



**2018
ACHIEVEMENT
REPORT**

Walnut Creek
Watershed Council



WALNUT CREEK
WATERSHED
COUNCIL

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EXECUTIVE SUMMARY

This 2018 Annual Report highlights the efforts of our very motivated friends groups and our local government, regulatory and corporate partners to improve the health of the Walnut Creek Watershed. The individual reports are important because they show the wide-ranging actions that are being taken to improve the watershed, the use of volunteers, and the progress that is being made in many areas. These reports demonstrate that there are several exciting things happening in our watershed. The Council was started in 2011, and I am proud to say 2018 was our best year yet!

In 2019, our major focus will be on removing invasive species and planting native plants in our riparian areas. In March, we are co-hosting a workshop with the California Invasive Plant Council and the City of Walnut Creek. We are looking forward to learning about all the invasive plants in our watershed and how to treat them.

In 2018, we received over \$40,000 in mitigation funds to be used to target *Arundo donax*.

We identified and mapped more than 250 *Arundo* infestations in our watershed. *Arundo* is a non-native, invasive species that uses a lot of water, displaces native plants and wildlife, and creates a fire and flooding hazard. We have already committed \$10,000 of that money as a match with the City of Walnut Creek on a major project in Civic Park in the City of Walnut Creek. The project will not only remove the 11 stands of *Arundo* in that portion of Walnut Creek (the creek), but it will also remove the Himalayan blackberry and the ivy that is present, and install some native plantings. We hope to work with all our stakeholder groups to expand the effort to eliminate these invasive plants from our creeks.

Finally, we are working with several others to plan the Fourth Quadrennial Contra Costa Watershed Symposium on December 5th, 2019. The last one was in 2015 and was outstanding. This one will be as well. I hope to see you in our creeks and at the Symposium!

-Bob Simmons

City and Town Supporters:

City of Concord
City of Lafayette
City of Martinez
City of Orinda
City of Pleasant Hill
City of San Ramon
City of Walnut Creek
Town of Danville
Town of Moraga

Non-profit Agency Supporters:

Diablo Valley Fly Fishermen
Friends of the Creeks
Friends of Pleasant Hill Creeks
Friends of San Ramon Creek
Greenbelt Alliance
John Muir Land Trust
Mount Diablo Audubon Society
Mount Diablo Interpretive Association
Save Mount Diablo
Sustainable Contra Costa
Sustainable Walnut Creek
Walnut Creek Open Space Foundation

Government Agency Supporters:

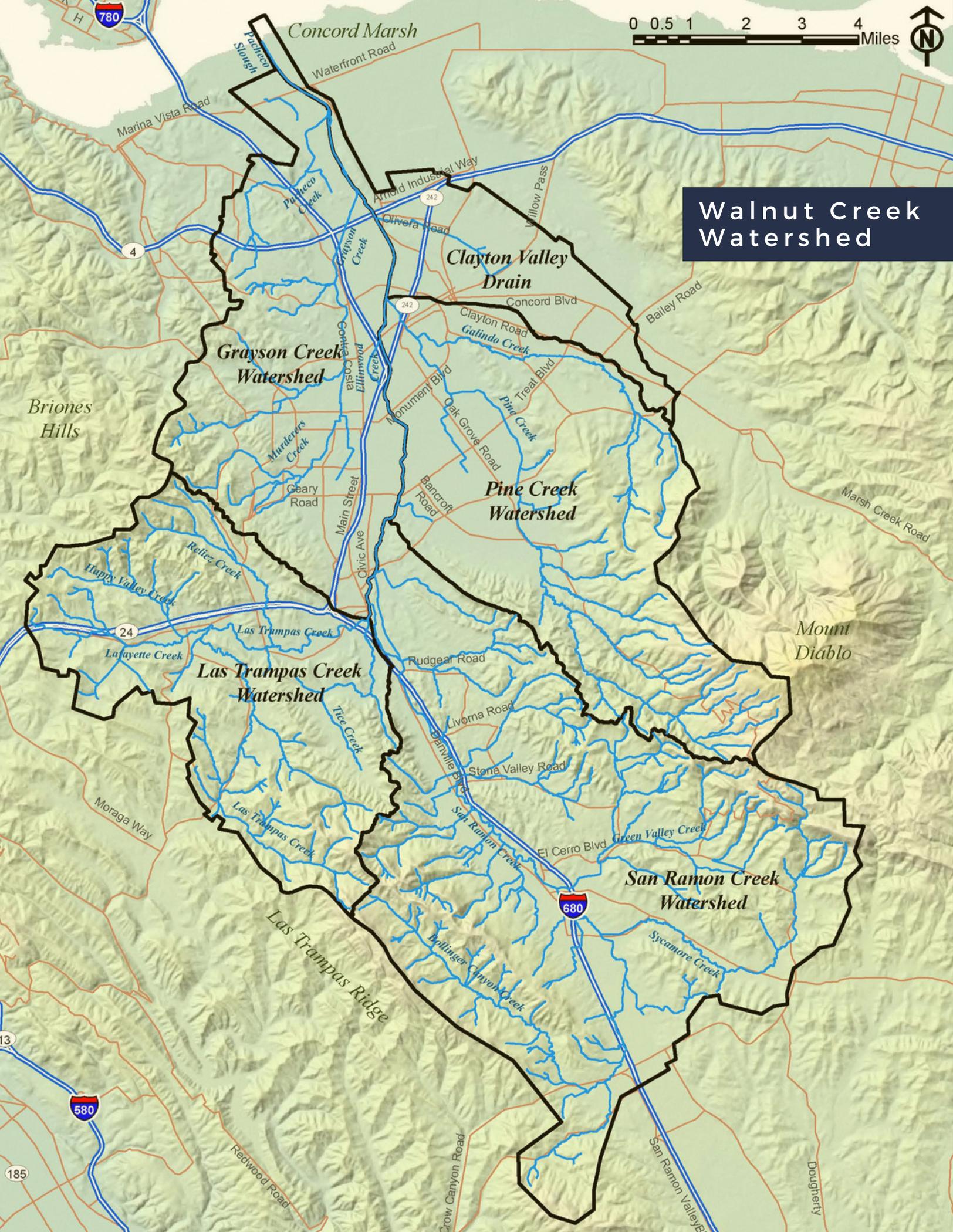
Central Contra Costa Sanitary District
Central Contra Costa Solid Waste Authority
Contra Costa County Flood Control and Water Conservation District
Contra Costa Resource Conservation District
East Bay Municipal Utility District
East Bay Regional Park District

Business and Industry Supporters:

Marathon Petroleum Company LP

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Walnut Creek Watershed

Concord Marsh

0 0.5 1 2 3 4 Miles



Clayton Valley Drain

Grayson Creek Watershed

Pine Creek Watershed

Las Trampas Creek Watershed

San Ramon Creek Watershed

Briones Hills

Mount Diablo



185

13

4

242

24

185

13

4

242

24



WHO WE ARE

AN OVERVIEW

Our mission is to support community efforts, scientific studies, public education, and restoration projects that protect and enhance beneficial uses and resources in the entire watershed. The Council encourages sharing information and promotes collaboration among the stakeholders.

The Walnut Creek Watershed is the largest watershed in Contra Costa County totaling 146 square miles or 96,000 acres, in size. Its 340,000 inhabitants account for over 35% of the County's population. The watershed extends from San Ramon to the south, Martinez to the north, Moraga and Orinda to the west, and Concord to the east. From protected natural lands (Mt. Diablo State Park, East Bay Regional Park District lands, and Walnut Creek Open Space) and grazed lands to suburbs and urban creeks, our watershed has a bit of almost everything. The Walnut Creek Watershed has 309 miles of creek channels - accounting for almost a quarter of all mapped creek channels in Contra Costa County. Over 70% of the channels (by length) in the watershed are natural, meaning they have no flood control or flow restriction devices. Almost 16% of the creeks are in concrete channels. Another 12% are constructed earth channels.

Less than 1% of the channels are riprapped. All of this watershed information is from the Walnut Creek Watershed Inventory (Feb 2013).

In 2011, several individuals representing different organizations began meeting to discuss how to create a community-based group with an interest in improving our watershed. After several months, they decided to create a watershed council and started the organization process. The result is the Walnut Creek Watershed Council, which is a voluntary, non-regulatory stakeholder group that supports a healthy and sustainable watershed. Contra Costa County Flood Control and all nine cities and towns in the watershed together with several non-profit organizations and other governmental organizations, have expressed their support. The complete list is at the beginning of this report.



2019 GOALS

Hold six Council meetings.

Organize two field trips so the Council can be more familiar with projects in the watershed.

Publish a Watershed Achievement Report for 2018.

Participate in the 2019 Contra Costa Watershed Symposium.

Support efforts to restart the Watershed sign program in Contra Costa County.

Participate in Watershed Day at the Capitol.

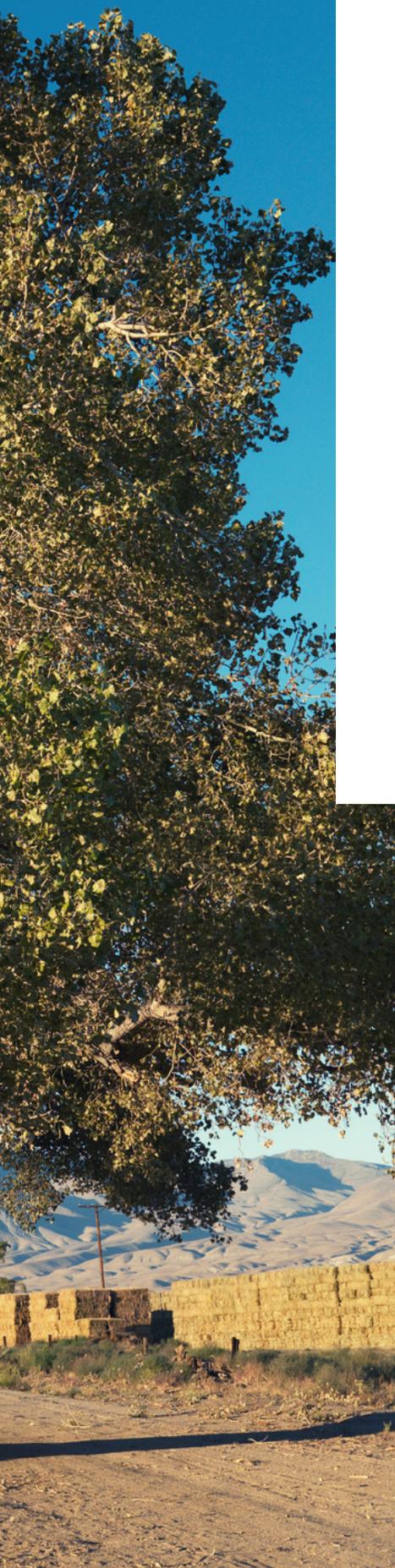
Make progress on *Arundo* removal efforts throughout the watershed.

Produce a brochure on *Arundo*.

Treat up to 20 stands throughout the watershed.

Apply for grants to fund *Arundo* removal.

Submit a report to the Regional Water Quality Control Board on the Council's efforts to remove *Arundo*.



We envision a Walnut Creek watershed where the creeks are visible and thriving natural assets that join our communities into a unified whole. Grayson, Las Trampas, Pine, San Ramon, Walnut, and tributary creeks are widely appreciated as places where families gather, children explore, and workers take respite in a creek-side cafe. Our homes, businesses, urban centers, public spaces, and neighborhoods are oriented toward their creeks for enrichment and economic benefit, with enough space to allow for a dynamic channel, natural floodplain habitat, and to protect us from powerful storm hazards. The built environment is constructed to slow down stormwater, capture it in the soil, and release it slowly back to our waterways. Our communities are intertwined with a network of parks and natural areas that provide healthy recreation for the community and habitat corridors for native plants, fish, and wildlife. These corridors connect large natural reserves on the slopes of Mount Diablo and Las Trampas Ridge to the marshes and shoreline of Suisun Bay. Residents, business owners, and government officials share an ethic of stewardship. Private landowners are respected and rewarded for their contribution to excellent stewardship of these lands. Everyone, young and old, knows the names of their closest waterways, and takes joy in spotting a heritage species, such as chinook salmon, river otter, wood duck, or native walnut, that thrive in a resilient and healthy watershed.

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Our vision is further defined by the following principles to guide its implementation:

QUALITY OF LIFE

The quality of life is highly valued in local land-use policies, plans, and projects, resulting in communities that reflect the intrinsic natural beauty of the watershed. Residents feel a sense of ownership and connection to their watershed, which they regard as a place of refuge and comfort that they are proud to call home.

HABITAT PRESERVATION AND RESTORATION

The watershed provides core habitat for major biotic communities, connected by habitat corridors across urban and industrial landscapes, to support thriving populations of native flora and fauna, thereby protecting the unique natural heritage of the watershed.

RECREATION AND PUBLIC HEALTH

Everyone in the watershed has ample opportunities for and easy access to healthy recreation in diverse natural environments.

COMMUNITY

Neighborhoods are connected by a network of creeks, providing a sense of community within the watershed. Communities are designed to integrate the creek into their social fabric, and infrastructure is designed to accommodate the creek as a valuable amenity. Local communities are engaged in the well-being of the larger watershed community.

ECONOMICS

Creeks in the watershed are viewed as an asset. This asset value is improved with each development, investment, or mitigation opportunity by incorporating the creek into the community fabric, thus spurring economic growth and creating lasting prosperity.

FORM AND FUNCTION

Natural reaches of creek are preserved and restored to a state of dynamic equilibrium. Creek reaches in urban environments are engineered to provide the form and function necessary to support healthy, natural processes. Urban infrastructure is designed to slow down stormwater, direct it for beneficial purposes, and increase infiltration rates to provide sustainable base flows within the creek system.

RESILIENCY

Rebuilding the urban landscape and reshaping creek corridors results in a resilient system that provides ongoing, sustainable flood protection and other community benefits that are adaptable to future environmental change. As storms become more intense due to climate change, diversion of run-off to infiltration basins to reduce pollutants and recharge groundwater will become more important.



Friends of Pleasant Hill Creeks

Mission: Friends of Pleasant Hill Creeks (FPHC) is an all-volunteer nonprofit organization of Pleasant Hill residents who care about our creeks. Our mission is to protect, restore, and enjoy our creeks. FPHC is a project of Social and Environmental Entrepreneurs, a tax-exempt 501(c)(3) organization.

- Our Creeks:** Two creeks, Grayson Creek and Murderers Creek, flow through the City of Pleasant Hill, connect with Walnut Creek, and then drain into Suisun Bay. Pleasant Hill's creeks are part of the Walnut Creek Watershed, the largest watershed in Contra Costa County.
- 2018 Creek Cleanups and Trash Assessments:** In 2018, dozens of volunteers cleaned up more than 3000 linear feet of Grayson Creek during community service events sponsored by the Pleasant Hill Civic Action Commission and The Watershed Project. More than 1700 pieces of trash were removed and catalogued in detailed trash assessments. This data is helping to develop policies to prevent water pollution. For example, the Last Plastic Straw Campaign utilized our data on plastic and Styrofoam waste in their presentation to the Pleasant Hill City Council advocating for a policy to reduce disposable foodware, which is a major source of creek pollution.
- Water Quality Monitoring:** In 2018, volunteers continued to help collect monthly water samples and "first flush" data from Grayson Creek. Measurements of pH, dissolved oxygen, and other parameters were monitored and reported as part of a countywide water quality monitoring project. FPHC also collaborated with the Flood Control
- District, the Watershed Project, and Diablo Valley College to integrate water quality monitoring fieldwork into biology classes.
- Grayson Creek Bird Survey:** In partnership with Mt. Diablo Audubon Society, volunteers conducted monthly bird surveys to document avian diversity in two sections of the Grayson Creek riparian habitat. As of December 2018, the survey team has documented more than 60 species of native and migratory California birds in the study area.
- Public Outreach and Education:** FPHC participated in numerous community events, including Earth Day at Diablo Valley College, Spring and Fall Nature Day Events at Wild Birds Unlimited, Watershed Day at the Capitol, the Creek Invaders symposium, and the Fall 2018 San Ramon Creek bypass construction.
- New Pleasant Hill Library:** FPHC is actively participating in the design process for the new Pleasant Hill Library, which will be built on Oak Park Blvd. adjacent to Grayson Creek. Key objectives include creating connections between the library, nearby schools, and the creek as well as optimizing opportunities for open space, outdoor education, wildlife viewing, and a multi-benefit green corridor. We are excited that plans for the library, released in 2018, include a creekside trail, nature-oriented programming, and native habitat gardens.

Connect with FPHC:

Website: www.pleasanthillcreeks.org

Facebook: @PHcreeks

Email: pleasanthillcreeks@gmail.com.

FRIENDS OF SAN RAMON CREEK

PROGRAMS

In cooperation with the Danville Library, we advertised and helped present two speakers in the Danville Library in September and October. We participated in activities of the Walnut Creek Watershed Council, including support for a regional symposium focusing on invasive species at DVC on October 4th.

EARTH DAY

Working with East Bay Regional Park District naturalists and several Danville groups and individuals, we provided a table at Earth Day on April 21 next to San Ramon Creek at the Danville Green.

CREEK WORK

Arundo infestations were a major focus for the Friends of San Ramon Creek this year. Training on *Arundo* removal and several removal projects were addressed next to the creek behind the SRV Methodist Church. This work spanned 5 work days, thanks to about 50 volunteers.





2018 was a big year for the Walnut Creek Watershed Council. Elissa Robinson with the Contra Costa Resource Conservation District staffs the Council and has facilitated the *Arundo* work throughout the watershed that you have read so much about in this year's report. On top of that, there is the regular business of running the Council.

We held five regular meetings with a wide variety of presentations:

Bonnie Hazarabedian, Silverado Council, Boy Scouts of America, shared how Council members can better partner with the Scouts and increase participation in the Eagle Scout candidacy projects.

We had a field trip to the community of Rossmoor, where we toured their creek restoration site, learned about the project, and Beverly Lane, Friends of San Ramon Creek, shared what life was like in the valley prior to colonialization.

There was a presentation from Save Mount Diablo on their restoration project at Mangini Ranch.

Rounding out the year, we had a series of outreach events focused on our work to eradicate *Arundo donax* from the watershed.

In 2019, we look forward to making more progress on eradicating *Arundo* and growing our role as a watershed council.

FINDING ARUNDO DONAX

FINDING SOME ARUNDO IS EASY

When the Walnut Creek Watershed Council and Friends of San Ramon Creek began efforts to address *Arundo* in the watershed, their first question was, “How much *Arundo* is here?” They knew there was more *Arundo*, but they didn't know the extent of the invasion. The other important question was, “Where is it?” *Arundo* is easy to spot in person because it is very tall and is unlike anything else that grows along our creeks. Councilmembers reported seeing *Arundo* in multiple public locations. If they were going to address this problem on a watershed-wide scale, they first needed to establish a baseline of *Arundo* coverage in order to develop a plan to eradicate it.

FINDING A LOT OF ARUNDO BY “FLYING” OVER CREEKS ON A COMPUTER

In early 2018, volunteer Mike Anciaux proposed using aerial imagery and Esri's ArcGIS mapping system to identify and track patches of *Arundo*. Both ArcGIS Online and Google Earth provide aerial imagery with enough detail for a user to identify numerous *Arundo* patches. After pinpointing the creeks and tributaries on an online map, Mike zoomed in on the creeks and essentially “flew” over them on a computer screen. Using this method of analyzing aerial imagery, he initially found and mapped over 200 patches that appeared to be *Arundo*.

VISITING THE SUSPECTED PATCHES TO BE SURE

To verify whether the suspected patches were *Arundo*, Mike and a team of volunteers used ArcGIS's Collector App to geolocate the suspected patches in the field. Aerial identification guided the volunteers to areas where *Arundo* was likely to be found, so the volunteers inspected each suspected patch and used the Collector app to record their findings. Their field inspections proved that most of the suspected patches were indeed *Arundo*. They also found additional *Arundo* patches they had not expected to find. In the end, there were 350 sites identified in the mapping process. During ground-truthing, the team verified that there was *Arundo* on 266 of those sites. Throughout the watershed, all the *Arundo* combined equals an area of about 12 acres. Using ArcGIS Online and the Collector app, volunteers are continuing to record where *Arundo* is and other important information, including tracking the history and success of treatment efforts.

THERE IS MORE ARUNDO OUT THERE TO BE FOUND

Finding ALL the *Arundo* is much more difficult than finding some of it. There are over 300 miles of creeks and tributaries in the Walnut Creek watershed, and many of these are on private land. This makes inspection more difficult. Additionally, aerial identification does miss some of the *Arundo*. It cannot help us locate *Arundo* that is growing under tree cover, *Arundo* that has an unusual growth habit, or *Arundo* that was not present when the aerial image was recorded.

WALKING THE CREEKS TO FIND THE REST

In 2019, the team is using the same ArcGIS tools to prioritize and track the inspections of creek segments that have yet to be walked. Among the unverified creek segments, about 150 miles are in the hills, and this is unlikely habitat for *Arundo*. Remaining creek segments will have to be inspected by walking in the creek or from a nearby road or path. The team will be looking for additional “creek-walkers” to help them do this work in 2019. The Council plans to use the map of existing *Arundo* to aid volunteer, homeowner, public agency, and contractor efforts within the watershed and reestablish native vegetation. This is a huge task, but by working together, it is achievable.

ARUNDO IS GOING DOWN . . . BUT NOT DOWNSTREAM

The Walnut Creek Watershed Council's 2018 Efforts
to Stamp Out *Arundo donax*

What could Boy Scouts, engineers, college students, politicians, retirees, and a high school girls' volleyball team possibly have in common? They were all among the indispensable participants in the Walnut Creek Watershed Council's 2018 efforts to remove *Arundo* from local creeks. It takes a dedicated community of concerned citizens to tackle *Arundo*, and the Council led the fight on multiple projects. The results far exceeded the goals the Council set in early 2018.

WHY ARUNDO?

Arundo donax (also called giant reed or giant cane) is an invasive non-native plant that grows along creeks. It can grow four inches a day and up to a total height of thirty feet! *Arundo* consumes prodigious amounts of water and spreads aggressively—these qualities make it easy for *Arundo* to outcompete native plants for resources and space. The plant provides little food or habitat for insects, birds, and other wildlife. Adding insult to injury, *Arundo*'s encroachment on waterways can lead to flooding, and the plant poses a fire hazard.

In late 2017, Dick Heron of Friends of San Ramon Creek, along with a dedicated group of volunteers from the San Ramon Valley United Methodist Church, approached the Council for advice on how to address an *Arundo* invasion in part of San Ramon Creek. When Chair of the Council and Contra Costa Resource Conservation District Associate Director Bob Simmons heard this, he was inspired to address the issue on a watershed-wide scale. He worked with volunteers to identify and map *Arundo* throughout all five sub-watersheds. The Council resolved to raise awareness about *Arundo* and what can be done to stop its spread.

RAISING AWARENESS AND A CALL TO ACTION

On October 4th, 2018, the Council, the Contra Costa County Flood Control District (CCCFCD), and the Contra Costa Resource Conservation District (CCRCD) hosted a Creek Invader event at Diablo Valley College—the event brought together experts from around the region to share their knowledge of *Arundo* and how it impacts local creeks. More than 140 attendees learned about the dangers of *Arundo*, local efforts to eradicate *Arundo*, and related ways to restore the health of the watersheds in Contra Costa County. Fortified by the knowledge they gained, attendees were energized and ready to take action to stamp out *Arundo*!





HEEDING THE CALL

On October 20th, thirty-five volunteers came together at Hap Magee Park in Danville to tackle a large patch of *Arundo* along San Ramon Creek. The Council, the CCCFCD, the CCRCD, County Supervisor Candace Andersen, and Danville Mayor Newell Arnerich were joined by volunteers including local Girl Scouts and students from Diablo Valley College to cut down *Arundo* canes and transport them up the bank, out of the creek area. They took special care to ensure the removal process did not disturb the surrounding riparian habitat or spread *Arundo* to additional parts of the creek. Passing long *Arundo* canes to each other in bucket-brigade fashion, volunteers filled a 20-cubic-yard dumpster over the span of a few hours. Having filled the dumpster, the volunteers had to pause their efforts. They were proud of what they had accomplished, but they also acknowledged the truth about the remaining *Arundo*—there was more work to be done.

SEEING THE JOB THROUGH

As with all *Arundo* removal efforts, perseverance was required to finish the job at Hap Magee Park. On November 3rd, twenty volunteers, including Boy Scout Troop 239, continued the fight against what remained of the *Arundo* patch. Again, volunteers cut down *Arundo* canes and worked in bucket-brigade fashion to haul them away from the creek. On November 30th, the Restoration Trust completed the removal of the *Arundo* patch in San Ramon Creek. In total, the *Arundo* that was removed filled three 20-cubic-yard dumpsters!

SPREADING THE WORD TO FUTURE ARUNDO FIGHTERS

As a capstone to their 2018 efforts to stamp out *Arundo*, the Council led the creation of a new *Arundo* brochure. Educating people to recognize and fight the spread of *Arundo* is vital to eradication efforts. Many groups and partners were involved in the brochure's creation, and the Council is proud to present it to the public. It will be available in Spring 2019.

In 2019, the Council plans to continue outreach and volunteer events, including strengthening the partnerships with Diablo Valley College, California Invasive Plant Council, and community groups. The Council also plans to take action to address the *Arundo* problem at Civic Park in downtown Walnut Creek. The aim is to work with watershed groups to bring volunteers together to complete a project in each of the five sub-watersheds.

For more information about *Arundo* and the Council's work on *Arundo* eradication efforts, please visit:

CCRCD.org/wcwc





Save Mount Diablo

2018 Report



Mangini Ranch overlooks Clayton in this photo taken during an Integrated Pest Management workday.

Photo by: Roxana Lucero

Yellow Starthistle Removal in Galindo Creek:

Over 50 volunteers, from several schools and a local business, donated their time to target Yellow Star Thistle in Galindo Creek. The seeds germinate from fall - spring seasons and can stay viable for more than 3 years! This volunteer effort is a portion of our Conservation Collaboration Agreement program, where Save Mount Diablo partners with local businesses and schools to offer an outdoor educational experience for students.

Our Mangini Ranch property spans over 208 acres, has a variety of habitat types, including the headwaters of Galindo Creek. We have 3 dedicated Stewards who monitor the property several times a month, informing us of projects needed and overall status of the land. Here is a snap shot of some of the activities we did in 2018 to enhance habitat and native plant species on the property:



Students pull weeds in Galindo Creek in November to exhaust the seed bank prior to the germination season.

Photo by: Scott Hein

Endangered Species Habitat Management:

We partnered with a local rancher to graze the grassland portion of the property for fire abatement and to control invasive nonnative plant populations and promote native endangered species habitat.

Controlled Noxious Weeds:

Our Integrated Pest Management team, along with the East Bay Trail Dogs, helped control the population size of invasive weeds including Artichoke thistle, Mustard, and Stinkwort. These groups helped clear the headwaters of Galindo Creek, and increase the water table for native plants.

To learn more about the mentioned groups or programs or to get involved please visit Save Mount Diablo's website at www.savemountdiablo.org

2018 Watershed Activity Report

City of Walnut Creek



2,641 Volunteer Hours

Our volunteers maintained and care for the Creek Walk, Oak Woodland garden, our Open Space and creeks.

They developed the upper area of the Pollinator garden at Civic Park and installed a dry creek bed feature near Hanna Grove amphitheater at Borges Ranch to control erosion. Students used the Pollinator garden as part of their science activities to propagate seeds, annuals and native grasses.

Education and Programs

- Open Space ranger hosted a "Fire Defensible Spaces in a Grassland Neighborhood" workshop on how to protect properties from wildfires. Ranger-led activities included night and monthly hikes, Save the Frogs day, and birding programs.
- 268 elementary students and teachers attended Watershed Educational programs at Creek Walk to learn about terrestrial invertebrates, creek habitat and local watershed awareness.
- Walnut Creek TV created and produced Arundo Project public service announcement (PSA) in conjunction with the County Flood Control District and Friends of the Creek.
- Rehabilitation of the burned areas at Lime Ridge was underway with wattles installation on bare slopes to prevent erosion. Hydro-mulching was applied to prevent erosion and encourage native plant growth.
- Integrated Pest Management (IPM) policy was implemented on public facilities, parks and open space

We are proud to be an active participant of the Walnut Creek Watershed Council and support its mission and vision



www.walnut-creek.org/lesspesticides
www.walnut-creek.org/cleanwater

For volunteer opportunities, contact phpatrice@gmail.com

96% reduction of litter volume in creeks, storm drain inlets and on land

78 units of Big Belly solar compactors unit installed to-date

85% average compliance rate of plastic bag and polystyrene-based food service ware bans

4 times in 2018 the City conducted on-land visual assessments

159 trash capture devices installed to-date



CITY OF LAFAYETTE CREEKS COMMITTEE

The Lafayette Creeks Committee directed City-sponsored activities, and participated in projects sponsored by the Walnut Creek Watershed Council and BART.

- **Downtown Creeks Plan Implementation:** We applied for and obtained a \$189,700 grant from the East Bay Regional Park District Measure WW Urban Creeks program. The grant will allow the City to implement the First Street/Golden Gate Way project, which includes a LID rain garden, creek “icon,” and viewing areas with interpretive panels.
- **6th Annual Lafayette Creek Day:** Creek Day was held at Leigh Creekside Park on May 20, and focused on clearing the creek bank along the park of invasive plants (mainly annual grasses/weeds), trash and recyclables. About 30 participants, half of which were middle-school students, participated and also learned about natural creek processes and water quality protection.
- **Mapping of *Arundo donax*:** We contributed to the Walnut Creek Watershed Council’s mapping of *Arundo donax* patches. By outreach to City staff and community members, we added 7 new patches to the GIS map. We field-verified those 7 & more than 10 other “suspected” patches that initially had been identified from aerial photography.
- **LID at Lafayette BART station parking lots:** Permeable pavers and rain gardens (“low impact development”) are being constructed in 2 parking lots on the north side of the Lafayette BART station, as part of a major redesign of the station’s north entrance. The Creeks Committee collaborated with BART on an interpretive panel that explains the water-quality benefits of low impact development (LID).
- **Lafayette’s Earth Day Celebration:** Creeks Committee members staffed a booth during Lafayette’s annual Earth Day celebration on April 22. We discussed and answered questions on the Downtown Creeks Plan and its potential projects with interested community members. We also provided pamphlets, guides and child-oriented activities regarding creek maintenance and stormwater quality.
- **Trash Load Reduction:** The City of Lafayette achieved a municipal trash load reduction of 91.7%, as reported to the Regional Water Quality Control Board for the fiscal year ending in 2018. This reduction exceeded the City’s target under the stormwater NPDES permit.





FRIENDS OF THE CREEKS

We put on the 29th annual creek cleanup in May, removing 16 cubic yards of trash and vegetation.

A large group of volunteers sheet mulched an area to expand our restoration site in Civic Park. An Eagle Scout planted native grass in another area.

We participated in the Watershed Council's *Arundo* removal project in several ways – an interview for WCTV's video about the project (pictured right), an informational table at the evening presentation at DVC to inform the public about the benefits of removing *Arundo*, and four *Arundo* removal events.

Below, volunteers carry 20-foot *Arundo* canes to the dumpster during our *Arundo* removal project on Community Service Day.





TOWN OF DANVILLE

2018 Watershed Activity Report

SOIL PRESERVATION

Bi-yearly soil samples are conducted on all town maintained sports fields which allows the Town to respond to treatment programs designed to release nutrients for the turf to use.

NO PESTICIDES

No pesticides are used in maintaining approximately 200 acres of parks and 60 acres of roadsides and Oak Hill Park pond.

CRM TECHNOLOGY

The Town utilizes a Customer Relationship Management System allowing residents to quickly report issues and staff to quickly respond to spills, illegal dumping, creek and drain maintenance.

POND MAINTENANCE

The Town installed a UV lighting system to help fight bacteria in the Oak Hill Park Pond.

100% TRASH REDUCTION

The Town has achieved a 100% trash reduction goal set by the Regional Water Quality Board.

839 DRAIN INLETS INSPECTED

The Town inspected and cleaned 839 drain inlets. The Town maintains storm drains with “No Dumping, Drains to Creek” markers. Curb marker replacements are recorded by neighborhood.



CONSERVATION TRAINING

Maintenance workers began participating in training to identify local species habitats in Town creeks. Staff members are responsible for inspecting all creeks before any work is done to ensure no habitat is destroyed.

CREEK MAINTENANCE

The Town's Maintenance Services Department maintains the creeks through hand weeding without the use of pesticides.

FIGHTING BACTERIA

The Town's pond maintenance contractor started utilizing a new treatment in the industry based on placing charred logs in the Oak Hill Park pond and water outlet grates to naturally fight bacteria levels.

STRUCTURAL PEST CONTROL

Structural pest control is contracted out to an agency using Integrated Pest Management techniques.

PUBLIC OUTREACH

Public Outreach efforts included quarterly newsletter articles on recycling, landscape maintenance and promotion of Earth Day Events, Kids for the Bay, Water Our World Program and Bike to Work Day.

QUALITY CONTROL

Quality control testing of soil and water continues to be incorporated and monitored into our pond, creek and soil maintenance programs. The Town is committed to being pro-active in conserving the environment.



ARUNDO REMOVAL PROJECT

Arundo is the most invasive non-native plant in California creeks. This aggressive plant can grow four inches a day and up to 30 feet tall. They consume large amount of water and are a fire hazard.

Creek Invader Information Night

The District was excited to co-host the Walnut Creek Watershed Council's Creek Invader Information Night on October 4 at Diablo Valley College. The evening brought together experts from around the region to share their knowledge of invasive species and how they impact local creeks. Following the informative night, the District worked quickly to find and take down a stand of Arundo.

First Removal Event

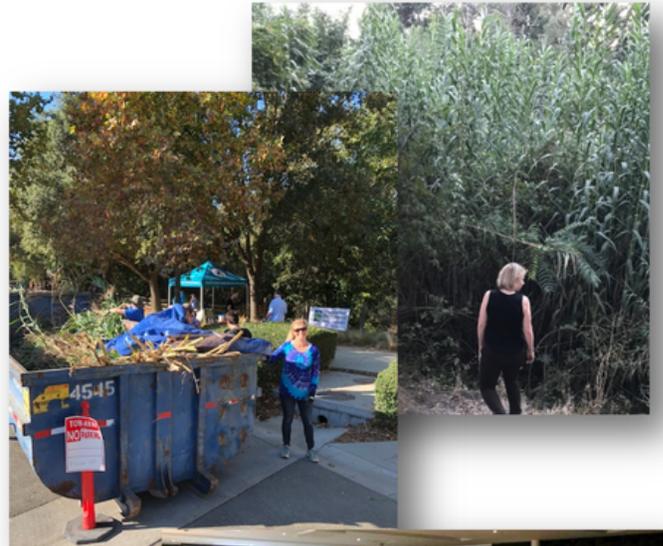
On October 20 Contra Costa County Supervisor Candace Andersen, Danville Mayor Newell Arnerich, the Walnut Creek Watershed Council, the Contra Costa County Flood Control District, the Contra Costa Resource Conservation District and volunteers from local Girl Scouts and Diablo Valley College kicked off the initiative to remove Arundo on San Ramon Creek at Hap Magee Park in Danville. Several hours were spent cutting down Arundo with hand tools and ensuring the removal process did not damage the riparian area. The waste filled one 20-cubic yard dumpster with waste management services donated by Republic Services.

Second Removal Event

On November 3 previous event volunteers and Boy Scout Troup 239 volunteers continued the battle against the same stand of Arundo on San Ramon Creek at Hap Magee Park. Boy Scouts clearly demonstrated that size does not matter when you have a plan.

The Finale

On November 30 The Restoration Trust completed the Arundo removal. Another full 20-cubic yard dumpster was filled during each clean-up.





2018 HIGHLIGHTS

During 2018, Contra Costa County Flood Control & Water Conservation District continued its strong push to better connect with community members across the county and provide the highest quality service.

Watershed Day at the Capitol

Five staff members visited six of our County Representatives in April as part of Watershed Day at the Capitol, thanking them for their support of SB231 which the Governor signed in October 2017. They also talked about the shortcomings of SB231, and the need for comprehensive funding for all stormwater management agencies in the State.



San Ramon Creek Work

In May, under guidance of the Department Fish and Wildlife, the District organized placement of a rock dam within the concrete channel portion of San Ramon Creek to ensure water flow into the natural section of the creek during the summer. Previously, plastic bags with sand were used but required removal at the end of each season. By using rock, the dam washed away with the first heavy rain storm and creates habitat downstream. We also held a clean up day in the concrete channel prior to the rainy season.



Creek and Channel Safety Program "Stay Out Stay Alive!"

The District assisted Walnut Creek Intermediate students with their 4th annual event in October warning about the dangers of going into creeks and channels. Students participated in a poster contest where the winners were awarded during a lunch rally along with a presentation from the County Fire District's Swift Water Rescue Team, including their gear and boats.



Looking to the Future...

The District completed the first public review and adoption of a Seven-year Capital Improvement Program.

The District received a third round of funding from the Department of Water Resources for a Stream Gauge, Flood Stage, and Outreach Project, in the amount of \$374,000 for surveying and modeling to determine the flood stage elevation on 12 of our 15 stream gauges - six of which are in the Walnut Creek Watershed.



LOWER WALNUT CREEK RESTORATION PROJECT

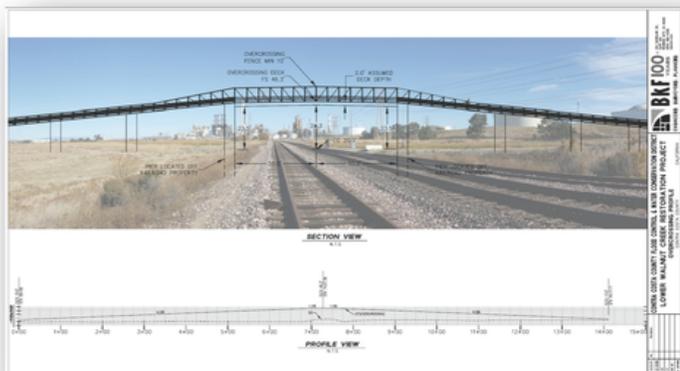
This past year marked the end of the planning phase and kicked off the design and permitting phase of the project.



Outreach

Lower Walnut Creek site tours continued project outreach through 2018. One particular tour included landscape architect graduate students from the University of Toronto, who had heard about the project and wanted to see it first hand when they were in the Bay Area. The project webpage received a comprehensive content update, featuring all nine Lower Walnut Creek Adventures videos on their own page and additional data on Pacheco Marsh.

In addition, the team unveiled the East Bay Regional Park District conceptual plans for the Ironhorse Regional Trail crossing of the BNSF Railroad at south end of the South Reach. The figure below shows a visual representation of the bridge over the railroad.



Final Engineering Design

In July 2018, 35% design plans were released, marking a significant milestone. Geotechnical analysis was completed to review existing data and compile lab results, furthermore, cross sections and subsurface profiles were developed to aid in geotechnical design of the new levees.

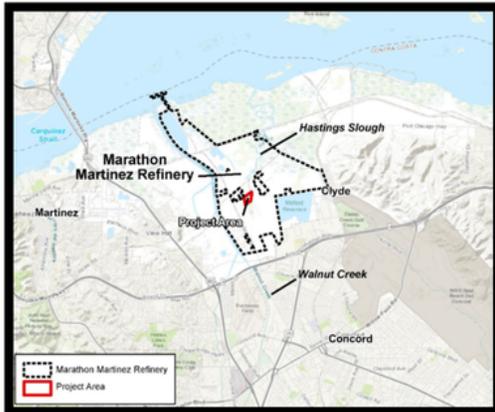
Throughout the remainder of the year the team continued to work on the 65% design and incorporate the comments from the 35% design into the plans. Updates to the design include: refining the channel density, length, and hydraulic geometry, refining the habitat area and updating the cut-fill balance. Workers also located buried utilities by using a giant vacuum (see photo). The 65% plan set is expected to be released for review in February 2019.



In September 2018, Paul Detjens and Eddie Devita (ESA) presented a well-received talk entitled “*The Lower Walnut Creek Restoration Project: Sustainable Flood Management and Ecosystem Restoration in Southern Suisun Bay*” at the 2018 Bay Delta Science Conference.



Hastings Slough Restoration at the Marathon Martinez Refinery 2018 Summary



The restored area is five acres within Marathon Petroleum Corporation's (MPC) Martinez refinery, adjacent to the Hastings Slough (see red mark on map, left). Previously, the area had been used as a landfill for refinery waste products.

Since 2011, the refinery has worked diligently to clean the area, restore aquatic and riparian habitats for wildlife and improve the water quality in the Walnut Creek watershed.

The refinery's 2018 goals for this area were achieved, as follows:

- Met final year (year 5) success criteria related to wetland and riparian vegetation and wetland hydrology, as established in the project permits
- Created a self-sustaining system that does not require further management
- Obtained U.S. Army Corps of Engineers (USACE) concurrence of successful performance

The refinery did face challenges with this project, as outlined below.

- Invasive plants are prevalent in the surrounding areas and have required on-going control (e.g., perennial pepperweed, bristly ox-tongue, and Bermuda grass)
- The area was hydroseeded the first year of the drought and everything was lost. The area was hydroseeded a second time and a sprinkler system was installed to ensure growth.
- Beavers have caused damage in the riparian zone, removing two willow trees, which were replaced



Since this project began, the refinery has:

- Excavated landfill wastes from low-lying wetland areas
- Restored .9 acres of seasonal and brackish marsh wetlands
- Created .8 acres of riparian habitat
- Planted native plants and shrubs in the restoration areas

The result? A self-sustaining wetland marsh plain, thriving native wetland and riparian plants have been established, which provide a habitat utilized by wildlife.





WALNUT CREEK
WATERSHED
COUNCIL

