LIVING ARROYOS

2019-2020 Annual Report

Prepared by Joseph Steelman (Program Coordinator)

Executive Summary

Living Arroyos is a multi-agency partnership in the Livermore-Amador Valley among Zone 7 Water Agency (Zone 7), the City of Livermore, City of Pleasanton, and Livermore Area Recreation and Parks District (LARPD). Initiated in 2013, the Living Arroyos Program (Program) is a unique community engagement opportunity that accomplishes multiple goals and provides additional benefits beyond the once or twice a year clean-up events that have traditionally been the means of public involvement in stream-related issues. Living Arroyos seeks to provide education on renewing and enhancing urban stream and riparian habitats as they relate to the watershed. The Program provides volunteer opportunities to local community groups and individuals, as well as to the broader Bay Area communities. It also provides training opportunities through internships and helps to develop local stewardship leaders. By establishing the connection between people and the arroyos in their own backyards, Living Arroyos interns and volunteers act as ambassadors for the watershed and have a greater understanding of local water management issues impacting streams in the area. In addition to the Program's educational elements, it engages the community through volunteer assistance to complete project goals outlined in the Annual Workplan.

Major Changes and Milestones in 2019-20

- Living Arroyos Partnered with the Las Positas Horticulture Club to propagate hundreds of native seeds gathered at Sycamore Grove.
- On March 19, 2020, an Executive Order and Public Health Order directed all Californians to stay home except to go to an essential job or to shop for essential needs. All field work was suspended and required us to cancel all remaining public and private volunteer events for the remainder of the Program Year. Field work was able to resume on May 27th, 2020 following the Alameda County Health Department's guidelines, but public volunteer events remain on hold until COVID-19 transmission rates and cases decrease, and reopening can be done safely for all communities.
- The Program was awarded the Outstanding Sustainable Stormwater Program Award of 2020 from the California Stormwater Quality Association (CASQA).

Summary of Program Accomplishments

During the 2019-20 Program Year interns worked between one and five days a week, for a total of 161 workdays (see Table ES-1 for year-to-year comparison). With help from over

350 hard-working volunteers, the Living Arroyos field staff accomplished a great deal of stream improvement during the seventh Program Year (Table ES-2).

Table ES-1. Summary of Living Arroyos workload for the past 3 years.

Activities	Program Year		
	2017-18	2018-19	2019-20
Number of Workdays	177	161	161
Program Hours	5,043	4,829	4,509
Volunteer Events	19	16	14

Table ES-2. Summary of Living Arroyos stream enhancement activities for the past 3 years.

Activities	Program Year		
	2017-18	2018-19	2019-20
Total stakes planted	572	336	247
Total riparian trees planted *(excluding willow stakes)*	701	1,430	869
Total wire cages removed at oak sites	1,199	N/A	N/A
Total gallons of mulch used	3,112	N/A	N/A
Invasive species removed (gallons)	29,713	730	5,620
Trash removed (gallons)	1,674	1,424	4,315

Internship Program

Four interns were hired during the 2019-20 Program Year. Interns were currently enrolled or recent college graduates from local colleges or had connections to the Tri-Valley as a past or present resident of the area. Interns had degrees from, or were attending classes at the following schools:

- Las Positas College
- California State University, East Bay
- UC San Diego

Intern responsibilities this year included:

- helping to manage volunteer workdays
- harvesting vegetative stakes for planting at project sites
- crafting fascines and installing bank stabilization projects

- hand-watering plantings
- removing invasive plant species
- propagating native seeds

Program Hours and Field Work

The Program utilized 4,510 hours during the 2019-20 fiscal year. Program Staff tracked hours used per project for each partner (Table ES-3). Zone 7 Water Agency projects utilized 50% of program hours or 1,393 hours. The City of Livermore projects utilized 47% of program hours or 1,321 hours. The City of Pleasanton utilized 3% of program hours or 94 hours. Staff utilized 1,702 hours in outreach, education, training, and program coordination; this cost is shared by all partners based upon their share of cost and is factored into the overall program hours. (Table ES-3).

Table ES-3. Program Hours.

Program Partner	Project Hours*	Share of Program
Zone 7	1,393	50%
City of Livermore	1,321	47%
City of Pleasanton	94	3%
Total Project Hours	**2,808**	
*Program Admin Hours***	**1,702**	
TOTAL PROGRAM HOURS	**4,510**	

**Project Hours are based on actual staff time dedicated to a specific Partner's project. See Section 7: 2019-20 Projects for hours spent per project.*
***Program administration hours are assumed to be proportional to the hours dedicated to each Partner's projects.*

Volunteer Program

- Living Arroyos held 14 volunteer days twice per month during the shortened volunteer season (October 2019 – March 2020). Including both public events and private events for local businesses, schools, and groups. A total of 350 unique volunteers contributed over 1,386 hours planting native trees, hand weeding non-native plants, mulching native plants, and removing trash from urban streams (Table ES-4 and ES-5).

- Program volunteers included families, several high school/middle school groups, local business groups and community-based organizations such as Boy Scout and Girl Scout troops.
- The largest number of volunteers came from San Ramon, with a total of 99 participants or 31%. Of the volunteers that provided location data, 80% came from within the Livermore Amador Valley Watershed (Dublin, Pleasanton, Livermore, and parts of San Ramon) (Table ES-6).

Table ES-4. Volunteer data for the past 3 years.

Volunteerism Data	2017-18	2018-19	2019-20
Total volunteer days (9-11:30 am)	19	16	14
Total volunteers engaged	389	524	350
Total volunteer hours	1,440	1,590	1,386
Average number of volunteers per event	25	40	33

Table ES-5. Volunteer activities for the past 3 years.

Volunteer Activities	2017-18	2018-19	2019-20
Plant riparian vegetation	5 days	10 days	6.5 days
Mulch oak sites	4 days	N/A	N/A
Invasive species removal	5 days	2 days	2.5 days
Trash removal	5 days	4 days	3.5 days
Acorn planting	N/A	N/A	1.5 days
TOTAL	**19 days**	**16 days**	**14 days**

Table ES-6. Number of volunteers by City, 2019-20.

CITY	# of Volunteers	2019-20 (%)
San Ramon	**99**	**31%**
Livermore	**75**	**23%**
Pleasanton	**47**	**15%**
Dublin	**36**	**11%**
Danville	13	4.0%
San Jose	7	2.2%
San Francisco	6	1.9%
Fremont	4	1.2%
Walnut Creek	4	1.2%
Brentwood	3	<1%
Crockett	3	<1%
Hayward	3	<1%
Cupertino	2	<1%
Foster City	2	<1%
Oakland	2	<1%
Berkeley	1	<1%
Concord	1	<1%
Hercules	1	<1%
Houston	1	<1%
Lafayette	1	<1%
Martinez	1	<1%
Moraga	1	<1%
TOTAL	**322***	

Bold *indicates cities within the Livermore-Amador Valley Watershed. Not all volunteers provided location data.*
**Total volunteers reflect only volunteers who provided City data.*

Recommendations

Moving forward, Living Arroyos staff recommends:

- Increase Program Coordinator training opportunities, and opportunities to expand understanding of water resources management through related conferences and/or seminars.
- Increase Program Coordinator's opportunities to represent the Program at LARPD Board of Directors Meetings, as well as local school and city events to promote the benefits and accomplishments of the Program.

- Continue to increase volunteer outreach to include public schools, and greater emphasis on advertising volunteer workdays, especially in the communities immediately adjacent to project sites.
- Enlist the help of program partners in advertising volunteer workdays and expanding the Program's social media presence.
- Improving the educational experience of the internship program through learning opportunities outside of the project sites. Interns and Coordinator will shadow professionals in Watershed Management and Natural Resources. Program partners will aid Coordinator in cultivating connections with said professionals.

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1. INTRODUCTION

The Living Arroyos Program (Program) is a multi-agency partnership among Zone 7 Water Agency (Zone 7) [1], City of Livermore[2], City of Pleasanton[3], and Livermore Area Recreation and Park District (LARPD)[4]. The Program is a unique community engagement opportunity that renews and enhances urban stream and riparian (streamside) habitats in the Livermore-Amador Valley (Valley) and re-establishes the connection between people and the arroyos in their own backyards. In addition, the Program provides training opportunities through internships and helps to develop local stewardship leaders.

Urban streams provide many benefits to the people who live in the area. They are an integral part of the community's water management system by helping to protect neighborhoods from flooding, helping to counteract pollution, and recharging the groundwater basin that is used for local drinking water. The vision behind Living Arroyos is that local volunteers and interns will learn about and care for urban streams by enhancing these natural spaces, which provide habitat for an abundance of native plants and wildlife. The Program seeks to connect people with their local arroyos, their natural settings, and introduce the public to all the beneficial water-related and ecological benefits provided by the arroyos for the watershed.

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[1] Zone 7 Water Agency, short for Alameda County Flood Control and Water Conservation District, is responsible for providing flood control and water resource management to the Livermore-Amador Valley. Zone 7 has a service area of approximately 425 square miles of land including the Cities of Dublin, Pleasanton and Livermore, and a portion of San Ramon, and serves approximately 240,000 residents. Within the service area, Zone 7 owns or maintains approximately 37 miles of channels and streams. Zone 7 has been a Program Partner since the Program began in 2013.

[2] The City of Livermore is the local planning authority that encompasses over 26 square miles of land, home to more than 83,000 residents. City of Livermore owns and maintains roughly 12 miles of channels and streams within city limits. Livermore has been a Program Partner since the Program began in 2013.

[3] The City of Pleasanton is the local planning authority that encompasses over 24 square miles of land and serves more than 70,000 residents. Pleasanton joined as a Program Partner in 2016.

[4] Livermore Area Recreation and Parks District (LARPD) has assumed the responsibilities of the "Managing Partner" since June 2015. The title "Managing Partner" was changed to "Implementing Agency" under the 2016-17 Workplan.

Natural stream corridors and their associated riparian ecosystems do not conform to political boundaries, which makes collaboration among various entities an essential component of effective watershed management. The Program is at the heart of a partnership between a local water agency (Zone 7), city governments (Livermore and Pleasanton), and the local park district (LARPD) to manage, enhance, and renew urban streams by engaging residents. Living Arroyos partners benefit by sharing costs and leveraging unique resources, aligning community vision of the watershed, avoiding redundancy, and achieving long-term management goals. The real key to making the Program a success is partnering with the people in the communities that in turn benefit from the work.

As it was initiated, the Living Arroyos Program started off with four goals:

(1) Engage residents in hands-on stewardship of natural resources while they experience nature close to home
(2) Increase public awareness of important watershed issues
(3) Improve habitat and water quality of local streams while maintaining and enhancing both public safety and regional flood protection
(4) Strengthen public/private partnerships within the community

As the Program grows and evolves, the goals will be revisited to reflect new members and responsibilities. This report outlines the Living Arroyos Program progress, accomplishments, and lessons learned during the 2019-20 Program Year.

LIVING ARROYOS PROGRAM OPERATING STRUCTURE

The Program was established in July 2013 for the purposes of initiating a public volunteer and internship program that engages the community in the stewardship of local streams within the Northern Alameda Creek Watershed and achieving maximum benefits with minimum costs by leveraging resources and boosting effectiveness in achieving the goals of the program. The Program is operating as a partnership among Zone 7, the City of Livermore, the City of Pleasanton, and LARPD (Program Partners). Program Partners collaborate to develop the Annual Workplan (Workplan) by contributing projects for the Program to work on during the Program Year (July 1–June 30) as well as funds to carry out Program work. Zone 7 has the additional role of Fiscal Agent—financial administrator responsible for collecting and administering the funds necessary to implement the Program. LARPD is the Implementing Partner and is responsible for developing and executing the Workplan including implementing project activities measuring/reporting

Program progress and accomplishments. The Implementing Partner is also responsible for preparing the Annual Report.

PROGRAM PARTNER COST SHARE

Program Partner cost share percentages are agreed upon during development of the annual Workplan. These percentages may be modified if other partners join the program in the future or upon mutual agreement of the partners.

Program Partner benefits should be roughly proportional to their contributions, e.g., a Partner contributing 25% of the budget of the program should on average receive 25% of the effort expended, measured in staff, intern, and volunteer person hours, by the program.

Zone 7's Program Cost contribution for Program Year 2019-20 is approximately 50%, City of Livermore's contribution is approximately 47% and City of Pleasanton's contribution is approximately 3% of the total cost of the program. Program Partners agreed to average the percentages out over the two years of the current task order to reach the agreed upon share of cost.

PROGRAM AREA

There are approximately 120 miles of major creeks, streams, and arroyos within the Livermore-Amador Valley. Zone 7 is responsible for regional flood protection and manages the storm water that flows through the Alameda Creek watershed. In addition to regional flood protection, Zone 7 also addresses erosion and sediment issues within the Zone 7 service area.

The Program Area is within the city limits of Dublin, Pleasanton, and Livermore, and includes the unincorporated lands around the Chain of Lakes (**Figure 1**). Program activities focus on the more than 45 miles of streams managed by the Program Partners.

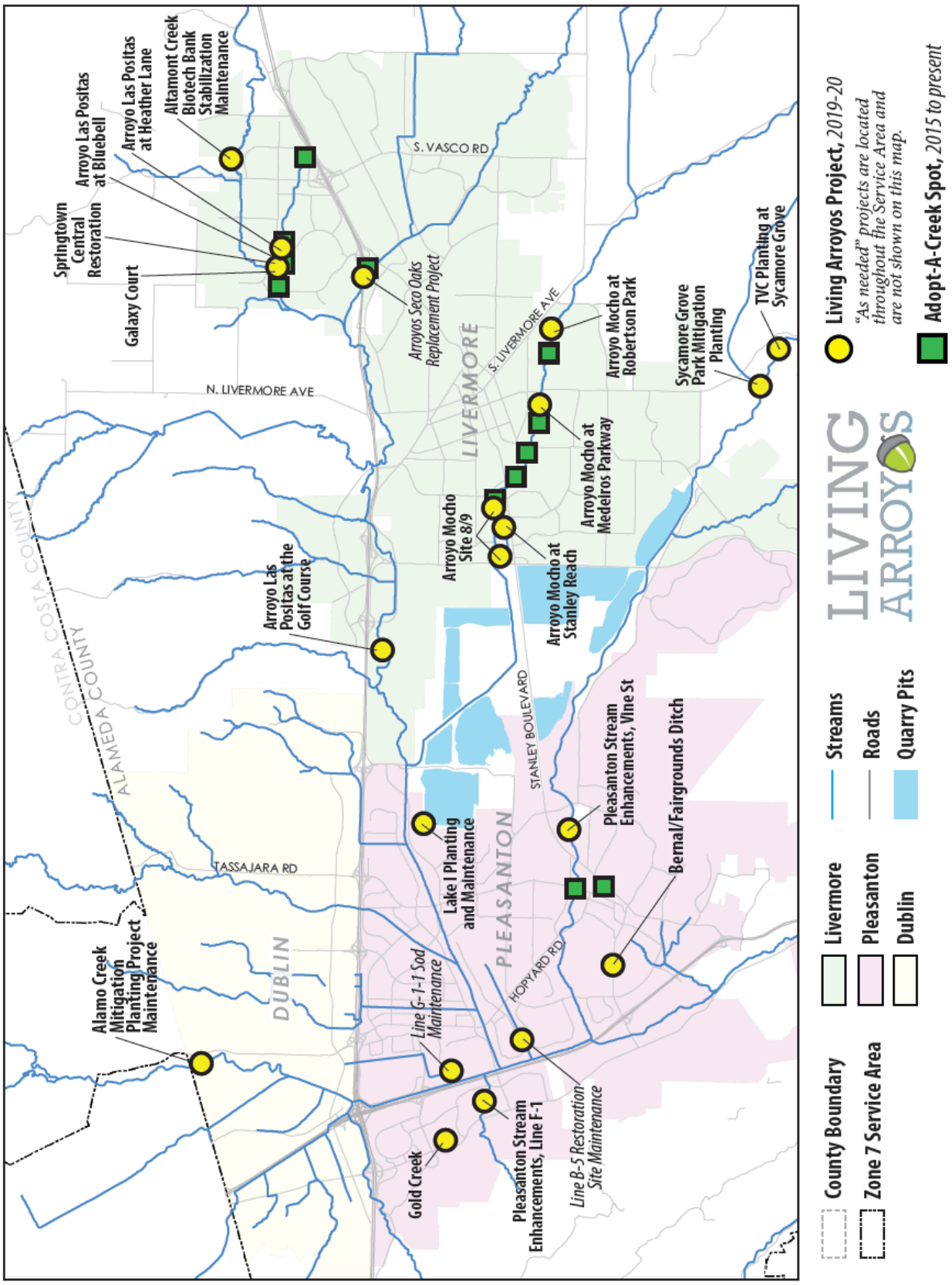


Figure 1. Living Arroyos Program Area (Livermore-Amador Valley), 2019-20.

SUMMARY OF MAJOR CHANGES IN 2019-20 In partnership with the las Positas College Horticulture Club, the Program successfully propagated 860 native grasses and forbs from seeds gathered at the Sycamore Grove demonstration gardens. On March 19, 2020, an Executive Order and Public Health Order directed all Californians to stay home except to go to an essential job or to shop for essential needs. All field work was suspended, and all remaining public and private volunteer events were cancelled for the remaining Program Year. Field work was able to resume on May 27, 2020 following the Alameda County Health Department's guidelines, but public volunteer events remain on hold until COVID-19 transmission rates and cases decrease, and reopening can be done safely for all communities.

The Program was awarded the Outstanding Sustainable Stormwater Program Award from the California Stormwater Quality Association (CASQA).

Four new interns joined the Program in the summer 0f 2019: Mitchell Gonzalez, Richelle Vital, Bryan Smith and Jesse Sanchez.

2. INTERNSHIP PROGRAM

Living Arroyos interns are recruited from colleges and universities within 25 miles of the Program Area or have connections to the Tri-Valley as a past or present resident of the area. The driving force behind the intern program is learning by doing. Every year, a handful of college students from the local community are selected as paid interns for the Living Arroyos Program. As Program interns, they learn real-world stream management techniques that complement their in-class learning. Interns are given real time, hands-on responsibility for implementing environmental improvement projects for Program Partners. Interns also interact with and guide volunteers, gaining leadership skills and reinforcing their own knowledge by teaching others. Interns work under the supervision of the Program Coordinator 1–5 days per week, depending upon projects being conducted and intern availability.

Four additional interns were hired during the 2019-20 Program Year. Interns were currently enrolled or recent college graduates from local colleges or had connections to the Tri-Valley as a past or present resident of the area. Interns had degrees from, or were attending classes at the following schools:

- Las Positas College
- California State University, East Bay
- UC San Diego

Intern responsibilities this year included:

- helping to oversee volunteer workdays
- harvesting willow stakes for planting at project sites
- crafting fascines and installing bank stabilization projects
- hand-watering plantings
- removing invasive plant species
- propagating native seeds

PHOTO: 2019-20 Crew (*from right to left: Megan Arp, Chanddeep Singh, Joseph Steelman, Bryan Smith, Jesse Sanchez, Richelle Vital and Mitchell Gonzalez)*

EDUCATIONAL OPPORTUNITIES

Living Arroyos encourages employees to participate in training activities that promote safety and health among employees, as well as opportunities for career development and personal growth. The Program encourages interns to continue learning during their internship time. Educational interests are discussed among interns and the Program strives to identify opportunities to build on that interest.

Staff continued to expand on the educational component of the program by incorporating regular field trips with professionals in natural resource management and natural history. Staff facilitated intensive botanical studies involving botanical drawings, plant identification using dichotomous keys and reading excerpts about the plant's ecological services and ethnobotany. Additionally, intensive bird studies were also added to the regular educational activities to prepare crew members to use the Riparian Bird Index system proposed in previous years.

In addition to the orientation tour and presentation provided to new staff, Living Arroyos staff participated in three educational opportunities during the 2019-2020 Program Year:

- Staff joined the San Francisco Estuary Institute in surveying the health and growth of sycamores at Sycamore Grove Park (September 19 and 25, 2019).
- Staff joined Ranger Eric at Sycamore Grove for birding in preparation for upcoming bird counts (November 20, 2019).
- Staff joined Ranger Eric at Sycamore Grove for the annual Audubon Christmas Bird Count (December 20, 2019).

Due to restrictions related to COVID-19, field trips and group surveys were put on hold for the remainder of the program year.

FEEDBACK FROM PREVIOUS LIVING ARROYOS INTERNS

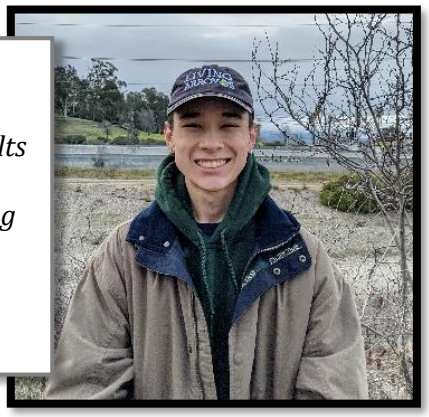
"What drew you to being an intern with Living Arroyos and what do you like about it?"

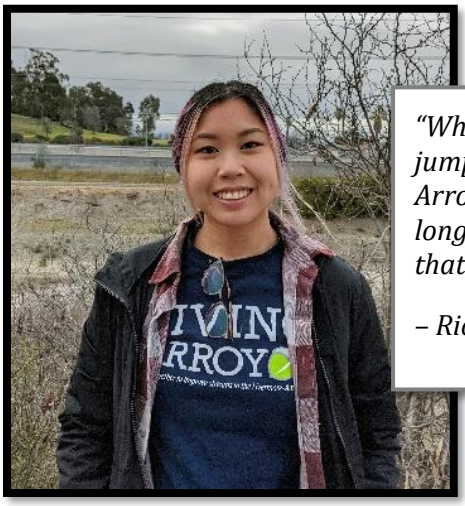
"Living Arroyos has provided me with great opportunities to grow professionally. I am grateful to have gotten the chance to be part of such a great program since 2013."

– Chanddeep Singh, 26

"My experience at Living Arroyos has significantly impacted my personal idea of what it means to have a job and work with other people. The work we do for the program has meaning and the results are visible and tangible. I'm immensely proud to be able to come in every morning and know that I'm serving my community and aiding the environment we live in."

– Bryan Smith, 20





"When I first joined, I was just expecting a job that would help jumpstart my career in the environmental sector. Living Arroyos delivered an experience that turned me into a life-long steward and made me feel valued every day, knowing that our work matters."

– Richelle Vital, 24

3. VOLUNTEER PROGRAM

Volunteers are the heart of the program. Living Arroyos invites the local community to engage and connect with creeks and arroyos that have a personal connection by hosting workdays in which volunteers participate in hands-on activities that protect and enhance the waterways in their area. Volunteering gives them a tangible sense of the value of watersheds, and a stronger understanding of their role in preserving the quality of watersheds. Volunteer days are held on the first and third Saturdays of the month between October and April.

VOLUNTEER WORKDAYS

Living Arroyos held 14 volunteer days twice per month during the abbreviated[5] volunteer season (October 2019 – March 2020). A total of 350 unique volunteers (Table 1) worked on ten different sites throughout the Program Area: Arroyo Mocho at the Stanley Reach (Livermore, CA), Sycamore Grove Park (Livermore, CA), Arroyo Las Positas at Bluebell Drive and Heather Lane (Livermore, CA), Robertson Park (Livermore, CA), Las Positas Golf Course (Livermore, CA), Line F-1 near Lydiksen Elementary School (Pleasanton, CA), and Arroyo Valle at Vine Street (Pleasanton, CA). Volunteer activities included: planting native trees, hand removing non-native plants and removing trash items (Table 2).

Table 1. Volunteer data by Program Year, all years.

Volunteerism Data	2015-16	2016-17	2017-18	2018-19	2019-20
Total volunteer days (9–11:30 am)	14	11	19	16	14
Total unique volunteers engaged	225	253	389	524	350
Total volunteer hours	921	1,059	1,440	1,590	1,386
Average number of volunteers per event	20	27	25	40	33

[5] *To comply with the Shelter-in-Place order, all public and private volunteer events were cancelled beginning in March and for the remainder of the Program Year.*

Table 2. Volunteer activities by Program Year.

Volunteer Activities	2015-16	2016-17	2017-18	2018-19	2019-20
Harvest acorns	--	--	--	--	
Plant acorns	--	--	--	--	1.5 days
Plant riparian trees	0.5 day	2.5 days	5 days	10 days	5.5 days
Mulch oak sites	4 days	2 days	4 days	--	--
Spread native grass seeds	--	--	--	--	--
Invasive species removal	7.5 days	6 days	5 days	2 days	3 days
Trash removal	2 days	0.5 day	5 days	4 days	4 days
TOTAL	**14 days**	**11 days**	**19 days**	**16 days**	**14 days**

WHO ARE OUR VOLUNTEERS?

Fun for the Whole Family

There are several wonderful aspects to volunteering with Living Arroyos, but we continue to hear how glad people are to be able to volunteer as a family. There is no minimum age requirement for volunteers, so community members can bring their children and teens to teach them the value of giving back.

PHOTO: Volunteers planting at the Las Positas Golf Course March 7, 2020.

Student Engagement

Many Living Arroyos volunteers are students, from high schools located throughout the Livermore-Amador Valley, looking to fulfill their community service requirements. This prompts an awakening of interest in conservation and allows knowledge and information about the Program to be picked up by young community members.

There were several student groups that repeatedly sent volunteers to events including: Dublin High School Key Club, Dougherty Valley High UNICEF, Dougherty Valley High National Honor Society, Livermore High School, Granada High School, and Amador Valley High School.

Local Businesses and Community-Based Organizations

Several local groups participated in our public volunteer events including: Sewa International, the Global Leadership Initiative for Youth (GLIFY), the Project Management Institute, and Workday, Inc.

Due to the abbreviated volunteer season five private events were cancelled for local businesses and community organizations including: The Apple Store in Pleasanton, DHL, scout troops, and the Sri Sai Baba Group.

VOLUNTEERS COME FROM ALL OVER

The largest number of volunteers came from San Ramon (**Table 3, Figure 2**) and overall, 80% of our volunteers came from within the Tri-Valley area (Dublin, Pleasanton, Livermore, and parts of San Ramon)—a decrease from 2018-19 (95%). However, our volunteers traveled from all directions and distances, from as far as Oakland, CA and Brentwood, CA, demonstrating the wide geographic reach of the Program's appeal.

Table 3. Number of volunteers by City, 2019-20.

CITY	# of Volunteers	2019-20 %
San Ramon	**99**	**31%**
Livermore	**75**	**23%**
Pleasanton	**47**	**15%**
Dublin	**36**	**11%**
Danville	13	4.0%
San Jose	7	2.2%
San Francisco	6	1.9%
Fremont	4	1.2%
Walnut Creek	4	1.2%
Brentwood	3	<1%
Crockett	3	<1%
Hayward	3	<1%
Cupertino	2	<1%
Foster City	2	<1%
Oakland	2	<1%
Berkeley	1	<1%
Concord	1	<1%
Hercules	1	<1%
Houston	1	<1%
Lafayette	1	<1%
Martinez	1	<1%
Moraga	1	<1%
TOTAL	**322**	

***Bold** indicates cities within the Livermore-Amador Valley Watershed. Not all volunteers provided location data.*

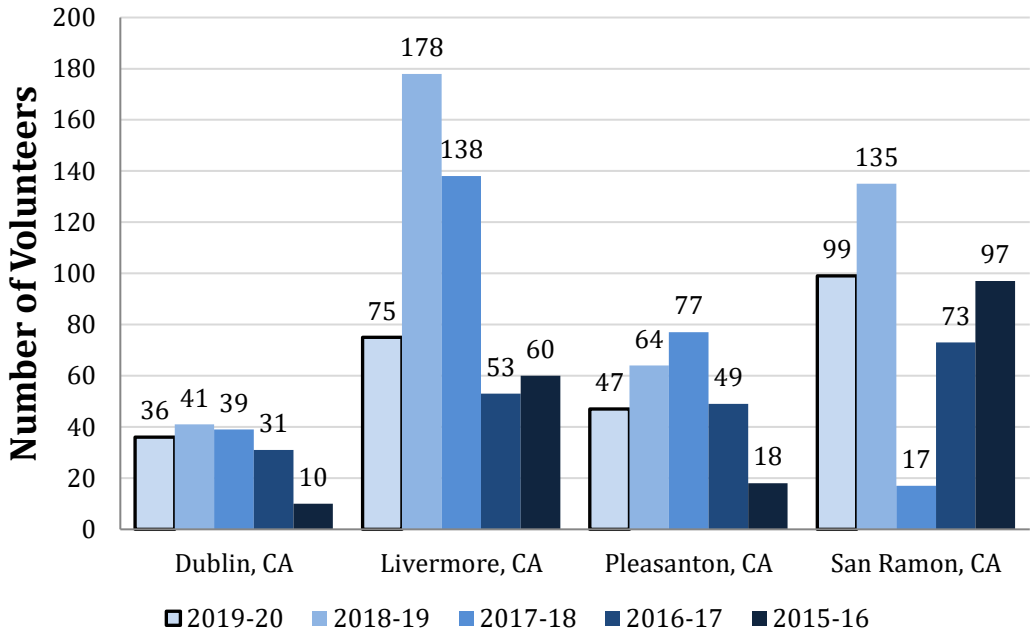


Figure 2. Number of volunteers by city in the Tri-Valley area, 2019-20 compared to the previous Program Years.

Of the volunteers that provided location data, the majority hailed from San Ramon and Livermore, a reversal from last year.

LIVING ARROYOS VOLUNTEERS SPEAK FOR THEMSELVES

At the end of every volunteer season a short survey is sent out to volunteers to ask them what they thought of their experience. Due to the abrupt cancellation of the volunteer season, a survey was not sent out for the 2019-20 volunteer season.

INDICATORS OF COMMUNITY ENGAGEMENT AND INTEREST

- Volunteers return multiple times, often bringing friends and family members.
- Living Arroyos staff received several emails from local groups looking for volunteer opportunities during the 2019-20 program year.
- Staff received multiple emails asking for spots to adopt, scouting projects, or whether there were intern openings.

VOLUNTEER APPRECIATION EVENT

Each year, Living Arroyos hosts a Volunteer Appreciation event at the end of the volunteer season (typically in April). Due to the cancellation of the volunteer season in March, an appreciation party was not hosted. When the Program can safely host volunteer events again, Staff would like to kick off the new season with an appreciation event.

4. COMMUNICATIONS AND OUTREACH

SOCIAL MEDIA OUTLETS

Living Arroyos continued to utilize the social media outlets that had been developed in the past six years since the Program started:

- Updated and maintained Living Arroyos website at www.livingarroyos.org. This website contains information about the program as well as upcoming workday information and blog posts about events and progress.
- An Alumni page was created on the website to communicate what past staff of Living Arroyos are up to now.
- Used Eventbrite to post upcoming volunteer workdays and track signups.
- Used Facebook and Twitter to educate and share photos with volunteers and community members.
- Used MailChimp email service to communicate with volunteers about upcoming events and activities.

LIVING ARROYOS APPAREL

Living Arroyos t-shirts and hats are typically distributed at the volunteer appreciation event. Due to precautions around COVID-19, this event was cancelled, and no apparel was handed out.

AWARDS AND RECOGNITION

The mission of the California Stormwater Quality Association (CASQA) Awards Program is to advance the stormwater quality management profession by identifying and recognizing exemplary leadership, outstanding projects, activities, and contributions to the field of stormwater quality management.

The City of Livermore entered Living Arroyos/Adopt a Creek Spot Program into consideration for the 2020 California Stormwater Quality Association (CASQA) Awards Program. The CASQA Awards Committee notified Livermore that the programs were chosen as a winning project/program for demonstrating outstanding sustainable stormwater quality management and accomplishing true source control. As an awardee,

Steve Aguiar (Environmental Compliance Supervisor, City of Livermore) led a 20-minute technical session on the programs at CASQA's virtual conference in September.

PHOTO: CASQA Outstanding Sustainable Stormwater Project or Program award presented to Living Arroyos, 2020.

PROGRAM OUTREACH EVENTS

Staff are sometimes approached to participate at local events, to table, promote the Program, advertise volunteer events, and encourage watershed stewardship—actions which benefit the Program as whole. In 2019-20, Living Arroyos tabled at the Wild and Scenic Film Festival held in Livermore on January 24, 2020.

PHOTO: Richelle Vital (left) and Mitchell Gonzalez (right) showing off the Living Arroyos table at the Wild and Scenic Film Festival on January 24, 2020.

5. ADOPT-A-CREEK SPOT

This year, Living Arroyos continued to coordinate clean ups for Adopt-A-Creek Spot (AACS)—a sibling program that promotes healthy creeks through active community participation and education. Livermore and Pleasanton both rely on Living Arroyos to carry out AACS coordination tasks.

During the 201-2020 Program Year, Living Arroyos staff continued to implement best management practices to:

- schedule and coordinate monthly/bi-annual creek clean-up events,
- resolve specific issues regarding creek spots #1-11 (e.g., graffiti, illegally dumped items, homeless camps, etc.), and
- manage disposal of trash/debris/recyclables collected from clean up events.

In 2019-20 Living Arroyos staff continued coordinating creek clean-ups for Program Partners through the AACS. Up to four large clean-ups are scheduled each year:

- Creeks to Bay Clean-up in September,
- Creeks Giving Clean-up in November,
- Love Your Creeks Clean-up in February; and
- Community Service Day in May.

The larger clean-ups are scheduled as needed depending upon rain events and trash quantities. Due to the cancellation of the volunteer season, the AACS was only able to host two of the four scheduled events.

The City of Pleasanton also continued participation in AACS with two hotspots: Arroyo Valle at Main Street and St. Mary's Creek.

Table 4. AACS Program Data, 2016-2020

	Program Year			
	2016-17	2017-18	2018-19	2019-20
Volunteers	498	547	452	223
Gallons removed	7,243	6,941	4,915	6,259

6. 2019-20 PROJECTS

The Living Arroyos Workplan (Workplan) is a living document and outlines project locations, project goals and an estimated project budget. The Workplan also provides details of project planting, maintenance, monitoring, and reporting requirements. The document is amended throughout the Program Year to reflect site additions or alterations.

The Living Arroyos 2019-2020 Workplan included 28 projects within the Livermore-Amador Valley (Table 5). Over the course of 161 days, Living Arroyos field staff completed project tasks for 15 of the proposed projects (Table 5).

Table 5. Living Arroyos Program Partners and their designated projects included in the Program's 2019-20 Workplan.

PROGRAM PARTNER*	PROJECTS
Zone 7 Water Agency	
Z-1	Arroyo Mocho at Stanley Reach
Z-2	Arroyos Seco Oaks Replacement Project
Z-3	Line B-5 Restoration Site Maintenance
Z-4	Line G-1-1 Vegetation Maintenance
Z-5	Arroyo Mocho Medeiros Parkway, Sycamores
Z-6	Alamo Creek Mitigation Planting Project Maintenance
Z-7	Tri-Valley Conservancy (TVC) Planting at Sycamore Grove
Z-8	Public Outreach (partner-specific)
Z-9	Pleasanton Stream Enhancements
Z-10	Lake I Planting and Maintenance
Z-11	Altamont Creek Biotechnical Bank Stabilization Maintenance
Z-12	*Debris Removal (as needed)***
Z-13	*Graffiti Abatement (as needed)***
Z-14	Vegetation Management and Enhancement Activities (as needed)
Z-15	Biotechnical Bank Stabilization (as needed)
City of Livermore	
L-1	Arroyo Las Positas at Galaxy Court
L-2	Arroyo Mocho Site 8 and Site 9 Restoration Area
L-3	Springtown Central Restoration
L-4	Sycamore Grove Mitigation Plantings
L-5	Arroyo Mocho at Robertson Park
L-6	Arroyo Las Positas at Bluebell Drive
L-7	Arroyo Las Positas at the Golf Course
L-8	Arroyo Las Positas at Heather Lane
L-9	Adopt a Creek Spot Program

PROGRAM PARTNER*	PROJECTS
L-10	Plant Propagation
L-11	Outreach (Partner Specific)
City of Pleasanton	
P-1	Gold Creek Restoration
P-2	Citywide Clean-up (AACS and Bernal Hotspots)
P-3	Arroyo Valle at Vine Street

** LARPD is the Implementing Agency for the Program and does not include project sites in the annual Workplan.*
*** Projects that did not have work to complete this year.*

ZONE 7 WATER AGENCY (ZONE 7)

Living Arroyos worked on 11 projects for Zone 7 Water Agency in 2019-20.

Table 6. Zone 7 Hours

Zone 7 Project	Program Hours
Arroyo Mocho at Stanley Reach	751
Biotechnical Bank Stabilization (as needed)	170
Arroyo Mocho Medeiros Parkway, Sycamores	100
Tri-Valley Conservancy (TVC) Planting at Sycamore Grove	88
Altamont Creek Biotechnical Bank Stabilization Maintenance	76
Alamo Creek Mitigation Planting Project Maintenance	62
Pleasanton Stream Enhancements	49
Lake I Planting and Maintenance	41
Vegetation Management and Enhancement Activities (as needed)	25
Public Outreach (partner-specific)	18
Line B-5 Restoration Site Maintenance	13
Arroyo Seco Oaks Replacement Project	0
Line G-1-1 Vegetation Maintenance ("Line G-1-1")	0
Graffiti Abatement (as needed)	0
Debris Removal (as needed)	0
TOTAL HOURS	**1,393**

Z-1) Arroyo Mocho at Stanley Reach (Stanley Reach)

The Stanley Reach project was conceived in 2012 as an alternative flood control and reforestation project, and as the first project of the Living Arroyos program. The original

Workplan for this project involved establishing three distinct habitats on the site in different zones: riparian habitat in channel (Zone A), native grassland along the banks (Zone B), and oak woodland at the top of bank (Zone C).

2019-20 project goals involved additional removal of invasive plant species, summer hand watering, and annual monitoring and reporting of vegetation survival status. Living Arroyos hosted four volunteer days at the Stanley Reach project site to engage and educate volunteers on urban streamside habitat restoration and maintenance techniques to promote long-term preservation.

ACTIONS: Living Arroyos spent 751 program hours on the Stanley Reach in the 2019-20 Program Year (see Table 6).

Program activities at the Stanley Reach for 2019-20 are summarized below:

- Removed 4,291 gallons of invasive plant species by hand and by using string trimmers.
- Used 100,250 gallons of water to keep riparian vegetation alive in Zone A during the dry season.
- Removed 931 gallons of trash from the channel.
- Planned and managed four volunteer days at Stanley Reach to engage volunteers on streamside habitat maintenance techniques and educate volunteers on the many ecology services supplied by our urban streams.

A separate monitoring and maintenance report is submitted to Zone 7 that details the specific monitoring of the site.

PHOTO: Workday Volunteers removing trash from the Stanley Reach, September 24, 2020.

Z-2) Arroyo Seco Oaks Replacement Project ("Arroyo Seco")

The Arroyo Seco project was taken on to replace four mature oak trees that were damaged by adjacent road work during construction to add more lanes onto I- 580. The workplan for the project involved replacing the four lost oaks at a 5:1 minimum ratio or a minimum of twenty oaks surviving at the end of two years.

ACTIONS: Due to the statewide COVID-19 Shelter-In-Place order work was not completed for this project during the 2019-20 program year.

Z-3) Line B-5 Restoration Site Maintenance ("Line B-5")

Line B-5 (i.e., Pleasanton Canal) entrance gate is located at the intersection of South Valley Trails Drive and Haleakala Road in Pleasanton, California. In Winter 2012, native trees and shrubs were planted at this site to test the effectiveness of using riparian trees for bank stabilization. The 2019-20 Workplan called for mowing understory plants, and pruning trees, if necessary.

ACTIONS: Living Arroyos spent 13 program hours on Line B-5 in the 2019-20 program year (see Table 5). Trees were pruned to reduce branches in understory to reduce channel roughness during high flow events.

Z-4) Line G-1-1 Vegetation Maintenance ("Line G-1-1")

Line G-1-1, is a canal that lies between the DSRSD Wastewater Treatment Plant and Val Vista Park in Pleasanton, California. Deep-rooted native grasses (sod) were planted here to test their effectiveness at protecting the bank from further erosion. The 2019-20 Workplan called for maintenance consisting of mowing and pulling invasive weeds.

ACTIONS: Due to the statewide COVID-19 Shelter-In-Place order work was not completed for this project during the 2019-20 program year.

Z-5) Arroyo Mocho Medeiros Parkway, Sycamores

In spring 2019, the program planted 24 Western Sycamores (*Platanus racemosa*) at Medeiros Parkway as part of an existing mitigation and bank stabilization work installed by Ecological Concerns incorporated.

ACTIONS: The Program spent 100 program hours watering and monitoring the sycamores during their first summer (see Table 5). Watering was conducted twice a week and monitoring was conducted in the fall of 2020.

Z-6) Alamo Creek Mitigation Planting Project Maintenance

The Program took on maintenance and watering tasks for the Alamo Creek Mitigation Planting Project which was completed in the spring of 2020 by Ecological Concerns, Inc.

ACTIONS: The Program spent 62 program hours watering and monitoring the newly planted vegetation at the site (see Table 5). Weeding and repairs to the drip irrigation system were completed as needed.

Z-7) Tri-Valley Conservancy (TVC) Planting at Sycamore Grove

Zone 7 approached the Program to host a planting event for the Tri-Valley Conservancy at Sycamore Grove around the newly installed pedestrian bridge near the Arroyo Road entrance.

ACTIONS: The Program spent 88 hours preparing for and implementing the volunteer event (see Table 5). Thirty volunteers helped plant and mulch 133 native trees and shrubs. Staff also watered the plants until irrigation was installed by another contractor.

PHOTO: Volunteers planting at Sycamore Grove on November 9, 2019.

Z-8) Public Outreach (partner-specific)

On October 12, 2019, at Zone 7's request, the Program had a booth at the Zone 7 Open House. Staff talked about the program and the historical ecology of the area.

ACTIONS: Staff spent 18 hours educating the public on the program's achievements and on upcoming volunteer events (see Table 5). Maps of the local watershed were present, and the public was engaged in discussions related to historical ecology of the Livermore-Amador Valley. Staff handed out packets of native wildflowers harvested at the Sycamore Grove Demonstration garden.

PHOTO: Chanddeep Singh (left) and Mitchell Gonzalez (right) represent Living Arroyos at the Watershed table at the Zone 7 Open House, October 2019.

Z-9) Pleasanton Stream Enhancements

The Pleasanton Stream Enhancements consist of two sites for the 2019-20 Program Year, the Arroyo Valle at Vine Street and Line F-1. The City of Pleasanton and Zone 7 agreed to share the cost of the Vine Street Clean-up. Line F-1 consisted of invasive ivy removal and a creek clean-up.

ACTIONS: On October 18, 2020, the program hosted a public volunteer event on Arroyo Valle at Vine Street where 14 volunteers helped remove 460 gallons of trash. On December 21, 2020, the program hosted a public volunteer event to remove invasive ivy and pick-up trash at Line F-1. In total the program utilized 49 hours preparing for and implementing these two events (see Table 5).

Z-10) Lake I Planting and Maintenance

The Lake I Planting and Maintenance project is on the north west side of the Chain of Lakes in between Livermore and Pleasanton. Several trees were removed in the area that were posing hazards and Zone 7 asked the program to do a small planting and water them during the dry season for the first three summers.

ACTIONS: On January 31, 2020, Living Arroyos staff planted 117 acorns from Valley Oaks *(Quercus lobata)* and Coast Live Oaks *(Quercus agrifolia)*. In addition, staff also planted 19 California Buckeye *(Aesculus californica)* trees from containers. The program utilized 41 program hours in planting and watering this project during the 2019-20 program year (see Table 5).

Z-11) Altamont Creek Biotechnical Bank Stabilization Maintenance

During the 2018-19 program year, Staff installed a fascine and several willow stakes along an existing complex of biotechnical bank stabilization sites installed by another contractor. The program took on responsibility for monitoring and watering the stands during the 2019-20 program year.

ACTIONS: Living Arroyos utilized 76 program hours to water the site on a regular basis (see Table 5).

Z-12) Debris Removal (as needed)

Removal of debris (trash, etc.) from targeted locations in or near channels.

ACTIONS: Graffiti abatement was not requested in 2019-20.

Z-13) Graffiti Abatement (as needed)

Paint over graffiti at Zone 7 facilities as assigned.

ACTIONS: Graffiti abatement was not requested in 2019-20.

Z-14) Vegetation Management and Enhancement Activities (as needed)

Vegetation management and enhancement activities as needed.

ACTIONS: On January 9, 2020 Staff delivered a truck load of mulch to the Zone 7 offices and helped to spread the mulch around the native landscaping adjacent to the district's new sign. Staff utilized 25 program hours to complete this task (see Table 5).

Z-15) Biotechnical Bank Stabilization (as needed)

Living Arroyos implemented willow staking efforts in small areas within the Livermore-Amador Valley, as needed, to help stabilize banks and reduce erosion.

ACTIONS: Living Arroyos spent eleven field days harvesting and installing 114 vegetative cuttings for Zone 7 along six different sites on the Arroyo Valle and Arroyo Mocho. Staff utilized 170 program hours to accomplish this task (see Table 5).

PHOTO: Richelle Vital (left), Megan Arp (right), and Mitchell Gonzalez (background) installing stakes with breaker bars on December 18, 2019.

CITY OF LIVERMORE (LIVERMORE)

Living Arroyos worked on 11 projects for the City of Livermore had in 2019-20.

Table 7. City of Livermore Hours

Livermore Project	Program Hours
Springtown Central Restoration	385
Arroyo Las Positas at Galaxy Court	235
Arroyo Las Positas at Heather Lane	221
Sycamore Grove Mitigation Plantings	198
Adopt a Creek Spot	111
Arroyo Las Positas at the Golf Course	68
Arroyo Mocho at Robertson Park	60
Plant Propagation	14
Outreach (partner specific)	14
Arroyo Mocho Site 8 and 9 Restoration Area	11
Arroyo Las Positas at Bluebell	4
TOTAL HOURS	**1,321**

L-1) Arroyo Las Positas at Galaxy Court (Galaxy Court)

The goals for the Galaxy Court project are to assist the City of Livermore in achieving mitigation goals for the Galaxy Court Culvert Replacement Project. The 2019-20 Workplan called for replacement some of the upland tree species that have been lost with oaks and installing more stakes along the newly drenched low flow channel. The native vegetation is intended to compete with and (in time) shade out cattails and tulles in the stream channel that increase risk of flooding in the adjacent neighborhood.

ACTIONS: Living Arroyos spent 235 program hours at Galaxy Court in the 2019-20 program year primarily planting and watering (see Table 7). The program planted 33 acorns in the upland zone and installed 90 willow stakes in the newly excavated low flow channel. 22,600 gallons of water were used to water newly planted acorns and water stressed upland plants. The program utilized 35 separate field days to accomplish these tasks.

L-2) Arroyo Mocho Site 8 and 9 Mitigation Area (Site 8 and 9)

The Arroyo Mocho Site 8 Mitigation Area is located near Rockrose Street in Livermore, CA. The area was selected to help mitigate for temporary and permanent impacts for Stream Maintenance Program activities along the Arroyo Mocho. The 2019-20 Workplan called for continued vegetation maintenance, hand weeding, and summer watering.

ACTIONS: Living Arroyos spent 11 program hours at Site 8 and 9 in the 2019-20 program year watering and monitoring the site (see Table 7). 650 gallons of water were used to water these sites over the course of six field days.

L-3) Springtown Central Restoration

The Springtown Culvert Replacement Project is located between Bluebell Drive and Heather Lane along the Arroyo Las Positas. The 2019-20 Workplan called for continued vegetation maintenance, monitoring of vegetation and summer watering. As is the case for all the current Springtown mitigation sites, the native vegetation is intended to compete with and (in time) shade out cattails and tulles in the stream channel that increase risk of flooding in the adjacent neighborhood.

ACTIONS: Living Arroyos spent 385 field hours at the Springtown Restoration site in the 2019-20 program year planting and watering (see Table 7). 52,900 gallons of water were used over the course of 44 field days to accomplish these tasks.

L-4) Sycamore Grove Mitigation Planting

The Sycamore Grove mitigation planting is in Sycamore Grove Park near the Arroyo Road/Olivina gate entrance in Livermore, CA. This project is to mitigate for the removal of two trees that were destroyed by a wildfire that occurred in 2015 from a downed PG&E powerline. The 2019-20 Workplan called for continued vegetation maintenance, hand weeding, and summer watering. This project was initiated in 2017 and calls for hand watering of planted materials for the first three summers. Frequency of wearing was tapered off to once every two weeks to encourage plants to rely on ground water for survival.

ACTIONS: Living Arroyos spent 198 program hours at Sycamore Grove in the 2019-20 program year watering and monitoring native vegetation (see Table 7). The program used 25,100 gallons of water over the course of 18 field days to accomplish this task. 1

L-5) Arroyo Mocho at Robertson Park

The Robertson Park mitigation plantings is part of the City of Livermore's Stream Maintenance Plan and is meant to mitigate for damages that have occurred along the Arroyo Mocho. The 2019-20 Workplan called for re-planting sections of the project that were underperforming. Maintenance activities were contracted out to Terra Care and irrigation was installed. Monitoring was conducted by the Alameda County Resource Conservation District.

ACTIONS: Living Arroyos spent 60 program hours at Robertson Park in the 2019-20 program year preparing for and hosting two separate planting events (see Table 7). On February 1st, 2020, 29 volunteers planted 111 acorns and 12 riparian trees. On February 15th, 2020, 33 volunteers planted 36 acorns and 17 riparian trees. In addition to the planting, volunteers removed hundreds of cages from plants that had outgrown them.

PHOTO: Volunteers after planting native vegetation at Robertson Park on February 1, 2020.

L-6) Arroyo Las Positas at Bluebell (Bluebell)

The Bluebell site is located on the Arroyo Las Positas near Bluebell Drive and is on the opposite bank from the Galaxy Court site. The goal of the project is to establish a native canopy to shade the creek to address on site mitigation requirements from the Stream Maintenance Program. The 2018-19 Workplan called for regular vegetation inspection and monitoring.

ACTIONS: Living Arroyos spent 4 program hours at Bluebell in the 2019-20 program year conducting inspections of irrigation and monitoring vegetation (see Table 7).

L-7) Arroyo Las Positas Golf Course (Golf Course)

The Golf Course site is located on the Arroyo Las Positas at the Las Positas Golf Course. This project addresses the Tier 2 mitigation requirements for maintenance work which occurred along Collier Canyon to address storm related damages from 2017. The 2019-20 Workplan called re-planting in sections that experienced die off and monitoring vegetation for survival.

ACTIONS: Living Arroyos spent 68 program hours at the Golf Course in the 2019-20 program year (see Table 7). On March 7th, 2020, the program hosted an event for 53 volunteers who planed 145 native riparian plants. Staff returned on March 13th and planted 78 native riparian plants. Due to the unusually dry winter, the program also utilized approximately 1,000 gallons of water on newly planted vegetation.

PHOTO: Volunteers and staff after planting the Arroyo Las Positas Golf Course on March 7, 2020.

L-8) Arroyo Las Positas at Heather Lane (Heather Lane)

The Arroyo Las Positas at Heather Lane was originally planted in 2019. The long-term goal of the project is to prevent flooding during heavy storm events caused by water pooling due to the channel being clogged with cattails. The site is focused on developing a riparian canopy to shade out cattails and to mitigate for impacts created by the low-flow channel that was created in 2019. In the 2019-20 Workplan the program was tasked with planting and monitoring the project as well as conducting summer watering and hand weeding.

ACTIONS: Living Arroyos spent 221 program hours at Heather Lane in the 2019-20 program year (see Table 7). The project was planted via four public volunteer events on January 4th. January 18th, February 22nd, and February 29th of 2020. In total, 83 volunteers planted 318 native riparian plants over the four events. Program Staff also installed 26 vegetative willow cuttings along the toe of the Arroyo Las Positas. During the summer watering staff utilized 16,200 gallons of water to keep vegetation alive.

PHOTO: Volunteers after planting the Arroyo Las Positas at Heather Lane on February 29, 2020.

L-9) Adopt a Creek Spot

The Adopt a Creek Spot (AACS) is a sibling program to Living Arroyos that was originally managed by the City of Livermore. In the 2019-20 Workplan, Staff took on full responsibility for the AACS. Responsibilities included coordinating and planning two large city-wide clean-ups on up to eleven different sites and helping to facilitate small clean-ups throughout the year.

ACTIONS: Living Arroyos spent 111 program hours for the AACS in the 2019-20 program year preparing for and cleaning up after events (see Table 7). The Program facilitated two clean-up events, the Creeks to Bay Cleanup on September 21, 2019 and the Love Your Creeks Cleanup on February 15th, 2020. The City of Livermore's Community Service Day on May 2, 2020 was cancelled due to COVID-19 restrictions. Between the events and the small clean-ups, the AACS had 223 volunteers who removed 6,259 gallons of trash and recyclables.

L-10) Plant Propagation

Program staff approached the City of Livermore about experimenting with plant propagation from seeds as part of the educational component of the program. Staff worked with the LARPD Open Space rangers and Volunteers to harvest seeds from their native plant demonstration gardens. The program then partnered with the Las Positas College

Horticulture Department, hosting an outreach event where horticulture students helped plant the seeds while learning about local ecology and the program.

ACTIONS: Living Arroyos staff spent 14 program hours preparing for and hosting an outreach event (see Table 7). On October 26, 2019 and January 22, 2020, students from the LPC Horticulture Department propagated 260 native plants from seed.

PHOTO: Volunteers and interns planting native seedlings October 26, 2020.

L-11) Public Outreach (partner-specific)

In 2019, the City of Livermore hired two AmeriCorps fellows to help with their Stream Maintenance Plan. One of the tasks that they worked on was partnering with the Program to host a public event to promote awareness of Livermore's streams and unique ecology. The Springtown Preserve area was identified as a primary candidate and it was decided that the partnership would host a BioBlitz in the area to catalogue the species present. Due to the Shelter in Place order that went into effect on March 16, 2020, the event was cancelled.

ACTIONS: Living Arroyos staff spent 14 program hours attending meetings and planning for the event (see Table 7).

CITY OF PLEASANTON (PLEASANTON)

Living Arroyos worked on four projects for the City of Pleasanton in 2019-20.

Table 8. City of Pleasanton Hours

Pleasanton Project	Program Hours
Arroyo Valle at Vine Street	34
Gold Creek Restoration	32
Citywide Clean-up (AACS and Bernal Hotspots)	25
Outreach (partner-specific)	3
TOTAL HOURS	**94**

P-1) Gold Creek Restoration

Gold Creek is an ongoing vegetation management project that focuses on the removal of invasive species along Gold Creek in Pleasanton. The 2019-20 Workplan called for two field days to remove invasive English ivy and Texas privet prior to the start of the rain year.

ACTIONS: Staff spent two field days, September 27th and October 4th of 2019 removing 525 gallons of weeds from the channel for a total of 32 program hours.

PHOTO: Richelle Vital (left), Bryan Smith (middle) and Mitchell Gonzalez (right) after removing weeds on September 27, 2019.

P-2) Citywide Clean-up (AACS and Bernal Hotspots)

The Bernal Ditch runs along Bernal Avenue, directly across from the Alameda County Fairgrounds in Pleasanton, California. There are restaurants, fast food eateries and a 24-hour gas station/mini-market within a quarter mile of the ditch. Both the fairgrounds and the downtown area are high traffic areas on weekends. This location is one of the few waterways in the City of Pleasanton that has been monitored in the past for collecting trash. The Program was tasked with cleaning the hotspot on a quarterly basis.

ACTIONS: Living Arroyos removed 56 gallons of trash from the Bernal Hotspots in the 2019-20 program year and spent 25 program hours (see Table 8). Cleanups occurred on September 11, 2019, February 2, 2020, and June 30, 2020. A spring cleanup was not completed due to the Shelter-in-Place order.

P-3) Arroyo Valle at Vine Street

The City of Pleasanton and Zone 7 identified this trash hotspot location. Both Partners agreed to share the cost of the clean-up since the land is not owned by either partner but a clean-up at this location would help both meet the trash reduction and flood conveyance objectives of their respective agencies.

ACTIONS: The Program hosted a public volunteer event on November 2, 2019, where 14 volunteers removed 460 gallons of trash from the area. Additionally, staff cleaned the south bank of the channel on October 17th, 2019 and removed 405 gallons of trash from the area. Overall the Program utilized 24 program hours during the 2019-20 program year for the vine street clean-ups.

PHOTO: Volunteers removing trash from the Arroyo del Valle at Vine Street on November 2, 2019.

P-3) Public Outreach (partner-specific)

The City of Pleasanton invited the Program to table their 125th Birthday Party on August 2nd, 2019.

ACTIONS: Staff attended the event on August 2, 2019 and shared information on the Alameda Creek Watershed and on upcoming volunteer events in the fall. Staff spent 3 program hours (see Table 8) at this event.

7. SUMMARY OF PROGRAM ACCOMPLISHMENTS

During the 2019-20 Program Year, interns worked approximately one to five days a week, for a total of 161 workdays.

With help from our hard-working volunteers, the Living Arroyos field staff accomplished a great deal of stream improvement during the third Program Year (Table 9).

Table 9. Living Arroyos stream enhancement and management activities for the past 5 years.

Activities	PROGRAM YEAR				
	2015-16	2016-17	2017-18	2018-19	2019-20
Total acorn sites planted	--	--	--	--	360
Total acorns planted (3 per site)	--	--	--	--	1,080
Total acorns broadcast onsite	--	--	--	--	--
Total acorns planted in containers	--	--	--	--	--
Total acorns collected	--	--	--	--	1,513
Total oak seedlings planted	--	--	--	--	--
Total pounds of grass seed spread	--	--	--	--	--
Total stakes harvested	--	--	--	--	247
Total willow stakes planted	556	517	572	336	230
Total riparian trees planted	129	605	701	1,430	869
Total wire cages removed at oak sites	701	--	1,199	--	--
Total mulch used on oaks (gallons)	7,205	8,285	3,112	--	--
Total invasive species removed (gallons)	2,693	13,661	29,713	730	5,620
Total trash removed (gallons)	1,302	634	1,674	1,424	4,315
Total water applied (gallons)	--	--	--	--	262,175
Total plants propagated	--	--	--	--	860

8. PROGRAM EXPENDITURES

BUDGET

The Living Arroyos Program budget (Table 10) is composed of both **Program Costs** to run the program as mutually agreed upon by Program Partners. **Project Costs** are the responsibility of the Project Proponent.[6]

Table 10. Living Arroyos projected and actual Program Costs for the 2019-20, rounded.

Item	Projected Budget	Actual Expenditures	Billed to date (%)	Budget Remaining
Personnel (staff and interns)	$191,000	$168,139	88%	$22,861
TOTAL PERSONNEL	**$191,000**	**$168,139**	**88%**	**$22,861**
Field Equipment & Supplies	$3,000	$3,018	101%	-$18
Equipment Rental	$4,750	$1,204	25%	$3,546
Volunteer Supplies	$500	$691	138%	-$191
Travel	$2,500	$657	26%	$1,843
Event Costs	$2,000	$0	0%	$2,000
Marketing/Outreach	$1,500	$1,914	128%	-$414
Training	$750	$360	48%	$390
TOTAL DIRECT COSTS	**$15,000**	**$7,843**	**52%**	**$7,157**
TOTAL	**$206,000**	$175,982.41	85%	$30,018

[6] ***Program Costs*** *include the following:*

- *Program Coordinator salary and benefits, and intern stipends*
- *Purchase or rental of equipment that can be used for multiple projects; equipment storage; and consumable supplies related to the volunteer and/or intern programs*
- *Travel, trainings, and other miscellaneous expenses causally related to the Program; and*
- *Communication activities and elements to ensure consistent messaging among Partners and to the public.*

Project Costs *include the following:*

- *Any elements that remain with the project site (e.g., irrigation systems, signage, plants, planting supplies, etc.)*
- *Contractors engaged to carry out project specific tasks (e.g., hydro seeding, installation of irrigation systems, etc.)*
- *Any other project specific costs requested by the Program Partner*

Actual expenditures for the Program were within the budgeted amount for 2019-20 (Table 10). In some areas, Program Costs were far below projected amounts. This is likely due to times when Living Arroyos operated with a smaller crew due to intern turnover, staff training and equipment use that was provided in large part by LARPD, and other learning opportunities did not have registration fees associated with it. In addition, the need to reduce Program activities due to precautions around COVID-19 resulted in reduced work hours while Partners determined safety protocols, and cancellation of volunteer activities including the annual volunteer appreciation event.

EQUIPMENT PURCHASES

The following equipment items were purchased for the Program as Program Costs:

- 1 100' 2" double walled fire hose
- BT 45 soil auger with 3" bit
- 2 pairs of waders and boots
- Multi-tiered sieve for seed threshing

9. FUTURE RECOMMENDATIONS

INCREASE VOLUNTEER OUTREACH

When it is safe to do so, Living Arroyos staff recommends that we continue our efforts in volunteer outreach with the aid of the Program Partners.

To increase volunteer outreach, staff recommends:

- Participating in LARPD's booth at the Livermore Farmers Market.
- Including volunteer event dates in LARPD activities guide.
- Working with Program Partners to integrate the Living Arroyos volunteer events into their social media presence.

10. MEETING PROGRAM GOALS

This section highlights the Program's accomplishments relative to the goals outlined in the 2019–20 Workplan.

Goal #1: Engage residents in hands-on stewardship of natural resources while they experience nature close to home.

Living Arroyos hired a total of four interns from local colleges to give them direct experience in managing natural resources. The hope is that their real-world projects will enhance their classroom learning and give them a greater understanding of water supply, flood management, and watershed resources.

Living Arroyos held fourteen volunteer days from October 2019 – March 2020 and eight events were cancelled due to the Shelter-in-Place order. The program was scheduled to exceed the number of volunteer events held in the previous year and continue the upward trend. The Living Arroyos Program demonstrated that communities and local agencies can collaborate on stream projects that meet maintenance and permitting objectives.

Goal #2: Increase public awareness of important watershed issues.

Volunteer workdays are an opportunity to educate the public on the purpose, methodology and benefits of addressing issues associated with urban streams. Positive responses from 350 volunteers who dedicated 1,386 community service hours indicate that there is still a desire for opportunities to connect with nature, and a sense of pride associated with their effort of enhancing local environmental conditions. To reach a much broader audience, Living Arroyos continued to outreach to the public through social media outlets, collaboration with school administrators, local community organizations, and by tabling various events.

Goal #3: Improve habitat and water quality of local streams while maintaining and enhancing both public safety and regional flood protection.

Living Arroyos field staff completed project tasks for eighteen projects, including planting and plant maintenance (e.g., watering), biotechnical erosion control measures, trash clean up, non-native invasive species removal, as well as monitoring

the success of past projects to learn and plan. All project tasks were aimed at improving local stream conditions.

Goal #4: Strengthen public/private partnerships within the community.

Local agencies continue to support the program and are seeing a benefit in leveraging resources and working across boundaries to achieve common goals. Living Arroyos continued to cultivate community relationships with local school groups and businesses. There was a remarkable increase in demand for volunteer events during the 2019-20 program year. Many local groups and businesses reached out to Staff to schedule events for them in addition to the fourteen public events held each year.

This review illustrates that the Living Arroyos Program efforts are providing benefits for streamside habitat and water quality and strengthening partnerships among local agencies and with the community.