

Central Coast Regional Water Quality Control Board

September 14, 2015

Dear Pinto Lake Area Residents:

REQUEST FOR HELP TO IMPROVE PINTO LAKE WATER QUALITY BY MANAGING EROSION ASSOCIATED WITH LIVESTOCK, HORSES, AND FARM ANIMALS

Información en Español: Esta carta es para los residentes que tienen terreno con ganado y viven cerca de Pinto Lake. Estamos en busca de ayuda para mejorar la calidad del agua en esta zona. Lisa Lurie (llurie@rcdsantacruz.org o 831-464-2950 ext 27) o Sacha Lozano (slozano@rcdsantacruz.org) de Distrito de Recursos de Conservación del Condado de Santa Cruz (Resource Conservation District of Santa Cruz County) están disponibles para ayudarle con asesoramiento técnico y también, posiblemente, obtener fondos para proyectos relacionados con el manejo de suelos y conservación. Si usted desea hablar con alguien del Consejo Regional de la Costa Central para el Control de Calidad de Agua (Central Coast Regional Water Quality Control Board), por favor llame a Héctor Hernández al 805-542-4641.

Why is the Central Coast Regional Water Quality Control Board Contacting You?

People keeping livestock or farm animals on their property may be contributing to serious water quality problems in Pinto Lake. If you keep livestock or farm animals on your property, including cattle, horses, goats, sheep, llamas, or domesticated hogs, etc., in the area surrounding Pinto Lake (see map – Attachment A), this information likely applies to you. If you do not keep these types of animals on your Pinto Lake area property, this letter does not apply to you – though environmental issues regarding Pinto Lake may be of interest to you.

Pinto Lake suffers from significant environmental problems associated with episodic toxic algae blooms (see Fact Sheet – attachment B). Toxic algae blooms can degrade water quality, poison wildlife, and even pose a threat to human health. Scientists have determined that these algae blooms are partly a result of increased erosion and discharge of phosphorus-rich sediment into the lake over the last few decades, including from nearby properties with livestock. Elements like phosphorus and nitrogen are naturally occurring plant nutrients, but when present in elevated amounts they can promote excessive and undesirable growth of algae and other aquatic plants in a lake, stream, or estuary.

How Does Erosion Associated with Livestock Potentially Affect the Lake?

Improper livestock and farm animal management and associated disturbance of soil and sediment may adversely impact the natural drainage of a landscape, may increase erosion, and may result in water quality and environmental degradation. Scientists have determined that increased erosion of phosphorus-rich sediments and their transport and delivery to Pinto Lake plays a role in increasing the frequency and intensity of toxic algae blooms. Implementing good land and animal management practices can reduce the environmental impact of livestock in a watershed.

Controlling Excessive Erosion Caused by Livestock – It's the Law

Owners and operators of lands with livestock and/or farm animals must control discharges of soil and sediment into water courses nearby pursuant to plans and policies¹ adopted by the Central Coast Regional Water Quality Control Board (Central Coast Water Board). These plans and policies require residents who have livestock and farm animals to manage their property to protect water quality. Practically speaking, this means residents who have livestock and farm animals on their property must begin, or continue, to self-assess and self-monitor their property to determine if erosion control or other practices must be used to reduce excessive erosion and waste discharges. If erosion and waste discharges are observed, prevention

¹ See [Water Quality Control Plan for the Central Coastal Basin](#), Section VIII.E.1. Land Disturbance Prohibitions, pg. IV-70.

and control practices must be implemented. Good land and animal management practices can not only improve water quality and the environment, but can also improve animal health, enhance land aesthetics, and can even increase property values.² We commend those persons who already are self-monitoring and managing their livestock and property to protect water quality in Pinto Lake.

What You Can Do to Help – and Resources Available to Help You

If you need help developing improved land and animal management practices on your property, resource professionals at the USDA Natural Resources Conservation Service (NRCS)³ can provide you **technical assistance, advice, and even help you obtain funding** for land management and conservation practices. It should be noted that the NRCS cannot guarantee financial assistance which is competitive under various Farm Bill programs and which have certain eligibility requirements .

Note: NRCS services are available free of charge and are non-regulatory. All information is kept confidential. The NRCS is not a regulatory or enforcement agency. The mission of NRCS is to provide help to farmers, ranchers, and property owners who want and ask for technical assistance in making conservation improvements to their land.

If you would like to engage with NRCS about your property, please contact Santa Cruz County district conservationist **Mr. Rich Casale**:

Rich Casale, CPESC #3
Certified Professional Erosion and Sediment Control Specialist
District Conservationist
U.S. Department of Agriculture
Natural Resources Conservation Service
820 Bay Ave, Suite 128
Capitola, CA 95010
(831) 475-1967 ext 101
Richard.Casale@ca.usda.gov

To Stay Informed and Engaged

Protecting California's water resources depends on the active engagement of citizens, land owners, businesses, and researchers. The Central Coast Water Board maintains an email subscription list and a webpage for our Pinto Lake water quality improvement project (also known in technical terms as a "TMDL"). To be notified of updates and meetings regarding the Pinto Lake TMDL, please subscribe to the "Pinto Lake Blue Green Algae" email subscription list at:

http://www.waterboards.ca.gov/resources/email_subscriptions/reg3_subscribe.shtml

Background information and documentation about Pinto Lake are available on the Central Coast Water Board's Pinto Lake TMDL webpage located at:

www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/pinto_lake/

If you have additional questions about the Pinto Lake water quality improvement project, please contact me by phone at (805) 549-3699 or by email at pete.osmolovsky@waterboards.ca.gov.

Sincerely,

Peter Osmolovsky
Engineering Geologist

Attachments: [Attachment A: Map of the Pinto Lake watershed](#)
[Attachment B: Pinto Lake TMDL Fact Sheet](#)

² See Land and Livestock Program brochure at www.livestockandland.org/PDF/BMP%20Brochure.pdf

³ See the California NRCS website at <http://www.nrcs.usda.gov/wps/portal/nrcs/site/ca/home/>

Map of the Pinto Lake Catchment



Pinto Lake Catchment

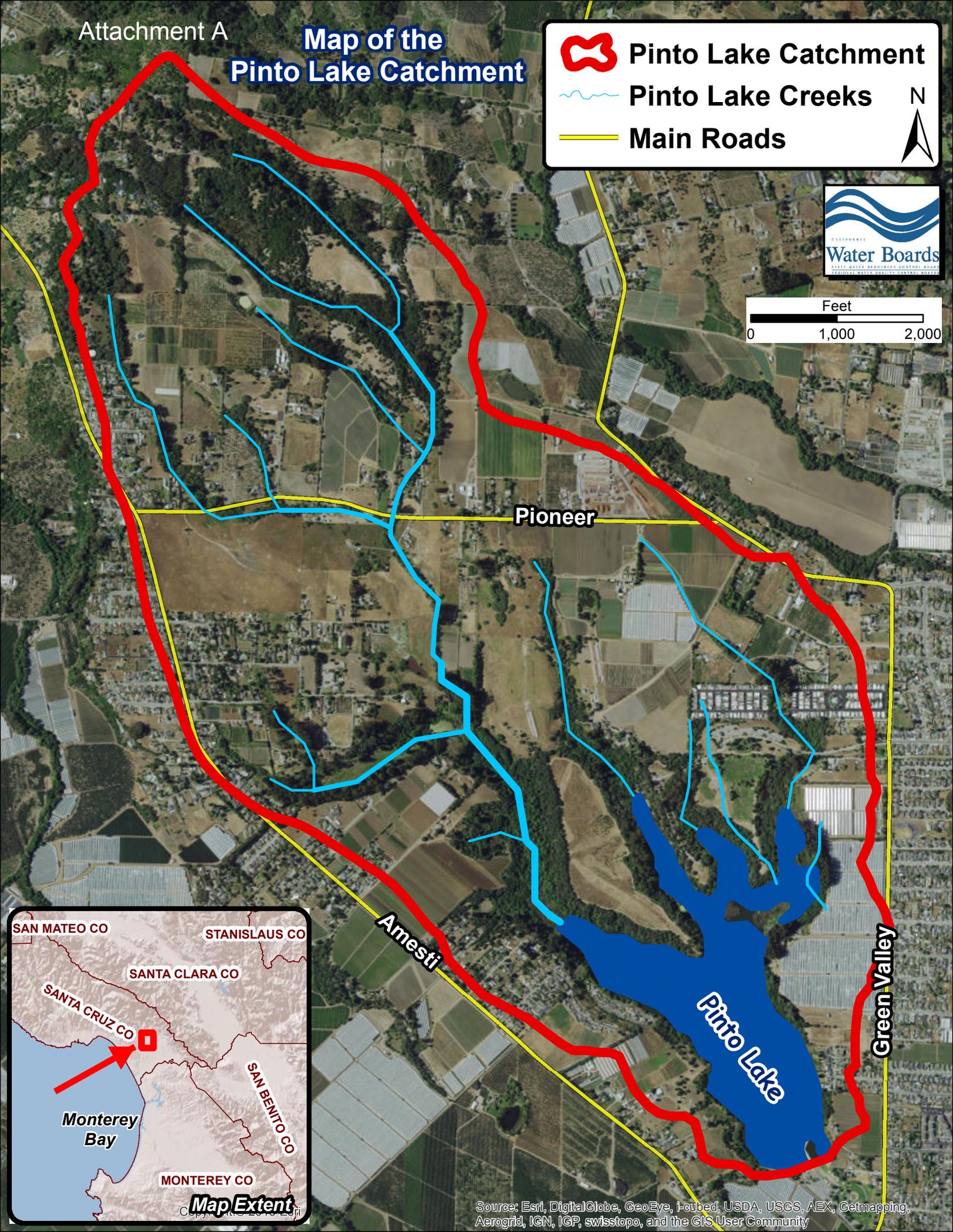


Pinto Lake Creeks



Main Roads

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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FACT SHEET

DEVELOPMENT OF TOTAL MAXIMUM DAILY LOADS FOR NUTRIENTS AND ALGAL TOXINS: PINTO LAKE WATERSHED

What is a Total Maximum Daily Load (TMDL)?

Simply put, TMDLs are strategies or plans to restore clean water. Section 303(d) of the federal Clean Water Act requires every state to evaluate its waterbodies and maintain a list of waters that are considered “impaired” either because the water exceeds water quality standards or does not achieve its designated use. For each water on the Central Coast’s “303(d) Impaired Waters List,” the California Central Coast Water Board must develop and implement a plan to reduce pollutants so that the waterbody is no longer impaired and can be de-listed.

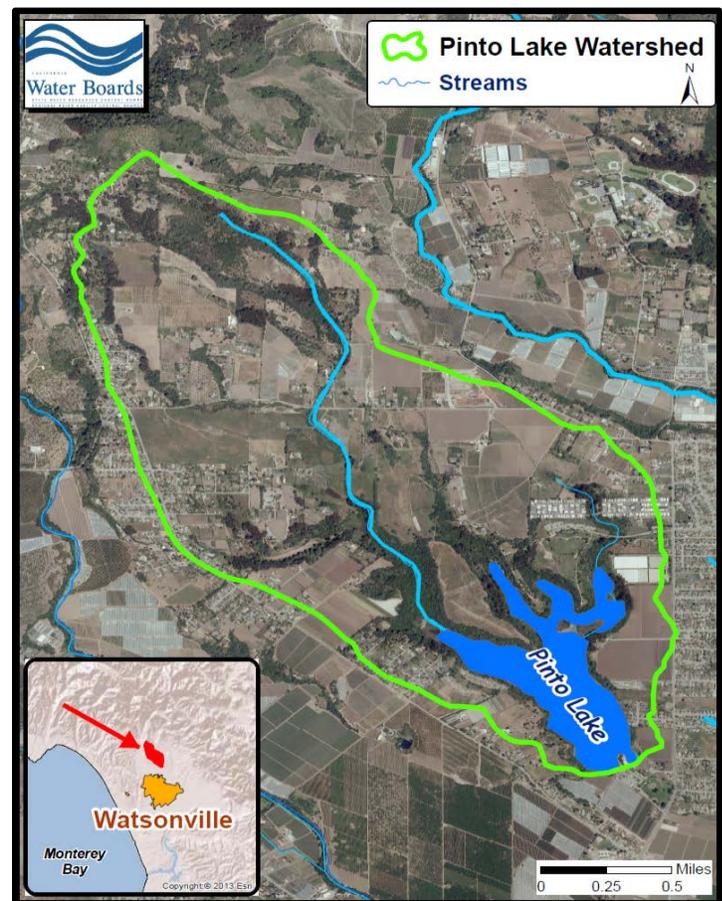
“Total Maximum Daily Load” (TMDL) is a term used to describe the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. A TMDL project identifies the probable sources of pollution, establishes the maximum amount of pollution a waterbody can receive and still meet water quality standards, and establishes a plan to rectify the water quality impairments. Water Board staff are in the initial phases of developing a TMDL for Pinto Lake intended to address identified algal toxin water quality impairments.

Location and Watershed Description

The Pinto Lake Watershed drains a 1,480 acre (2.3 square miles) catchment of southern Santa Cruz County, just north of the city of Watsonville. Pinto Lake is a natural, perennial lake that has existed for at least 8,000 years as a result of a tectonically-driven local topographic depression. The lake is an important recreational and aesthetic resource for the public, and historically has provided high quality habitat for aquatic species and wildlife. Land cover in the watershed is comprised largely of residential areas, and cultivated cropland; upland reaches of the watershed contain substantial amounts of mixed woodland and grasslands. Soils of the watershed are predominantly loams, with subsidiary amounts of sandy loams, and clays. Surface drainage in the watershed range from moderately-well drained to somewhat-poorly drained.

Why Do We Need a TMDL for the Pinto Lake Watershed?

TMDLs are required by federal law to implement state water quality standards and rectify identified surface water quality impairments. California’s water quality standards designate beneficial uses for each waterbody (e.g., drinking water supply, agricultural supply, aquatic life support, recreation, etc.) and the



Pinto Lake Watershed

scientific criteria to support those uses. The Central Coast Water Board is required under both state and federal law to protect and regulate beneficial uses of waters of the state. Pinto Lake is listed on the Clean Water Act 303(d) list due to impairments by toxic algal blooms. This type of water quality impairment is a biological response to excessive loading of nutrients to the lake. While nutrients - specifically nitrogen and phosphorus – are essential for plant growth, and are ubiquitous

Attachment B

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in the environment, they are considered pollutants when they occur at levels which have adverse impacts on water quality.

Episodic algal blooms in Pinto Lake, resulting from nutrient-driven biostimulation, constitute a potential health risk and public nuisance to humans, their pets, and to livestock and wildlife. The majority of freshwater harmful algal blooms (HABs) reported in the United States and worldwide is due to one group of algae, cyanobacteria (CyanoHABs, or blue-green algae). Univ. of California-Santa Cruz researchers report that Pinto Lake is one of the most toxic lakes ever recorded in the scientific literature on the basis of episodic high levels of algal cyanotoxins.

Possible health effects of exposure to blue-green algae blooms and their toxins can include rashes, skin and eye irritation, allergic reactions, gastrointestinal upset, and other effects. At high levels, exposure can result serious illness or death. These effects are not theoretical; worldwide animal poisonings and adverse human health effects have been reported by the World Health Organization. The California Department of Public Health and various County Health Departments have documented cases of dog die-offs throughout the state and the nation due to blue-green algae. Dogs can die when their owners allow them to swim or wade in waterbodies with algal blooms; dogs are also attracted to fermenting mats of cyanobacteria near shorelines of waterbodies. Dogs reportedly die due to ingestion associated with licking algae and associated toxins from their coats. Additionally, algal toxins originating from freshwater sources, such as coastal lakes and streams, have been implicated in the deaths of central California southern sea otters according to recent findings by researchers from the California Dept. of Fish and Wildlife. City of Watsonville staff report anecdotal cases of people contracting rashes or flu-like symptoms associated with contact with algal blooms in Pinto Lake. Currently, there reportedly have been no confirmations of human deaths in the United States. from exposure to algal toxins, however many people have become ill from exposure, and acute human poisoning is a distinct risk.

What are the Sources of Nutrients?

Elevated nutrients in a waterbody can contribute to biostimulation, such as algal blooms. There are many possible nutrient sources within any given watershed; in general the following can potentially be significant sources of nutrient loads:

- Urban Runoff
- Wastewater Treatment Plants
- Fertilizer/Manure Applications
- Livestock
- Septic Systems
- Natural Background and Atmospheric Deposition
- Groundwater inflow into streams and lakes

Based on recent research, inferred sources of controllable nutrient sources to Pinto Lake include agricultural operations, residential septic systems, and increased erosion and discharge of phosphorus-rich sediment to the lake as a result of the removal of historic native vegetation.

The TMDL Process

A TMDL is developed by Central Coast Water Board staff. A TMDL developed by staff must be approved by the Central Coast Water Board, and the U.S. Environmental Protection Agency. Public participation is an element of TMDL

development. Water Board staff notify interested parties of opportunities for public participation through public meetings/workshops, we solicit public comments, and we encourage other forms of public participation through correspondence, email, and other informal contacts.

For More Information

The Central Coast Water Board encourages interest and involvement in TMDL projects from stakeholders, interested parties, and the general public. Please refer to the Water Board's TMDL webpage at:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/303d_and_tmdl_projects.shtml

Staff contact:	Peter Osmolovsky Central Coast Water Board Watershed Assessment Unit (805) 549-3699 pete.osmolovsky@waterboards.ca.gov
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Pinto Lake algal bloom (Photo credit: City of Watsonville)



Pinto Lake water sample (Photo credit: City of Watsonville)