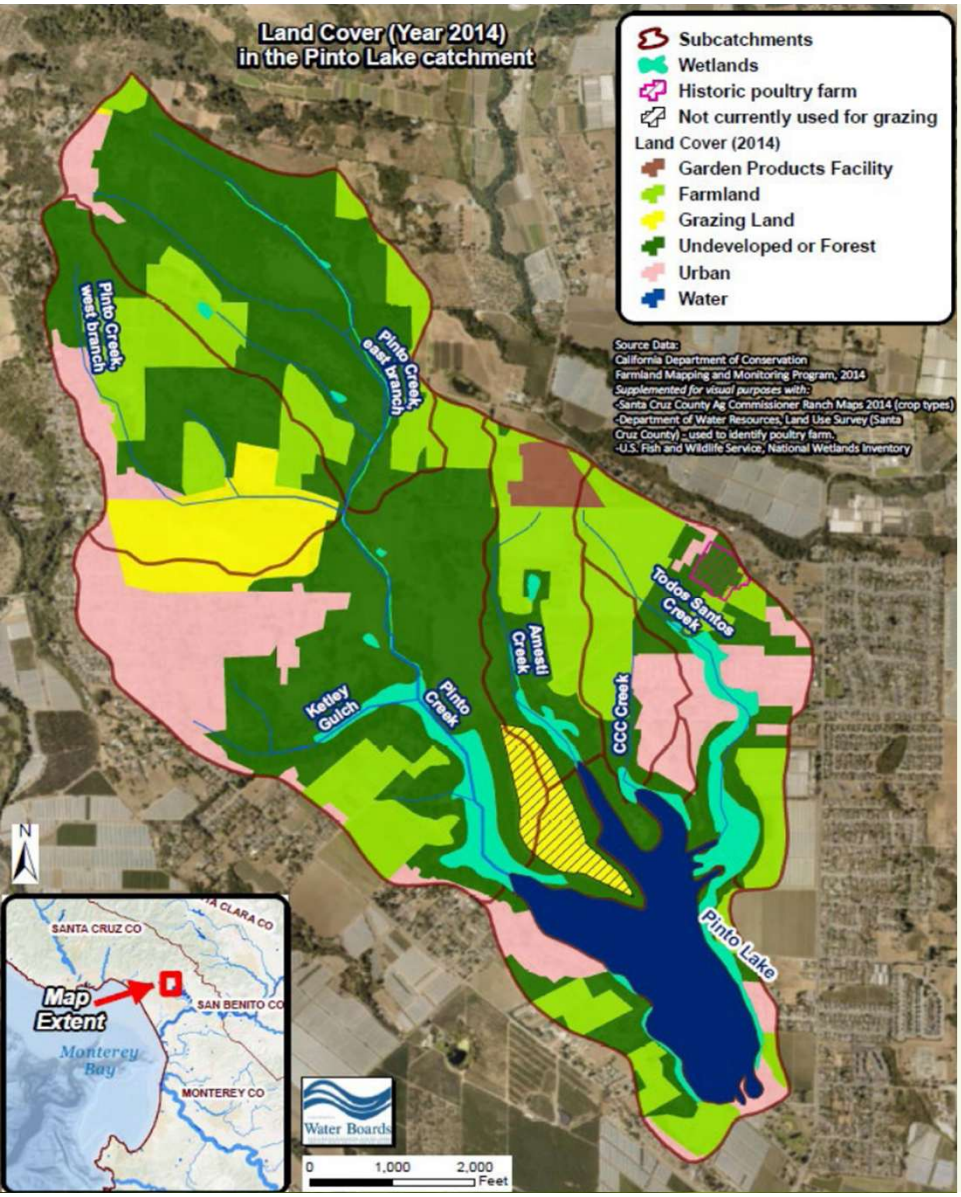
PINTO LAKE WATER QUALITY IMPROVEMENT AND RESTORATION



INTRODUCTION & OVERVIEW

- Pinto Lake is a 120-acre freshwater lake located within Pinto Lake County Park and Pinto Lake City Park.
- Approximately 60% (70-acres) of the lake is located within the City of Watsonville.
- The park and lake are jointly managed by the County of Santa Cruz and the City of Watsonville.
- The Pinto Lake watershed covers approximately 2,600 acres, draining primarily agricultural and rural residential lands before entering the lake.
- Surrounding land uses include agriculture, grazing land, and residential areas, all of which contribute to runoff into the watershed.

ECOLOGICAL AND RECREATIONAL VALUE

Ecological Importance

- Provides vital habitat for migratory birds, fish, and amphibians.
- Supports regional biodiversity and watershed health.
- Functions as a natural sediment and nutrient sink, improving downstream water quality.

Recreational Importance

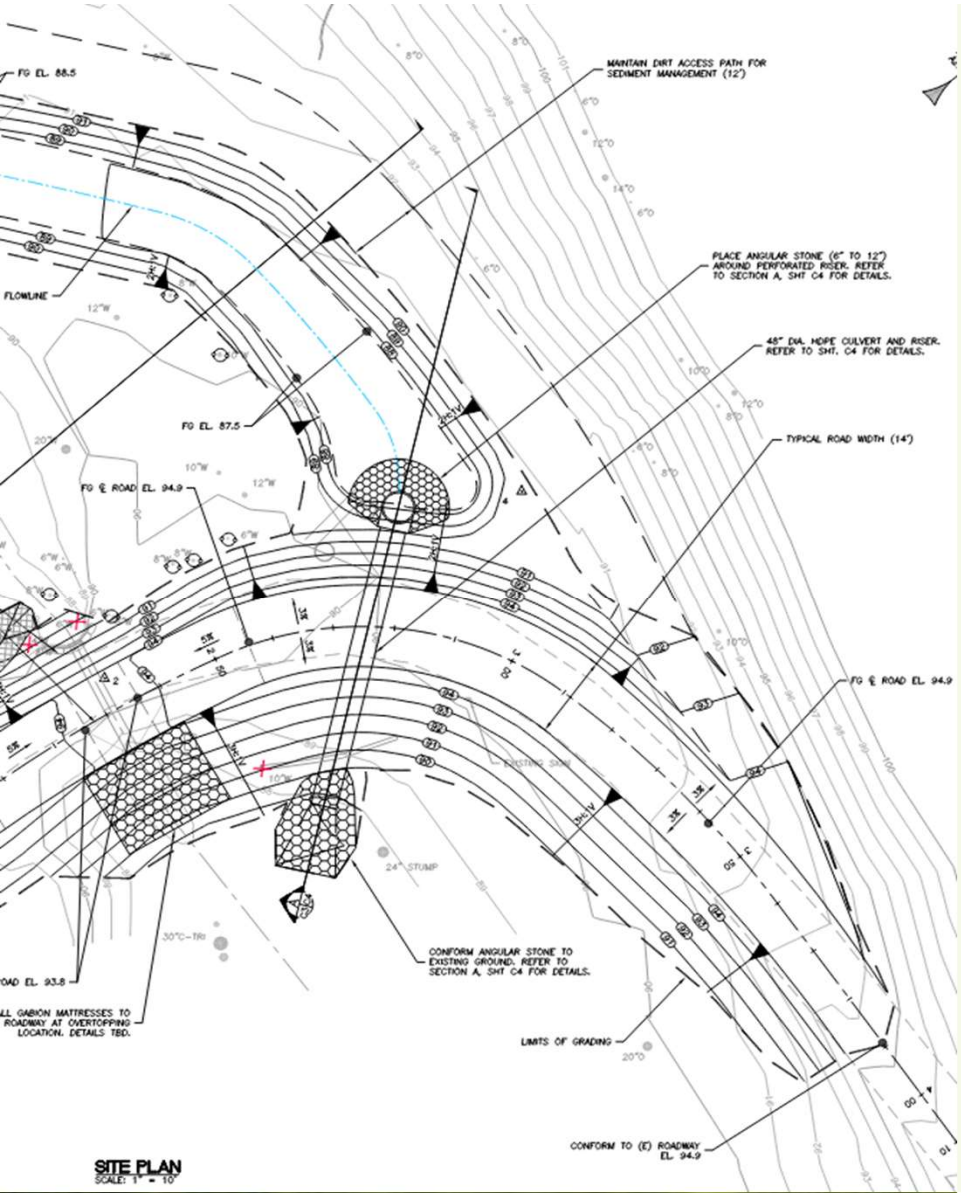
- One of Watsonville's largest public recreation areas for fishing, kayaking, and picnicking.
- Serves as a hands-on education site for schools and conservation groups.
- Enhances community health and equitable access to outdoor spaces.

WATER QUALITY ISSUES & REGULATORY REQUIREMENTS

- The lake is currently closed to recreation due to the presence of harmful algal blooms (HABs) and concerns of toxicity.
- HABs have affected Pinto Lake since the 1970s, making it one of California's most nutrient-impaired lakes.
- HABs produce toxic cyanotoxins that threaten aquatic life, wildlife, pets, and human health.
- Phosphorus from both internal sediments and upstream runoff is the primary driver of HABs.
- Pinto Lake is subject to a phosphorus Total Maximum Daily Load (TMDL) with a compliance deadline of 2029.

RESTORATION EFFORTS COMPLETED TO DATE

- **2013 – Implementation Strategy:** Developed a management plan to reduce nutrient and sediment loading through in-lake treatments, sediment basins, and BMPs.
- **2015 – Nutrient and HAB studies:** Confirmed phosphorus release as the dominant cause of HABs.
- **2017 – Alum treatment**: Treated approximately 98 acres of Pinto Lake, reducing phosphorus levels by over 90% and temporarily improving water quality.
- **2018 – Sediment capture basins:** Constructed along CCC Creek to trap nutrient-rich sediment from upstream agricultural areas; a basin design was completed for Amesti Creek but not built.



CURRENT EFFORTS & IMPLEMENTATION STRATEGY

In-Lake Treatments

- **Lanthanum-based phosphorus sequestration:** Locks in-lake phosphorus and suppresses HABs.
- **Restoration**: Removal of invasive plant and restoration of native aquatic vegetation.

Upstream / Watershed Measures:

- **Sediment basins and park retrofits:** Capture phosphorus-rich runoff before it enters the lake.
- **Riparian restoration & erosion control**: Stabilize soils, enhance habitat, and reduce nutrient loading from surrounding lands.
- **Agricultural BMPs**: Implemented in partnership with the RCD and local landowners to reduce nutrient inputs at the source.

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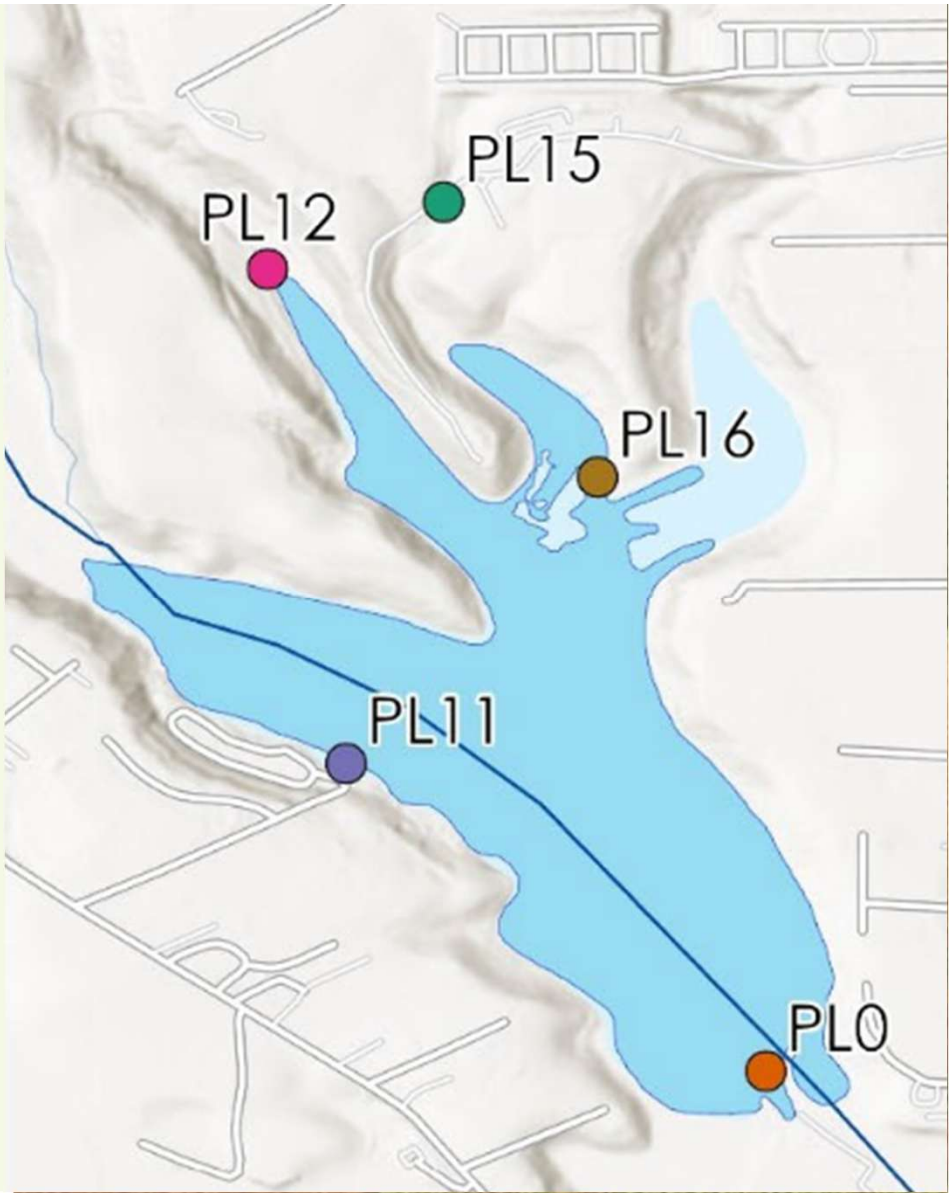
NEXT STEPS

- **Monitoring:** Continue water quality monitoring to evaluate progress toward 2029 TMDL compliance and support long-term management.
- **Finalize Implementation Strategy**: Complete a framework identifying in-lake and upstream phosphorus reduction measures.
- **Grant Applications:** Submit applications for Proposition 4 and NPS 319(h) grants to fund design, permitting, and implementation.
- **Planning & Design:** Advance design of in-lake treatments, sediment basin improvements, and riparian restoration projects.
- **Implementation:** Complete Amesti sediment basin and park retrofits and deploy in-lake phosphorus sequestration.



Slide 7

RT1 Suggest including a slide with our partners (City, Env Health, RCD) or mention them during presentation.
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PARTNERING ORGANIZATIONS

City of Watsonville

- Coordination of projects within city limits, support community outreach, and serve as the lead applicant for 319(h) grant funding to implement in-lake treatment.

Resource Conservation District of Santa Cruz County (RCD)

- Support development of the implementation strategy, including agricultural BMPs, riparian restoration, and upstream runoff/erosion control projects.

Santa Cruz County Environmental Health

- Conduct water quality monitoring and analysis to establish baseline conditions and evaluate long-term project success.


THANK YOU