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December 11, 2023

TO: Each Supervisor

FROM: Mark Pestrella, 
Director of Public Works

Gary Jones
Director of Beaches and Harbors



Kevin McGowan
Office of Emergency Management



BOARD MOTION OF SEPTEMBER 12, 2023, AGENDA ITEM 16 PROTECTING SANTA MONICA BAY AND LOS ANGELES COUNTY BEACHES FROM TRASH AND POLLUTION

On September 12, 2023, the Board passed a motion instructing Public Works, the Department of Beaches and Harbors (DBH), the Chief Sustainability Office, and the Office of Emergency Management to report back within 90 days on the County's strategies and protocols to reduce trash and keep our beaches and waterways safe and clean, especially considering this coming season's expected El Niño conditions.

The intent of this joint report (attached) is to respond collaboratively to the concerns brought forth in the motion. The report summarizes ongoing County projects, programs, and policies dedicated to reducing trash and includes current State legislations and County ordinances that support trash reduction. Additionally, the report identifies potential opportunities for additional efforts, collaborations, increased communications during storm events, and further studies related to trash management. County forces remain committed to the Board-directed priority of Sustainability, as they aim to protect our local waters, beaches, ecosystems, habitats, and rich biodiversity. Regional water resources management practices support our dedication to advancing resiliency and improving the quality of life for the residents of Los Angeles County.

Recommendations

1. Public Works to continue to reevaluate the current operations of streets and storm conveyance systems, particularly during and prior to large storm events, and make as-needed improvements to prevent the accumulation and discharge of trash from these systems.
2. DBH to continue to reevaluate the current operations of beaches and make as-needed improvements to ensure that trash and debris are removed in a timely manner, particularly before and after large storm events.
3. Require all County departments to embrace the Zero Waste Plan principles and identify opportunities to enhance the implementation of Zero Waste Plan practices at County facilities.
4. Public Works to continue to enhance its anti-pollution education and outreach to County residents, businesses, and manufacturers to tackle trash at the source.

Fiscal Impact

There is no additional financial impact anticipated at this time. Public Works, DBH, the Chief Sustainability Office, and the Office of Emergency Management will assess their own operations and programs and will optimize efforts with current resources; and depending on the severity of the upcoming El Niño storm season and observations of trash, they will adaptively manage their efforts.

If you have any questions or need additional information, please contact me at (626) 458-4012 or mpestrella@pw.lacounty.gov.

ML:rc

Q Drive\Sec\2023 Docs\Board Reports\Santa Monica Bay & LA County Beaches

Attach.

cc: Department of Beaches and Harbors
Chief Executive Office (Fesia Davenport, Kevin McGowan)
Chief Sustainability Office
County Counsel

LOS ANGELES COUNTY PUBLIC WORKS

**PROTECTING SANTA MONICA BAY AND
LOS ANGELES COUNTY BEACHES FROM
TRASH AND POLLUTION**

December 2023



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ATTACHMENTS

Attachment A – Unincorporated County Catch Basin Retrofit Maps

Attachment B – Water for LA: Trash Travels Campaign

1. EXISTING TRASH REDUCTION EFFORTS

1.1 PROJECTS AND PROTOCOLS

1.1.1 CATCH BASIN INSERTS AND CLEANOUTS

Public Works operates and maintains over 80,000 catch basins under the jurisdiction of the Los Angeles County Flood Control District throughout the County. Routine maintenance activities involve scheduled cleaning of catch basins at least once during the dry season with additional cleaning in certain areas during the rainy season. Prior to rain events, Public Works actively monitors vulnerable areas and, when necessary, conducts targeted clean-outs on a case-by-case basis. This helps to prevent accumulated trash from entering waterbodies, as well as minimize potential flooding risks to the communities.

Watersheds in Los Angeles County are subject to various trash regulations, such as the Total Maximum Daily Loads (TMDLs) for Trash, a requirement of the Clean Water Act, and a State-wide trash regulation. These regulations prohibit the discharge of trash to waterways and the ocean. To meet these regulatory requirements, Public Works has installed trash capture devices, such as connector pipe screens (CPS) and automatic retractable screens (ARS), in catch basins within the County unincorporated areas. Over 5,580 catch basins have been retrofitted with these devices that enhance the levels of trash capture at existing catch basins; as such, the County is in full compliance with the trash regulations. Several other municipalities have taken similar measures within their jurisdictions. These devices have played a significant role in preventing trash from entering storm drains, which would have then ended up in downstream waterways. The images shown in Figure 1 below show typical trash capture devices installed in catch basins.

For District-owned catch basins outside of County unincorporated areas, the District has been collaborating with local municipalities to permit the installation of trash capture devices in District catch basins as well as cleaning of those devices.



(a) CPS



(b) ARS

Figure 1: Trash capture devices installed at catch basins

Please refer to **Attachment A** for maps displaying the locations of all catch basins within County unincorporated areas that have been retrofitted with trash capture devices.

1.1.2 TRASH BOOMS

Since the early 2000s, the District has been operating and maintaining trash booms near the mouths of the Los Angeles River and Ballona Creek. These trash booms are devices used for intercepting floating and semi-submerged trash and debris before it reaches the beaches and the ocean. In the past there were trash booms in other channels, but those booms were removed due to low effectiveness and/or operation and maintenance challenges.

The Los Angeles River trash boom is located near the Ocean Boulevard bridge in the City of Long Beach. This boom was installed in 2000 and designed to withstand typical flows, while bypassing the higher flows due to flooding concerns. On average, approximately 1,000 tons of trash and debris get intercepted by this boom annually.

The Ballona Creek trash boom is located between the Lincoln Boulevard and Culver Boulevard bridges near Marina del Rey. Like the Los Angeles River boom, this boom was designed to withstand typical flows. On average, approximately 10 tons of trash and debris get intercepted by this boom annually.

The trash booms are inspected weekly during the dry season and continually during the wet season, particularly following a storm event. Debris is removed following a storm event or when a sufficient amount of debris is accumulated. Figure 2 below from August 2023 shows the Los Angeles River trash boom.

The annual operation and maintenance cost of the trash booms is approximately \$2 million.



Figure 2: Los Angeles River trash boom

1.1.3 STREET SWEEPING

Public Works conducts street sweeping across a network of over 3,300 curb miles of roads throughout the County unincorporated areas. Street sweeping is an effective way of removing roadside trash and debris that would otherwise enter storm drains and eventually waterways. For the vast majority of County roads, street sweeping is conducted on a weekly basis. In some of the County's rural areas, street sweeping is conducted twice a month or on an as needed basis. In some areas adjacent to beaches and harbors, such as parking lots on County beaches and in Marina del Rey, an increased frequency of three times per week or more is implemented. This level of street sweeping frequency by the County is above and beyond the requirements of regulatory programs, such as the Municipal Separate Storm Sewer System (MS4) permit.

During and after storm events, Public Works personnel perform additional patrols of streets and monitor areas that are vulnerable to above average levels of debris. Additional removal of trash and debris is performed, as applicable.

On average, Public Works invests approximately \$14 million annually for street sweeping of all identified roads within the unincorporated areas, and tens of thousands of tons of trash are picked up through street sweeping on an annual basis. Details of Public Works' Street sweeping program can be found at <https://pw.lacounty.gov/rmd/streetsweeping/>.

Other municipalities within the County implement similar street sweeping programs.



Figure 3: Public Works street sweeper

1.1.4 BALLONA CREEK TRASH INTERCEPTOR™

The Ballona Creek Trash Interceptor™ Pilot Project is a public-private partnership between the District and The Ocean Cleanup, a not-for-profit organization, to help improve the water quality of Santa Monica Bay. The Trash Interceptor™ is a fully automated, solar-powered trash collection device designed to capture floating plastic, trash and litter before they reach the ocean. It is located at the mouth of Ballona Creek

near Marina del Rey. This project, a 2-year collaborative pilot project that began in October 2022, is the first of its kind in the United States.

Since its launch, the Interceptor™ has prevented more than 85 tons of trash and debris from reaching Santa Monica Bay and local beaches. During the recent Tropical Storm Hilary alone, over 16,000 pounds (8 tons) of trash and debris were captured by the Interceptor™.

Data gathered by the Interceptor™ during the 2-year pilot period will be analyzed using a set of minimum performance criteria that consider trash and debris capture, operability, cost, environmental effects, and social effects. Public Works plans to complete this analysis before exploring the feasibility of siting similar projects at other locations within the boundary of the District.



Figure 4: Ballona Creek Trash Interceptor™

1.1.5 LOW FLOW DIVERSIONS

Over the last 20 years, low flow diversions (also called dry-weather diversions) have been constructed along coastal watersheds to divert polluted urban runoff from the ocean into sanitary sewer for treatment. These low flow diversion (LFD) systems contain pre-treatment devices that physically trap larger debris and trash, preventing them from reaching the ocean. As such, LFDs have played a crucial role in improving the water quality of Santa Monica Bay during dry-weather periods.

There are over 35 LFDs along the Los Angeles County coastline, 21 of which are operated and maintained by Public Works. The remaining LFDs are owned and operated by the cities. On average, Public Works spends more than \$2 million per year for the operation and maintenance of LFDs. The Figure 5 map on the following page shows the LFD locations along the Santa Monica Bay coastline.

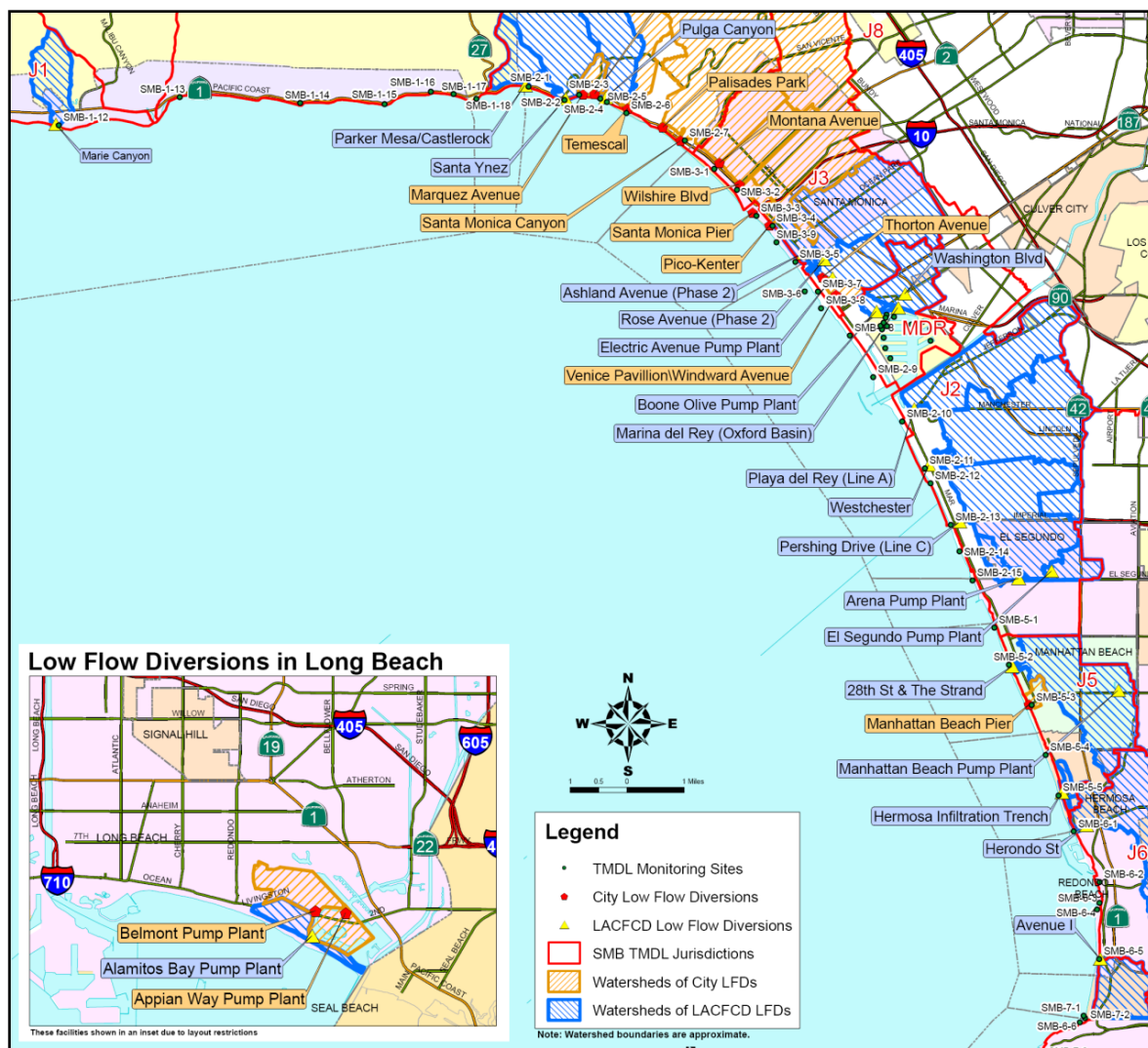


Figure 5: Location of Low Flow Diversions in Los Angeles County

1.1.6 MULTI-BENEFIT PROJECTS, INCLUDING SAFE, CLEAN WATER PROGRAM PROJECTS

As part of the Board established Unincorporated Area Stormwater and Urban Runoff Quality Program, Public Works is implementing various stormwater quality improvement projects throughout the County to meet the requirements of the MS4 Permit and TMDLs and intercept pollutant-laden stormwater and urban runoff from being discharged into our local waterbodies and ocean. Many of these projects are large scale and multi-purpose. The projects often incorporate the following benefits: water quality improvement, water conservation, and community enhancement through recreational and educational

opportunities. Trash is one of the key pollutants being addressed as part of the water quality improvements of these projects.

Over the last 5 years alone, the County has completed the following regional multi-purpose projects with a cost of over \$125 million:

Project	Watershed	Cost (\$)
Compton Creek Stormwater and Urban Runoff Capture and Reuse Project at Earvin Magic Johnson Park	Upper Los Angeles River	\$73M
East Los Angeles Sustainable Median Stormwater Capture Project	Upper Los Angeles River	\$37M
Franklin D. Roosevelt Park Regional Stormwater Capture Project	Upper Los Angeles River	\$14M
Gates Canyon Stormwater Improvements Project	Malibu Creek	\$12.7M
Ladera Park Stormwater Improvements Project	Ballona Creek	\$10.2M

The following projects with a total cost of over \$130 million are currently either under construction or expected to commence construction soon:

Project	Watershed	Cost (\$)
Adventure Park Multi-Benefit Stormwater Capture Project	Upper San Gabriel River	\$41.3M
Alondra Park Multi-benefit Stormwater Capture Project	Dominguez Channel	\$70.3M
Monteith Park and View Park Green Alley Stormwater Improvements Project	Ballona Creek	\$12.2M
Walnut Park Pocket Park/Nogales Park Stormwater Capture Project	Upper Los Angeles River	\$7.5M

Several additional projects are currently in the design and planning phases. Further, similar projects are being implemented by other municipalities, to which both the County and District are contributing tens of millions of dollars. The Figure 6 map below shows the locations of these projects throughout the County.

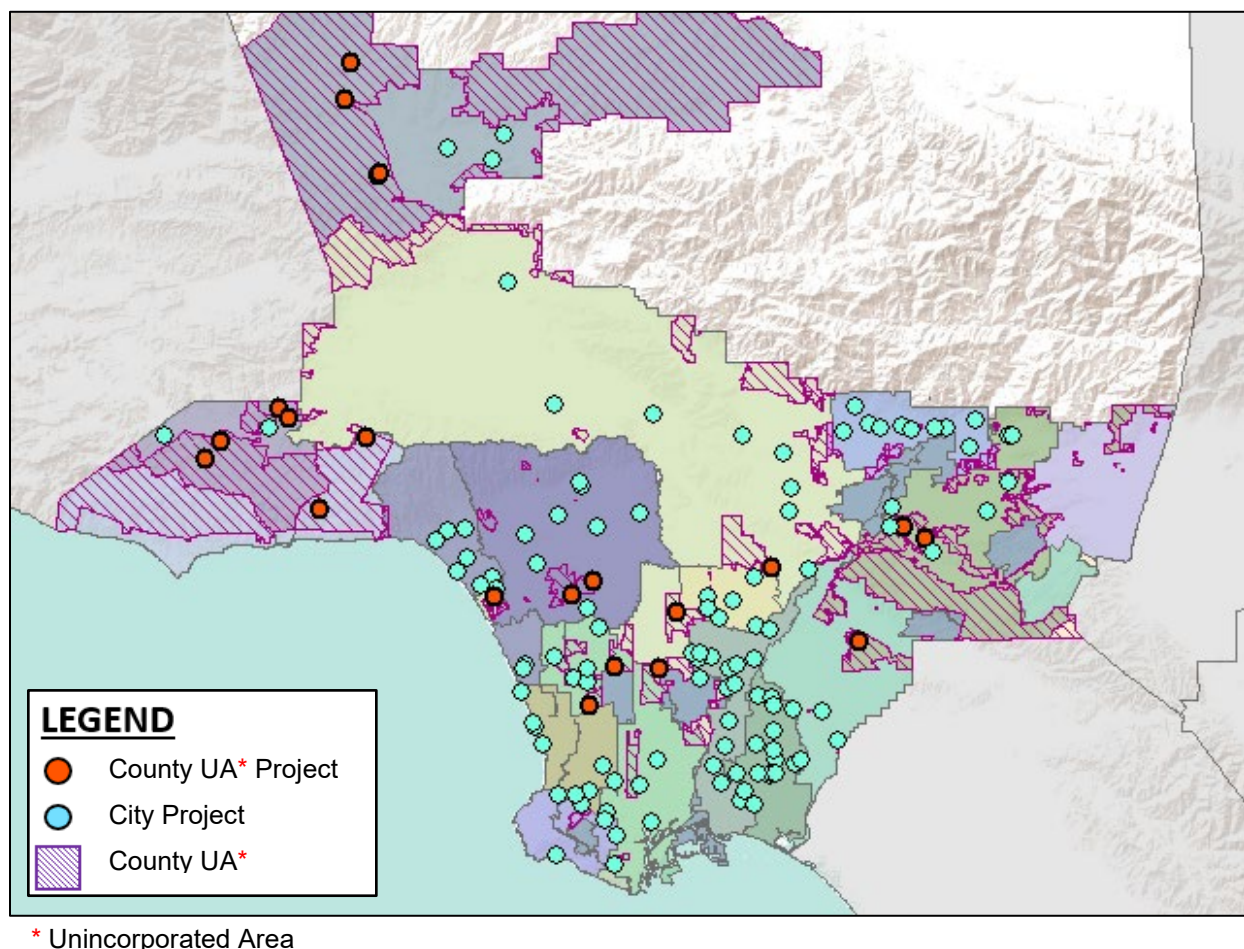


Figure 6: Location of regional priority projects throughout Los Angeles County

The Safe, Clean Water Program (SCWP), which was established following the passage of Measure W by Los Angeles County voters in 2018, is the primary source of funding for many of the aforementioned regional stormwater projects. The SCWP generates approximately \$285 million per year and provides a dedicated funding source for projects that improve water quality. Since its inception, the SCWP has awarded \$884 million in funding for more than 125 infrastructure projects, the majority of which help capture trash and other pollutants, and prevent them from reaching the waterways and the ocean. As such, the continued implementation of these projects is paramount.

1.1.7 BEACH MAINTENANCE

The Department of Beaches and Harbors (DBH) is the agency responsible for cleaning all County-owned beaches. DBH also cleans city-owned beaches that are under maintenance agreements with the County. Several hundred trash receptacles are provided at the beaches and these receptacles are routinely emptied. Routine sanitation of beaches is also performed to remove trash that is not properly placed in the receptacles.

Following a storm, DBH assesses the state of its critical facilities and the conditions of beaches, and then deploys a tiered cleanup protocol, first and foremost prioritizing public safety. Post-storm cleanup is performed using a combination of heavy equipment and manually operated rakes, depending on the availability of equipment and operational conditions. The wide swaths of beach where members of the public congregate are cleaned first. Ground Maintenance Workers are tasked with manually removing loose debris on the beach and smaller amounts of litter along the tideline.

When an extraordinary event, such as Tropical Storm Hilary, occurs and, to varying degrees, impacts all 18 beaches DBH operates, staffing is adjusted to address the damage based on reasonably prioritized needs across all beaches. Depending on the magnitude of the storm, DBH may not have the capacity to handle storm-related cleanup promptly and concurrently at multiple locations.

DBH must also take into consideration the impacts of post-storm cleanup operations on coastal wildlife and generally attempts to minimize the use of heavy equipment in wet sand so as not to disrupt marine life and habitat. For example, Tropical Storm Hilary struck at the end of the grunion mating season and, before using any heavy equipment, DBH had to confirm with biologists where this species was active to minimize its risk of harm. All these efforts are improved by partnership with non-profit, academic, community, and businesses focused on stewardship of our waterways and beaches.

In addition, DBH clears storm drain outlets at beaches prior to storms to ensure that storm flows from inland areas can drain into the ocean without flooding the beaches, thereby reducing the potential for storm-related debris accumulation on the beaches.

1.2 PROGRAMS

1.2.1 PUBLIC EDUCATION AND OUTREACH

1.2.1.1 CLEANLA

In 2009, Public Works established an internet-based waste diversion outreach program called Clean LA (www.CleanLA.com). This program provides outreach to residents, businesses, institutions, and local governments throughout Los Angeles County. Under Clean LA, Public Works manages various programs that promote recycling and waste reduction, including:

- Organic Waste Management – aims to keep organic waste, such as food and compostable materials, away from landfills to reduce greenhouse gas emissions that contribute to climate change.
- Reduce, Reuse, Recycle, Rethink (four Rs) – aims to educate the public on ways to minimize waste production and maximize recycling efforts.
- Trash Collection/Illegal Dumping – provides solid waste collection services.
- Household Hazardous Waste/Electronic Waste – provides free collection of hazardous materials, such as cleaning supplies, batteries, paints, pharmaceuticals, and electronics.
- Tire Recycling – provides outreach and education on tire issues, conducts waste tire collection events, and constructs demonstration projects featuring practical uses for recycled tires.

The aforementioned programs play a tremendous role in preventing the release of trash and other pollutants to the environment.

1.2.1.2 WATER FOR LA

Water for LA (www.waterforla.lacounty.gov) is Public Works' outreach and education program on water related matters. It serves as a trusted resource on all things water in the region, including stormwater quality, water conservation and supply, flood risk, and

climate change. The program uses various avenues for outreach, including social media, video, radio, television, and billboards.

Under Water for LA, multiple outreach programs have been conducted regarding stormwater quality and trash.

- In 2019, a "Trash Travels" campaign was conducted with a focus on the Ballona Creek watershed. The campaign utilized billboards, bus stops posters, digital and print ads, bike trail signs and educational brochures. The campaign garnered over 13 million impressions. **Attachment B** provides a detailed summary of this campaign.
- In 2021, the "Don't Waste Beautiful" campaign was conducted focusing on ending litter. This campaign utilized digital display, video, social media, print ads, and bus ads. The campaign garnered close to 40 million impressions. YouTube link: <https://www.youtube.com/watch?v=eBwqFrOxeg0&t=10s>
- In 2022, the "My Journey with Water" campaign was conducted with a focus on water conservation and stormwater pollution prevention, such as sweeping sidewalks of debris rather than hosing them down with water.

1.2.1.3 SCHOOL OUTREACH

Public Works provides educational materials to students in K-12th grade through two Countywide school environmental education programs, the Environmental Defenders (ED) and Generation Earth (GE).

The ED program inspires K-6th grade students to protect the environment utilizing online pre-recorded and in-person interactive and high energy assembly presentations. Topics covered in the presentations include waste reduction, stormwater pollution prevention, proper disposal of household hazardous waste, the four Rs and water conservation.

The GE program provides environmental education to 7-12th grade students by working with school educators to encourage students to engage in environmental service-learning projects focused on stormwater pollution prevention, stormwater capture, recycling, and

composting. The GE program offers lesson plans for teachers, and online and in-person teacher workshops.

1.2.2 ILLEGAL DUMPING AND ENFORCEMENT

Recognizing the danger that illegal dumping activities pose on public health and safety as well as the environment, Public Works currently maintains a website (<https://pw.lacounty.gov/epd/illdump/>) that serves as a portal for both information on anti-dumping and for residents to request clean-up of illegally dumped items in County unincorporated areas. Requests can be made via phone (888-8DUMPING), e-mail (dumping@pw.lacounty.gov), or online. Further, "The Works" app was developed to offer a one-stop solution for County residents to address nuisances of illegal dumping and property violations. This application is free for the public to download and utilize.

In 2004, the County established an ordinance to tackle illegal dumping, which became Chapter 13.80 of the County Code. This is further described in the ordinances section of this report.

1.3 POLICIES

1.3.1 ZERO WASTE PLAN

On September 13, 2022, the Board adopted the "Zero Waste Plan," which promotes a sustainable waste management system focused on a circular economy. The plan lays out the general framework the County can implement to reduce reliance on limited landfill space for disposal, maximize natural resource reuse, and recover materials for beneficial uses. It emphasizes the importance of preventing or eliminating waste altogether. The plan is intended to be a resource for residents, businesses, public agencies, the waste industry, environmental organizations, and other interested stakeholders seeking to contribute to a more sustainable waste management future.

There are three areas of focus within the plan, which include: Regional/Countywide, County Unincorporated Communities, and County Operations. Additionally, the plan includes strategies with supporting initiatives to reduce waste and divert material from landfills. The initiatives include activities that identify ways to keep materials out of the

waste stream entirely and manage materials that are currently disposed of at landfills in a sustainable manner.

Public Works will continue to work with stakeholders to develop and implement programs for the initiatives. In addition, Public Works will provide the Board with annual reports on the progress of the Zero Waste Plan implementation.

1.3.2 ORDINANCES

Over the last few years and decades, the County has developed various ordinances to help protect water resources and the environment. The major ordinances related to trash that the County has adopted are further described below.

1.3.2.1 ILLEGAL DUMPING ORDINANCE

In 2004, the Board adopted an Illegal Dumping Ordinance (Chapter 13.80 of County Code) to recognize the dangers of illegal dumping activities to public health and safety. This includes vehicles that are used to dump bulky items and potentially hazardous materials in neighborhoods, creating a nesting area for rodents, insects, and other vermin while impacting the proper drainage of runoff, polluting local beaches, and making areas more susceptible to flooding when draining basins become clogged. Under this Ordinance, illegal dumping activities and the vehicles used in such activities are considered a public nuisance, thereby allowing for the seizure and forfeiture of these vehicles.

The following California codes also help address illegal dumping:

- Under California Penal Code 374.3, illegal dumping on public and private property is punishable by a fine of up to \$10,000.
- Pursuant to the California Health and Safety Code, a person who dumps illegally is punishable by up to six months in jail.
- Pursuant to AB 246, effective January 1, 2022, contractors who engage in illegal dumping are subject to disciplinary action by the Contractors State License Board.

Public Works is currently considering a mobile camera pilot program to address illegal dumping, in which cameras would be placed in areas with high incidents of illegal dumping.

1.3.2.2 SINGLE-USE PLASTICS ORDINANCE

Addressing plastic pollution has been a priority for the County for over two decades. To this end, the County has adopted multiple ordinances to address plastic waste within the County unincorporated areas.

In November 2010, the Board adopted a Carryout Bag Ordinance, which prohibits the distribution of single-use plastic carryout bags at certain stores in the County unincorporated area and requires businesses to charge ten cents for each paper bag provided to a customer.

In June 2021, the Board adopted the Single-Use Accessories Upon Request Ordinance, which prohibits food facilities from providing single-use food ware accessories to customers unless requested by the customer. Subsequently, in November 2021, the Board adopted the Reducing Single-Use Plastics in County Facilities Policy, which phases out the purchase and use of single-use plastics at County facilities and in County contracts.

In April 2022, the Board adopted a Single-Use Articles and Expanded Polystyrene Products Ordinance applicable to restaurants, retail stores, food trucks, catering companies, and farmers' markets (Chapter 12.86 of County Code). The Ordinance bans single-use food service items, such as utensils, plates, and cups that are not compostable or recyclable. It also prohibits retail establishments from selling products made from polystyrene and requires full-service restaurants to use reusable food service ware. The ordinance applies to County unincorporated areas, and the enforcement effective date varies depending on the type of establishment as follows:

- May 1, 2023 – became effective at restaurants with permanent locations and retail establishments.

- November 1, 2023 – became effective at food trucks.
- May 1, 2024 – will become effective at farmers' markets, temporary food facilities, and catering operations.

Violations of this ordinance are punishable by a fine of up to \$100 per day, up to a total of \$1,000 per year.

Several cities in Los Angeles County are taking similar measures to tackle plastic pollution. The following 13 cities have adopted ordinances to ban single-use carryout bags: Beverly Hills, Calabasas, Culver City, Glendale, Long Beach, Los Angeles, Malibu, Manhattan Beach, Monrovia, Pasadena, Santa Monica, South Pasadena, and West Hollywood. The City of Burbank is in the process of developing their own plastic waste ordinance.

1.3.3 LEGISLATION

California has enacted many laws to address trash related problems in the State. The County is collaborating with the State to implement the requirements of these laws, which include:

- Senate Bill 270 – Signed into law in September 2014, this bill, starting July 2015, prohibits California stores (including grocery stores, certain retail stores, convenience stores, and liquor stores) from providing single-use carryout bags to customers at the point of sale. In place of plastic bags, the stores can instead provide customers with recycled paper bags and reusable grocery bags for a minimum of 10 cents per bag.
- Assembly Bill 619 – Signed into law in July 2019, this bill allows customers to provide their own reusable containers for takeout at food facilities that can be refilled by either the owner/operator of the food facility or the customer. The bill also allows temporary food facilities to use multiuse utensils.

- Assembly Bill 246 – signed into law in July 2021, this bill, starting January 2022, recognizes illegal dumping by contractors as a violation that constitutes a cause for disciplinary action by the Contractors State License Board.
- Senate Bill 54 – Signed into law in June 2022, this bill established the Plastic Pollution Prevention and Packaging Producer Responsibility Act, which shifts the packaging related plastic pollution burden from consumers to producers. The bill would raise up to \$5 billion from producers over 10 years to help cut plastic pollution in the state. The bill requires by 2032 (i) 25% reduction in plastic packaging, (ii) recycling 65% of single-use packaging, and (iii) 100% recyclable packaging in California.
- Senate Bill 1046 – Signed into law in September 2022, this bill would prohibit, starting January 2025, stores from providing plastic pre-checkout produce bags to a customer unless they are compostable or recycled paper bags.

1.4 OTHER EFFORTS

1.4.1 STUDIES AND DATA

1.4.1.1 SCCWRP STUDIES

Over the last decade, the Southern California Coastal Water Research Project (SCCWRP), a prime applied research institution in Southern California, in collaboration with stormwater agencies, conducted two regional assessments of trash in Southern California Coastal watersheds – the first in 2011-13 and the second in 2018-19. The assessments covered multiple counties, including Los Angeles, Orange, Riverside, San Bernadino, San Diego, and Ventura. Figure 7 below shows the coverage area of the studies.

Findings from the more recent (2018-19) assessment include the following:

- 77% of Southern California's coastal stream reaches surveyed contained trash, with an estimated stock of 7 million pieces of trash.

- Plastic trash was the most ubiquitous and most abundant, having been present in 69% of stream reaches surveyed.
- The most common items were single-use plastic containers, wrappers, and plastic bags.
- Urban areas have shown the greatest extent and magnitude of trash, with levels nearly double those found in open land uses.
- Trash concentrations were found to be highest at close proximity to roads and parking lots.

Comparison of the 2011-13 and 2018-19 studies have shown a significant decrease in the number of plastic bags within streams, which is attributed to the actions taken by various municipalities in response to trash regulatory and legislative requirements, such as TMDLs and plastics bans.

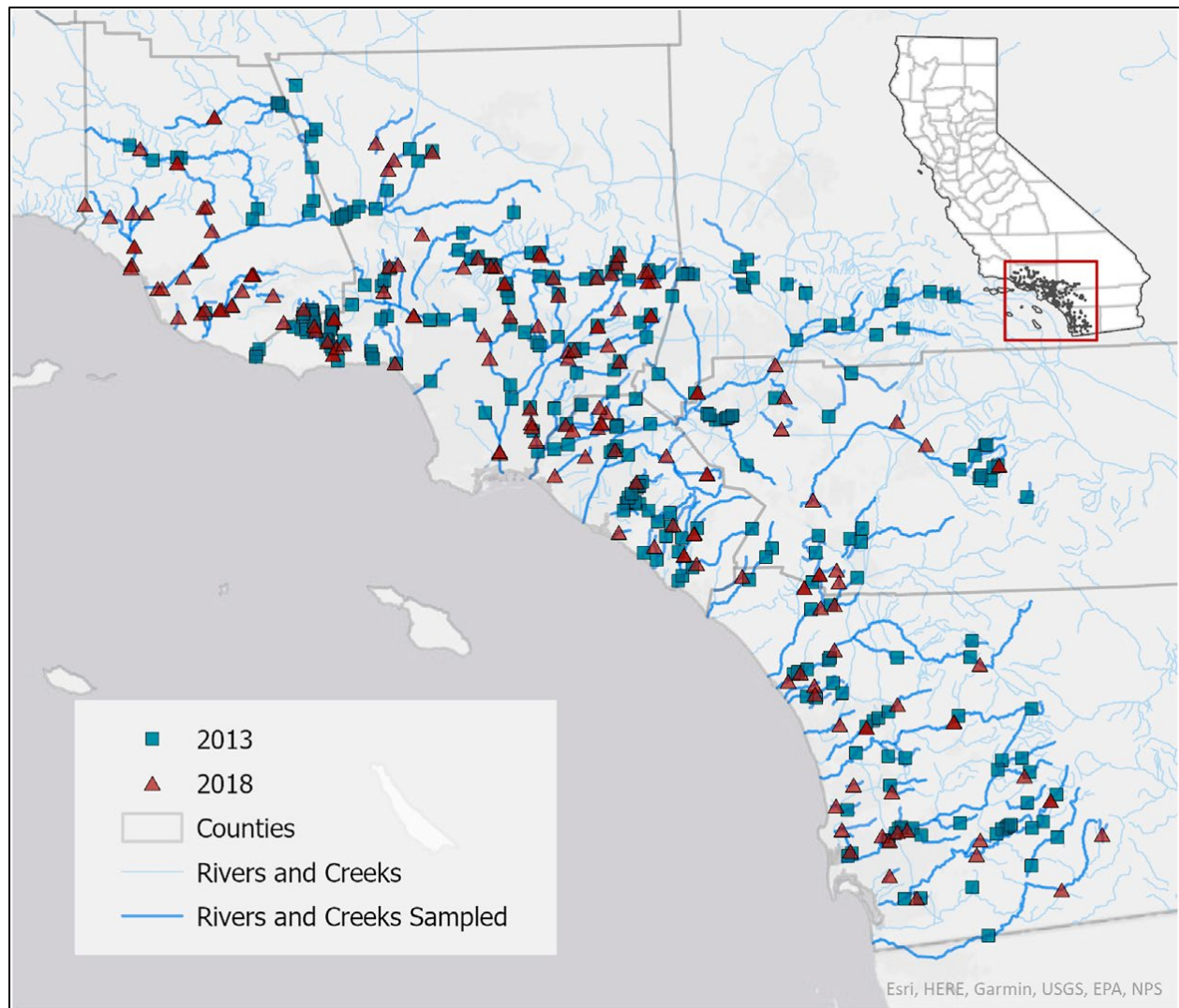


Figure 7: Trash sampling locations by SCCWRP during 2011-13 and 2018-19 studies

SCCWRP is also currently conducting a study of microplastics within Southern California beaches and ocean, the findings of which will be available in about 2 years.

1.4.1.2 COUNTY/CITY-LED STUDIES

Various trash related studies have been conducted in the past by Public Works and other municipalities. Most of these studies have been conducted during the early 2000s and were the basis for developing various control measures. For example, the findings of these studies have been used by regulatory agencies to develop Trash TMDLs and

associated requirements. One such study was the 2004-05 trash baseline monitoring in Los Angeles and Ballona Creek watersheds by Public Works. The study found that the highest trash generation areas were industrial land uses, followed by commercial land uses.

1.4.1.3 OTHER STUDIES

In October 2019, the Board passed a motion directing the County's Chief Sustainability Office, in partnership with Public Works, Public Health, Consumer and Business Affairs, and County Counsel to contract with the University of California, Los Angeles (UCLA) to study the issue of plastic waste, processing, recyclability, and alternatives in the County. The findings of the study led to the adoption of Single-Use Plastic ordinance, discussed previously.

1.4.2 REGIONAL COLLABORATION

The Los Angeles County Office of Emergency Management (OEM) serves as both the lead in coordinating County departments and the lead in Countywide (Operational Area) coordination. During significant forecasted storms, which can result in significant impacts from flooding, wind damage, mud and debris flows, beach erosion, and pollution, just to name a few, OEM coordinates County department and Operational Area preparatory work. OEM establishes a Unified Coordination Group (UCG), activates the County's Emergency Operations Center (CEOC), and leads numerous coordination functions and activities prior to and through the duration of the emergency. The UCG establishes unity of effort and develops strategic priorities and objectives that the CEOC uses to coordinate, integrate, support, and synchronize County department and Operational Area response and recovery activities.

Public Works has been collaborating with various local governments in addressing water pollution. For example, as part of the requirement to implement the MS4 Permit, Public Works currently participates in 12 Watershed Management Program (WMP) groups on behalf of the County, and in 18 WMP groups on behalf of the District. The WMP process provides an opportunity for partner agencies to work together on projects. Further, Public Works collaborates with cities by providing access permits to its facilities

for implementing trash control measures, such as the installation of trash capture devices in District-owned catch basins as well as the construction of diversion structures within District-owned storm drains or channels.

Public Works has been collaborating with various non-governmental organizations, such as Heal the Bay, Tree People, Council for Watershed Health, and others. Areas of past collaborations include coastal cleanups, project implementations, outreach/education, and data collection and sharing, among others. For example, Public Works, through its Water for LA program, sponsored Heal the Bay's 2022 Coastal Cleanup Day. Public Works also collaborated with Tree People to retrofit residential parkways and landscapes with nature-based solutions.

Public Works has been collaborating with various jurisdictions to hold Household Hazardous Waste/Electronic Waste collection events and host booths at various community events held by other jurisdictions informing residents about programs and services available for waste reduction and to help combat illegal dumping. Public Works has collaborated with various media and the Dodgers Foundation to promote recycling and discourage illegal dumping.

Public Works and other County departments collaborate with research institutions, including SCCWRP and local universities. These collaborations involve conducting scientific research to help understand the sources of trash and other pollutants, which help guide the implementation of projects and programs for mitigating water pollution.

2. ADDITIONAL EFFORTS AND OPPORTUNITIES

2.1 CLIMATE PREPARATION

2.1.1 CLIMATE CHANGE IMPACTS

Los Angeles County is experiencing more extreme and severe weather patterns due to climate change. Natural disasters, such as drought, wildfire, mudflows, and intense rainfall events, are on the rise and pose a variety of threats to residents, particularly those disproportionately burdened by systemic inequities. Public Works has been studying climate change impacts to stormwater and flood control infrastructure and recognizes that

more frequent and intense storm events are expected to increase flood risk. Droughts and wildfires are also becoming a more common phenomenon in recent years. Associated with such events is also the dislodging of trash and debris from urban areas, which was observed during the recent Tropical Storm Hilary.

Public Works recently initiated a study with UCLA's Center for Climate Science utilizing climate projections to inform future infrastructure decisions. The study concluded that the rise in temperature due to climate change would lead to an increase in the intensity of storm events in the region. Results of the study will help guide our regional planning efforts for both existing and future stormwater infrastructure and appurtenant trash capture projects and devices.

2.1.2 CLIMATE READY COMMUNITIES

On April 18, 2023, the Board approved the "Building Climate Ready Communities and Infrastructure in Los Angeles County" (CRC) motion, which directed Public Works to lead a Countywide initiative to build resilient and adaptive capacity for people, communities, and infrastructure vulnerable to climate risks, with a focus on advancing equity and environmental justice. The initiative aims to understand vulnerable communities, engage and help prepare communities, and identify strategies, opportunities, and resources to integrate climate vulnerability into decision making.

The purpose of CRC is to build upon the efforts of the Climate Vulnerability Assessment and other climate related efforts to have a deeper understanding of climate related threats and how they impact our communities, the environment, and our infrastructure. The CRC intends to identify target areas based on the five key climate threats – extreme heat, wildfire, flooding, sea level rise, and drought.

2.2 PROJECTS AND PROGRAMS

2.2.1 UPCOMING PROJECTS

As described in section 1.1.6 of this report, Public Works is implementing regional multi-benefit stormwater projects throughout the County. Many of these projects are currently either in design or planning phase and are anticipated to be completed in the

next 5-10 years, subject to funding availability. Once completed, these projects will play a significant role in capturing trash and other stormwater pollutants, among other benefits. These projects will largely be seeking Safe, Clean Water Program funding and competitive grant opportunities, in addition to County funds.

It is estimated that the cost of these regional stormwater projects, required to meet the MS4 Permit and TMDL requirements, is estimated to be over \$2 billion for unincorporated County areas and close to \$20 billion Countywide. These projects not only help improve water quality, but also contribute to community resilience by enhancing local water supplies and providing greening and recreational opportunities. Public Works will continue implement these projects with the Board's support and approval.

2.2.2 PLACEMENT OF ADDITIONAL DUMPSTERS

Public Works, in collaboration with the Los Angeles Homeless Services Authority (LAHSA), is working on a Dumpster Pilot Project to determine appropriate homeless encampment locations for the placement of dumpsters. This program could be bolstered to provide additional dumpsters to persons experiencing homelessness (PEH) encampments that are often littered with debris, including biological health hazards that have potential to flow into storm drains during wet weather events. If fully implemented, this program is estimated to cost approximately \$500,000 per year.

Public Works currently provides yellow plastic bags to LAHSA to provide to PEH to contain and properly dispose of their trash in dumpsters, as part of the dumpster pilot project. This program could be financially bolstered and could be expanded to provide plastic bags to community groups conducting periodic clean-up days within their communities as well as potential hauling away of the bags.

2.2.3 IMPROVEMENTS TO STREET SWEEPERS

Public Works may consider mounting tablets on street sweepers to help assess the trash and debris being collected along each sweeping route. The data would help to determine areas of focus for better trash reduction efforts through outreach and engagement with the community. The data may also help to evaluate if supplemental sweeping services are needed in areas found to be high trash generation areas.

The estimated cost to implement this program is \$150,000 per year for County unincorporated areas.

2.2.4 ADDITIONAL OUTREACH CAMPAIGNS

Achieving zero waste involves preventing, reusing, recycling, converting, or composting as much waste as possible so that only the waste that cannot be addressed through any other process is disposed of in landfills. The County's priority in achieving zero waste is waste prevention, because it is considered to be more effective and yields the highest benefits from an environmental, economic, and social standpoint. The United States Environmental Protection Agency defines waste prevention as activities designed to reduce the volume or toxicity of waste generated, including the design and manufacture of products with minimum toxic content, minimum volume of material, and/or a longer useful life. Waste prevention preempts the need to collect, process, and dispose of materials by preventing their generation. Achieving zero waste with a focus on waste prevention will significantly reduce the amount of trash generated that can potentially enter storm drains and waterways. Implementation of the zero waste plan would require significant outreach campaigns and collaborations with various stakeholders throughout the County.

2.2.5 INCREASING CATCH BASIN CLEANING FREQUENCY

Public Works owns over 80,000 catch basins. These catch basins are cleaned at least once a year with an average annual cost of approximately \$6 million. Increasing the frequency of catch basin cleaning may help reduce the amount of trash that gets dislodged from catch basins during heavy storms and enters downstream waterways. Additional funding and/or staffing resources would be needed to increase the current level of effort.

It should be noted that flood control facilities are designed to convey stormwater rapidly and safely to the ocean to protect people and properties from flooding. These facilities, including catch basins, themselves are not the source of trash. As such, while increasing catch basin cleaning frequency may help reduce trash entering waterbodies, it would not entirely eliminate trash. Other mechanisms, such as source control are recommended.

2.2.6 ADDITIONAL TRASH BOOMS

As described in Section 2.1.2 of this report, Public Works currently operates two trash booms, the Los Angeles River and Ballona Creek Trash Booms. During heavy storms, these trash booms can become overwhelmed, which results in the bypassing of some trash. Public Works will assess the performance of the Ballona Creek Trash Interceptor™ and may consider additional feasibility studies to evaluate the potential for installation of additional trash booms or other structural improvements within major flood control channels.

2.3 POLICIES

2.3.1 ENFORCING EXISTING ORDINANCES

Public Works leads the implementation of various trash related ordinances in the County, including Single-Use Plastics Ordinances and the Illegal Dumping Ordinance. One primary responsibility of the County is the continued education and outreach to affected communities, businesses, and consumers to ensure that the Ordinances are implemented successfully.

In July 2023, Public Works received over \$400,000 in grant funding from the Ocean Protection Council to help implement the County's Single-Use Plastic Ordinance. This funding could potentially be used toward the following, among others:

- Conducting campaigns to community members through community events, online social networks, and print/radio/television announcements.
- Developing media resources and toolkit(s) (print, radio, television, and social media) in English and Spanish, at a minimum, to educate and provide awareness of the Ordinance and to encourage the use of reusables to constituents and visitors.
- Developing and conducting social awareness campaign(s) of the Ordinance and its benefits to the environment and community.

Public Works has held one-on-one meetings with several companies selling single-use items in Los Angeles County, such as Starbucks, McDonalds, BJs, Baskin Robbins,

World Centric, Direct Pack, Eggland's Best, and more, to help them transition to compliant products. Companies that transition to compostable or recyclable products in one jurisdiction may choose to sell the same products throughout the region to simplify their supply chain, thus reducing single-use items and pollution beyond the unincorporated County area.

In addition to conducting outreach, Public Works, in collaboration with applicable County departments, will enforce the requirements of the County Ordinances, including issuing notices of violations and fines to non-complying businesses. This effort could be strengthened with the availability of additional funding.

2.3.2 EXTENDED PRODUCER RESPONSIBILITY LEGISLATION

The traditional approach to trash control through implementation of trash capture devices within the storm drain system has played a significant role in preventing trash from entering waterways. However, these systems have physical limitations when it comes to storms that are beyond the design capacity of these devices. In recent years, there has been more focus on source control as the best way to eliminate certain trash and undesirable materials, such as plastic products. To this end, many of the County Ordinances and State Legislation adopted related to trash in recent years have focused on source control. This includes putting the responsibility on the manufacturers that produce these items as well as the businesses that distribute these products.

The County's Single-Use Articles and Expanded Polystyrene Products ordinance establishes compostability and recyclability standards for single-use food ware offered by businesses in the County and prohibits the retail sale of polystyrene. This holds companies responsible for plastic pollution by requiring them to offer alternative products. Public Works will continue to work with the business community to fully implement this ordinance.

Recent State legislation, such as SB54, holds producers responsible for the impacts of plastic pollution. It shifts the burden from consumers to the plastic industry. Requiring producers to change their products will make it easier for consumer to prevent and recycle single-use items, thus reducing pollution. CalRecycle is working with stakeholders in

implementing the mandates of the SB54, and Public Works is actively participating in their workshops and meetings.

2.4 ADDITIONAL REGIONAL COLLABORATION

DBH can engage the services of the California Conservation Corps to assist with clean-up of storm debris. Additional assistance may be available through Malibu Conservation Camp 13, which is jointly operated by the California Department of Corrections and Rehabilitation (CDCR) and the Los Angeles County Fire Department. Additional labor and equipment resources from other County departments and/or cities could help facilitate more rapid cleanup of beaches. But outside operators of heavy equipment would need to be specially trained to use the equipment on sand. Other agencies, however, must also prioritize their respective storm-related concerns following a major weather event and may have fewer resources to lend.

Public Works will continue to maintain and strengthen its existing collaborations with various entities, including cities, non-governmental organizations, State agencies, businesses, and research institutions to help address trash and other pollutants. It is important to note that the County has no regulatory authority on other municipalities to mandate changes to their programs. As such, efforts by the County alone, would not be sufficient to address the trash problem in its entirety at beaches and in waterways. It requires every municipality's effort to make a meaningful positive impact.

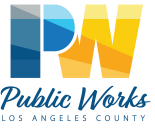
2.5 ADDITIONAL RESOURCES NEEDED

Public Works and DBH have resources to manage, operate, and maintain facilities under their purview. The two departments have made tremendous efforts to address trash problems in waterways and at the beaches and throughout Los Angeles County. County staff will continue to implement structural control, behavior control, source control, and institutional control efforts.

While existing programs are working well, there are certain rare situations where the capacities of these agencies and their infrastructure may be overwhelmed. The case at hand is the recent Tropical Storm Hilary. To tackle such situations, improvements can be

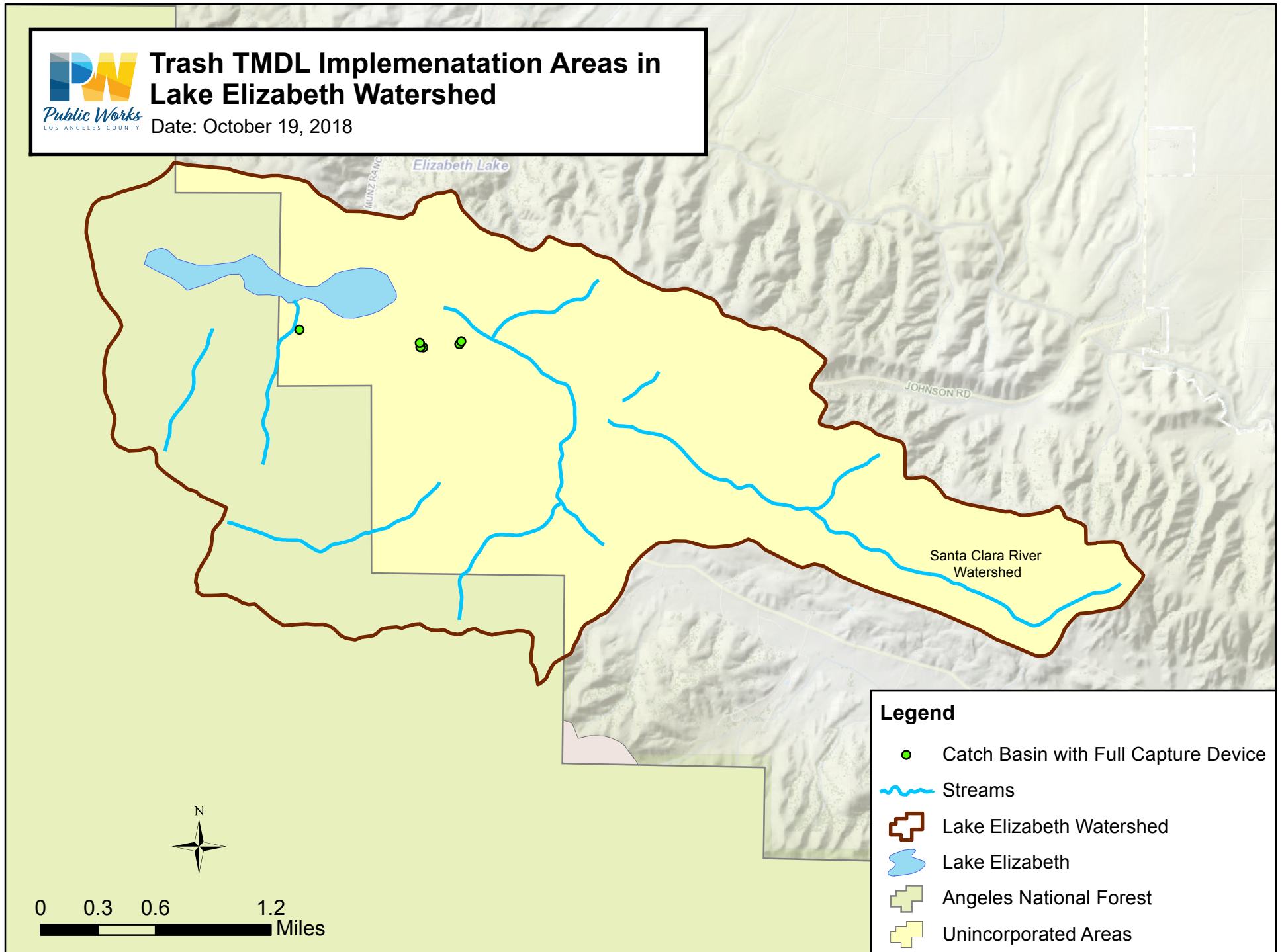
considered, many of which are outlined above. County staff will continue to look for ways to optimize existing resources and implement new innovative projects and programs as additional resources become available. In particular, the County's Zero Waste Plan (<https://zerowaste.lacounty.gov/>), which aims to alleviate overall trash quantities is now underway and will continue to ramp up. County staff will also remain diligent to recognize insightful scientific studies and effective trash control programs done by others and recommend additional trash source characterization and best management practices studies when gaps are identified. It is important to understand the types, sources, volumes, and locations of trash issues before selecting various alternatives to reduce trash in the most cost effective and strategic manner.

Attachment A
Unincorporated County Catch Basin Retrofit Maps



Trash TMDL Implemenatation Areas in Lake Elizabeth Watershed

Date: October 19, 2018





Trash TMDL Implementation Areas in Malibu Creek Watershed





Date: November 23, 2020

VENTURA COUNTY

Los Angeles River Watershed

Santa Monica Bay Watershed

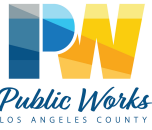
Legend

-  Catch Basin with Full Capture Device
-  Major Channel
-  Malibu Creek Watershed
-  Unincorporated Areas



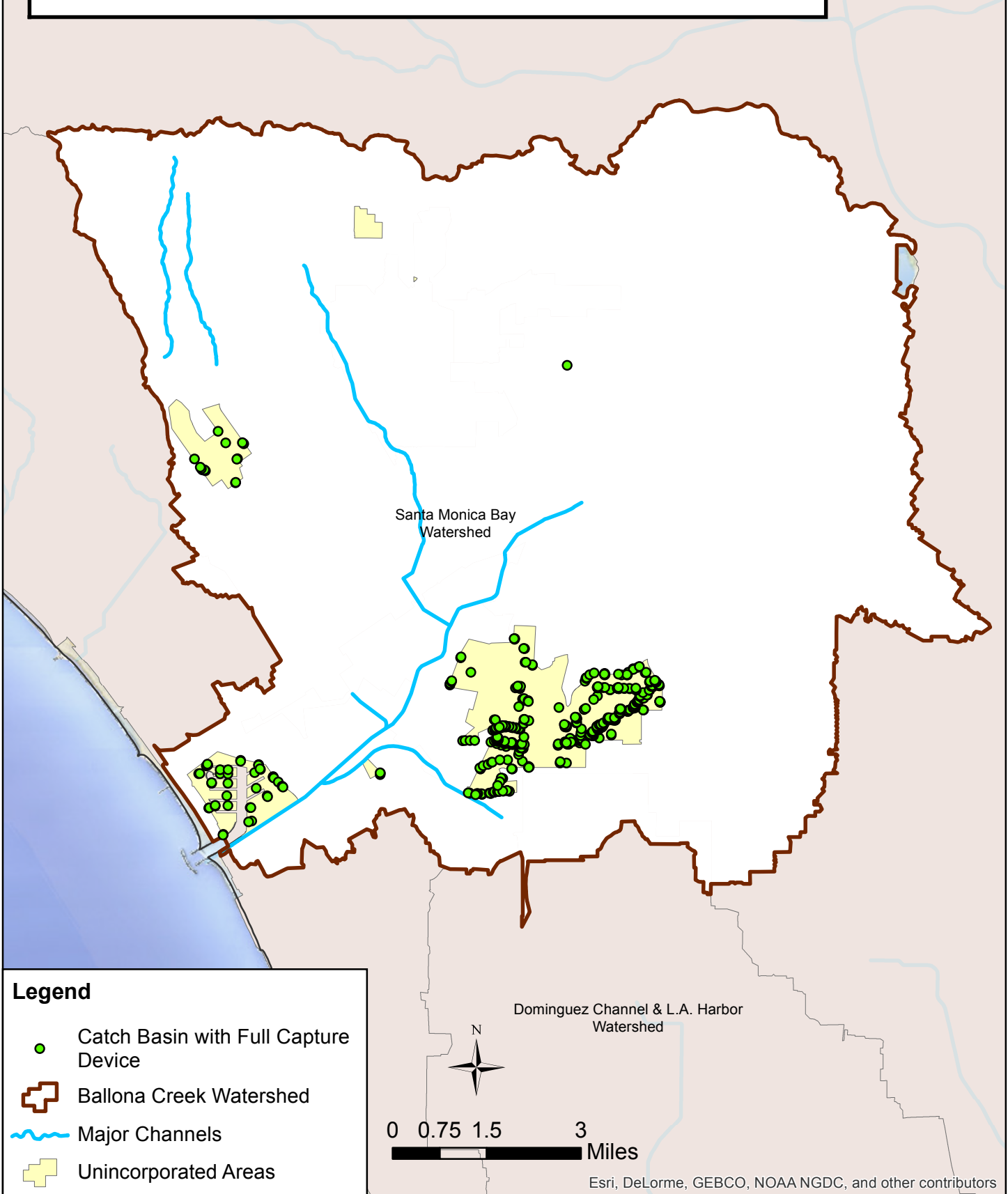
0 0.5 1 2 Miles

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors



Trash TMDL Implementation Areas in Ballona Creek Watershed

Date: October 19, 2018



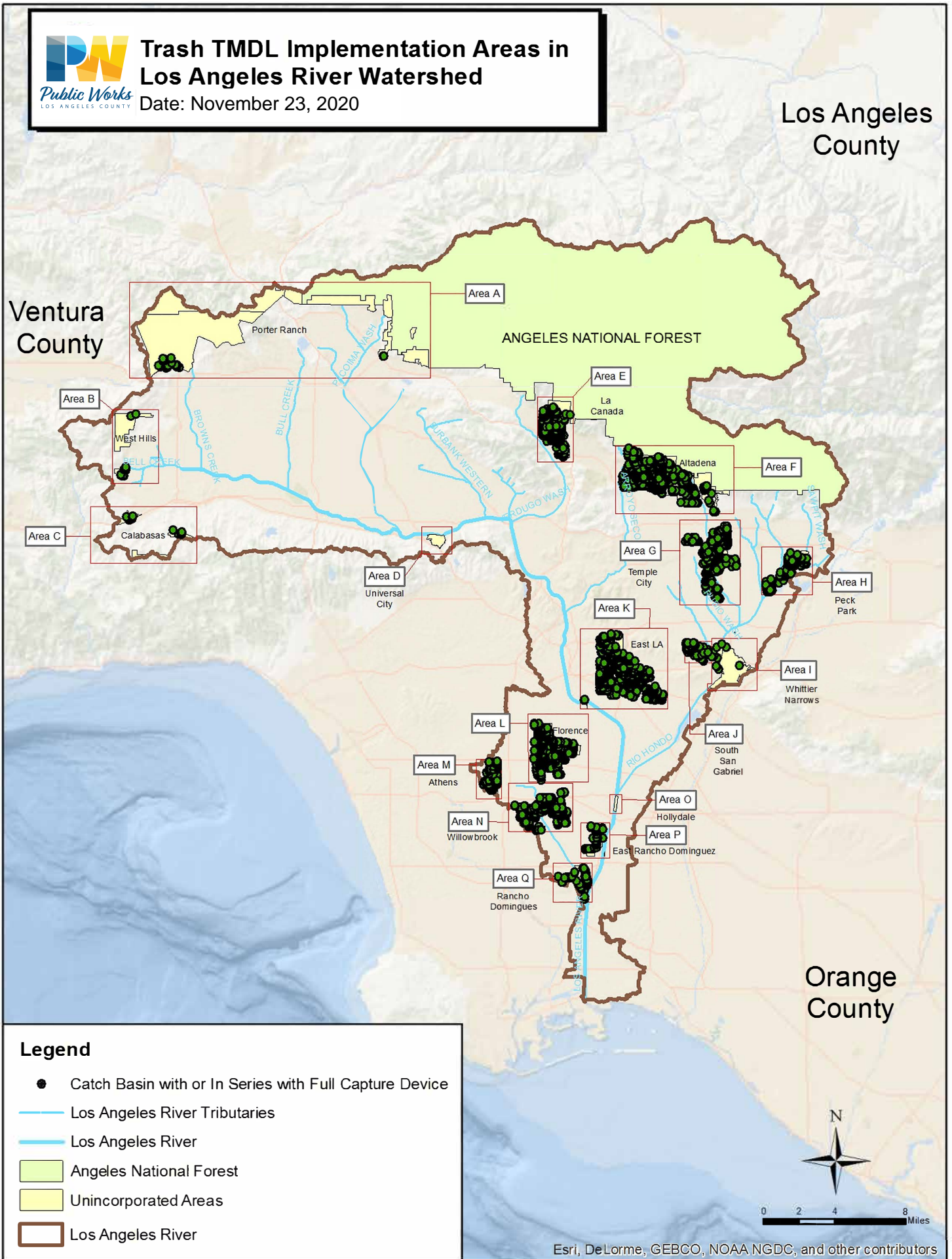


Trash TMDL Implementation Areas in Los Angeles River Watershed

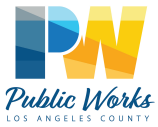
Date: November 23, 2020

Los Angeles County

Ventura County



Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors



Trash TMDL Implemenatation Areas in Machado Lake Watershed

Date: October 19, 2018







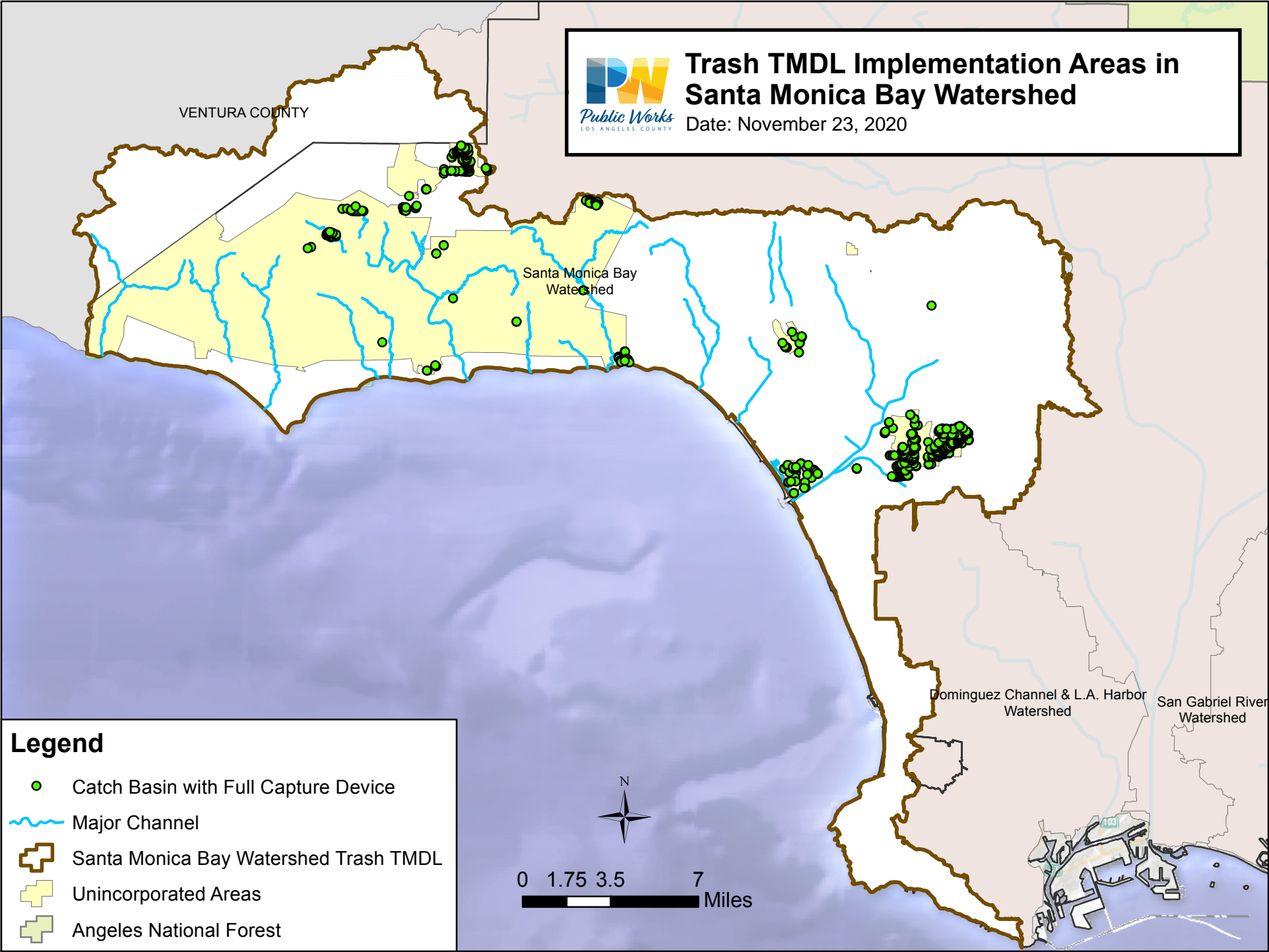
0 0.3 0.6 1.2 Miles

Santa Monica Bay Watershed

Dominguez Channel & L.A. Harbor Watershed

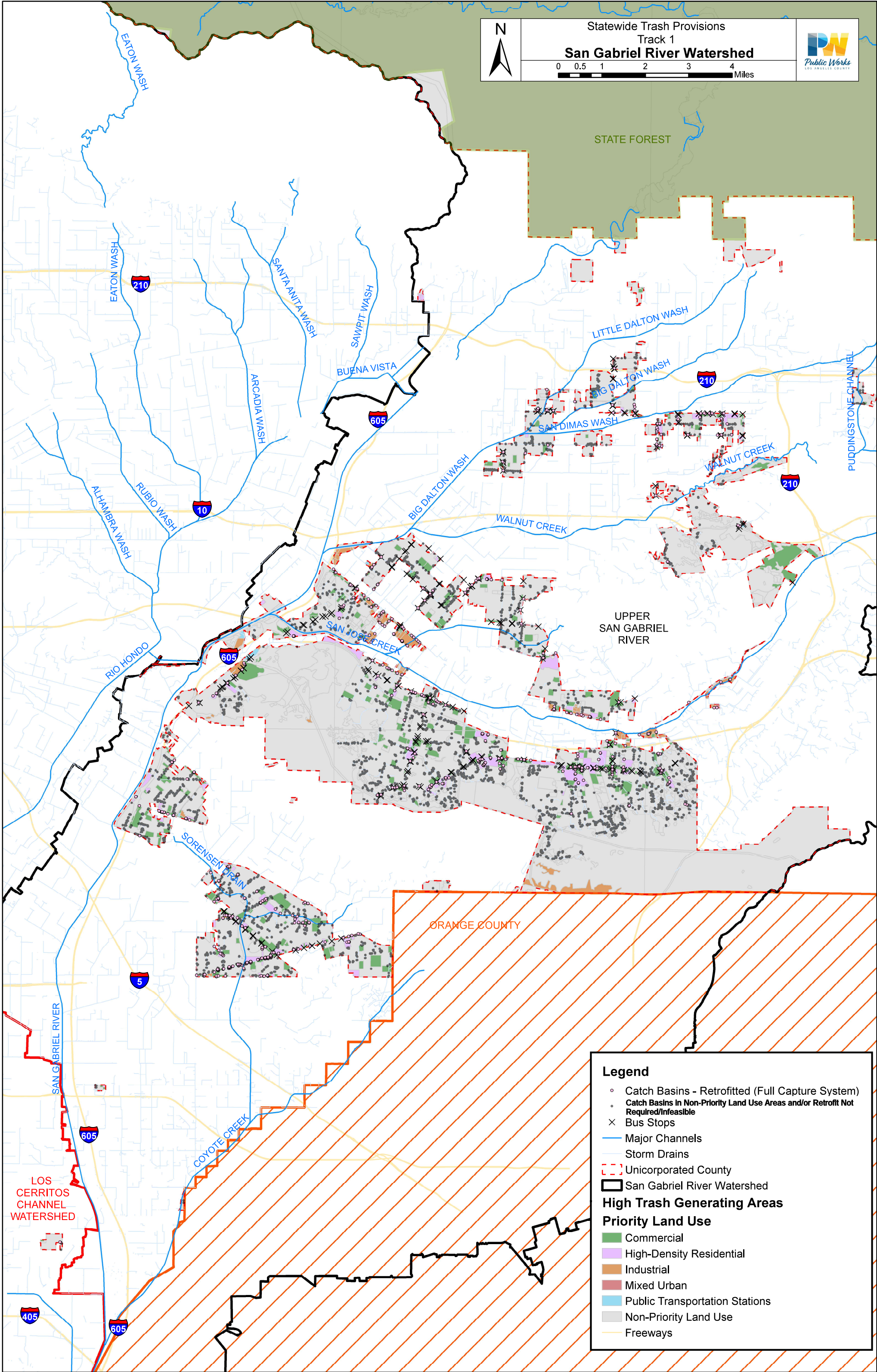
Legend

-  Catch Basin with Full Capture Device
-  Machado Lake
-  Machado Lake Watershed
-  Unincorporated Areas



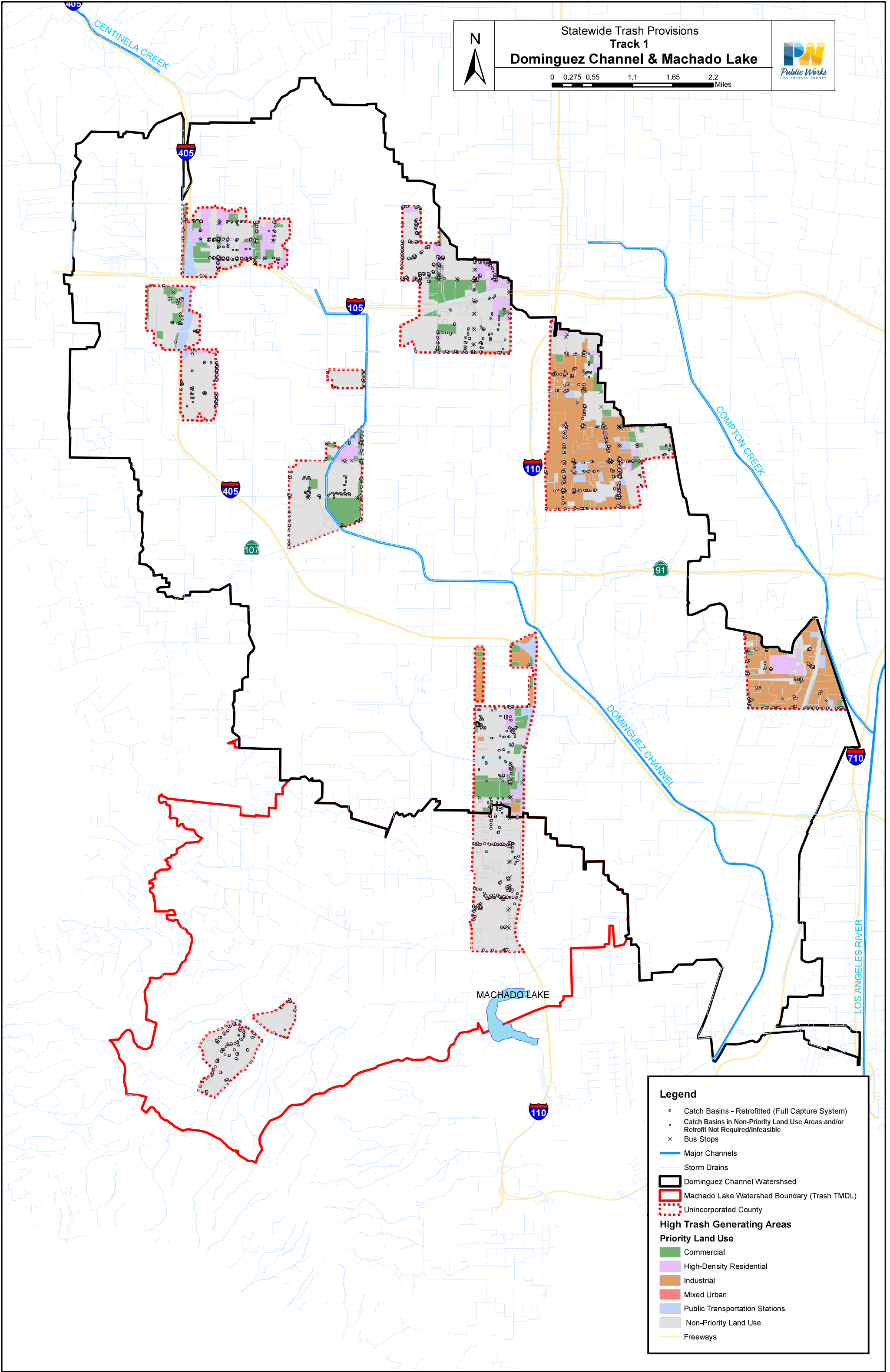


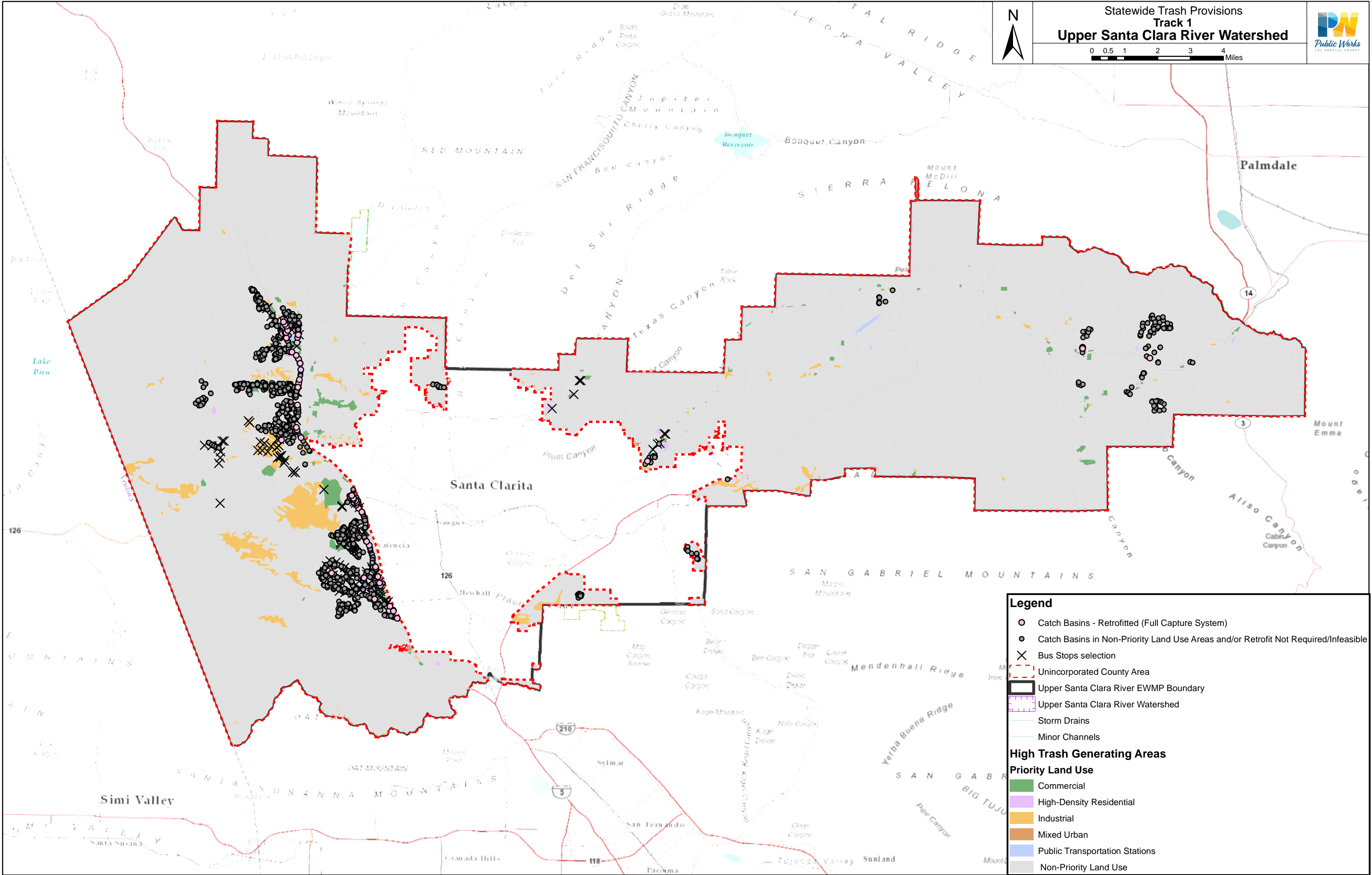
Statewide Trash Provisions
Track 1
San Gabriel River Watershed
0 0.5 1 2 3 4
Miles



Legend

- Catch Basins - Retrofitted (Full Capture System)
- Catch Basins In Non-Priority Land Use Areas and/or Retrofit Not Required/Infeasible
- × Bus Stops
- Major Channels
- Storm Drains
- - - - - Unincorporated County
- ▭ San Gabriel River Watershed
- High Trash Generating Areas**
- Priority Land Use**
- Commercial
- High-Density Residential
- Industrial
- Mixed Urban
- Public Transportation Stations
- Non-Priority Land Use
- Freeways





Attachment B
Water for LA: Trash Travels Campaign

ANTI-LITTERING PUBLIC OUTREACH CAMPAIGN IN BALLONA CREEK WATERSHED

Introduction

Public Works recently implemented a multi-media anti-littering outreach campaign throughout the Ballona Creek watershed. The campaign consisted of six programs, including billboard ads, bus stop ads, digital ads, print ads, bike trail signs, and educational brochures. Both English and Spanish languages were used to maximize the public outreach. A brief description of each campaign program is provided below.

Billboard Ads

Billboard ads were placed on major roads at six locations within the Ballona Creek watershed. The billboard ads (see below) garnered approximately 3.2 million impressions.

Run Dates	Location of Billboard	Impressions
6/4 - 6/30	Wilshire Blvd. at S. Wilton Pl.	579,169
6/4 - 6/30	Olympic Blvd., West of Freeway 110	516,273
6/4 - 6/30	Crenshaw Blvd., North of Homeland Dr.	817,503
6/4 - 6/30	W. Adams Blvd., West of Crenshaw Blvd.	504,705
6/4 - 6/30	Washington Blvd., West of Hobart Blvd.	331,667
6/4 - 6/30	Olympic Blvd., East of Freeway 405	449,720
Total		3,199,037

Billboard Ads

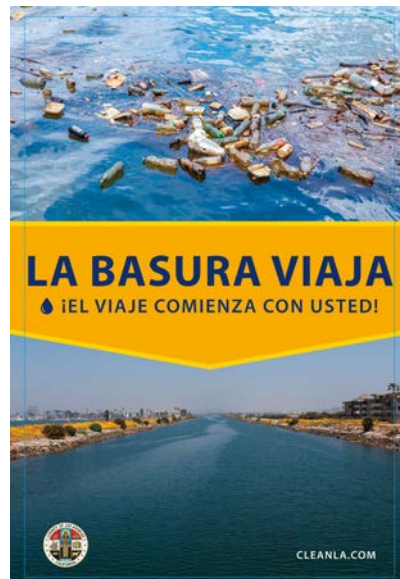
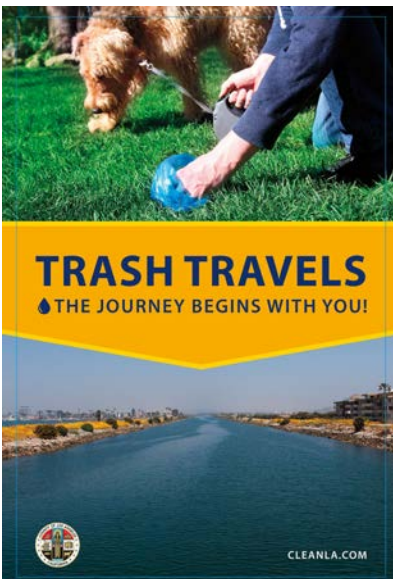
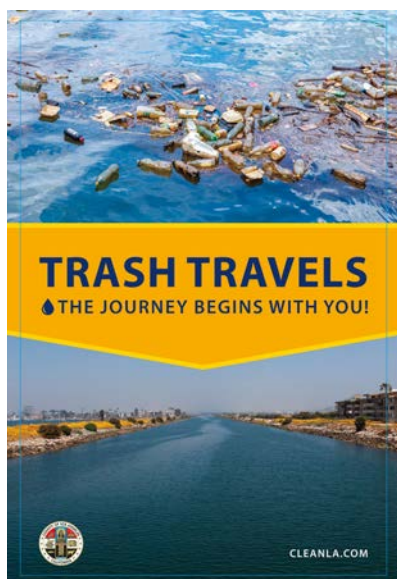


Bus Stop Ads

Bus stop ads were placed on major roads at 10 locations within the Ballona Creek watershed. The ads (see below) were developed both in English and Spanish languages and garnered approximately 7.2 million impressions.

Run Date	Location of Bus Stop	Impressions
6/7 – 7/28	Slauson Ave., West of Shenandoah Ave.	1,239,468
6/7 – 7/28	Overhill Dr., South of La Brea Ave.	331,890
6/24 – 8/18	Wilshire Blvd. at Westwood Blvd.	831,444
6/24 – 8/18	Pico Blvd. at Sawtelle Blvd.	478,584
6/24 – 8/18	Venice Blvd. at South Redondo Blvd.	719,776
6/24 – 8/18	Washington Blvd. at Vermont Ave.	636,232
6/24 – 8/18	Melrose Ave. at Van Ness Ave.	556,856
6/24 – 8/18	Martin Luther King Jr. Blvd. at Figueroa Street	893,608
6/24 – 8/18	Venice Blvd. at National Blvd.	958,560
6/24 – 8/18	Manchester Ave. at Lincoln Blvd.	563,152
Total		7,209,570

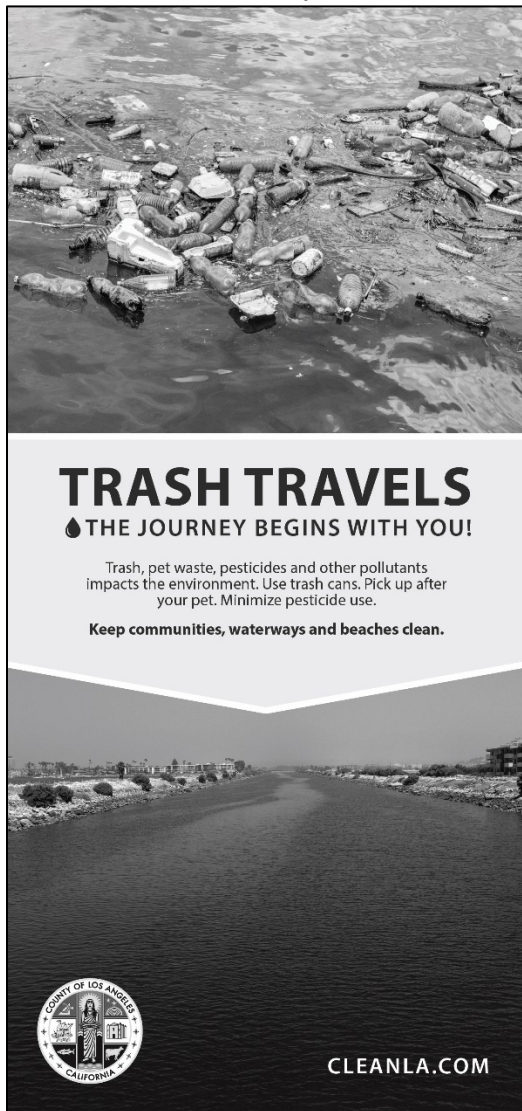
Bus Stop Ads



Print Ads

Print ads were placed in the Los Angeles Daily News and El Aviso (Spanish) newspapers. The ads (see below) garnered approximately 2 million impressions.


Ads in LA Daily News



TRASH TRAVELS
 ♾ THE JOURNEY BEGINS WITH YOU!

Trash, pet waste, pesticides and other pollutants impacts the environment. Use trash cans. Pick up after your pet. Minimize pesticide use.

Keep communities, waterways and beaches clean.



CLEANLA.COM

Date	Publication	Circulation
6/10	El Aviso	325,000
6/16	LA Daily News	653,368
7/14	LA Daily News	653,368
7/15	El Aviso	325,000
Total		1,956,736

Ads in El Aviso (Spanish)



LA BASURA VIAJA
 ♾ ¡EL VIAJE COMIENZA CON USTED!

Basura, desechos de mascotas, pesticidas y otros contaminantes afectan el medio ambiente.

Use botes de basura. Recoge los desechos de sus mascotas. Minimiza el uso de contaminantes.

Mantenga comunidades, vías de agua y playas limpias.



CLEANLA.COM

Digital Ads

Digital newspaper ads were placed in the Los Angeles Times and Los Angeles Daily News. These ads (see below) garnered nearly 1 million impressions.

Run Date	Publication	Impressions
6/10 – 6/23	LA Times	375,069
6/10 – 6/23	LA Daily News	169,611
7/8 – 7/21	LA Times	343,343
7/8 – 7/21	LA Daily News	32,102
Total		920,125

Digital Ads



Educational Brochure

A brochure was developed and distributed at various locations in the watershed with the intent to educate residents on: i) the types and sources of various waste materials that pollutes the environment; ii) how these materials enter waterways and the ocean; and iii) how residents can help to prevent these problems by properly disposing and/or recycling these materials. The brochure (see below) was distributed at retail stores (hardware, pet, and grocery stores), public libraries, and community events.

Facility/Event	Address
Community Events	
Beach Movie Night	12505 Vista Del Mar, Playa Del Rey, CA 90293
Culver City Farmers Market	Downtown Culver City, Main Street
Hardware Stores	
Dick's True Value Hardware	12216 Venice Blvd., Los Angeles, CA 90066
Pet Stores	
Petco Unleashed	13411 Washington Blvd., Marina Del Rey, CA 90292
Petco	5347 Sepulveda Blvd., Culver City, CA 90230
Petco	1873 Westwood Blvd., Los Angeles, CA 90025
Petco Unleashed	1402 Wilshire Blvd., Santa Monica, CA 90403
Petco	8161 Beverly Blvd., Beverly Hills, CA 90048
Grocery Stores	
Vons	6571 W. 80th Street, Los Angeles, CA 90045
Vons	1430 S. Fairfax Ave., Los Angeles, CA 90019
Vons	4030 S. Centinela Ave., Los Angeles, CA 90066
Smart & Final	1833 S. La Cienega Blvd., Los Angeles, CA 90035
Other Sites	
Santa Monica Aquarium	1600 Ocean Front Walk, Santa Monica, CA 90401
Marina Del Rey Library	4533 Admiralty Way, Marina Del Rey, CA 90292
Culver City Library	4975 Overland Ave., Culver City, CA 90230
Los Angeles Central Library	630 W 5th St., Los Angeles, CA 90071
Playa Vista Library	6400 Playa Vista Dr., Playa Vista, CA 90094
Westchester Library	7114 W. Manchester Ave., Los Angeles, CA 90045

Educational Brochure



TRASH TRAVELS

THE JOURNEY BEGINS WITH YOU!



YOU CAN HELP

Here are ways you can help prevent pollutants from entering waterways:

DO

- Properly dispose of trash in trash containers.
- Sweep paved areas regularly.
- Pick up after your pet.
- Limit pesticide, herbicide and fertilizer use.
- Drop off your household hazardous waste (e.g. unused paint, fertilizer, pesticides, cleaning supplies) at a free local household hazardous waste collection event. For event schedule, visit: cleanla.com.
- Call (888) CLEAN-LA to report illegal dumping.







DON'T

- Do not over-water your yard.
- Do not hose down sidewalks, driveways, or wash your car in the driveway.
- Do not drain your pool, spa, hot tub or fountain water into the street.
- Do not throw litter on the street or dump anything into storm drains.
- Do not throw unused pesticides in the trash and never pour them on the ground or down storm drains.







Everyone leaves trash and waste behind, whether in their homes, places of work, at a construction site or other locations. A household pet even leaves waste behind.

You can make a difference.


Trash, pet waste, pesticides and other pollutants impact the environment. Use trash cans. Pick up after your pet. Minimize pesticide use. Keep communities, waterways and beaches clean.

If you are unsure of the best way to dispose of hazardous household products such as pesticides and to learn more about ways to be more green and less wasteful, visit cleanla.com or call (888) CLEAN-LA (253-2652).


Trash Travels: the journey begins with you!




Printed on recycled paper with soy inks. 



THE PROBLEM
Trash Travels. When it rains, stormwater will run over hard solid surfaces, such as parking lots and streets, creating runoff. We also create runoff when we wash cars on the street, over-water yards, or hose down driveways or sidewalks. As runoff water travels to creeks, rivers, lakes and oceans through the storm drain system, the runoff can pick up trash, pet waste, pesticides and other pollutants from streets and sidewalks along the way.



COMMON TRASH

- Cups
- Cans
- Straws
- Plastic and glass bottles
- Plastic shopping bags
- Fast-food wrappers
- Cigarette butts

COMMON POLLUTANTS

- Automotive: Antifreeze, motor oil, fluids (brake, transmission), used tires, oil filters, grease
- Household: Paint, garbage, drain cleaner, disinfectants, cleaning liquids, medications
- Pet: Flea killers, pet waste, cat litter
- Yard: Pesticides, fertilizers, car wash water runoff, dirt, weed killers, swimming pool chemicals, construction materials (lumber/drywall, cement, pipes, metals, plastic, rocks and dirt, paper and cardboard)

Bike Path Sign

Bike path signs were produced and placed at three locations along the Ballona Creek bike trail to help educate bicyclists and local residents regarding proper disposal of their trash.

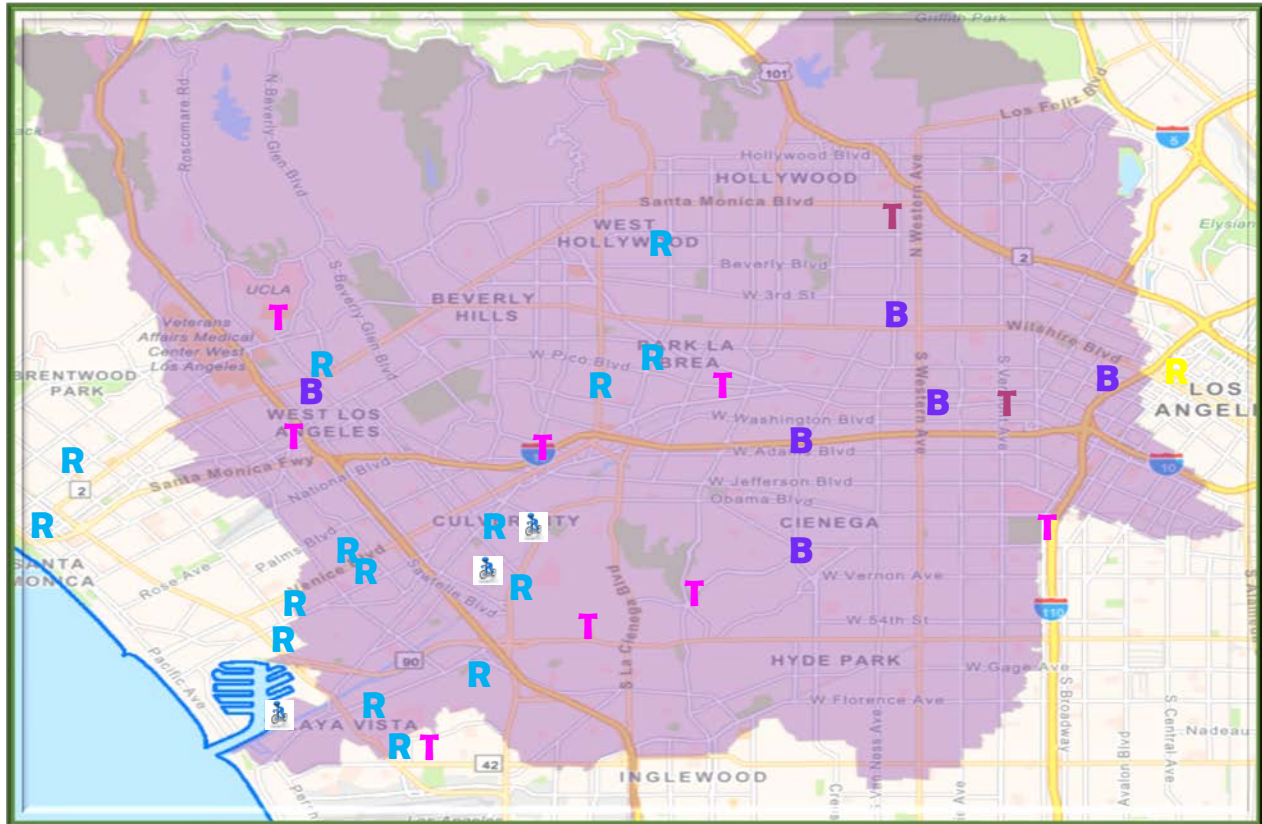
The signs were placed at the following locations along the Ballona Creek Bike Path:

- Intersection of Bike Trail and Fiji Way
- Intersection of Bike Trail and Jackson Avenue
- Culver City Middle School

Bike Path Signs



Location Map for the Various Outreach Efforts



B Billboard (6)

T/T Transit Shelter (10)

R Retail / Others (16)



Bike Path Sign (3)