



Friends of Sausal Creek

Final report to the Alameda County Fish and Game Commission for 2023 Fish and Wildlife Propagation Fund of Alameda County

Native Rainbow Trout and Wildlife Habitat Recovery and Rare Plant Protection

**Submitted by Friends of Sausal Creek (FOSC)
January 3, 2024**

In the spring of 2023, Friends of Sausal Creek (FOSC) was awarded two grants totaling \$15,000 from the Alameda County Fish and Game Commission for two projects in the Sausal Creek Watershed. This generous funding supports FOSC's ongoing work to improve and restore habitat for native species including Rainbow Trout, and ensure the survival of the rare and unusual plants such as the endangered pallid manzanita (*Arctostaphylos pallida*) within the watershed.

Over the course of the grant period, project activities have included habitat restoration workdays, student field trips, native species propagation and planting, local government advocacy, community talks, wildfire risk reduction, species monitoring and mapping, rare plant disease testing, and more. These grants are enabling FOSC to expand our quantitative research and improve biodiversity, climate resilience, and overall ecological health of the Sausal Creek Watershed.

Significant outcomes of these projects will include an upcoming Pallid Manzanita summit and comprehensive map of manzanita populations, solid data on trout populations in the watershed, improved habitat for native and rare species, and reduced risk of climate-related disasters affecting species in the watershed.



Figures 1 - 3 (above): FOSC staff and volunteers carrying out ACFGF projects in 2023.

Project 1: Native Rainbow Trout and Wildlife Habitat Recovery

Goal 1: Ecological watershed health

Objective 1 - Restoration

At project site Fern Ravine, FOSC led volunteers and Civicorps crews in six (6) restoration projects in the redwood understory and wetlands. Workdays targeted the removal of rapidly encroaching *Ehrharta erecta* and *Ulmus*, as well as woody ladder fuel shrubs like French broom (*Genista monspessulana*). 150 native plants were planted to support wildlife, filter pollutants, and discourage off-trail use by humans.

At project site Dimond Canyon, FOSC led volunteers and Civicorps crews in 15 restoration workdays targeting the removal of invasive cape ivy which is toxic to aquatic organisms. 490 native plants were planted on steep eroding slopes and along trails to reduce sedimentation.

Objective 2 - Protective fencing

At project site Fern Ravine, FOSC recruited and worked with Eagle Scouts to install protective sustainable cedar split-rail fencing (125 feet) along trails to mitigate degradation of redwood understory and wetlands.

Objective 3 - Propagate Sausal Creek Watershed native plant species

FOSC led volunteers in propagating 1,300 native plants and trees for Dimond Canyon and Fern Ravine during six (6) nursery workdays. We also led community volunteers on three (3) seed, cutting, and stake collection hikes in the watershed.

Goal 2: Education

Objective 1 - Youth environmental education

FOSC led nine (9) environmental field trips with school classes and twelve (12) Team Oakland workdays with activities ranging human impact and wildlife hike, habitat restoration, litter blitz, water quality testing, BMI observation, watershed connections, and creating community-centered awareness campaigns. Local youth organization, buildOn has attended nearly every restoration workday in the fall and winter of 2023 with 10+ students at each outing.

Objective 2 - Community education + advocacy

FOSC submitted a proposal to the City of Oakland to designate the Fern Ravine Resource Conservation Area (RCA) across the 70-acre sub-basin at the headwaters of Sausal Creek in Joaquin Miller Park, and called for the City to prepare a Master Plan for the Park. We led four (4) Fern Ravine Resource Conservation Area Advocacy hikes to educate the public and 3 City of Oakland Council Members and their staff. Attending council members have expressed verbal support for both the Resolution and the Resource Conservation Area proposal.

National media outlet [CBS News](#) interviewed FOSC and Save the Redwoods League in Fern Ravine on the role of redwood restoration in combating climate change and promoting biodiversity. Internally, FOSC published internal newsletter articles on [Reviving the Headwaters of Sausal Creek](#) and [Rainbow Trout of Sausal Creek](#).

FOSC Board Member and ecologist Dr. Robert Leidy also led a rainbow trout tour in Dimond Park highlighting threats to their survival and our work to identify, protect, and enhance habitat for local wildlife.



Figure 4 (above): Team Oakland participants presenting watershed awareness poster.

Goal 3: Rainbow trout research and monitoring

Objectives 1 + 2 - Assess rainbow trout population, habitat, and barrier mapping

FOSC fisheries ecologist, staff, and volunteers conducted one (1) rainbow trout population survey, and three (3) rainbow trout habitat/barrier mapping surveys. An additional outing to complete the barrier surveys will be planned in early 2024 when water levels return to a safe level to walk the channel.

Objective 3 - Report habitat and trout population sampling data

A short summary report and interactive map will be designed and prepared by FOSC to demonstrate results of the rainbow trout habitat and population surveys (2 workdays) in early 2024.



Figures 5 - 7 (above): FOSC Trout Crew on a research excursion to understand the distribution and abundance of the native rainbow trout in the watershed.

Project 2: Ensuring the Survival of the Rare, Endangered, and Unusual Native Plants of the Sausal Creek Watershed

Goal 1: Protect endangered pallid manzanitas through community engagement

Objective 1 - Organize summit

FOSC planned and organized a Pallid Manzanita Summit, which will take place on February 2, 2024, to gather local manzanita experts, review research findings, share best management practices, and evaluate propagation techniques for these unique species. The findings of this summit will be published in a summary for use by other professionals in the rare plant conservation field.

Objective 2 - Revitalize habitat

FOSC hosted four (4) workdays with a dedicated, trained crew of volunteers to fence and open

up the canopy above 27 mature pallid manzanitas. Brush had not been cleared from this site in at least 5 years, and many struggling plants were engulfed by competing vegetation.

Objective 3 - Reduce fire risk

At the Chabot Space and Science Center project site, FOSC hosted four (4) volunteer workdays focusing on fire mitigation and invasive brush removal to reduce the likelihood of population destruction from catastrophic fire. During one of these brush removal workdays, a new pallid seedling was discovered.

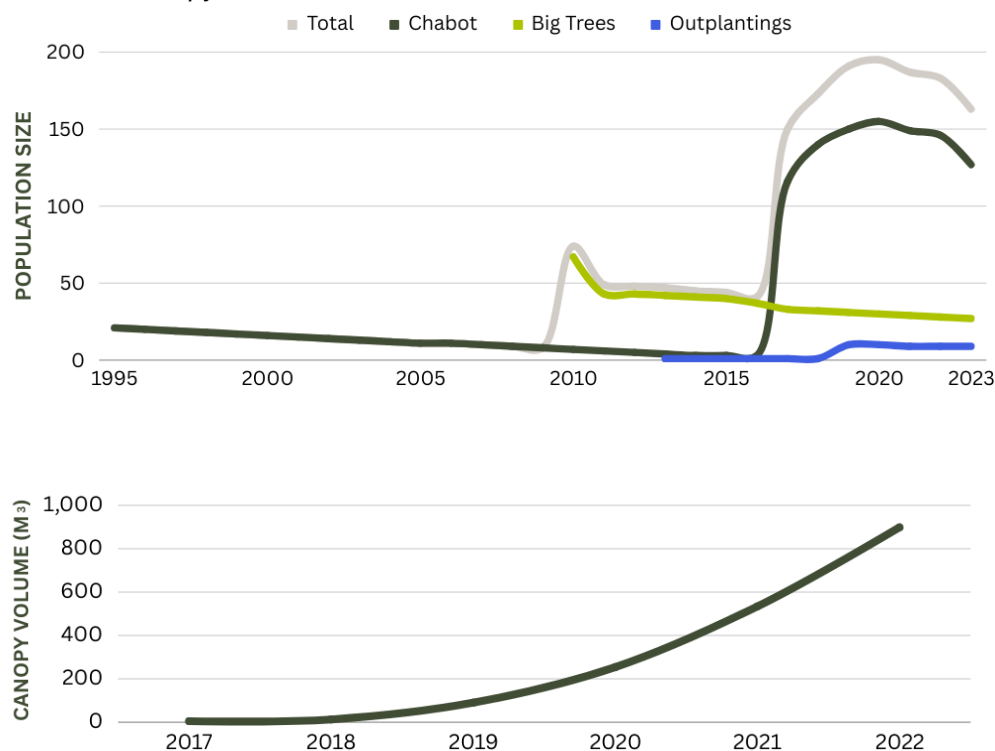
Objective 4 - Disease testing

FOSC staff and volunteers collected bay leaf samples from within both pallid manzanita colonies. These samples are currently being tested for presence of *Phytophthora* to inform management decisions and contribute to research on the spread of disease throughout the San Francisco Bay Area.

Objective 5 - Contribute to research

FOSC performed our most thorough census to date of the pallid manzanita populations within the Sausal Creek Watershed, documenting many plants that have not been surveyed in years. We documented 127 manzanitas at Chabot (up from 3 manzanitas in 2016), 27 manzanitas at Big Trees (the first full survey since 2016) and 9 outplanted manzanitas throughout the park.

Figures 8 - 9 (below): After explosive germination following restoration in 2016, pallid manzanita population numbers have declined as plants reach maturity and compete for space. However, most individual plants are healthy and fruiting, and we note near perfect exponential growth in manzanita canopy volume since 2016.



Goal 2: Identify, protect, and expand rare and unusual plant populations throughout the Sausal Creek Watershed

Objective 1 - Protect grasslands

At the Lookout Point project site, FOSC collaborated with nonprofit partners Friends of Joaquin Miller Park and the City of Oakland to install protective fencing on the upper slope of the site, and line the lower toe of the slope with logs to discourage off-trail traffic. 100 native bunchgrasses and forbs were planted in high-erosion areas, which are holding up well in recent winter rains.

Objective 2 - Increase nursery production of rare and unusual species

FOSC propagated 1,732 rare and locally uncommon plants with a monthly nursery workday dedicated to the propagation of these species. Some of these plants were planted in the watershed this winter; others will be donated to schools and local community groups.

Objective 3 - Update rare plant map

FOSC has begun collecting data and information to create an updated map of all pallid manzanita populations. In Spring 2024, a dedicated volunteer group will join staff on six rare plant hikes to revisit all recorded rare plant sightings in Joaquin Miller Park, confirm their presence and develop the updated map. This map will be distributed to City officials and contractors to ensure rare plants will be protected during fire clearing and tree removal. Observations will also be added to Calflora, which can then be utilized by other plant conservation entities such as the CNPS.

Figures 10 - 11 (below): Volunteer rare plant conservation crew improving habitat around the pallid manzanitas.

