

2022/2023 Napa County Stormwater Pollution Prevention Program: Public Education, Outreach, Involvement and Participation



Prepared for
Napa Countywide Stormwater Pollution
Prevention Program



Prepared by
Napa County Resource Conservation District

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Introduction

Under contract with Napa County Flood Control and Water Conservation District (FCD), which acts on behalf of the Napa Countywide Stormwater Pollution Prevention Program (NCSPPP), Napa County Resource Conservation District (RCD) assists in implementation of the *Public Education, Outreach, Involvement, and Participation Strategy* (Strategy) adopted by NCSPPP in June 2015. The programs and projects implemented in accordance with the Strategy focus on addressing specific, high priority, local, and regional water quality issues and/or pollutants of concern and associated target audiences. Opportunities for public involvement and participation are provided as a matter of course through NCSPPP, and supported activities encourage volunteerism, public comment and input, and activism to improve water quality. In addition to the activities reported herein, which reflect those activities conducted through NCSPPP, each member municipality of NCSPPP also conducts education and outreach efforts individually.

In summary, RCD coordinated a variety of community engagement programs which reached 21,616 community members, volunteers, and youth, and removed over 7,181 lbs. of pollutants (Table 1).

Table 1. Summary of Activities

Program	People Reached	Lbs. Pollutants Removed
Youth Education	756	
Community-Wide Cleanup Days	528	5,840
Trash Collection Coordination	294	1,341
Tabling at Community Events	1,481	
Public Involvement and Participation	5,607	
Digital Engagement	12,950	
Total	21,616	7,181

Youth Education

Provide pollution prevention programs and place-based experiential education opportunities to school-aged children.

Program Overview

The Youth Watershed Education Program is a free pollution prevention engagement opportunity offered to all Napa County K – 12 schools and afterschool groups. The program is promoted to teachers and staff in all Napa County school districts including: Napa Valley Unified, St. Helena Unified, Calistoga Joint Unified, Pope Valley Union, and Howell Mountain Elementary School districts.



McPherson students sorting litter during a walking field trip to a neighborhood park.

Teachers are offered in-class presentations along with extension opportunities, such as field trips and service-learning projects that further engage students in watershed education and stewardship. Examples of activities during extension opportunities include visits to Napa River riparian and wetland parks, nature exploration, observation and journaling, school garden activities, and campus clean-ups and litter surveys.

In an ongoing effort to craft equity-focused opportunities for meaningful youth development and pollution prevention behavior-building, RCD staff are evaluating and redesigning the watershed education program in the following ways:

- Utilizing a third-party program evaluator to observe field trips and class presentations, and to collect and reflect data and feedback to staff.
- Defining realistic outcomes for students based on time spent learning in and about their local watersheds.
- Designing relevant activities to meaningfully engage students.
- Increasing overall amount of time with students, moving away from single class presentations and towards multiple touchpoints.
- Increasing student time spent outdoors as a core component of watershed education.

- Partnering with the American Canyon Community & Parks Foundation (ACCPF) Watershed Explorers program to increase capacity to serve entire grade levels for multiple experiences.

As part of this process, staff met regularly with program evaluator and education consultant Carrie Strohl, The School Garden Doctor (Program Evaluator) to establish realistic outcomes that are appropriately linked to time spent positively engaging with nature and the environment, and the development of pro-environmental behaviors among youth participants.

By increasing overall time spent with students, staff are better able to impact, measure, and evaluate students' base knowledge of watershed health and their intentions to take positive environmental actions (pollution prevention).



RCD staff leading students through watershed definition activity.

Outreach

To pilot the new program design, staff performed targeted direct outreach to teachers with existing relationships with RCD programming or who have participated in the FCD SWPP program in previous years (Table 2).

Table 2. Watershed Education Outreach Summary

Date	Outreach Method	Audience	City
9/1/22	Direct Email	Foothills Adventist Elementary	Angwin
9/1/22	Direct Email	Silverado Middle School	Napa
9/13/22	Direct Email	Calistoga Elementary	Calistoga
9/15/22	Direct Email	Northwood Elementary	Napa
9/26/22	Direct Email	McPherson Elementary	Napa
10/24/22	Direct Email	Alta Heights Elementary	Napa
10/28/22	Direct Email	Canyon Oaks Elementary	American Canyon
12/5/22	Direct Email	Napa Junction Elementary	American Canyon

Implementation

RCD provided education programs to a total of 29 classes and 756 students. As part of the new curriculum design, multiple experiences were delivered to the majority of participating classes. 23 classes and 663 students participated in 2 experiences including 22 class visits, 19 on-campus outdoor learning opportunities, and 14 field trips to local parks (Table 3).

During class visits, students were introduced to the rich biodiversity of Napa County and the habitat needs and roles of native species. Students were provided nature journals to support their practice of observation, inquiry, and synthesis skills.

Nature observation and journaling activities help to engage more senses, sustain and focus attention, tap into a variety of learning modalities, and are practices that help bring students into the moment. During outdoor learning opportunities and field trips, staff led students through a sequence of watershed education activities including native plant sketching and labeling, habitat hikes, habitat modelling, plankton study, and defining connections between human health and the surrounding environment.



Canyon Oaks students complete entries in their nature journal.

Table 3. Watershed Education Experience Summary

School	# of Presentations & Field Trips	Students	# of Classes	Grade Level	City
ACCPF Eco Explorers Camp	3	9	1	3 – 6	American Canyon
Calistoga Elementary	6	54	3	4	Calistoga
McPherson Elementary	2	34	2	1	Napa
Alta Heights	2	44	2	K	Napa
Napa Junction	2	64	2	4	American Canyon
Foothills Elementary	1	6	1	K – 3	Angwin
Canyon Oaks	4	112	4	4	American Canyon
Northwood Elementary	6	75	3	3	Napa
Donaldson Way	5	92	3	3	American Canyon
Silverado Middle	24	266	8	6	Napa
Total	55	756	29		

Student Evaluation

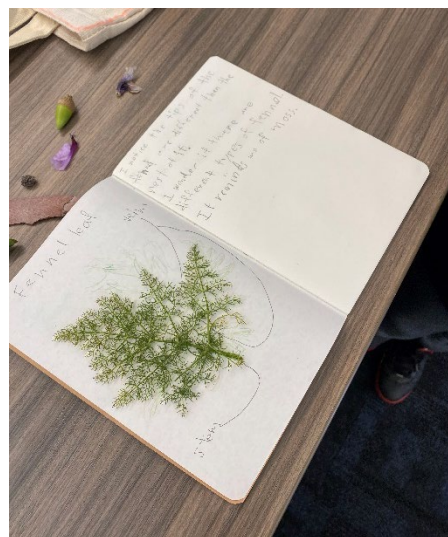
In a shift towards more equitable and meaningful program evaluation and design, staff focused on extended experiences and the following survey methods: documenting student engagement and behaviors, photographing student's work, routinely debriefing with staff, and gathering teacher feedback.

During field trips, staff documented observations to further assess student attitudes, behaviors, and responses. This exercise provided valuable data to debrief and adjust activities to increase student engagement or better reach program goals. This is a useful method to record student behavior such as noting students were 'physically antsy' during certain activities, or when students exhibited 'group behavior' during an evaluative activity. Field notes provide useful feedback and insights for evaluation meetings to continually adapt the program for student relevance. Staff were also able to capture positive reactions from students such as this quote from a 3rd grade student during an exploratory journaling activity at Alston Park, "I like school now," an example of a simple but informative statement about how a student was engaging with an activity.



Northwood students recording observations during a field trip at Alston Park.

Transitioning into the 2023-24 school year, our goals are to further refine our evaluation strategy to gather student-level data that will inform program design and delivery. This may be accomplished by defining student outcomes for the stormwater education program, to readily notice movements in student understanding or behavior. Future student-level outcomes can include parameters such as self-initiated curiosity about nature, sustained attention time in nature, number of student questions, and positive and negative interactions with nature. This year, staff developed a system for tracking student-level data during or immediately following field trips. Tracking this information across experiences and over time will give us a better understanding of overall program effectiveness as it relates to the goals of NCSPPP.



Example from a student's nature journal.

Community-Wide Cleanup Days

Coordinate and implement annual Coastal Cleanup Day and Earth Day Napa Cleanup events



Teen Conservation Interns Solis Anguiano and Xiara Diaz hosted our Napa County Library site for Earth Day 2023.

Napa RCD staff coordinated and facilitated multi-site cleanups for 2022 Coastal Cleanup Day (CCD) and 2023 Earth Day Napa Community Cleanup (EDN). To prepare for our large multi-site cleanups, Napa RCD coordinates with experienced volunteers and individuals from partnering non-profits, private companies, and government agencies to serve as on-site captains for volunteers at-large. Some site captains bring their own volunteers, such as Girl Scouts or Napa Valley CanDo.



Jeff Skinner of FCD hosted a site at South Jefferson Wetlands with his two daughters!

To attract participants for CCD and EDN, print and digital ads were purchased through the Napa Valley Register and Napa Valley Marketplace Magazine. Combined, campaigns reached a total of 228,620 impressions. Napa RCD also advertised the cleanups through press releases and summaries presented to the Napa Valley Register, Napa RCD newsletter pieces, social media posts, paid social media ads, and follow-up thank you emails.

In addition to key individual volunteers, Napa RCD coordinates and plans event logistics with partner organizations. Partner organizations and their contributions to the event are listed below:

- FCD evaluates potential cleanup sites to ensure site safety and access.

- Napa Recycling and Waste Services (Napa Recycling) coordinates waste hauling/disposal and large-scale outreach through bill-inserts.
- Napa Valley CanDo helps conduct event outreach and volunteer recruitment.
- City of Napa approves permits and allows safe access to many cleanup sites.
- Environmental Education Coalition of Napa County includes the Earth Day Napa Community Cleanup in their press releases and advertising.

CCD and EDN data, including number of volunteers and pounds of trash removed, are reported through the crowd-sourced CleanSwell mobile phone app. CCD data is also reported directly back to the California Coastal Commission (CCC).

The CCC developed the visual theme for CCD, and a campaign that encouraged participants to do what they felt comfortable with- either to stay close to home and clean up their neighborhoods or to join a pre-pandemic style group cleanup. 2022 CCD turnout in Napa County was 349 volunteers, which is an increase over participation in 2021. Similar to last year, participation throughout the state was generally lower than pre-COVID numbers. Napa County's 10-year average turnout is 403 volunteers.



Long-time volunteer Betty Labastida again hosted the Downtown Napa Site for both CCD and EDN

2023 EDN followed the format of our traditional large-scale community cleanups and hosted 179 volunteers at 9 locations, including students and corporate groups. While the total number of EDN volunteers decreased from 2022, they collected a total of 1,464 pounds of trash.

This year, Napa RCD had two Teen Conservation Interns supporting Clean-Ups by developing educational graphics, outreaching to community groups, and serving as site captains for EDN. We worked with two separate community groups and had a larger-than-normal turnout at that location this year, with 50 people in attendance at that site.

In total, CCD and EDN had a total of 528 volunteers that removed 5,840 pounds of trash from Napa County watersheds (Table 5).

Table 5. Community-wide Cleanup Summary

Date	Event	Volunteers	Lbs. Removed		
			Landfill	Recyclables	Compost
	Coastal Cleanup Day (19 Sites)	349	3,703	587	86
	Earth Day Napa (9 Sites)	179	735	468	261
Total	2 Events	528	4,438	1,055	347

Trash Collection Coordination

Coordination, Communication, and Support of Waterway Keepers and Voluntary Community Group Cleanup Activities

Napa RCD coordinates Waterway Keepers (WWK), a coalition of non-profits, private groups, and government agencies which aims to coordinate multiple cleanup events each year. Trash collection data is tracked by Napa RCD and made available to elected officials, stakeholders, and public works agencies as requested. All volunteers are guided in stormwater pollution prevention lessons which convey the hazards of pollution to waterways and explore possible solutions.

Napa RCD hosted 15 cleanups which engaged 294 volunteers in the removal of 1,341 pounds of waste from Napa County creeks, streets, and waterways (Table 6).

4 cleanups were coordinated with schools and 7 were with groups such as Sustainable St. Helena, ECOS, Far Niente Winery, and other corporate and nonprofit organizations.



Sorting cleanup trash with volunteers from Congregation Beth Shalom

Napa RCD was invited to join Napa Sanitation District (NapaSan) and Napa Recycling for their full-day field trips for local schools. Students visited NapaSan for a tour of the treatment plant followed up by a visit to Napa Recycling's compost and recycling facility before heading to Kennedy Park. Students then worked with Napa RCD staff to reinforce lessons learned at Napa Recycling and NapaSan, as well as learning about historic litter trends throughout the history of cleanups in Napa County and waste issues throughout the world. Students then did a short cleanup at Kennedy Park and worked together with Napa RCD staff to properly sort and dispose of what they found. During this year, the three-way partnership felt successful from the perspective of all three organizations, with positive feedback coming from teachers and students, as well. We expect that this program will continue with our participation during the next fiscal year at a larger scale.



The Executive Team from ECOS joined us at the Oxbow for a cleanup. Their enthusiastic team removed 246lbs of waste!

Table 6. Waterway Keepers Summary

Event			Lbs. Removed		
Date	Location	Volunteers	Trash	Recyclables	Compost
7/10/22	Oxbow	10	10	11	1
7/16/22	Kennedy Park	35	129	30	11
8/20/22	Sulphur Creek	12	100	80	2
10/22/22	Hartle Court	11	74	25	4
1/19/23	Hartle Court	10	159	40	12
2/5/23	Oxbow Commons	17	72	14	2
2/18/23	Oxbow Commons	6	44	9	7
3/7/23	Kennedy Park	15	5	2	1
3/8/23	Kennedy Park	23	7	2	1
3/17/23	Kennedy Park	30	7	2	1
4/11/23	Kennedy Park	26	10	2	2
4/15/23	Fuller Park	18	8	3	2
4/19/23	Oxbow Commons	12	201	43	2
4/19/23	Napa River Trail	20	104	67	4
6/28/23	Fuller Park	49	24	2	3
Total	15 Events	294	954	332	55

Tabling

Conduct pollution prevention outreach and messaging at community events throughout Napa County

Tabling occurs at partner events where staff directly outreach to residents and community members to deliver information, programs, and messages related to stormwater pollution prevention.

Staff conducted pollution prevention outreach and messaging at 6 events throughout the County, reaching 1,481 people (Table 7).



Gabe invites students to vote on their 'Pollution-free farms and communities of the future' at Ag Day.

Table 7. Tabling Summary

Date	Event/Activity	People Reached	City
8/20/22	Calistoga Waterwise Expo	25	Calistoga
8/26/22	Calistoga Back to School Night	200	Calistoga
10/15/22	Napa Recycling Open House	80	Napa/ American Canyon
3/9/23	Ag Day	736	Napa
3/30/23	Domaine Carneros Sustainability Fair	25	Napa
4/23/23	Earth Day Napa	415	Napa
Total	6 Events	1,481	

Public Involvement and Participation (PIP)

Engage the public in countywide pet waste pathogen, mobile/outdoor car wash, and stormwater pollution prevention activities

The NCSPPP's Public Education, Outreach, Involvement, and Participation Strategy calls for development and implementation of pollutant-specific outreach plans for local pollutants of concern and regional water quality issues. RCD staff and the Countywide Stormwater Program Manager continue to implement strategic campaigns to involve residents in preventing pollution from pet waste pathogens (PWP) and outdoor car wash pollutants.

PWP are a significant pollutant of stormwater and waterways, affecting every community in Napa County and beyond. Domestic pet waste is a significant source of pathogenic bacterial pollution in local waterways that can adversely affect the health of humans and wildlife. In 2015, RCD prepared a source-specific strategy to understand the extent of PWP and the public perception, attitude, and behavior of people related to PWP. The strategy aims to assess, evaluate, and reduce contamination of local waterways due to unmanaged pet waste.

Multiple modes of outreach were utilized to engage communities in participating in, preventing, understanding, and abating pet waste pollution. Outreach opportunities

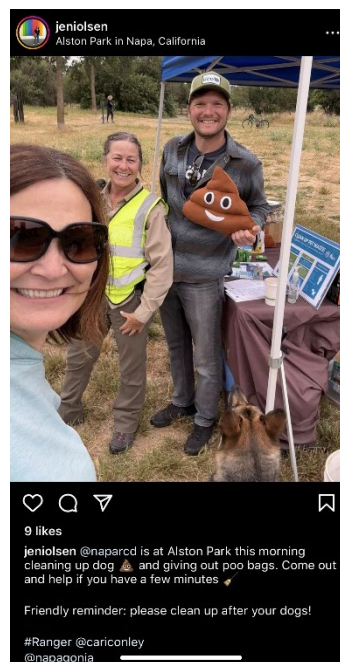
included: an ongoing social media campaign for residents to participate in a PWP survey, in-person public outreach events, and park pop-ups at popular dog-friendly parks.

Members of the public were encouraged to participate in the PWP survey through a social media campaign with an incentive to win a pet portrait from a local artist.

Additionally, RCD has established a partnership with Napa County Animal Shelter, supplying the Shelter with pet waste bag dispensers and pollution prevention information to pet adopters.

PWP Outreach

RCD coordinated or participated in 10 public participation events or activities, engaging 5,607 people and giving away 881 pet waste leash bag dispensers and 1 pet portrait (Table 8).



A visitor posted about her encounter with the PWP Park Pop-Up crew on Instagram.

Table 8. PWP Outreach Summary

Date	Event/Activity	People Reached	Dispensers Distributed	City/Region
8/7/22	Napa Humane Walk 4 Animals	116	45	Napa
10/5/22	PWP Article – RCD eNewsletter	1,825		Napa County
11/30/22	Napa County Animal Shelter	150	150	Napa County
2/2/23	PWP Article – RCD eNewsletter	2,512		Napa County
2/8/23	Napa County Animal Shelter	140	140	Napa
4/23/23	Earth Day Napa	415	180	Napa
6/17/23	Scoop Your Parks Pop-Up	30	20	Napa
6/20/23	Napa County Animal Shelter	331	331	Napa County
6/24/23	Scoop Your Parks Pop-Up	27	15	Napa
7/1/22 – 6/30/23	Pet Waste Surveys & Hot-Spot Reports	61		Napa County
Total	10 Events/Activities	5,607	881	

PWP Survey & Hot-Spot Reports

Visitors and members of the public participated in a countywide survey campaign to better understand public attitude, perception, and behavior regarding disposal and

pollution hazards related to pet waste pathogens. Additionally, the 'Report a Hot-Spot' form is available on a Google Site hosted by Napa RCD.

The survey was administered at in-person events and online through RCD's newsletter and social media posts. The survey is available in English and Spanish. To encourage participation, giveaways of a pet-portrait were offered to incentivize participation.

55 survey responses were collected in total. The 2022-23 survey results are presented in Table 9. Highlighted responses include:

- 98% identify as pet owners
- 44% identify pet waste as the largest source of bacterial pollution to the Napa River, while 38% don't know or are unsure.
- No respondents claimed to leave pet waste on the ground.
- 15% of respondents believe compost or yard waste bins are the proper disposal sites for pet waste, with 7% claiming to dispose of pet waste in compost.
- 9 respondents optionally mentioned a need for more signage at parks, trails and trailheads.
- 3 respondents optionally mentioned a need for additional waste bins and bag stations at parks.

When asked to report on areas with poop problems, a sampling of responses include: *"Westwood Hills," "Alston Park," and "end of Sierra – next to Garfield Park."*

6 visitors reported on hot-spots on the PWP Google Site; their responses include: *"Rita Ct," "Bike path next to Vintage Farm," "1000 block of Partrick Rd," "Corner of Harvest Lane and Salmon Creek," "Buhman ave between browns valley school & top of twin oaks," and "Inglewood Ave. in St. Helena."*

Additional comments indicate confusion among some residents and respondents about municipal yard waste and compost as an appropriate disposal site for pet waste, posing a potential opportunity for outreach and education via trash and waste service providers around Napa County.

Table 9. PWP Survey Data 2017-2023**Q1. Do you own a dog or cat?**

Response	2017-18 (n = 123)	2018-19 (n = 44)	2019-20 (n = 38)	2020-21 (n = 81)	2021-22 (n = 23)	2022-23 (n = 55)
Yes	104 (84%)	42 (95%)	30 (79%)	78 (96%)	23 (100%)	54 (98%)
No	19 (16%)	2 (5%)	8 (21%)	3 (4%)	0	1 (2%)

Q2. What is the largest source of bacterial pollution to Napa Co. waterways?

Response	2017-18 (n = 123)	2018-19 (n = 44)	2019-20 (n = 38)	2020-21 (n = 81)	2021-22 (n = 23)	2022-23 (n = 55)
Wildlife	11 (9%)	2 (5%)	4 (11%)	14 (17%)	2 (9%)	0
Pet waste	78 (63%)	36 (82%)	28 (73%)	41 (51%)	17 (74%)	24 (44%)
Don't know/not a problem	34 (28%)	6 (14%)	6 (16%)	26 (32%)	4 (17%)	21 (38%)

Q3. Dog and cat waste does not need to be picked up

Response	2017-18 (n = 123)	2018-19 (n=44)	2019-20 (n = 38)	2020-21 (n = 81)	2021-22 (n = 23)	2022-23 (n = 55)
True	9 (7%)	7 (16%)	0	7 (9%)	23 (100%)	2 (4%)
False	114 (93%)	37 (84%)	38 (100%)	74 (91%)	0	53 (96%)

Q4. Do you pick up after your pet?

Response	2017-18 (n = 123)	2018-19 (n = 44)	2019-20 (n = 38)	2020-21 (n = 81)	2021-22 (n = 23)	2022-23 (n = 55)
Never	6 (5%)	0	3 (9%)	3 (4%)	0	0
Some of the time	7 (6%)	1 (2%)	0	2 (2%)	0	1 (2%)
Most of the time	17 (14%)	5 (12%)	1 (2.5%)	9 (11%)	0	5 (9%)
Almost always	93 (75%)	38 (86%)	34 (89%)	67 (83%)	23 (100%)	49 (89%)

Q5. What is the safest place to dispose of dog and cat poop?

Response	2017-18 (n = 123)	2018-19 (n = 44)	2019-20 (n = 38)	2020-21 (n = 81)	2021-22 (n = 23)	2022-23 (n = 55)
Yard/Compost Bin	18 (15%)	5 (12%)	6 (16%)	11 (14%)	4 (18%)	8 (15%)
Garden Bed	3 (2%)	1 (2%)	1 (2.5%)	1 (1%)	1 (4%)	0
Left in place	1 (1%)	0	1 (2.5%)	2 (2%)	0	0
Garbage can	101 (82%)	38 (86%)	30 (79%)	67 (83%)	18 (78%)	47 (85%)

Q6. What do you do with pet waste?

Response	2017-18 (n = 123)	2018-19 (n = 44)	2019-20 (n = 38)	2020-21 (n = 81)	2021-22 (n = 23)	2022-23 (n = 55)
Throw away	105 (85%)	37 (85%)	30 (79%)	72 (89%)	20 (87%)	47 (85%)
Garden bed	0	1 (1%)	1 (2.5%)	2 (2%)	0	0
Compost it	7 (6%)	0	1 (2.5%)	5 (7%)	3 (13%)	4 (7%)
Garbage or compost	1 (1%)	0	1 (2.5%)	0	0	1 (2%)
Leave it alone	4 (3%)	0	1 (2.5%)	0	0	0
Bury it	6 (5%)	0	0	1 (1%)	0	0
No response	0	6 (14%)	4 (11%)	1 (1%)	0	0
Something else	-	-	-	-	-	3 (6%)

Clean Water Car Wash Campaign

Napa RCD offers consultation services to support community and school groups to host car wash events. A staff member can visit the proposed site, recommend preferred cleaning materials, such as water-less soaps, and arrange activities for diversion of soapy water to permeable surfaces and away from storm drains.

Digital Engagement

E-mail newsletters, webinars, and social media outreach activities

Digital media is a valuable and effective tool for reaching target audiences. This year, staff utilized the Napa RCD e-newsletter, social media accounts, and digital advertising through the Napa Valley Register to share information related to NCSPPP.

Engagements across our social media posts and e-newsletters totaled 12,950 likes, shares, views, and opens (Table 11).

It is difficult to quantify the amount of reach achieved when other organizations share our content via Instagram and Facebook Stories. Anecdotally, we are aware that most of our content gets shared.

Other forms of digital engagement included digital paid Facebook and Instagram ads for events and messaging. Napa RCD is working to establish the hashtags #KeepNapaClean, #CleanNapa, and #WaterwayKeepers to tag and identify photos and posts from these events.

The Napa RCD e-Newsletter has a series of segmented lists so that we can send emails that are targeted to specific stakeholders in the county including a general list, volunteer list, community and youth list, and student and parent list.

Table 11. Digital Engagement Summary

Instagram Outreach	# of Posts	People Reached	Likes, Shares, & Views
NPDES-Trash	8	11,616	356
NPDES-Cleanups	18	26,136	1,232
FCD PIP-Pet Waste Pathogens	1	1,452	10
Total	27	39,204	1,598

Facebook Outreach	# of Posts	People Reached	Likes, Shares, & Views
NPDES-Trash	9	19,035	85
NPDES-Cleanups	20	42,300	125
FCD PIP-Pet Waste Pathogens	1	2,115	3
Total	30	63,450	213

RCD Newsletter Outreach	# of Sends	People Reached	Emails Opened
NPDES-Trash	5	5,080	2,247
NPDES-Cleanups	13	16,683	6,816
FCD PIP-Pet Waste Pathogens	2	4,337	1,856
Total	20	26,100	10,919

Napa Valley Register Outreach	People Reached	Likes, Shares, & Views
CCD Digital Advertisement	73,510	120
EDN Digital Advertisement	73,510	100
Total	147,020	220