire-resistant area into fire-prone area. Arundo's tall growth and flammability increases the fuel load, frequency, height and heat of fires. Arundo infestations can carry fire vertically to the tops of trees and horizontally through the landscape; higher and farther than in a native landscape that contains mixed vegetation types. Like flooding, fire helps arundo to spread, because arundo recovers more quickly than native vegetation. Arundo contributes to increased fire risk. Fire contributes to increased arundo infestation.

Arundo uses large amounts of water to support its growth. While some

native plants might use as much water as arundo, arundo grows in such dense patches that water use may be more than what would occur if the infestations were not present. Water flow can cease in springs and creeks if they become infested, and return after infestations have been removed.

Removal of arundo will help protect and conserve homes, farms, bridges, recreation and water quantity and quality.



"The District supports elimination of invasive weeds because it conserves water supply, improves water quality and lowers the threats from fire and flood."
 - Bruce A. Wales, General Manager, Santa Ynez River Water Conservation District

"Implementation of this project is essential to bring these invasive plants under control along the Santa Ynez River, where even full eradication is still possible, before they repeat the devastation they've wrought elsewhere."
 - Tom Dudley, Research Associate, University of California, Santa Barbara

Noxious Invasive Weeds

Arundo donax and *Tamarix ramosissima* are noxious weeds listed in Section 4500 of the California Code of Regulations. Noxious weeds are plants that have been determined by the Director of the California Department of Food and Agriculture (DFA) to be detrimental to agriculture, horticulture, and habitat; have limited distribution in California; and are difficult to control. California's departments of agriculture are authorized to regulate the growth, sale and transport of noxious weeds.

Arundo donax and *Tamarix ramosissima* are considered invasive plants by many natural resource professionals and environmental organizations throughout California. Invasive plants are non-native plants that pose a significant threat to native plant and animal habitat by their ability to alter ecosystem processes or displace native plants, and ultimately create habitats that are dominated by the invasive plant. A significant number of special status species are impacted by loss of habitat and the rampant growth of invasive species.

Tamarisk (*Tamarix ramosissima*)
Tamarix ramosissima, also known as saltcedar or tamarisk, is a deciduous or evergreen shrub or small tree, that can grow as tall as twenty feet. Tamarisk can grow to form dense patches that restrict a river's flow and increases the risk of flooding. Tamarisk is highly flammable and increases the risk of fire. Tamarisk thrives in salty soils and concentrates salts in its leaves. Tamarisk leaf litter falling on the soil surface further enhances growth conditions for tamarisk and inhibits other plants from growing. It spreads by seed and vegetative growth. A mature tree can produce up to a half million seeds per year. Tamarisk treatment is not scheduled, this year.



Arundo (*Arundo donax*)
Arundo donax, also known as arundo, is a grass that can grow as fast as two inches per day and as tall as twenty-five feet. It causes problems because it can create large, dense, pure patches that are a fire and flood hazard. If allowed to grow, it can replace native plants and take over gardens. Humans, wildlife, horses, and cattle do not eat it. It is very difficult to hike through arundo patches.



Biological Impacts

Arundo does not provide quality food or habitat for wildlife. Arundo contains a high percentage of silica and a wide array of noxious chemicals



that protect it from grazing by livestock, wildlife and insects. Birds do not nest in its branches as it often grows vertically and cannot support nests. Its dense growth inhibits access to the ground for ground nesting birds, and movement through it by wildlife and people.

Arundo's aggressive growth and ability to rebound quickly after a flood, fire or other disturbance allows it to create dense pure infestations that displace the native vegetation and wildlife.

Arundo can reduce the biological diversity of a normally rich ecosystem. There are many examples of river systems that have been overrun by arundo.

THE SANTA YNEZ RIVER IS AT AN EARLY STAGE IN THE INVASION PROCESS. ACTION NOW WILL CONSERVE WILDLIFE DIVERSITY, HELP PREVENT DEGRADATION OF HABITAT QUALITY, LOWER THE RISK OF FLOOD AND FIRE, AND PRESERVE THE BEAUTY OF THE SANTA YNEZ RIVER.