

SCVWD Case Study: Battling *Phytophthoras* in Native Habitats



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Santa Clara Valley Water District

- Mission: flood control, water supply, environmental stewardship
- 10 reservoirs, > 800 miles of creeks and rivers
- A mix of highly urbanized areas (Silicon Valley), rural south county ranchland, to relatively pristine foothills
- Extensive mitigation requirements for Stream Maintenance Program and capital projects-valley floor and upper watershed

Operations and Maintenance, Capital Projects



Mitigation Sites are Diverse



Guadalupe River Reach 6, downtown
San Jose



Coyote Ridge, Mt. Hamilton Range
foothills



First *Phytophthora* Detections in 2014

Novel population
creation effort in
pristine habitat
(Coyote ceanothus,
FE)- Entire pilot
project infected with
P. cactorum



Pilot Project History...

- .. Container plants installed in early 2014
- .. Initial vigorous seedling growth, followed by widespread plant mortality in June 2014
- .. Discovery of *Phytophthora cactorum* in Sept 2014
- .. Remediation of site and infected basins Sept 2014-present (via solarization)
- .. Direct seeding of Coyote ceanothus using clean techniques in Dec 2015
- .. Planting of clean container stock and direct seeding in Dec 2016

Remediation– Expensive & Tedious

- .. Solarization- cost per basin \$280, not including maintenance
- .. All clean by fall 2015 except shady basins
- .. Shady portions of test plots less effective; possible use of heat injection auger



Heat Injection Auger



District Response to Emerging Issue

- Development of BMPs and Contract Specifications
- Direct seeding whenever possible; use of BMP-compliant nurseries
- Participation in regional working groups
- Education of stakeholders, project partners, regulatory personnel, District staff & contractors
- Additional testing and remediation where feasible

Direct Seeded Coyote Ceanothus in 2015



Photo date: December, 2016



Photo date: September 2016

Container Plant Installation & Direct Seeding, 2016



Good root development!
Photo date: Dec 2016

Questions?



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