



Alameda Creek Alliance

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ACA Interim Progress Report for Alameda Creek Salmon and Steelhead Monitoring Grant

The Alameda Creek Alliance (ACA) received a 2022 grant from the Alameda County Fish and Game Commission to fund volunteer-based monitoring of Central California Coast steelhead/rainbow trout (*Oncorhynchus mykiss irideus*) and Chinook salmon (*Oncorhynchus tshawytscha*) populations. While monitoring these fish, volunteers also assess stream habitat and water quality in the Alameda Creek watershed falling within Alameda County by placing photos and information into standardized forms on a mobile phone app, Survey123 (view the app here: <https://arcg.is/OzzfLu>). Volunteers are supporting the four project goals to –

1. monitor steelhead and Chinook salmon spawning in Alameda Creek as anadromy is restored to the greater Alameda Creek watershed,
2. document newly accessible fish habitat quality above and below existing barriers to further analyze potential spawning and rearing habitats in the future,
3. engage people as trained monitoring volunteers in their local watersheds via assistance and guidance from local resource agencies and nonprofits, and
4. compliment and expand fish habitat and abundance surveys by agencies and partners via standardized volunteer monitoring.

Currently, 75 volunteers have adopted stream reaches to monitor after attending trainings by ACA, California Trout, and Sequoia Ecological Consulting since the dispersal of the grant. Outdoor in-person trainings were conducted on August 28, 2022 and September 25, 2022 on Alameda Creek in Sunol Regional Wilderness and via Zoom on December 7, 2022.

Our trainings are supported by staff from the East Bay Regional Parks District (EBRPD), San Francisco Public Utilities Commission (SFPUC), and the California Department of Fish & Wildlife.



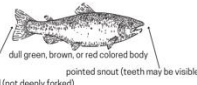
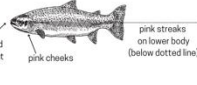
Figure 1: Volunteer training by ACA and California Trout at the Sunol Visitor Center.



Figure 2: Steven Cochrane talks with volunteers during a training event.


ALAMEDA CREEK

FISH IDENTIFICATION
If you see one of these adult fish, please follow these steps

<p>CHINOOK SALMON <i>ONCORHYNCHUS TSHAWYTSCHA</i></p>  <p>dull green, brown, or red colored body pointed snout (teeth may be visible) curved tail (not deeply forked)</p> <p>Most likely to see</p> <ul style="list-style-type: none"> • In Alameda Creek from late summer to early fall <ul style="list-style-type: none"> ◦ Most spawn from October - November ◦ Some spawn from December - January • Carcasses of adults that spawned 	<p>STEELHEAD TROUT <i>ONCORHYNCHUS MYKISS</i></p>  <p>round snout pink cheeks pink streaks on lower body (below dotted line)</p> <p>Unlikely to see</p> <ul style="list-style-type: none"> • In Alameda Creek during the highest flows <ul style="list-style-type: none"> ◦ late December - April ◦ Quickly in & out at night after storms *Steelhead are like ghosts* - Jos Sullivan, Fisheries Program Manager at East Bay Parks
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PREVENTING INVASIVE SPECIES & DISEASES

New Zealand mudsnail (*Potamopyrgus antipodarum*)

- About the size of this oval 
- Can cause fish starvation
 - Snails eat half of the food in streams
 - Trout cannot fully digest snails

Other species


- Zebra mussels (*Dreissena polymorpha*)
- Quagga mussels (*Dreissena rostriformis bugensis*)

Diseases

- Sudden Oak Death from fungus (*Phytophthora ramorum*)
- Frog infections from fungi (Chytrids)

Prevention

- Option 1: Please avoid stepping into the creek
- Option 2: Please scrub shoes with soap & hot water then
 - freeze at 32 F or colder for 4-5 days (gentle on shoes) OR
 - soak in 10% bleach or quaternary ammonia solution (wears down shoes)


New Zealand mudsnails with a dime for size reference.
Photo by U.S. Geological Survey.


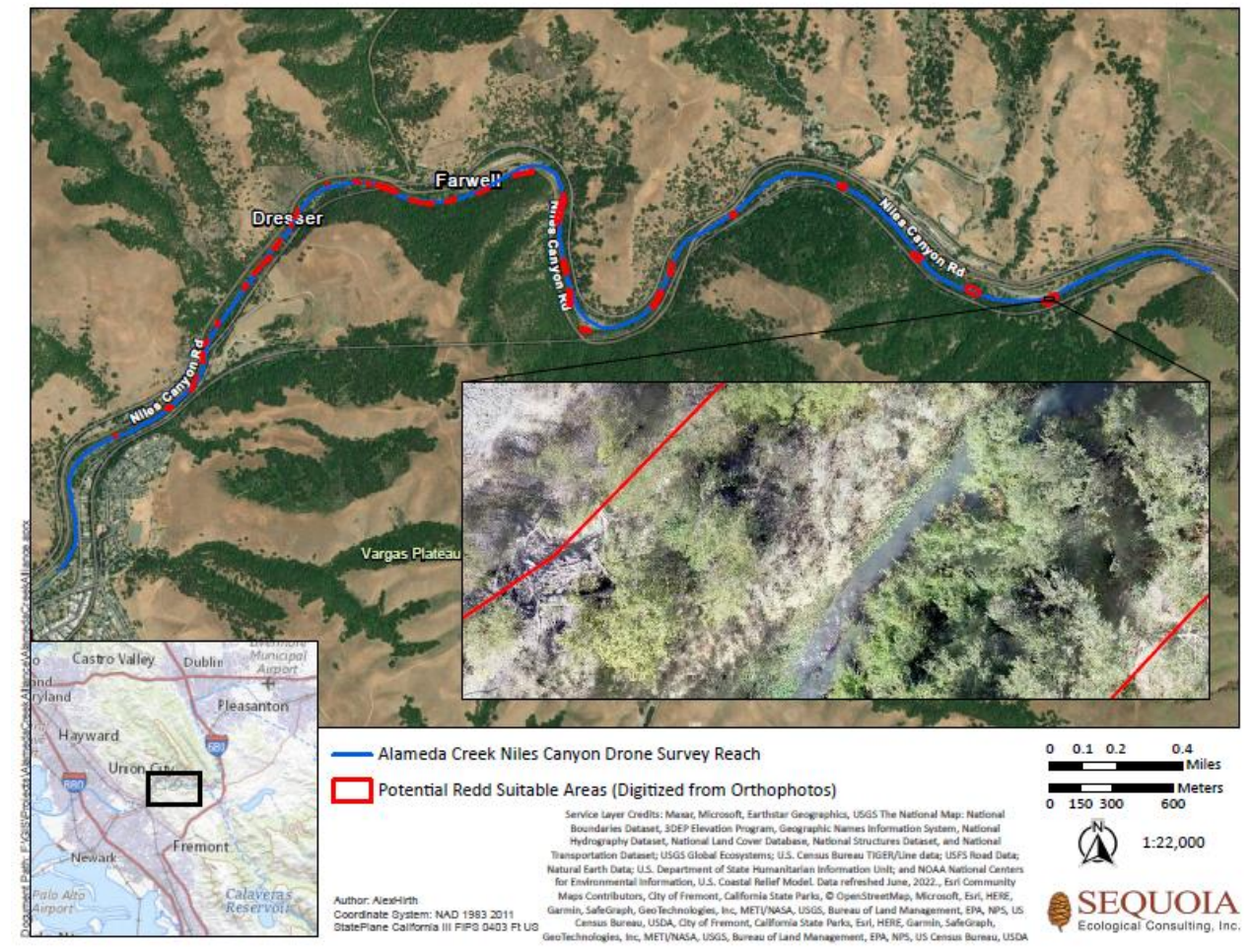


Figure 3: We distributed this flyer at our volunteer training event. Click [here](#) to see the full flyer.

Volunteers were trained to visually identify fish and their redds, categorize fish habitat types and uses, and minimize the spread of invasive species and pathogens with a flyer and resources specific to Alameda Creek in the Survey123 app. ACA has applied for and received an SFPUC encroachment permit valid for legally accessing Alameda Creek in Niles Canyon, Sunol Water Temple and lower Arroyo de la Laguna. ACA is in the process of securing additional legal stream encroachment permits for volunteers from the EBRPD, Zone 7 Water Agency, and Alameda County Public Works. This enables volunteers to gather spawning data for steelhead trout and Chinook salmon in reaches along Alameda Creek immediately after fish have access to habitat above the BART weir for the first time in over 50 years.

This fall ACA contracted Sequoia Ecological for two drone flights to capture high-resolution images from the Niles Canyon reach of Alameda Creek. These images document redd locations and environmental characteristics that shape salmonid habitat quality, such as tree canopy closure, vegetation height, and stream channel structure.



The next steps for this project are for volunteers to continue surveying fish and categorizing their habitat from November 2022 to April 2023, Sequoia Ecological to compile GPS coordinates and GIS data layers from surveys into maps from February to April 2023, and for ACA to prepare a public report with these maps that summarize information on the timing of fish and location of their habitats from April to May 2023.

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