### SCVWD Case Study: Battling Phytophthoras in Native Habitats



May 18, 2017
Janell Hillman
jhillman@valleywater.org



#### 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

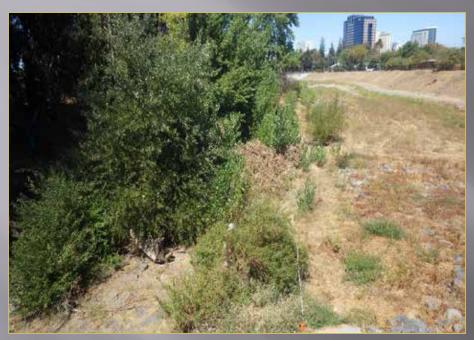








#### Mitigation Sites are Diverse



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* 

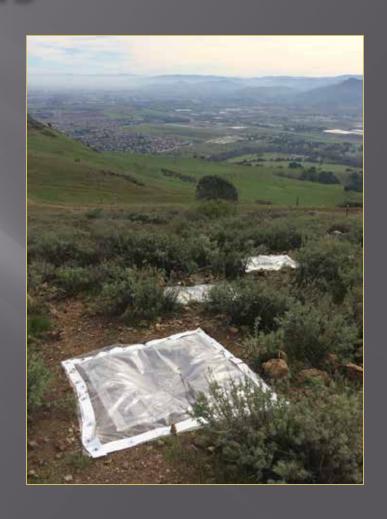


### Pilot Project History...

- 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?



jhillman@valleywater.org

