

**Taking the leap:
watershed-wide *Arundo
donax* eradication in Santa
Barbara County**

**Santa Ynez River Tamarisk and Arundo
Project- SYRTAP**

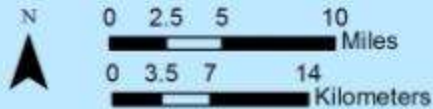


Katrina Olthof- Wildlands Conservation Science

Santa Ynez River

Santa Ynez River Subbasins

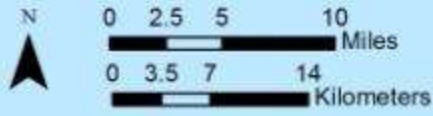
- Cities
- Highways
- Santa Ynez River
- Tributaries
- Lakes
- ⊕ County Boundary



Santa Ynez River

Santa Ynez River Subbasins

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Santa Ynez River

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- City of Santa Barbara
- Goleta Water District
- Carpinteria Valley Water District
- Montecito Water District
- Downstream water rights







Initial Project Proponents:

Cachuma Conservation Release Board & Santa Ynez
River Water Conservation District



Reasoning:



A scenic landscape featuring a range of mountains in the background, with a large body of water (likely a lake or reservoir) visible in the distance. The foreground is dominated by a dense field of tall, green corn plants.

Reasoning:

- Prevent potential increased flood and fire risk



Reasoning:

- Prevent potential increased flood and fire risk
- Conserve native plant and wildlife habitat and biodiversity



An aerial photograph of a wide river valley. The river flows through the center, surrounded by lush green vegetation. The valley floor is a mix of green and brown, indicating some cleared areas. In the background, there are layers of mountains under a hazy sky. A large body of water is visible in the distance on the right side.

Reasoning:

- Prevent potential increased flood and fire risk
- Conserve native plant and wildlife habitat and biodiversity
- Prevent potential loss and degradation of the quality of potable water supply from the river, lakes and underground sources

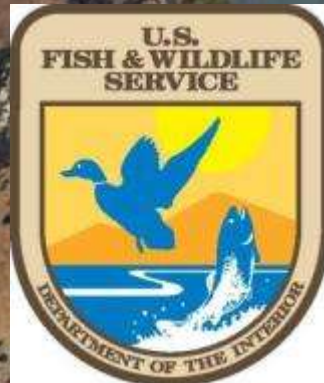


Reasoning:

- Prevent potential increased flood and fire risk
- Conserve native plant and wildlife habitat and biodiversity
- Prevent potential loss and degradation of the quality of potable water supply from the river, lakes and underground sources
- Prevent an increase in potential weed management costs and herbicide use

Funding

- Proposition 50 – the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002
- Coastal Impact Assistance Program
- CA Dept. of Food and Agriculture Weed Management Area
- CDFW Fisheries Restoration Grant Program
- County of Santa Barbara



SYRTAP

Objectives:

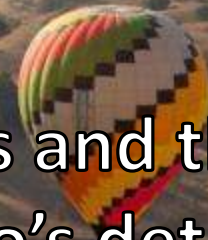
1. Survey and map infestations of tamarisk and Arundo on the Santa Ynez River, and identify owners of infested sites.



SYRTAP

Objectives:

1. Survey and map infestations of tamarisk and Arundo on the Santa Ynez River, and identify owners of infested sites.
2. Educate landowners, public agencies and the community about tamarisk and Arundo's detrimental impacts on riparian ecosystems, biodiversity, and infrastructure.



SYRTAP

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3. Treat all infestations of tamarisk and Arundo

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3. Treat all infestations of tamarisk and Arundo
4. Monitor treatment efficacy and retreat as necessary.
Treat newly discovered infestations

First Step: The Survey

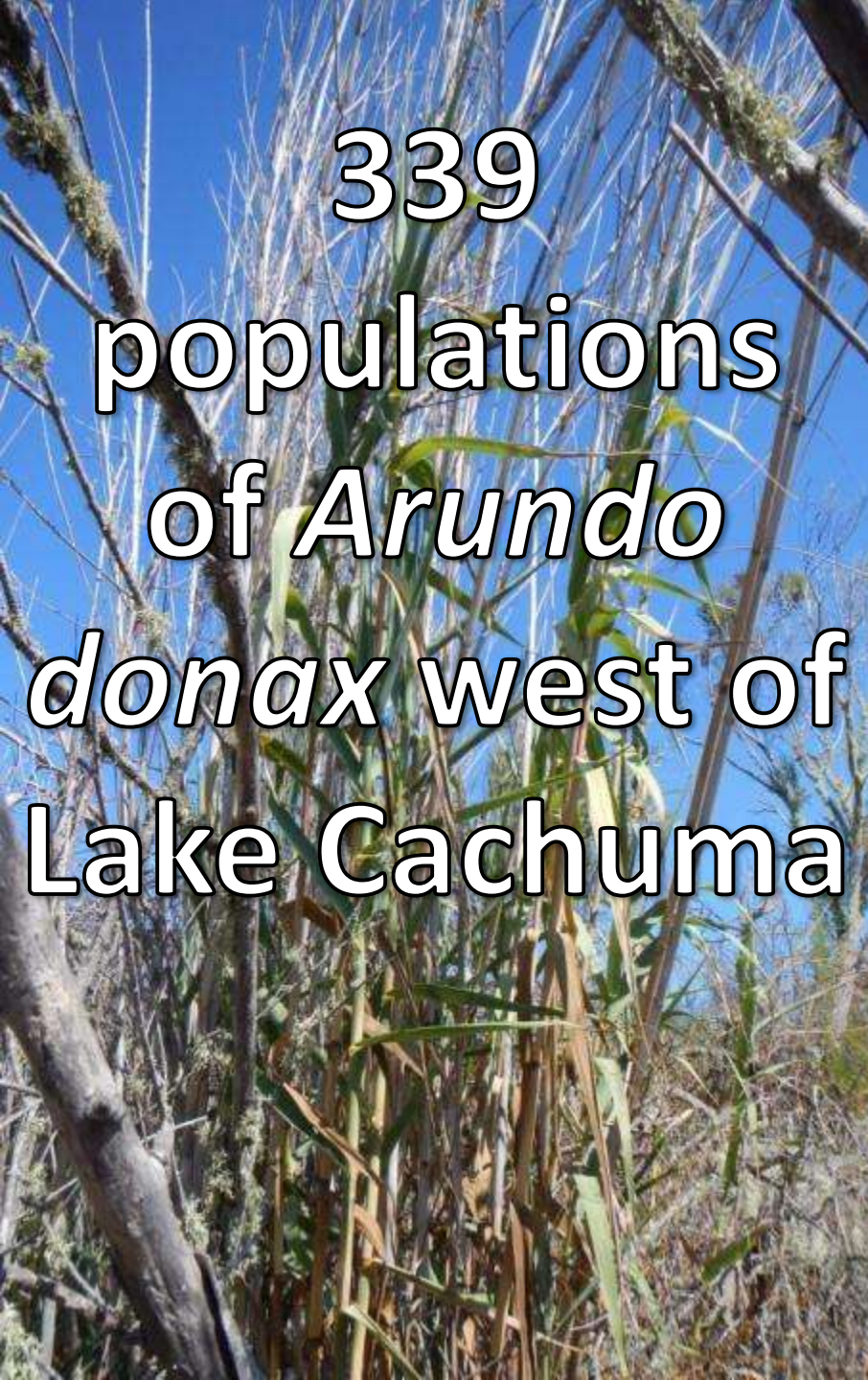


September
2008



339

populations
of *Arundo*
donax west of
Lake Cachuma



A close-up photograph of Arundo donax reeds. The image shows several thick, dark brown stems with some green leaves and dried, yellowish-brown leaves. The background is a clear blue sky.

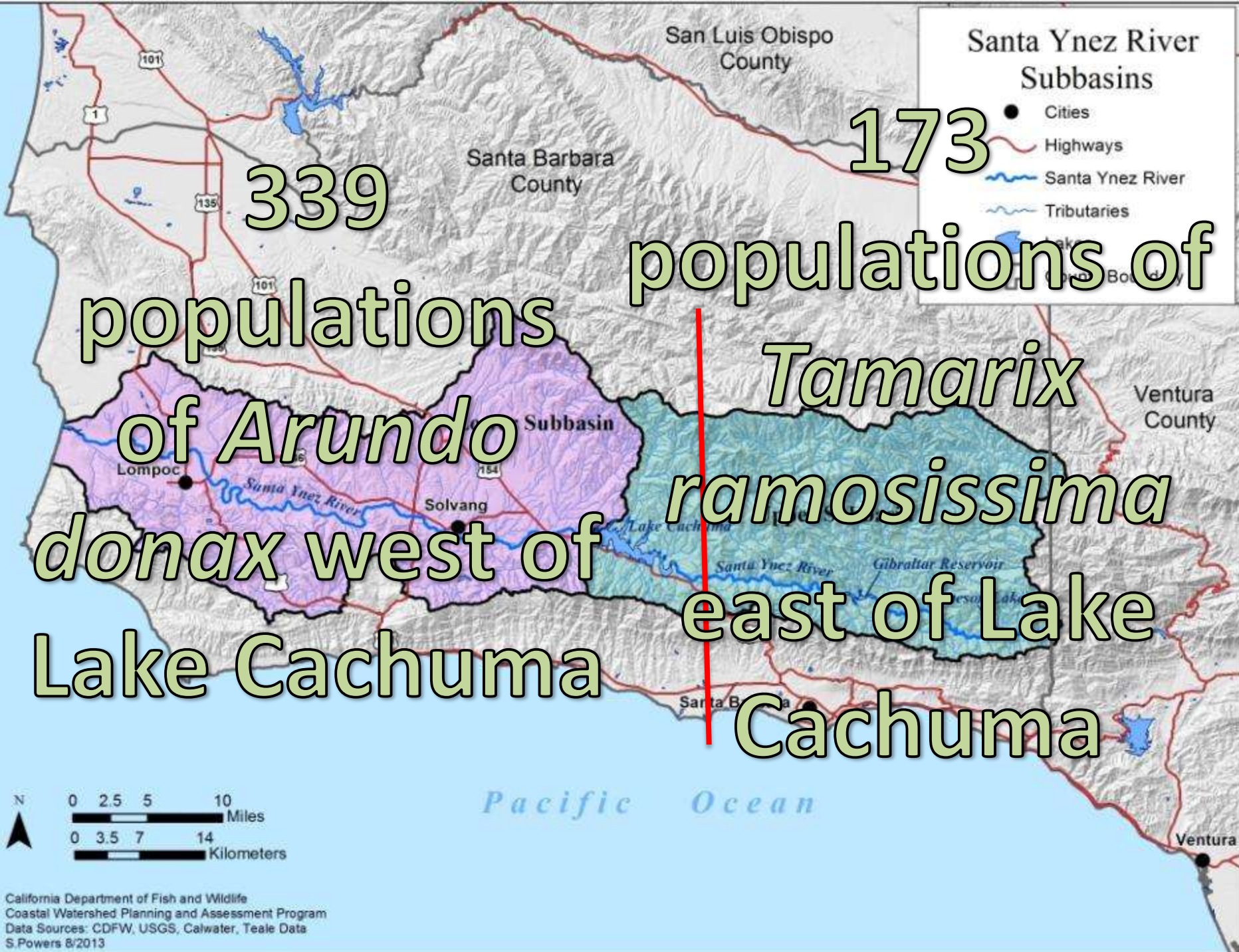
339

populations
of *Arundo
donax* west of
Lake Cachuma

A photograph of Tamarix ramosissima shrubs. The shrubs are green and bushy, growing in a dry, rocky area. The background shows a clear blue sky and some distant hills.

173

populations of
*Tamarix
ramosissima*
east of Lake
Cachuma

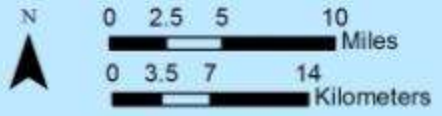


Santa Ynez River Subbasins

- Cities
- Highways
- Santa Ynez River
- Tributaries

339 populations of *Arundo donax* west of Lake Cachuma

173 populations of *Tamarix ramosissima* east of Lake Cachuma



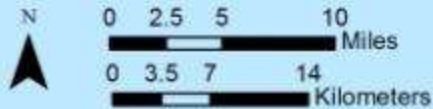
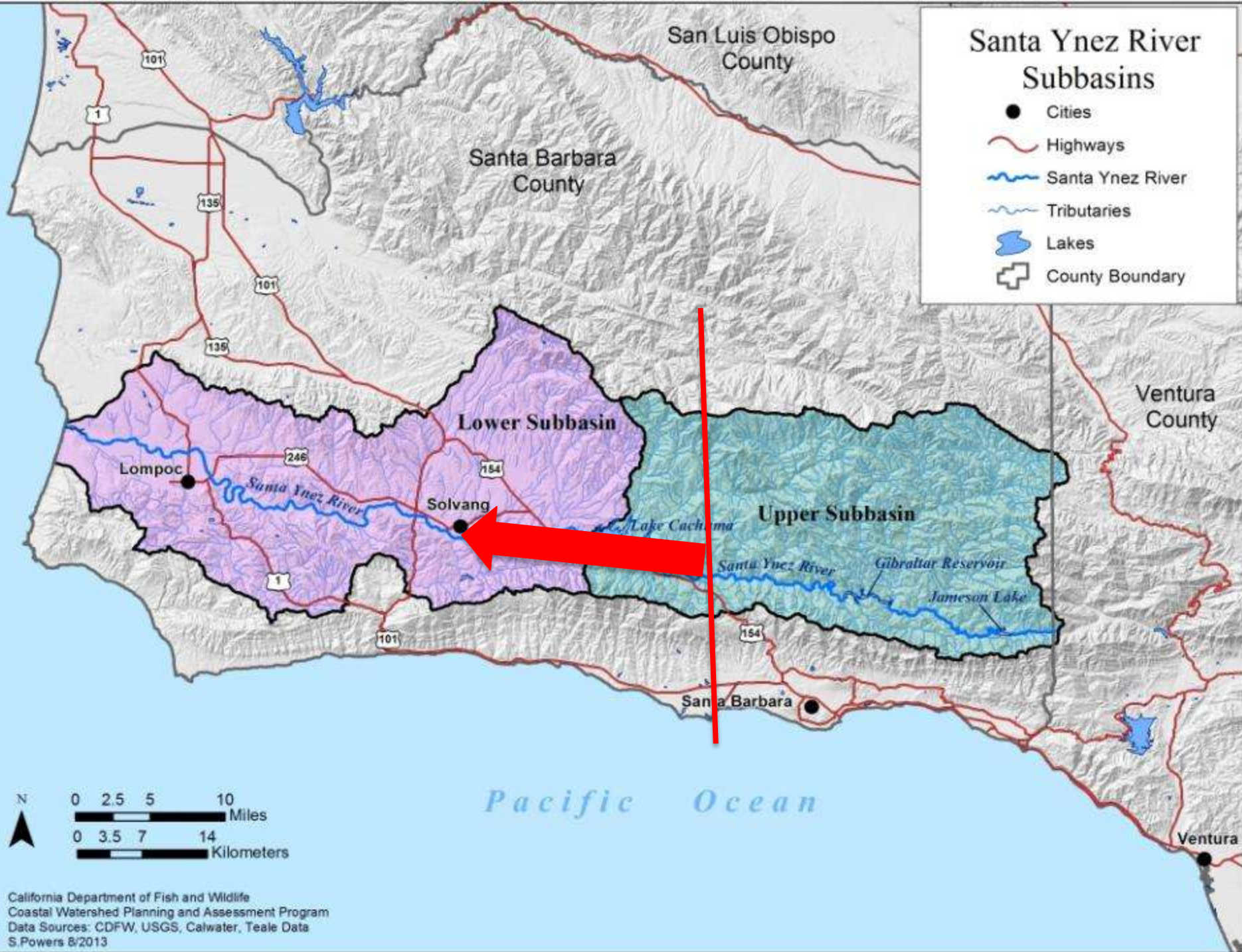
Patchy



BIG STAND

Santa Ynez River Subbasins

- Cities
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Permitting

An aerial photograph showing a river flowing through a hilly, vegetated landscape. The river is dark and winding, with a concrete-lined section visible in the foreground. The surrounding terrain is covered in dry, scrubby vegetation. In the background, a green golf course is visible, along with some buildings and a clear blue sky.

- Mitigated Negative Declaration to satisfy CEQA
- 1600 Lake or Streambed Alteration Agreement
- CalTrans Encroachment Permit
- USACE RGP 41

Mitigations:

- WEAP – Worker Environmental Awareness and Protection Program

Eradication Effort Begins!

4 years later....

The Approach

Santa Ynez River Giant Reed Eradication 2013 Progress



- Legend**
- Giant Reed Treatment Status**
- Stand Treated in 2013
 - Stand Not Treated Due to High Water
 - Stand Not Yet Treated
 - Stand Does Not Exist
- Salt Cider Treatment Status**
- Stand Treated in 2013



Santa Ynez River Giant Reed Eradication 2013 Progress

Legend

Giant Reed Treatment Status

- Stand Treated in 2013
- Stand Not Treated Due to High Water
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Salt Cider Treatment Status

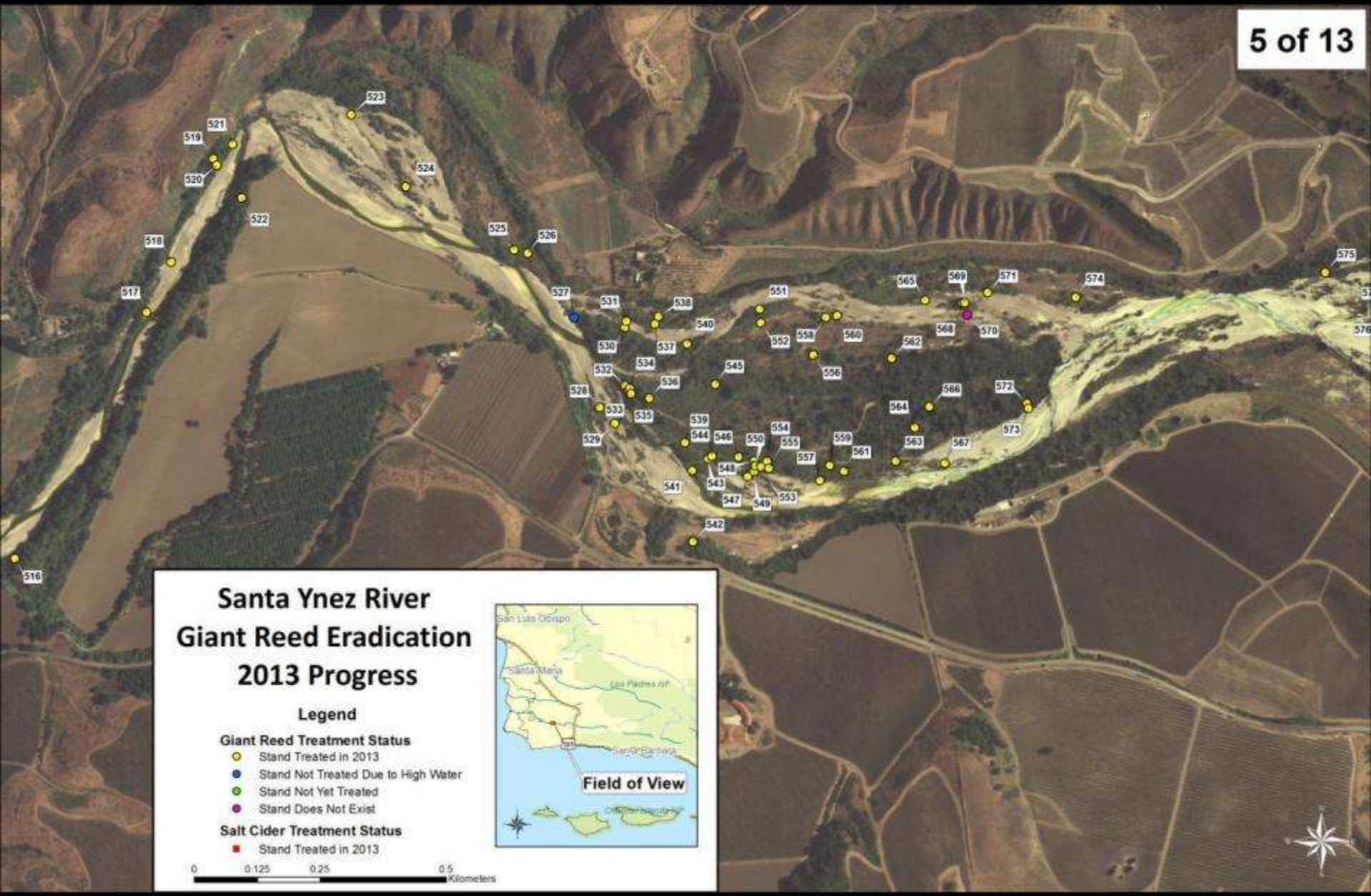
- Stand Treated in 2013



0 0.25 0.5 1 Kilometers

3 of 13





Santa Ynez River Giant Reed Eradication 2013 Progress

Legend

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Salt Cider Treatment Status

- Stand Treated in 2013











Wildlands

SPOT









Access



Access



Tools of the Trade





Our Rides







Year One- 5% Glyphosate



Years Two-Four

1% Imazypr



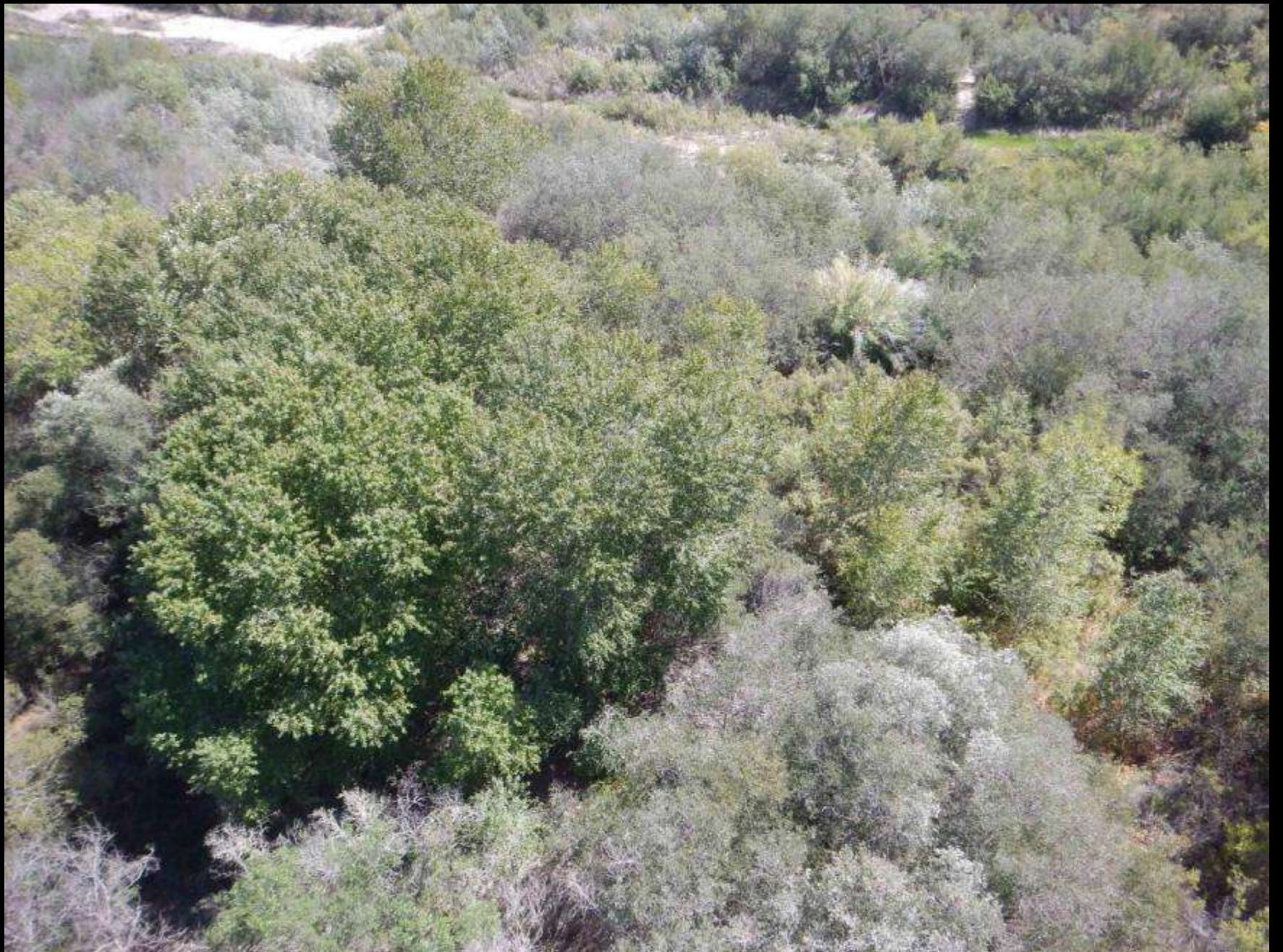
Years Two-Four

1% Imazypr

But you have to be careful!!







Consistent Slacker Approach





Our Rides

















**Nice to meet you.
See you next year...**



UPstream

N



Giant Reed Treatment Status

- Treated
- Not Treated Due to High Water
- Not Yet Treated
- Does Not Exist

Stand ID	Length (FT)	Width (FT)	MODE	Herb	Gal Fin.	RT. NO	Stand ID	Length (FT)	Width (FT)	MODE	Herb	Gal Fin.	RT. NO
477	10	2	ATV H C	100%	0	100%	477	10	2	ATV H C	100%	0	100%
478	10	2	ATV H C	100%	0	100%	478	10	2	ATV H C	100%	0	100%
479	10	2	ATV H C	100%	0	100%	479	10	2	ATV H C	100%	0	100%
480	10	2	ATV H C	100%	0	100%	480	10	2	ATV H C	100%	0	100%
481	10	2	ATV H C	100%	0	100%	481	10	2	ATV H C	100%	0	100%
482	10	2	ATV H C	100%	0	100%	482	10	2	ATV H C	100%	0	100%
483	10	2	ATV H C	100%	0	100%	483	10	2	ATV H C	100%	0	100%
484	10	2	ATV H C	100%	0	100%	484	10	2	ATV H C	100%	0	100%
485	10	2	ATV H C	100%	0	100%	485	10	2	ATV H C	100%	0	100%
486	10	2	ATV H C	100%	0	100%	486	10	2	ATV H C	100%	0	100%
487	10	2	ATV H C	100%	0	100%	487	10	2	ATV H C	100%	0	100%
488	10	2	ATV H C	100%	0	100%	488	10	2	ATV H C	100%	0	100%
489	10	2	ATV H C	100%	0	100%	489	10	2	ATV H C	100%	0	100%
490	10	2	ATV H C	100%	0	100%	490	10	2	ATV H C	100%	0	100%
491	10	2	ATV H C	100%	0	100%	491	10	2	ATV H C	100%	0	100%
492	10	2	ATV H C	100%	0	100%	492	10	2	ATV H C	100%	0	100%
493	10	2	ATV H C	100%	0	100%	493	10	2	ATV H C	100%	0	100%
494	10	2	ATV H C	100%	0	100%	494	10	2	ATV H C	100%	0	100%
495	10	2	ATV H C	100%	0	100%	495	10	2	ATV H C	100%	0	100%
496	10	2	ATV H C	100%	0	100%	496	10	2	ATV H C	100%	0	100%
497	10	2	ATV H C	100%	0	100%	497	10	2	ATV H C	100%	0	100%
498	10	2	ATV H C	100%	0	100%	498	10	2	ATV H C	100%	0	100%
499	10	2	ATV H C	100%	0	100%	499	10	2	ATV H C	100%	0	100%
500	10	2	ATV H C	100%	0	100%	500	10	2	ATV H C	100%	0	100%
501	10	2	ATV H C	100%	0	100%	501	10	2	ATV H C	100%	0	100%
502	10	2	ATV H C	100%	0	100%	502	10	2	ATV H C	100%	0	100%
503	10	2	ATV H C	100%	0	100%	503	10	2	ATV H C	100%	0	100%
504	10	2	ATV H C	100%	0	100%	504	10	2	ATV H C	100%	0	100%
505	10	2	ATV H C	100%	0	100%	505	10	2	ATV H C	100%	0	100%
506	10	2	ATV H C	100%	0	100%	506	10	2	ATV H C	100%	0	100%
507	10	2	ATV H C	100%	0	100%	507	10	2	ATV H C	100%	0	100%
508	10	2	ATV H C	100%	0	100%	508	10	2	ATV H C	100%	0	100%
509	10	2	ATV H C	100%	0	100%	509	10	2	ATV H C	100%	0	100%
510	10	2	ATV H C	100%	0	100%	510	10	2	ATV H C	100%	0	100%
511	10	2	ATV H C	100%	0	100%	511	10	2	ATV H C	100%	0	100%
512	10	2	ATV H C	100%	0	100%	512	10	2	ATV H C	100%	0	100%

Round 2





Success!



well...









Every green ring gets a blue one...



The Stats



- 2008 Survey – 339 pops
- 2012 Tx Year 1 – 415 pops



- 2013 Tx Year 2 – 709 pops
- 2014 Tx Year 3 – 742 pops
- 2015 Tx Year 4 – **even more...**
- 2016 Tx Year 5 – **Fingers crossed**

The Stats



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~30 Acres

Here's the Rub

2001 Santa Ynez River



2015 Santa Ynez River







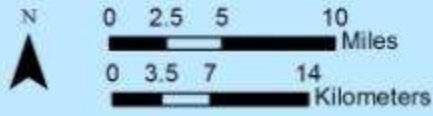
Six miles to go & 124 stands
short of the prize



Santa Ynez River

Santa Ynez River Subbasins

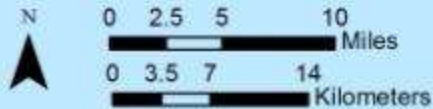
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Dam“N” Beavers









Protection of California Red-legged Frog from Pesticides

[Back to Endangered Species Project](#)

Stipulated Injunction and Order

Background

On October 20, 2006, the U.S. District Court for the Northern District of California imposed no-use buffer zones around California red-legged frog upland and aquatic habitats for certain pesticides. This injunction and order are part of a settlement reached between U.S. EPA, CropLife America, American Forest and Paper Association, Western Plant Health Association, Oregonians for Food and Shelter, and Syngenta Corporation as co-defendants, and the Center for Biological Diversity as the plaintiff.

The suit by the Center for Biological Diversity alleged that U.S. EPA failed to solicit U.S. Fish & Wildlife Service (FWS) formal consultation on the risks of 66 pesticides to California red-legged frog (CRLF).

This injunction and order will remain in effect for each pesticide listed below until EPA goes through formal 7(A)(2) consultation with FWS on each of the 66 active ingredients, and FWS issues a Biological Opinion including a "not likely to adversely affect" statement for the pesticides. Each pesticide in turn will be removed from the list, as this occurs.

Pesticide Use Restrictions Now Required

Under the injunction and order, no-use buffer zones of 60 feet for ground applications and 200 feet for aerial applications apply from the edge of the following California red-legged frog habitats as defined by the U.S. Fish & Wildlife Service and the Center for Biological Diversity: Aquatic Feature, Aquatic Breeding Habitat, Non-Breeding Aquatic Habitat, and Upland Habitat (details on these habitats are given in a Powerpoint Presentation following the list of prohibited active ingredients). These CRLF habitats are found in 33 counties of California [link to map, PDF](#) (455 kb).

The active ingredients for which the no-use buffer zones apply are the following:

2,4-D	Endosulfan	Myclobutanil	Thiobencarb
Acephate	EPTC	Naled	Tribufos (DEF)
Alachlor	Esfenvalerate	Norfurazon	Triclopyr
Akticarb	Fenamiphos	Oryzalin	Trifluralin
Atrazine	Glyphosate	Oxamyl	Vinclozolin
Azinphos-methyl	Hexazinone	Oxydemeton-methyl	Ziram
Bensulfide	Imazapyr	Oxyfluorfen	
Bromacil	Iprodione	Paraquat dichloride	
Captan	Linuron	Pendimethalin	
Carbaryl	Malathion	Permethrin	
Chloropicrin	Mancozeb	Phorate	
Chlorothalonil	Maneb	Phosmet	
Chlorpyrifos	Metam sodium	Prometryn	
Chlorthaldimethyl (DCPA)	Methamidophos	Propanil	
Diazinon	Methidathion	Propargite	
Dicofol	Methomyl	Propyzamide (Pronamide)	
Diflubenzuron	Methoprene	Rotenone	
Dimethoate	Methyl parathion	Simazine	
Disulfoton	Metolachlor	Strychnine	
Diuron	Molinate	Telone (1,3-dichloropropene)	

Regulatory Constraint...



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Atrazine	Chlyphosate	Oxamyl	Vinlozolin
Azinphos-methyl	Hexazinone	Oxydemeton-methyl	Ziram
Bensulfide	Imazapyr	Oxyfluorfen	
Bromacil	Iprodione	Paraquat dichloride	
Captan	Linuron	Pendimethalin	
Carbaryl	Malathion	Permethrin	
Chloropicrin	Mancozeb	Phorate	
Chlorothalonil	Maneb	Phosmet	
Chlorpyrifos	Metam sodium	Prometryn	
Chlorthaldimethyl (DCPA)	Methamidophos	Propanil	
Diazinon	Methidathion	Propargite	
Dicofol	Methomyl	Propyzamide (Pronamide)	
Diflubenzuron	Methoprene	Rotenone	
Dimethoate	Methyl parathion	Simazine	
Disulfoton	Metolachlor	Strychnine	
Diuron	Molinate	Telone (1,3-dichloropropene)	

Regulatory Constraint...



Planes, Trains and Automobiles



Whirly Birds, ATVs and Canoes



then I hike three miles back to find
out they don't have any more cars?

Acknowledgements

- David Chang and Stephanie Stark, Santa Barbara County Agricultural Commissioner's Office
- United States Fish and Wildlife Service,
- California Department of Fish and Wildlife,
- Cachuma Conservation Release Board and Santa Ynez River Water Conservation District,
- John Knapp formerly of Native Range Inc.
- Morgan Ball and Grant Powell; Wildlands Conservation Science



Questions?

