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C-6.1 Introduction

A robust public education and outreach program, currently “H₂OC” has been implemented by the Permittees since 2002 built upon a foundation of cooperative development of programs and materials, implementation at Countywide and city levels, and the validation of its success through the use of opinion surveys and other direct and indirect measures of public knowledge and behavior. The goal of this effort is to promote awareness of the condition of Orange County’s creeks, rivers, streams and coastal waters, and adoption of behaviors that are protective of water quality.

C-6.2 Program Background

Public Awareness Surveys conducted in 2003, 2005, 2009, 2012 and 2015 (Surveys) indicated incremental positive changes in behavior and awareness. At the same time, however, there was emerging research that suggested that high levels of awareness did not always translate to better behavior (i.e. acceptance of associated “stormwater safe” behaviors by specific respondents). In recognition of this research, the *2012 Strategic Plan (Exhibit 6.1)*, which is the basis of the current education and outreach approach, concluded that existing outreach efforts needed to be supplemented by targeted outreach to specific audiences using proven Community-Based Social Marketing (CBSM)¹ techniques to create long term engagement.

CBSM involves four basic steps:

1. Identifying barriers and motivators to an activity;
2. Developing a strategy that utilizes tools to leverage those barriers and motivators in order to affect behavior change;
3. Pilot the strategy; and
4. Evaluate the strategy and refine it for future implementation.

Research shows that CBSM works at the community level when the individual or organization interested in effecting behavior change is directly in contact with those people whose behavior requires change (*Exhibit 6.1*). The goal of CBSM techniques is to effect transition residents who are unaware of how their actions could contribute to water pollution to awareness of behaviors to engagement in the issue and ultimately, to participation in behaviors protective of water quality.

Overall, the retooled education program focuses on water quality protection best practices on a broad level – the *foundational campaign* – and specific behaviors on a smaller, more community-based level – *action campaigns*. This two-pronged approach provides the Permittees information on changes in behavior of Orange County residents over time that could help reduce water quality impacts to our creeks, rivers and the Pacific Ocean.

¹ McKenzie-Mohr, Doug & Smith, William (1999). *Fostering sustainable behavior: An introduction to community-based social marketing*. Gabriola Island, B.C.: New Society. (www.CBSM.com)

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C-6.2.1 Foundational Campaign

The *foundational campaign*, branded *H₂OC*, comprises large-scale and/or general pollution prevention outreach efforts, with the goal of building overall awareness of pollution prevention and runoff reduction BMPs. *Foundational campaign* efforts entail a combination of media and direct outreach methods, including:

- Strategic placement of paid media and tracking of earned media (**Section 6.3.1.1**);
- General community outreach (e.g. speakers' bureau, workshops, events) (**Section 6.3.1.2**);
- Maintenance of the *H₂OC* website, Facebook page and materials (**Section 6.3.1.3**);
- Outreach to school-aged children (**Section 6.3.1.4**); and
- Permittee support & coordination (**Section 6.3.1.5**).

Effectiveness of *foundational campaign* elements will be assessed over time through continuation of public awareness surveys. Efforts are assessed annually against program goals and objectives; the primary goal is outreaching to 100% of the Orange County audience by achieving a minimum of 10 million impressions through media. Other methods for *foundational campaign* assessment include follow-through from paid media placement, feedback from speakers' bureau presentations, website tracking and pre- and post-quizzes for outreach to school-age children. In addition, *foundational campaign* elements may support *action campaign* elements when needed, and thus be tied into *action campaign* metrics (e.g. obtaining sign-ups for an *action campaign* at an event). These efforts are detailed in **Section 6.3.1**.

C-6.2.2 Action Campaigns

H₂OC has produced increases in community awareness around stormwater issues, in addition to small, yet significant changes in behavior through the use of large-scale information campaigns. This macro-level approach addresses permit requirements to reach 100% of the Orange County population, achieve 10 million impressions and to document changes in knowledge and behavior in a verifiable and consistent way. Additionally, this approach sought to maximize equity of messaging and resources among both Regional Water Quality Control Board regions – Santa Ana and San Diego – and among 34 cities in 11 watersheds.

The macro-level elements of *H₂OC* will continue as described in **Section C-6.2.1**; however, in tandem with these *foundational campaign* elements, the Permittees will develop *action campaigns* approximately every two years that will encourage adoption of specific behaviors associated with a pollutant or pollutants of concern. *Action campaigns* will focus on a single discrete action or set of actions, encouraging residents to adopt behaviors associated with a specific pollutant or suite of pollutants of concern.

As described in **Section C-6.2**, *action campaigns* utilize CBSM techniques to simplify messaging, reducing the chance for decision or action paralysis² that can arise from

² This phenomenon was described in the "Jam Study" – Iyengar and Lepper (2000); this study is referenced and

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inundating residents with too many pollution reduction behaviors to adopt. Through simplification of *H₂OC* messaging, *action campaigns* focus on one high-impact action. Each *action campaign* focus is determined by assessing the following variables:

- ***Identification of key pollutants*** – the Permittees examine and prioritize key pollutants based on level of harm they pose to the environment and prevalence in water quality on an annual basis; this process would take the list of pollutants and refine it further to assess whether anthropogenic sources are likely and whether education could impact the presence of these pollutants;
- ***Determine return on investment (ROI)*** – from the list of prioritized pollutants of concern in the first step, the Permittees assess which behaviors would produce the largest ROI, predicted by assessing the number of people performing that action (i.e. prevalence) and the likelihood that those people would change that action. This step balances ease of performing a behavior (participation in which is determined by the Surveys) and the potential environmental impact; and
- ***Consideration of external opportunities and needs*** – the final step considers opportunities to leverage campaign messages and tactics with existing programs and/or messaging elsewhere in the Orange County Stormwater Program or by other agencies or groups.

Evaluation of each *action campaign* is built into the structure of the campaign itself, allowing the Permittees to conduct status checks and fine-tune efforts during the campaign as well as assess the campaign's overall success upon conclusion of efforts. On an annual basis, *H₂OC* will establish baseline measures and follow-up assessments; outcomes associated with these measures indicate engagement and/or adoption of specific BMPs in the short term. Implementation of this assessment process is further described in **Section C-6.3.2** as it applies to the *Overwatering action campaign* for 2012-2016.

OVERWATERING ACTION CAMPAIGN

During 2015-16, the Permittees continued to focus on “overwatering” as the focus of the first *action campaign*. Unlike other activities or behaviors, overwatering can lead to several types of pollution through creation of runoff and mobilization of pollutants. From the 2012 Survey, it was clear that though overwatering is a pervasive issue most residents do not see a connection to their own watering habits. Sixty-seven percent (67%) of residents surveyed use sprinklers; however, few noticed wet pavement or pooling after irrigation. Additionally, almost half of respondents noted that higher water rates or fines would motivate them to adjust their sprinklers, suggesting that barriers to action might include a lack of knowledge concerning irrigation controllers and a lack of financial incentive to change watering habits.

The ultimate goal of the overwatering campaign is to build residential engagement with *H₂OC* by encouraging residents to sign up for program messaging (i.e. tips to reduce overwatering) and to commit to making small changes to their irrigation habits or landscape to reduce runoff.

described further in Section 3.2.1 of Exhibit 6.1.

In addition to building engagement, the Permittees also set the goal of demonstrating that the audience took an action to practice BMPs promoted by the *action campaign*. The objectives for the campaign are to a) recruit 300 campaign followers through obtaining email information, and b) demonstrate that 100 people practiced a BMP³. Assessment of the *Overwatering action campaign* to date is described in **Section C-6.3.2**.

C-6.3 Accomplishments

H₂OC serves as the umbrella campaign that supports and reinforces local efforts to address their specific needs, issues and requirements. This synergistic approach is designed to ensure that *H₂OC* presents a consistent, comprehensive and coordinated approach that increases the likelihood of positively influencing public knowledge and behavior. In addition, *H₂OC* leverages resources to conduct analyses of outreach success as part of the iterative development process. Accomplishments of the *foundational* and *action campaign* elements during the 2015-16 reporting year are detailed below.

C-6.3.1 Foundational Campaign

C-6.3.1.1 Paid & Earned Media

PAID MEDIA

Paid media is used to achieve a minimum of 10 million impressions and to provide information to the public more generally on behaviors and/or pollutants of concern, as well as to announce and advertise outreach events. In addition to paid media purchased by the Permittees, *H₂OC* also successfully leveraged an existing partnership with HCA - Used Oil to include their extensive advertising on proper disposal of used oil and oil filters. For more information on collection of used motor oil and oil filters through HCA, please see **Section C-5.2.3** and **Table C-5.11** of this report. *H₂OC* also partnered with John Wayne Airport during the reporting period to incorporate the Overwatering is Out action campaign mascot, Gnorman the Gnome, into water conservation advertisements the airport installed at airport terminals (**Figure C-6.7**). The advertisements also encouraged viewers to visit the campaign website at www.overwateringisout.org for water-saving tips.

In addition to HCA bus and billboard advertisements and John Wayne Airport terminal advertisements, targeted advertisements were placed in print (OC Register weekly papers), online media outlets, and billboards during the reporting period to increase visitation to the *Overwatering is Out* website (www.overwateringisout.org) and encourage participation in Cleanup Day 2015. Encouraging volunteer participation in *H₂OC* program events both increases awareness of pollution and involves the public in BMPs to prevent further pollution.

³ The Strategic Plan outlined objectives for year one of the action campaign; however, demonstrating practice of BMPs was in part tied to incentives to join the program effort. Due to existing policy concerning provision of incentives, the Permittees are utilizing other methods to encourage participation such as creating a norm (i.e. showing residents who have adopted BMPs as an example) until a process to provide incentives is established.

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In order to address residential activities or behaviors associated with bacteria entering water ways, the Permittees also advertised proper pet waste disposal in the program flyer for the Orange County Police Canine Association (OCPA) event on October 3, 2015. Each year, approximately 7,500 Orange County residents, OCPA supporters and dog enthusiasts attend from throughout Orange County. The advertisement, "Poollution" encouraged residents in this target audience to pick up pet waste and prevent bacteria from entering our waterways.

Impressions for all paid advertising total **25,833,355** for the 2015-16 reporting period (**Table C-6.1**).

EARNED MEDIA

Earned media is generally defined as any unpaid publicity either through mainstream outlets like television, radio, print or social media outlets (e.g. blogs, Facebook, Twitter, and YouTube). In this case, earned media includes any unpaid news stories regarding water pollution prevention issues that appear as content in the various forms of media.

As discussed in the 2011-12 Unified Annual Report, a 2012 Study by the Nielsen rating agency⁴ determined that ninety-two percent (92%) of consumers worldwide say that they trust earned media above all other forms of advertising and that trust in paid advertising has declined by approximately twenty-five percent (25%) since 1990. If information about water pollution prevention is within the content of the media programming, it is far more likely to be considered by the audience than a paid advertisement. As a result, H₂OC tracked earned media impressions throughout the 2015-16 reporting period; these impressions are reflected in the total impressions garnered by the program (**Table C-6.8**). Impressions for earned media total **37,584,525** for the 2015-16 reporting period (**Table C-6.3**).

Earned media impressions are calculated using similar methodology to impressions garnered through advertising; however earned media impressions are high in quality because they are content driven. The Permittees will continue to dedicate resources to tracking earned media on stormwater, pollution prevention, water quality, pollutants of concern, low impact development, etc. during the 2016-17 reporting period.

SUMMARY OF H₂OC MEDIA IMPRESSIONS

In order to be effective, a media outreach campaign must reach a majority of the selected target groups with sufficient frequency to measurably increase their knowledge and measurably change their behavior. **Table C-6.8** and **Figure C-6.1** show that the countywide paid and earned media created **63,417,880 impressions** during the 2015-16 reporting period.

SUMMARY OF EARNED AND PAID MEDIA

⁴ 2012 Nielsen article, "Global Consumers' Trust in 'Earned' Advertising Grows in Importance" based on 2012 Nielsen study of consumer 'trust' in earned and paid media sources (<http://www.nielsen.com/us/en/insights/press-room/2012/nielsen-global-consumers-trust-in-earned-advertising-grows.html>).

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Based on market research stressing the value of earned media, the Permittees sought to achieve at least 50% of media impressions from earned media during the 2015-16 reporting year. This goal was met with earned media comprising 59% of media impressions directly produced by the Program. Many of these news stories directly supported *Overwatering is Out* campaign messaging, including stories highlighting turf removal and low impact development. The Permittees will again seek to achieve at least 50% of media impressions from earned media during the 2016-17 reporting year.

2016-17 Program Focus:

- Continue to achieve at least 50% of impressions through earned media to meet impression benchmarks and record public exposure to messaging in support of Program goals.

C-6.3.1.2 Community Outreach

Community-based outreach has been a fixture of *H₂OC* since 2002, including general outreach to residents attending presentations (e.g. HOA meetings) and businesses through targeted outreach on proper BMP implementation (e.g. FSE and automotive facility outreach). Community outreach, formerly “non-media,” included implementation of a speakers’ bureau, workshops and participation in events during the reporting period.

SPEAKERS’ BUREAU PRESENTATIONS

A speakers’ bureau was developed for *H₂OC* in 2009 and was reinvigorated during the 2012-13 reporting year. On behalf of the Permittees, the Principal Permittee distributed requests for presentations to local groups and/or presented on behalf of the Permittees. *H₂OC* materials such as Quad newsletters, brochures and other information were provided to attendees and for posting on organization websites, when interested. Additionally, since 2013, speakers’ bureau presentations have been supplemented with messaging and materials supporting the *Overwatering action campaign*, and audience members are asked to participate in recommended BMPs and sign-up for *H₂OC* correspondence.

Speakers’ bureau presentations garnered **238 impressions** during the reporting period for *H₂OC*. Impressions garnered from presentations provided by city staff are included in their respective jurisdictional PEAs.

WORKSHOPS

H₂OC outreach to the business community and general public included workshops during the reporting period. In coordination with MWDOC and their member agencies, *H₂OC* again increased the number of OCGF events held during the reporting year, from eight in FY 2014-15 to eleven in FY 2015-16. These events continue to be very successful and well-received by the community, particularly in light of the current drought.

H₂OC also coordinated with MWDOC and their member agencies to host a series of workshops, called “H₂O for HOAs,” aimed at educating homeowner association board

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members and landscapers about efficient watering practices and stormwater pollution prevention information. Three H₂O for HOAs workshops were held during the reporting period.

Workshops for the mobile service industry were more successful and had greater participation when coordinated through a sector-specific organization (e.g. 2010-11 workshop with the Carpet & Fabricare Institute (CFI)). Attempts to coordinate with the Power Washers of North America in 2013 were ultimately unsuccessful, as were further attempts to work again with CFI.

Based on the resource-intensive nature of coordinating workshops, the Permittees focused efforts on utilizing existing partnerships to complete workshops for the remaining public and business sectors as described previously and in the table below, reaching a total of **1,155 workshop attendees**.

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Sector Reached	Workshop	Date
Mobile Service Industry		N/A
Manufacturing Facilities		N/A
Residential/Commercial Landscape Construction and Services Industry	University of California-Cooperative Extension Landscape Open House – Held with H2OC and for Landscapers, Residents, and Landscape Product Manufacturers	September 26, 2015
Residential and Community Activities	University of California-Cooperative Extension Landscape Open House – Held with H2OC and for Landscapers, Residents and Landscape Product Manufacturers OC Garden Friendly events with Home Depot and Tree of Life nurseries; water conservation plants and devices, and general stormwater pollution prevention information	September 26, 2015 October 3, 2015 October 7, 2015 October 24, 2015 March 5, 2016 March 12, 2016 March 19, 2016 April 2, 2016 April 30, 2016
Residential and Commercial Construction Industry	H2O for HOAs Events featuring G3 workshop on sustainable landscape design, through partnership with MWDOC	October 13, 2015 March 9, 2016 March 17, 2016
Commercial, Distribution and Retail Sales Industry	OC Garden Friendly events with Home Depot and Tree of Life nurseries; water conservation plants and devices, and general stormwater pollution prevention information	N/A October 3, 2015 October 7, 2015 October 24, 2015 March 5, 2016 March 12, 2016 March 19, 2016 April 2, 2016 April 30, 2016

OUTREACH EVENTS

The following is a list of outreach events in which the Program participated during the 2015-16 reporting period supplemental to individual Permittee event participation:

- September 19, 2015: Cleanup Day 2015
- March 23-24, 2016: Children's Water Education Festival
- April 22, 2016: City of Mission Viejo Environmental Fair

Through these events approximately **7,823 event participants** visited the H₂OC booth and

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received stormwater pollution prevention information. Impressions from in-person events, though much lower in quantity than advertising impressions, are of higher quality; booth visitors are able to ask questions, speak to Program representatives and take educational material home to show others.

CORPORATE ENVIRONMENTAL MANAGER OUTREACH

The Permittees conducted outreach to Corporate Environmental Managers during the permit term, building a list of 71 businesses in coordination with the Permittees. Most businesses that were contacted did not have an Environmental Manager or an environmental department within their organization; however, follow-up attempts were made and outreach materials were provided whenever possible.

Table C-6.4 shows that community outreach created **1,393 impressions** and event participation created **7,823 impressions** in the 2015-16 reporting period.

SUMMARY OF COMMUNITY OUTREACH

Participation in events allows the Permittees to have more direct contact with residents and answer questions regarding behaviors protective of water quality. Outreach at events integrates goals of both the *foundational* and *action campaigns*; events present opportunities to engage residents in *action campaigns*, especially when either targeted audience and messaging overlap or when events are general in nature.

2016-17 Program Focus:

- Continue to encourage residents and business representatives to sign-up for action campaign communication at events

C-6.3.1.3 Outreach Materials, H₂OC Website, & H₂OC Facebook Page

MATERIALS

The Principal Permittee, in collaboration with and under the direction of the NPDES Public Education Sub-Committee (Sub-Committee) annually review existing and develop, as needed, new countywide public and business education materials that effectively communicate the message of pollution prevention. Though several materials focus on specific pollutants of concern, stormwater topics (e.g. LID) or target specific audiences, at a minimum, all of the program materials:

- Explain the difference between the storm drain and sanitary sewer system, and emphasize that water in the storm drain does not receive treatment before entering our waterways;
- Focus on specific pollution-causing behaviors and address them directly to increase the likelihood of changing those behaviors and reducing pollution;
- Emphasize the relevant impact of stormwater pollution to the target audience;
- Include a positive alternative to pollution-causing behaviors;

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- Tailor the personality, focus and depth of program messages appropriately for each audience and venue; and
- Include the *H₂OC* moniker.

H₂OC actively maintains an extensive library of brochures, BMP factsheets, posters, BMP stickers (restaurant and automotive maintenance) and other materials which provides resources for Permittee outreach to target audiences within their jurisdictions. Each year, the Sub-committee determines if new materials are needed to address behaviors based on interactions with the public during inspections or pollution response, and at public counters. During the 2015-16 reporting period, the Public Education Sub-committee conducted a thorough review of existing materials and made recommendations for updates which will be implemented in a prioritized fashion over subsequent reporting periods. Materials are made available to the public through events, city counters, presentations, and online at www.H2OC.org.

As discussed in **Section C-6.2.1**, the program underwent a strategic re-branding of *Project Pollution Prevention* during the 2012-13 reporting year, including changing the program name to *H₂OC* and the overall look and feel of materials to reflect the new logo graphics and colors. The program website link also changed from www.ocwatersheds.com/publiced to H2OC.org, directly associating the program message with the website.

For a complete list of materials developed by *H₂OC* available to Permittees and other organizations, please see **Table C-6.5** of this report.

H₂OC WEBSITE

Residents increasingly seek information regarding pollution prevention from the internet. As a result, the Permittees continue to maintain a website dedicated to public education; the site includes informational pages, a Kids' Corner, brochures, video clips and options to sign up for regular program updates.

The website – H2OC.org – garnered a total of **4,717 page views** during the reporting period (**Table C-6.8**).

H₂OC FACEBOOK PAGE

The *H₂OC* Facebook page (“Orange County Stormwater Program”) was launched in January 2013 and an average of 12 posts per month were made to the page during the reporting period. The majority of these posts were made in support of the *Overwatering action campaign*, encouraging the Facebook audience to visit www.overwateringisout.org, sign up to receive water saving tips and rebate information, take an action to reduce overwatering, obtain a “Gnorman Approved” yard sign and/or “Water Champion” sticker (see **Section 6.3.2.3**), and attend related events (see **Section 6.3.2.2**).

One of the benefits of using social media as an outreach tool is that there are built-in metrics to determine total number of impressions as well as to assess the message

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effectiveness. Metrics utilized by Facebook include the following:

- *Page likes* – the number of Facebook members to like a page, which allows select page posts to appear in their feed.
- *Post likes* – the number of Facebook members to like a specific post
- *Post comments* – the number of Facebook members to comment on a specific post
- *Post shares* – the number of Facebook members to share a specific post, which would result in that post appearing in their friends' feeds
- *Post reach* – the total number of Facebook members to have seen a specific post
- *Page reach* – the total number of exposures to page and/or posts from that page

These metrics are helpful in assessing different aspects of a social media campaign. For example, a large number of *post likes* can indicate that a particular post is of interest to the Facebook audience, a large number of *post comments* might indicate that a particular post has been successful at engaging the Facebook audience, and a large number of *post shares* might indicate that the readers found the post interesting enough to want to share with their Facebook friends. During the reporting period, posts made to the *H₂OC* Facebook page garnered an average of 39 *post likes*, 1.5 *post comments*, and 5 *post shares*.

Additionally, Facebook allows for posts to be "boosted," for a fee, which allows a much greater audience to view a given post. During the reporting period, 20 posts were boosted in an effort to drive attendance at events supporting the *Overwatering action campaign* (see **Section 6.3.2.2**). As *page reach* represents the total number of exposures to a page's message (through actual visits to the page or viewing of page posts), it is the best metric to use when determining total impressions. During the 2015-16 reporting year, the *H₂OC* Facebook had **281,859 page and/or post exposures** (i.e. *page reach*) (**Table C-6.8**).

SUMMARY OF OUTREACH MATERIALS, H₂OC WEBSITE & H₂OC FACEBOOK PAGE

Development and provision of educational materials is an important but static part of the program; however, maintaining an informative website and Facebook page that encourage participation in BMPs protective of water quality has become increasingly important.

2016-17 Program Focus:

- Continue to increase engagement with *H₂OC* Facebook audience.
- Update select outreach materials per Public Education Sub-committee review.

C-6.3.1.4 Outreach to School-age Children

Educating school children about stormwater and urban runoff pollution is critical to the long-term success of the Orange County Stormwater Program. Information provided to students in school is often brought into the home and shared with parents and other relatives. The 2012 Survey indicated that forty-six percent (46%) of adults with school-aged children at home received information about water pollution prevention.

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Children are also excellent watchdogs when it comes to their parents' activities, and they are likely to try to correct a parent's polluting behavior. In the 2012 Survey, parents of students who provided them with water pollution prevention information were more likely than those without kids to engage in the seven "stormwater safe" behaviors. *H₂OC* continued to implement a school outreach program throughout the 2015-16 reporting year; the programs implemented and/or supported by *H₂OC* are detailed below and in **Table C-6.6**.

DISCOVERY SCIENCE CENTER / MWDOC

In 2015-16, the Program provided 11,335 fifth grade students a workbook produced in coordination between *H₂OC* and the Discovery Science Center in 2009. The workbook meets California Science Content Standards and focuses on water pollution prevention. The workbooks were provided to students in support of the MWDOC's program at Discovery Science Center to both outreach to students and bolster the existing relationship with MWDOC.

In addition to the workbooks, the Orange County Stormwater Program has an interactive water pollution prevention game on its website in the "Kid's Corner" section. The website is promoted to the school children and teachers on the workbook provided at the Discovery Science Center.

PACIFIC MARINE MAMMAL CENTER (PMMC)

The PMMC initiated the Pinniped Pollution Project program in 2009⁵, focused on watershed education and pollution prevention. The curriculum includes pollutant transport and the effects of trash and other pollutants on the marine environment and its inhabitants. The program was initially developed in partnership with *H₂OC*, including curriculum content and the provision of maps and other materials.

The PMMC is located in Laguna Beach, but serves students from throughout the County. During the 2015-16 reporting year, the Pinniped Pollution Project program was presented to **3,349 Orange County students**. Additionally, *H₂OC* worked with Orange County 4-H to provide workbooks for each of the students involved with the program, and have lent two *H₂OC* and one Orange County 4-H Enviroscape models to the Pacific Marine Mammal Center for use in their education program.

CHAPMAN UNIVERSITY OC WATERSHED EDUCATION AMBASSADOR PROGRAM (OC WEAP)

In 2012, the Program partnered with Chapman University to develop and implement OC WEAP, which provides water pollution prevention and watershed outreach to fifth grade elementary school students. Through this pilot program, Principal Permittee staff developed a curriculum incorporating the California Science Content Standards for fifth grade and trained Chapman University students on presenting this information in a fun and informative way.

⁵ Impressions garnered through the PMMC Pinniped Pollution Project were not included in the 2009-10 and 2010-11 reporting years. The 2011-12 report corrected this oversight.

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Chapman University students then made the curriculum their own by putting together unique presentations and materials for students. The inaugural presentation on May 1, 2013 at Linda Vista Elementary School in Orange was a great success; four Chapman University students presented the watershed curriculum to 77 fifth graders. During the reporting period, the Chapman University students presented the watershed curriculum to 463 fifth graders at various elementary schools.

Additionally, children participating in the program are asked to take a short quiz both before and after the watershed curriculum is presented by the Chapman University students (pre- and post-tests). During the reporting period, the average pre-test score was 67%, while the average post-test score was 75%, indicating successful implementation of the program.

Table C-6.6 shows that outreach to school-age children created 15,147 impressions for the 2015-16 reporting year.

SUMMARY OF OUTREACH TO SCHOOL-AGE CHILDREN

It is the goal of *H₂OC* and the Public Education Sub-committee to continue to increase support of watershed education and pollution prevention school programs in Orange County. Support comes in two primary forms – through collaboration with an organization to design and implement a school program or by supporting existing school programs that meet necessary standards and permit requirements (e.g. outreach about pollution prevention BMPs). Existing programs may have metrics for tracking student learning or they may track participation only; the Permittees will work through existing partnerships to build metrics into school outreach programs wherever possible (e.g. pre-/post-tests).

2016-17 Program Focus:

- Expand OC WEAP to other colleges and universities within the County.
- Pursue grant opportunities to support funding of additional youth outreach activities.

C-6.3.1.5 Permittee Support & Coordination

H₂OC is annually revised per permit requirements and assessment results under the aegis of the Sub-committee. The Sub-Committee comprises Permittees and educational groups in Orange County and provides direction and oversight on plan development and implementation. The goal of the Sub-Committee is to provide regional consistency and oversight for the stormwater public education efforts. The Sub-Committee met monthly during the 2015-16 reporting period.

Please reference **Section C-2.3.1** – Management Framework for a detailed discussion of the Committee structure.

POLLUTION HOTLINE

The County as Principal Permittee also manages the countywide 24-hour bilingual water pollution reporting hotline number, 1-877-89SPILL, which handles water pollution complaints as well as inquiries about stormwater and public education materials. During the reporting period the hotline received 176 water pollution calls. See **Section C-10.2** of this report for a summary of pollution response activities.

Summary of Public Education Program Impressions

Permittee impressions individually total 73,022,754 during the 2015-16 reporting period (see **Table C-6.7**).

C-6.3.2 Action Campaign

As described in **Section C-6.2.2** the Permittees began development and implementation of the first *action campaign* focused on curbing overwatering during the 2012-13 reporting period (year 1) and continued these efforts during the 2013-14 (year 2), 2014-15 (year 3), and 2015-16 (year 4) reporting periods. *Overwatering action campaign* efforts are focused on engaging residents in the campaign and demonstrating that the audience started taking actions to practice BMPs. To date, these efforts have included:

- Conducting a baseline phone survey and subsequent progress evaluations of the campaign effort (**Section C-6.3.2.1**);
- Collaboration with other agencies (Overwatering Sub-committee) (**Section C-6.3.2.2**);
- Development and maintenance of an overwateringisout.org website (**Section C-6.3.2.3**);
- Encouraging engagement and tracking sign-ups (**Section C-6.3.2.4**); and
- Tracking behavior change occurring as a result of the *Overwatering action campaign* (**Section 6.3.2.5**).

C-6.3.2.1 Overwatering Baseline Phone Survey and Progress Evaluations

An essential component of the CBSM outreach technique is to establish a baseline for a behavior against which the outreach program will be assessed to document localized behavior change as a result of the campaign. The Permittees conducted a baseline phone survey in April 2013 utilizing an outside firm to obtain baseline information from Orange County residents about irrigation practices and overwatering behaviors. A total of 505 Orange County residents (50% male, 50% female) completed the survey and met eligibility criteria (18 years of age, a resident of Orange County, ability to complete the survey in English or Spanish).

The key findings of the baseline survey were described at length in a report completed in July 2013 - *Overwatering Campaign Baseline Phone Survey Summary* (**Exhibit 6.2**). Baseline survey results subsequently guided development of messaging on the

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overwateringisout.org website and materials encouraging program sign-ups.

During the 2013-14 reporting period, the Permittees conducted a progress evaluation of the *Overwatering action campaign* (from June 2013-March 2014), the results of which were included in the May 2014 Progress Summary Report (**Exhibit 6.3**). The findings of this report indicated that the most involved participants in the *Overwatering action campaign* are those who are either already efficient water users or are committed to using water efficiently. In response to these findings, the Permittees identified “Community Champions,” those participating in the *Overwatering action campaign* who have both undertaken a large number of the activities encouraged by the campaign and are eager to encourage others to do so. During the 2015-16 reporting period, Community Champions assisted the program in various outreach efforts, including starring in a short Featured Resident Video called “Kevin’s Story” (**Figure C-6.8**), attending program events, and distributing yard signs to eligible neighbors.

Though the action campaigns were originally intended to be short-lived (2-3 years in duration), the current drought presents an unprecedented opportunity for public engagement in pollution prevention messaging and the Permittees will continue to implement the *Overwatering action campaign* for the duration of the drought.

C-6.3.2.2 Collaboration with Other Agencies

Overwatering is a topic of interest from both water quality and water use efficiency perspectives. Throughout development of the *Overwatering action campaign*, the Permittees have engaged the MWDOC and their member agencies to develop messaging, provide a central location for information about runoff reduction, proper irrigation techniques and rebates (overwatering.org), and to partner in spreading awareness of the program.

The Permittees coordinated with MWDOC to form an Overwatering Sub-committee of representatives from the MWDOC Water Use Efficiency Coordinators Workgroup to advise development of program messaging. Through this process, the Overwatering Sub-committee completed a survey ranking both ease of implementation and impact of specific BMPs (e.g. reducing each irrigation cycle by 1-3 minutes or using a layer of mulch around trees and plants). Based on this analysis, several behaviors arose for consideration in messaging, categorized by habits, activities that would require knowledge gain and change, upgrading lawn equipment and landscape changes. The overall behaviors selected for both ease of implementation and impact to water quality (i.e. reduction of runoff) included:

- Not watering when it rains;
- Reduce watering during the winter (water once every 3 days in summer, water only once every 5 days in winter) and overall from 5-7 days/week to 1-2 days/week (which has since been significantly reduced in many areas within Orange County as a result of water-use restrictions in place due to the drought);
- Use automatic shutoff nozzles on a hose;
- Adjust sprinkler distribution area to minimize contact with impervious areas;
- Eliminate leaks, overspray and broken sprinkler heads; and

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- Replace high water-using plants with native, drought-resistant plants.

The behaviors selected formed the basis for tips distributed to residents signed up to receive *Overwatering action campaign* emails. The process for entering, tracking and distributing information to residents is described in **Section C-6.3.2.4**.

Additionally, during the FY 2015-16 reporting period the Permittees continued to partner with MWDOC and their member agencies, as well as the UCCE, in implementing the OC Garden Friendly program (OCGF), which supports the *Overwatering action campaign* by encouraging Orange County residents to install climate-appropriate and low-water-use plants in outdoor spaces and gardens. In implementing OCGF, the following actions were taken during the reporting period:

- Held eleven highly advertised OCGF events in partnership with Home Depot and Tree of Life nurseries in the cities of Anaheim, Brea, Costa Mesa, Huntington Beach, Irvine, Lake Forest, Orange, Mission Viejo, San Juan Capistrano, Santa Ana, and Tustin;
- Developed fliers and bill inserts to advertise the events and shared these items with program partners;
- Promoted OCGF events on the *H₂OC* Facebook page and on overwateringisout.org;
- Worked with Home Depot to place materials that identify rebatable water efficient products and plants in select stores;
- Utilized a photo prop standee of program mascot, Gnorman the Gnome, to increase booth visitation and engagement (**Figure C-6.2**);
- Distributed the “Orange County Garden Friendly Planning & Plant Guide” at OCGF events (**Figure C-6.4**).

The Permittees will continue to implement the OCGF Program during the 2016-17 reporting year, and will investigate new partnerships and venues for these events.

C-6.3.2.3 Overwatering Website

In addition to reformatting the public education program website to be both reflective of the change in program name and graphics, the Permittees built a microsite specifically for the *Overwatering action campaign* – overwateringisout.org. This website serves three main purposes: (1) it is a platform for residents to sign-up to receive program messages and tips; (2) it serves as a “one stop shop” for both water use efficiency and runoff reduction information, with biweekly blog posts covering a wide range of related topics; and, (3) it operates as a forum for residents to provide feedback and see residents who have already implemented BMPs successfully.

Incentives are important to draw people to the website. During the 2014-15 reporting period, the Permittees developed and produced “Gnorman Approved” yard signs and “Water Champion” stickers that were distributed for free to residents that took actions to reduce their water use, thereby limiting or altogether eliminating the runoff leaving their property (**Figure C-6.3**). In order to obtain a yard sign and/or sticker, a resident must select the action they took from a list of preapproved activities on the website (with

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photographic evidence required in some instances) and opt-in to receive additional tips from the biweekly campaign emails. Thus, the yard signs and stickers provide the program with a way to track behavior change, one of the primary program evaluation metrics (**Section C-6.3.2.5**). Additionally, website landing page includes an action map that allows residents to share what they have done to help stop overwatering in their neighborhood (**Figure C-6.6**). During the reporting year, the www.overwateringisout.org website garnered a total of 87,366 page views by 41,578 unique page visitors.

C-6.3.2.4 Encouraging Engagement & Tracking Sign-ups

Through tracking software, *H₂OC* is able to track sign-ups through the Overwatering action campaign and *H₂OC* websites and from events. Additionally, *H₂OC* built in tracking of residents over time to provide the Permittees the ability to follow up with individuals on adoption of BMPs.

An extensive email distribution system has been developed to distribute tailored correspondence based on reported watering efficiency; residents who report high levels of efficiency will be encouraged to adopt more intensive BMPs versus a resident who has reported not being efficient. Email correspondences are distributed to residents as they “opt-in” to the program and on a regular basis to those already signed-up through the website and events. Email opt-ins are tracked by zip code so that targeted outreach can be undertaken in areas with low opt-in numbers; as of June 30, 2016, **2,660 Orange County residents** had opted in to receive *Overwatering action campaign* emails (see **Figure C-6.5**). During the reporting period, Orange County residents received **53,200 emails** as a result of opting in to the *Overwatering action campaign*.

During the reporting period, *H₂OC* launched a *Drought, Camera, Action* photo contest to increase program visibility and engagement and to provide an arena for residents to share what they have done to save water and reduce runoff in their homes (**Figure C-6.9**). The contest, which ran from October to February, garnered 30 photo submissions, 1,677 photo contest votes, and 83 comments. At the conclusion of the contest, three winners were selected (for People’s Choice, Most Beautiful Photo of a Drought-Resistant Plant, and Most Beautiful Photo of a Drought-Resistant Landscape awards) and their photos were published in the OC Register.

C-6.3.2.5 Tracking Behavior Change

The ultimate goal of the *Overwatering action campaign* is to encourage residents to adopt behaviors associated with outdoor water use consumption to both conserve water and minimize runoff. The Permittees had previously tracked this behavior change by recording the number of smart sprinklers and rain barrels purchased at OCGF events; however, this information is not always made available by the venue partner. Instead, behavior change is now tracked through information obtained by the “Gnorman Approved” yard sign and “Water Champion” sticker program. During the reporting period, a total of **413 runoff-reducing behaviors** were adopted by Orange County residents, for a total of 657 runoff-reducing behaviors adopted to date.

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SUMMARY OF OVERWATERING ACTION CAMPAIGN

The *Overwatering action campaign* has metrics built into the fabric of the campaign that have allowed the Permittees to evaluate the campaign's success based on the following two objectives: (1) recruit 300 campaign followers through obtaining email information, and (2) demonstrate that 100 people practiced a BMP. The Permittees have exceeded both objectives, with 2,660 email opt-ins received and 657 people identified as having adopted a runoff-reducing behavior.

2016-17 Program Focus:

- Continue implementation of the *Overwatering action campaign* through the duration of the drought.
- Continue to implement the OCGF Program and investigate new partnerships and venues for these events.
- Launch effort to develop action campaign focused on pesticide reduction.

C-6.4 Assessment

The principal means of both evaluating the effectiveness of H₂OC and informing the ongoing development of the campaign is the use of scientific telephone public opinion surveys. The Program conducted a fifth public opinion survey (2015 Survey) in September 2015, the results of which are summarized in **Section C-6.4.1** below.

Annual analyses of outreach efforts for both the foundational and action campaigns are detailed in each sub-section of this report and summarized below.

C-6.4.1 Public Awareness Surveys

It was determined during the 2002-03 reporting period that the development of a specific methodology for future Orange County public awareness surveys was paramount to ensuring the scientific defensibility of results in identifying changes in public knowledge and behavior. The resultant study, designed by a leading expert in the field with oversight from the Principal Permittee and Public Education Sub-Committee was conducted in May 2003 (2003 Survey). This initial survey established the baseline knowledge level and willingness of residents to participate in pollution preventative behaviors.

Mid-way through the Third Term permit cycle, a subsequent (and almost identical) survey was conducted in November of 2005 (2005 Survey). The 2005 Survey served as an assessment of improvements in public knowledge of stormwater issues and whether or not Orange County residents made any behavioral changes as a result of the outreach campaign. Results from the 2005 Survey showed an increase in awareness of stormwater issues for the majority of questions asked, indicating that the public information campaign on stormwater and urban runoff had increased awareness.

To assess the progress of Project Pollution Prevention (predecessor to H₂OC) at the start of

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the Fourth Term Permits and assist with future program planning, a third survey was conducted in late 2009 (2009 Survey). Responses on the 2009 Survey indicated incremental and statistically significant changes in behavior and increases in awareness since the 2005 Survey.

In May 2012, the Program conducted a fourth public opinion survey (2012 Survey) utilizing some questions from across the previous three surveys to show patterns in knowledge and behavior over time, and introducing new questions to target specific behaviors, potential motivators or barriers to those behaviors and involvement of residents within their community. Responses on the 2012 Survey showed that the number of respondents who have participated in "stormwater safe" activities increased to the highest percentage of total respondents to date, with parents of students who provided them water pollution prevention information being most likely to engage in those activities.

In September 2015, the Program conducted a fifth public opinion survey (2015 Survey), again utilizing some questions from across the previous four surveys to show patterns in knowledge and behavior over time. As with the previous four surveys, the 2015 Survey demonstrated increases in both knowledge and awareness.

Behavior Change

Regarding the progress of the program, all four surveys tracked willingness of residents to participate in seven "stormwater safe" activities as an indicator of temporal behavior change. These activities included using a broom and a trash bag instead of a hose to clean one's driveway, picking up after one's pet and adjusting one's sprinklers to avoid overwatering. Although the number of respondents picking up their pet waste, taking their cars to a car wash instead of washing them at home, and using a broom and trash bag to clean walkways and driveways increased between 2012 and 2015, the number of respondents willing to environmentally manage their yard clippings, adjust sprinklers to reduce watering, even if their lawn goes brown, and using less lawn and garden fertilizers and pesticides decreased. However, the decrease in willingness to adjust sprinklers is likely due to the fact that residents are already being directed by water agencies to severely limit their outdoor watering, leaving little room for any further reductions. Though behavior change is slow and fluctuates, it is steady over the long term and changes seen over the course of five surveys have been small, but significant.

Overwatering is Out Action Campaign

For the first time since implementation of the public opinion surveys in 2003, survey respondents reported water issues / the drought as the number one issue facing their community (21.2%), higher even than public safety or jobs and the economy. Furthermore, 43.3% reported that drought conditions were the greatest motivator for reducing the amount of time they use their sprinklers. These results support continuation of the *Overwatering is Out* action campaign, which encourages reduction of runoff through promotion of water-efficient practices.

Over a third of respondents (35%) acknowledged awareness of the *Overwatering is Out*

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action campaign, with affirmative responses greatest in those over 55 years old; however, only 7.8% reported familiarity with the campaign mascot, Gnorman the Gnome. H₂OC is committed to working with program partners in the upcoming reporting period to continue to promote *Overwatering is Out* to increase program awareness and engagement.

Pesticide Usage

Additionally, new questions were added to assess current pesticide use patterns in Orange County to inform efforts to develop an action campaign aimed at reducing pesticide use in 2016-17. Interestingly, nearly 65% of respondents stated they preferred to use alternative pest control measures, with home hygiene and maintenance ranking as the most frequently used alternative measure. Respondents also indicated that their primary motivation for using alternative pest control measures is a desire to preserve the environment for future generations, which is in line with results of the 2012 Survey where 88% of respondents reported they were “very” or “somewhat” concerned with preserving the environment for their children or grandchildren. Finally, the majority of respondents reported that they maintained their own yards, as opposed to relying on an HOA or hiring a landscaper. These and other responses to questions concerning pesticide usage will be evaluated alongside demographic information in order to identify a target audience for development of a pesticide-based action campaign in the next reporting period.

Effectiveness of Media Campaign

Survey results also guide purchase of advertising based on shifts in effectiveness of various advertising types. Results from the 2015 Survey indicated the following:

- Print Media
 - Newspapers were listed as the second best source (32.9%) for respondents to receive news and information related to water pollution issues in Orange County.
 - The Orange County Register was reported as the top newspaper source for water pollution issues (23.9%). H₂OC currently places print advertisements in the Orange County Register and/or Orange County Register regional weekly papers, and will continue to do so in the future.
- Internet Media
 - Social media was reported as the fourth best source (16.2%) for water pollution issues, following local water agencies (18.7%). Working collaboratively with MWDOC and their member agencies allows us to engage residents through a respected source, and H₂OC will continue this partnership in the future.
 - Facebook was reported as the top social media source for water pollution issues (14.7%), and H₂OC will continue to grow its Facebook audience and increase engagement in the future.

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C-6.4.2 Foundational Campaign

In addition to general pollution-prevention outreach and messaging, *H₂OC* advertising during the reporting period focused on increasing engagement in the *Overwatering action campaign*. Of the total 136,938,580 impressions created by the Program during the reporting period, 24,307,710 (18%) directly supported the *Overwatering action campaign*.

C-6.4.3 Action Campaign

During the reporting period, the Permittees expanded the *Overwatering action campaign* through implementation of the *Drought, Camera, Action* photo contest and an increased number of OCGF events. Due to the ongoing public interest in water-related issues resulting from the drought, the Permittees will continue to implement the *Overwatering action campaign* for the foreseeable future.

C-6.4.4 Program Impressions

Table C-6.8 shows that all impressions created by both the countywide public education program and jurisdictional programs total **136,938,580** during the 2015-16 reporting period.

Headline Indicator – Number of Impressions: The public education program created over 136,938,580 million impressions during the 2015-16 reporting period. One of the goals of the public education program is to target 100% of the residents of Orange County. Orange County has a population of approximately 3 million people. The total impressions earned greatly exceed the program goal. Additionally, 24,307,710 of those impressions directly supported the Overwatering action campaign, which during the reporting period was able to effect behavior change in the form of BMP adoption by 413 Orange County residents.

C-6.4.5 Program Awards

During the reporting period, *H₂OC* was recognized for its achievements and in particular for its *Overwatering is Out action campaign* through receipt of the following awards:

- 2015 Outstanding News, Information, Outreach and Media Project – California Stormwater Quality Association
- 2015 Golden Hub of Innovation – Association of California Cities, Orange County
- 2015 Protos Award of Excellence – Orange County Public Relations Society of America

C-6.5 Summary

H₂OC successfully achieved and exceeded the goal of 12 million impressions (4 times the Orange County population) and met compliance with the Santa Ana Region requirement to achieve a minimum of 10 million impressions through media. These impressions were delivered in a variety of formats, including print media, online media, social media, billboards, and in-person events, and supported efforts to engage multicultural audiences

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as well as grow the *Overwatering is Out action campaign*. During its fourth year of implementation, the *Overwatering is Out action campaign* was recognized for its achievements, garnering three prominent awards which lauded the campaign for its novel use of automated marketing tools to deliver personalized content. H₂OC will continue to implement the countywide effort, including ongoing implementation of the *Overwatering action campaign*, and will begin to develop a companion action campaign aimed at reducing pesticide use drawing on insight gained from the public opinion survey that was conducted during the reporting period.

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Table C-6.1: Paid Media Advertising

Media Type	Media Outlet	Advertisement Topic	Run Date(s)	Impressions	
				SAR	SDR
Online	Google Adwords	Drive Traffic to overwateringisout.org and Increase Awareness of Yard Sign Program	July 2015	154,361	38,590
Online	Google Adwords	Drive Traffic to overwateringisout.org and Increase Awareness of Yard Sign Program	August 2015	157,154	39,289
Online	Google Adwords	Drive Traffic to overwateringisout.org and Increase Awareness of Yard Sign Program	September 2015	42,632	10,658
Print	OC Register Weekly Papers (SDR Region)	Encourage Participation in WQIP Public Workshop	September 2015	0	27,730
Print	OC Register Weekly Papers	Encourage Participation in Events for Cleanup Day 2015	September 2015	158,950	39,738
Print	OC Register Weekly Papers	Encourage Participation in Fall OC Garden Friendly Events	September 2015	158,950	39,738
Online	Google Adwords	Drive Traffic to overwateringisout.org and Encourage Participation in the Photo Contest	October 2015	614,397	153,599
Print	OCPA Event Program	Proper Disposal of Pet Waste	October 3, 2015	6,000	1,500
Online	Google Adwords	Drive Traffic to overwateringisout.org	November 2015	607,232	151,808
Print	OC Register Weekly Papers	Advertise and Encourage Participation in Overwatering is Out Photo Contest	November 2015	158,950	39,738
Online	Google Adwords	Drive Traffic to overwateringisout.org and Encourage Voting in the Photo Contest	January 2016	1,744,572	436,143
Online	Google Adwords	Drive Traffic to overwateringisout.org and Encourage Voting	February 2016	600,210	150,052

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Media Type	Media Outlet	Advertisement Topic	Run Date(s)	Impressions	
				SAR	SDR
		in the Photo Contest			
Print	OC Register Weekly Papers	Encourage Participation in Spring OC Garden Friendly Events	February - March 2016	158,950	39738
Billboard	Outfront Media (Intersection of Fairview and Edinger, Santa Ana)	Drive Traffic to jardinfeliz.org and Encourage Participation in Spring OC Garden Friendly Events	February 8, 2016 – March 6, 2016	636,324	0
Billboard	Outfront Media (Intersection of Beach and Stage, Buena Park)	Gnomes Don't Let Gnomes Overwater; Drive Traffic to overwateringisout.org	February 8, 2016 – March 6, 2016	1,074,120	0
Billboard	Clear Channel (San Diego Freeway 405)	Gnomes Don't Let Gnomes Overwater; Drive Traffic to overwateringisout.org	February 29, 2016 – March 27, 2016	2,304,000	576,000
Billboard	Clear Channel (Artesia Freeway 91)	Gnomes Don't Let Gnomes Overwater; Drive Traffic to overwateringisout.org	February 29, 2016 – March 27, 2016	8,640,000	2,160,000
Online	Google Adwords	Drive Traffic to overwateringisout.org and Increase Awareness of Yard Sign Program	March 2016	4	1
Print	OC Register	Announce Overwatering is Out Photo Contest Winners	March 13, 2016	466,570	116,643
Print	Excelsior	Multicultural Outreach	March 18, 2016 – April 8, 2016	180,000	45,000
Billboard	Outfront Media (Intersection of Harbor and Warner, Santa Ana)	Gnomes Don't Let Gnomes Overwater; Drive Traffic to overwateringisout.org	March 21, 2016 – April 17, 2016	803,980	0
Print	Nguoi Viet	Multicultural Outreach	March 25, 2016 – April 8, 2016	153,843	38461
Print	OC Register Weekly Papers (SDR Region)	Encourage Participation in WQIP Public Workshop	April 2016	0	27,730
Billboard	Clear Channel	Gnomes Don't Let	April 4,	2,304,000	576,000

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Media Type	Media Outlet	Advertisement Topic	Run Date(s)	Impressions	
				SAR	SDR
	(San Diego Freeway 405)	Gnomes Overwater; Drive Traffic to overwateringisout.org	2016 – April 24, 2016		
TOTAL				21,125,199	4,708,156

Impressions for print media are based on factors such as attendance numbers, readership, and newsstand numbers provided by the suppliers of advertising based on scientific market research. The newspaper industry standard for determining readership is generally 2.5 to 3.5 times circulation; based on the theory that more than one person reads an individual issue. When specific readership numbers are not provided, a conservative estimate of 2.5 times circulation has been used. Impressions for the OCPA event program did not include a multiplier as all family members were likely in attendance and would receive their own. For online and regional advertising division between regions is divided between regions by 80% Santa Ana Region and 20% San Diego Region based on population. Impressions for billboards located on major commuter freeways (i.e. the San Diego Freeway (405) and the Artesia Freeway (91)) were divided similar to online media with 80% allocated to the Santa Ana Region and 20% to the San Diego Region. All other billboard impressions were attributed to the specific region in which they were placed.

Table C-6.3: Earned Media Advertising

Region	Impressions
SAR	30,067,620
SDR	7,516,905
TOTAL	37,584,525

Table C-6.4: Impressions Created by Community Outreach

Program	Type of Program	Estimated Number of Impressions
Workshops	Business & Residential	1,155
Speakers' Bureau	Business & Residential	238
H ₂ OC Events	Outreach Events	7,823
TOTAL		9,216

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Table C-6.5: Countywide Educational Materials

Public Education Item	Pollutant(s) Addressed	Activities Addressed
Brochures		
"Orange County Garden Friendly Planning & Plant Guide"	Overwatering	Water conservation, California-friendly landscaping
"Tips to Prevent Overwatering"	Overwatering, pesticides/fertilizer	Water conservation, use of IPM techniques and California-friendly landscaping
"The Ocean Begins At Your Front Door" - English, Spanish, Vietnamese	Household hazardous waste, trash, motor oil, chlorine, overwatering, green waste, dirt, pesticides/fertilizer, pet waste	Household maintenance and activities (i.e. hosing driveway), automotive maintenance and washing, pool maintenance, landscape and gardening, trash disposal, pet care
Homeowners Guide for Sustainable Water Use Pamphlet	Household hazardous waste, trash, motor oil, chlorine, overwatering, green waste, dirt, pesticides/fertilizer, pet waste	Preventing urban runoff through low impact development in residential properties, water conservation, use of IPM techniques and California-friendly landscaping, general water pollution prevention methods
"Help Prevent Ocean Pollution: Your Local Used Oil Collection Center" (North, South & Central) - English, Spanish, Vietnamese	Motor Oil	Automotive Maintenance, Disposal of Used Motor Oil
"Help Prevent Ocean Pollution: Tips for Pool Maintenance" - English, Spanish	Chlorine, runoff	Pool Drainage/Maintenance
"Help Prevent Ocean Pollution: Tips for Landscape and Gardening" - English, Spanish	Fertilizer, pesticide, dirt, overwatering, green waste	Landscape maintenance, pesticide/fertilizer application, proper disposal of household hazardous waste and green waste
"Help Prevent Ocean Pollution: Tips for Pet Care" - English, Spanish	Surfactants, chemicals, pet waste	Proper disposal of pet waste, proper pet bathing techniques
"Help Prevent Ocean Pollution: Household Tips" - English, Spanish	Household hazardous waste, pet waste, pesticides/fertilizers, overwatering, green waste, surfactants, motor oil, trash	Household maintenance and activities (i.e. hosing driveway), automotive maintenance and washing, pool maintenance, landscape and gardening, trash disposal, pet care
"Help Prevent Ocean Pollution: Tips for Horse Care" - English, Spanish	Bacteria, sediment	Large animal care and maintenance

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Table C-6.5: Countywide Educational Materials (continued)

“Help Prevent Ocean Pollution: Proper Disposal of Household Hazardous Materials” – English, Spanish, Vietnamese	Household hazardous wastes	Proper identification and disposal of household hazardous wastes
“Help Prevent Ocean Pollution: Maintenance Practices for Your Business” – English, Spanish	Fertilizer, pesticides, green waste, overwatering, trash, toxic substances	Landscape maintenance, proper application of pesticides and fertilizers, trash management, proper storage of materials
“Help Prevent Ocean Pollution: Tips for Using Concrete and Mortar” – English, Spanish	Concrete and mortar, slurry	Proper preparation, use, clean up and disposal of concrete and mortar
“Sewage Spill Reference Guide”	Sewage spills from overflows, grease buildup, structure problems and/or infiltration and inflow	Proper prevention of and identification and response to sewage spills
“Responsible Pest Control”	Pesticides	Proper identification of pests, selection of least toxic chemical, proper pesticide application, spill prevention and proper storage and disposal of pesticides (use of Integrated Pest Management (IPM) techniques)
“Help Prevent Ocean Pollution: Residential Pool, Landscape and Hardscape Drains” – English, Spanish	Chlorine, chemicals, pet waste, green waste, overwatering, motor oil and vehicle fluids	Pool maintenance, spill prevention, proper disposal of household hazardous waste, proper disposal of pet waste, proper use of pesticides and fertilizers, proper vehicle maintenance
“Help Prevent Ocean Pollution: Proper Use and Disposal of Paint” – English, Spanish	Paint, chemicals	Proper use, storage and disposal of paint
“Help Prevent Ocean Pollution: Tips for Home Improvement Projects” – English, Spanish	Construction debris, concrete, paint, household hazardous waste, sediment	Proper storage of construction materials, recycling of construction materials, proper disposal of household hazardous waste, proper erosion and spill control
“Help Prevent Ocean Pollution: Children’s Coloring & Activity Book”	Trash, pet waste, motor oil, green waste	Litter control, proper disposal of pet waste, proper spill clean up (e.g. use of cat litter)
“Help Prevent Ocean Pollution: Tips for Carwash Fundraisers”	Surfactants, metals, motor oil, toxic substances	Proper BMPs for carwashing activities (i.e. containment and encouragement of infiltration)

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Table C-6.5: Countywide Educational Materials (continued)

"Help Prevent Ocean Pollution: Tips for Maintaining a Septic Tank System"	Grease, trash, pesticides	Proper maintenance of septic tanks
"Help Prevent Ocean Pollution: Tips for the Automotive Industry" – English, Spanish	Motor oil, metals, surfactants, toxic substances, dirt	Proper maintenance and washing practices for automobiles, proper storage and disposal of automotive liquids and materials
"Help Prevent Ocean Pollution: Tips for the Automotive Industry"	Motor oil, metals, surfactants, toxic substances	Proper maintenance and washing practices for automobiles and automotive detailing materials, proper storage and disposal of automotive liquids and materials
"Help Prevent Ocean Pollution: Tips for the Home Mechanic"	Motor oil, metals, surfactants, toxic substances	Proper maintenance and washing practices for automobiles and automotive detailing materials, proper storage and disposal of automotive liquids and materials, use of used oil collection centers
"Compliance Best Management Practices for Mobile Businesses"	Surfactants, toxic substances, dirt, metals	Mobile car washing and detailing, proper high pressure cleaning, proper storage and disposal of washwater from mobile automotive detailing, washing and carpet and fabric cleaning
"Educational Program Opportunities for Teachers and Students"	General	Programming available to Orange County teachers
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" – English, Spanish, Vietnamese	Grease, food waste, trash	Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup, proper maintenance of trash dumpsters, proper floor mat cleaning, proper wastewater disposal
"Help Prevent Ocean Pollution: A Guide to Prevent Overwatering"- English	General	Proper landscape irrigation techniques to prevent overwatering, potential for pollutant transport in runoff from properties; encourage the use of California-friendly plant palates to reduce water demand

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Table C-6.5: Countywide Educational Materials (continued)

Posters		
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" BMP Poster – English, Spanish	Grease, food waste, trash	Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup, proper maintenance of trash dumpsters, proper floor mat cleaning, proper wastewater disposal
Auto Repair BMP Poster – English, Spanish	Motor oil, metals, surfactants, toxic substances	Proper maintenance practices for automobiles and automotive detailing materials, proper storage and disposal of automotive liquids and materials
Gas Stations BMP Poster – English, Spanish	Motor oil, metals, gasoline, surfactants, toxic substances	Proper maintenance of gas stations and BMPs for washing of gas station areas, proper disposal of toxic substances
Other Materials		
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" CD-Rom	Grease, food waste, trash	Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup, proper maintenance of trash dumpsters, proper floor mat cleaning, proper wastewater disposal
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" Floor mat sticker	Grease, food waste, trash	Proper floor mat cleaning
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" Dumpster sticker	Grease, food waste, trash	Proper maintenance of trash dumpsters
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" Outdoor maintenance sticker	Grease, food waste, trash	Proper maintenance of trash dumpster, proper wastewater disposal
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" Oil & grease disposal sticker	Grease, food waste, trash	Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup

Note: Other materials not included in this table are available and distributed through H₂OC. These materials are general outreach in nature and advertise the County website www.ocwatersheds.com. Most materials also include the 24-hr hotline reporting number as well.

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Table C-6.6: Impressions Created by School Outreach

Program	Type of Program	Estimated Number of Student Impressions
Discovery Science Center / Municipal Water District of Orange County Partnership	Student workbooks	11,335
Pacific Marine Mammal Center	Pinniped Pollution Prevention/Watershed Education	3,349
OC Watershed Education Ambassador Program	Water Cycle/Watershed Education/Pollution Prevention	463
TOTAL		15,147

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Table C-6.7: Impressions Created by Each Permittee

Permittees	Estimated Number of Impressions
Alico Viejo	310,000
Anaheim	1,160,000
Brea	220,000
Buena Park	474,900
Costa Mesa	31,000
Cypress	1,200,000
Dana Point	667,972
Fountain Valley	217,845
Fullerton	138,000
Garden Grove	733,328
Huntington Beach	458,357
Irvine	533,727
La Habra	8,838,007
La Palma	1,143,220
Laguna Beach	214,364
Laguna Hills	149,432
Laguna Niguel	76,616
Laguna Woods	26,537
Lake Forest	522,590
Los Alamitos	377,011
Mission Viejo	10,000,000
Newport Beach	1,136,050
Orange	35,300,000
Placentia	205,458
Rancho Santa Margarita	316,500
San Clemente	6,328,048
San Juan Capistrano	169,940
Santa Ana	767,658
Seal Beach	63,352
Stanton	33,312
Tustin	436,417
Villa Park	3,498
Westminster	289,000
Yorba Linda	70,000
County of Orange/OCFCD	410,685
Total	73,022,754

SECTION C-6.0, PUBLIC EDUCATION

Table C-6.8: Total Impressions Created by Public Education Program

Impressions Created	Estimated Number of Impressions
Countywide Paid and Earned Media Impressions	63,417,880
Community Outreach	9,216
School Programs	15,147
Website Impressions	4,717
Facebook Impressions	281,859
Total Permittee Impressions	73,022,754
<i>Overwatering action campaign Impressions*</i>	187,658
Grand Total	136,938,580

*This total represents impressions in addition to those *foundational campaign* impressions that supported the *Overwatering action campaign*.

SECTION C-6.0, PUBLIC EDUCATION

Table C-6.9: Current and Potential Outcome Levels (Public Education)

Public Education Program	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Document Stormwater Program Activities	Raise Awareness	Change Behavior	Load Reduction	Runoff Quality	Receiving Water Quality
Creating Impressions	✓ Number of impressions	✓ Surveys show change in knowledge of pollution preventative activities	✓ Surveys show change in willingness to participate in pollution preventative activities	✓ Household hazardous waste collected		
		✓ Number of website page views		✓ Runoff-reducing BMPs implemented		
Public Participation	✓ Number of workshops	✓ Surveys show change in knowledge of pollution preventative activities	✓ Surveys show change in willingness to participate in pollution preventative activities			
	✓ Conduct Events	✓ Surveys show change in knowledge of pollution preventative activities	✓ Participation in events	✓ Trash and debris recovered		

Key:

✓ = Currently Achieved Outcome Level
 P = Potentially Achievable Outcome Level

SECTION C-6.0, PUBLIC EDUCATION

Figure C-6.1: Paid and Earned Media Impressions

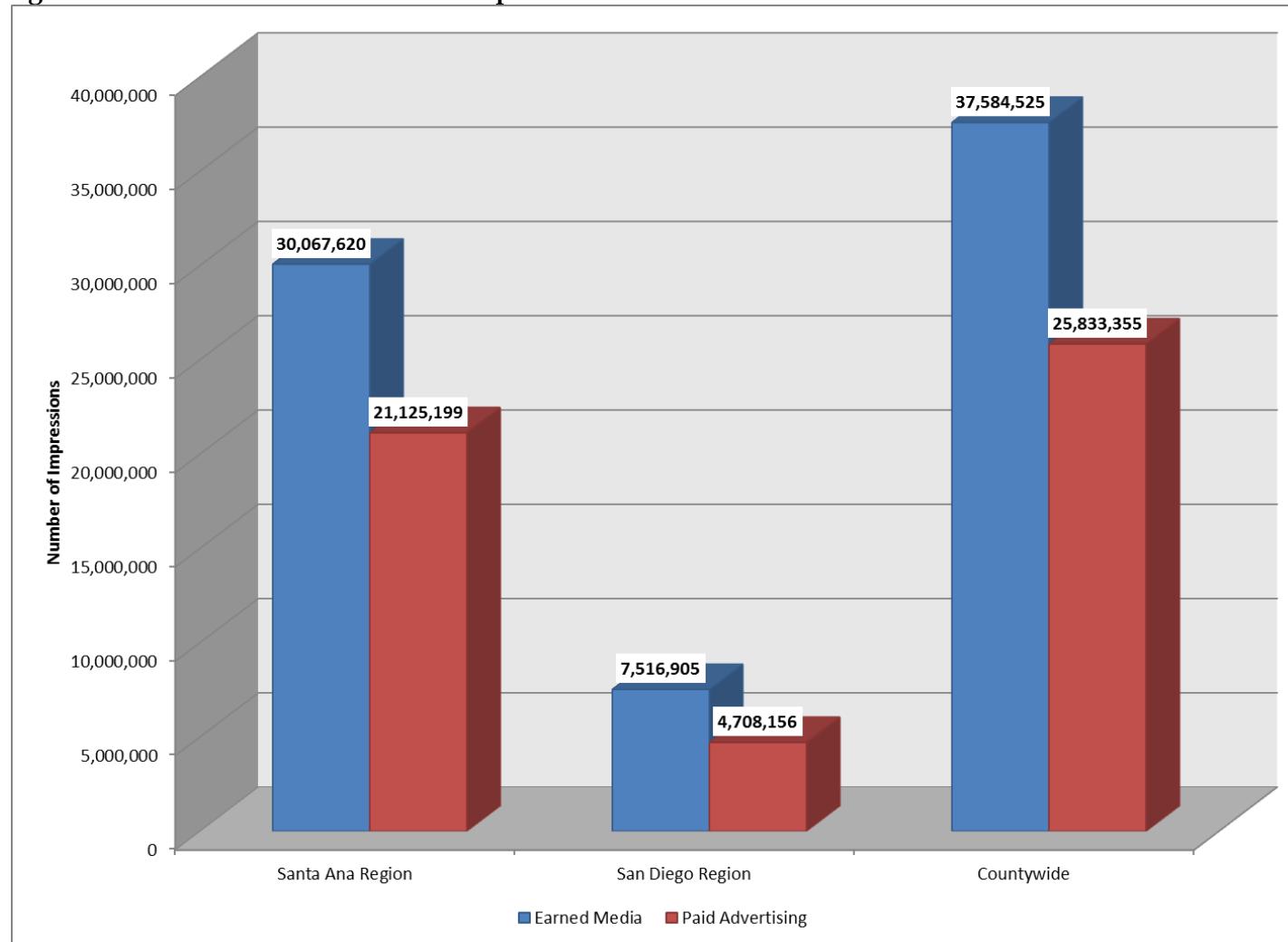


Figure C-6.2: *Overwatering Action Campaign Gnoman the Gnome Event Photo Prop Standee*



Figure C-6.3: Overwatering Action Campaign "Gnorman Approved" Yard Sign and "Water Champion" Sticker Program



Get your free yard sign or sticker now!

I have... *
Let my lawn go brown (dormant) ▾

I have... *
Removed turf grass and replaced ▾

First Name *
Johnny

Last Name *
Saveswater

Email *
johns@example.com

Full Address *
123 Main St., Irvine CA 92606

Pin my action on the map
(optional, last name will not be displayed)

Submit!

SECTION C-6.0, PUBLIC EDUCATION

Figure C-6.4: OC Garden Friendly Planning and Plant Guide

(a) Outside panels

PLANT LISTING & BUYING GUIDE

- African Daisy – Bright colored flowers are common to all varieties. Low-growing, flowering plant.
- Baja Fairy Duster – A tall shrub with vibrant red flowers. Tolerates heat and drought. Leaves can be narrow or broad, silver to bright green.
- Coral Bells – California-native plant that flowers in dry shade.
- Desert Willow – Fast-growing, flowering large shrub. Water deeply in summer to promote flowering.
- Douglas Iris – Tall shrub with lavender blue flowers that performs best in partial shade. Easy to grow.
- Germander – Ground cover flowering in early summer. Performs well in full sun or partial shade and attracts beneficial insects.
- Pacific Mist Manzanita – California-native evergreen shrub. Attracts hummingbirds and beneficial insects.
- Sundrops – Produces bowl-shaped, bright yellow flowers and requires very little care or attention.
- Texas Ranger – Attractive evergreen shrub which is extremely heat and drought tolerant.
- Toyon – Also called California Holly, a large shrub with dark green leaves and profuse red berries through winter.

For more plant listings & ideas visit [BeWaterwise.com/GardenSmart](#)

OUR PARTNERS

WATER USE EFFICIENCY

Are you overwatering? You can save money and reduce runoff by installing water-efficient devices. Rebates are currently available!

- Smart irrigation timers: up to \$380 rebate
- Rotating sprinkler nozzles: \$4 (or more) rebate per nozzle
- Soil moisture sensors: \$175 (or more) rebate per sensor (up to 4)
- Turf removal: \$1 (or more) rebate per square foot

For more information, go to [mwdoc.com/rebates](#)

* Smart irrigation timers (weather-based irrigation controllers* or soil moisture sensors) automatically calculate your landscape's water needs.

* Rotating sprinkler nozzles water more uniformly than traditional sprinkler heads, and they can reduce harmful water runoff that flows into the ocean.

* Drip irrigation directs water to plant roots, reducing water loss due to wind and evaporation. They are ideal for small areas.

Meet Gnorman

[OverwateringIsOut.org](#)

Orange County Garden Friendly

Planning & Plant Guide

Learn how to save water and eliminate runoff with OC Garden Friendly plants

(b) Inside panels

Demonstration Gardens & Planting Concepts

Desert Museum
Palo Verde
Attractive deciduous tree with bright flowers appearing in mid spring. Water deeply once or twice a month in summer to promote flowering.

Rock Rose
A great choice for a dry garden. Showy white, pink or rose-colored flowers appear in spring. A good ground cover.

Gaura
A heat and drought tolerant ground cover with showy flowers.

Maria Madrona
A large evergreen tree with drooping flower clusters followed by berries lasting into late winter. Attractive to hummingbirds.

For more information visit [ocgardenfriendly.org](#)

Desert Museum
Palo Verde
Attractive deciduous tree with bright flowers appearing in mid spring. Water deeply once or twice a month in summer to promote flowering.

Rock Rose
A great choice for a dry garden. Showy white, pink or rose-colored flowers appear in spring. A good ground cover.

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A large evergreen tree with drooping flower clusters followed by berries lasting into late winter. Attractive to hummingbirds.

For more information visit [ocgardenfriendly.org](#)

SECTION C-6.0, PUBLIC EDUCATION

Figure C-6.5: Overwatering Action Campaign Email Opt-ins by Zip Code as of June 30, 2016

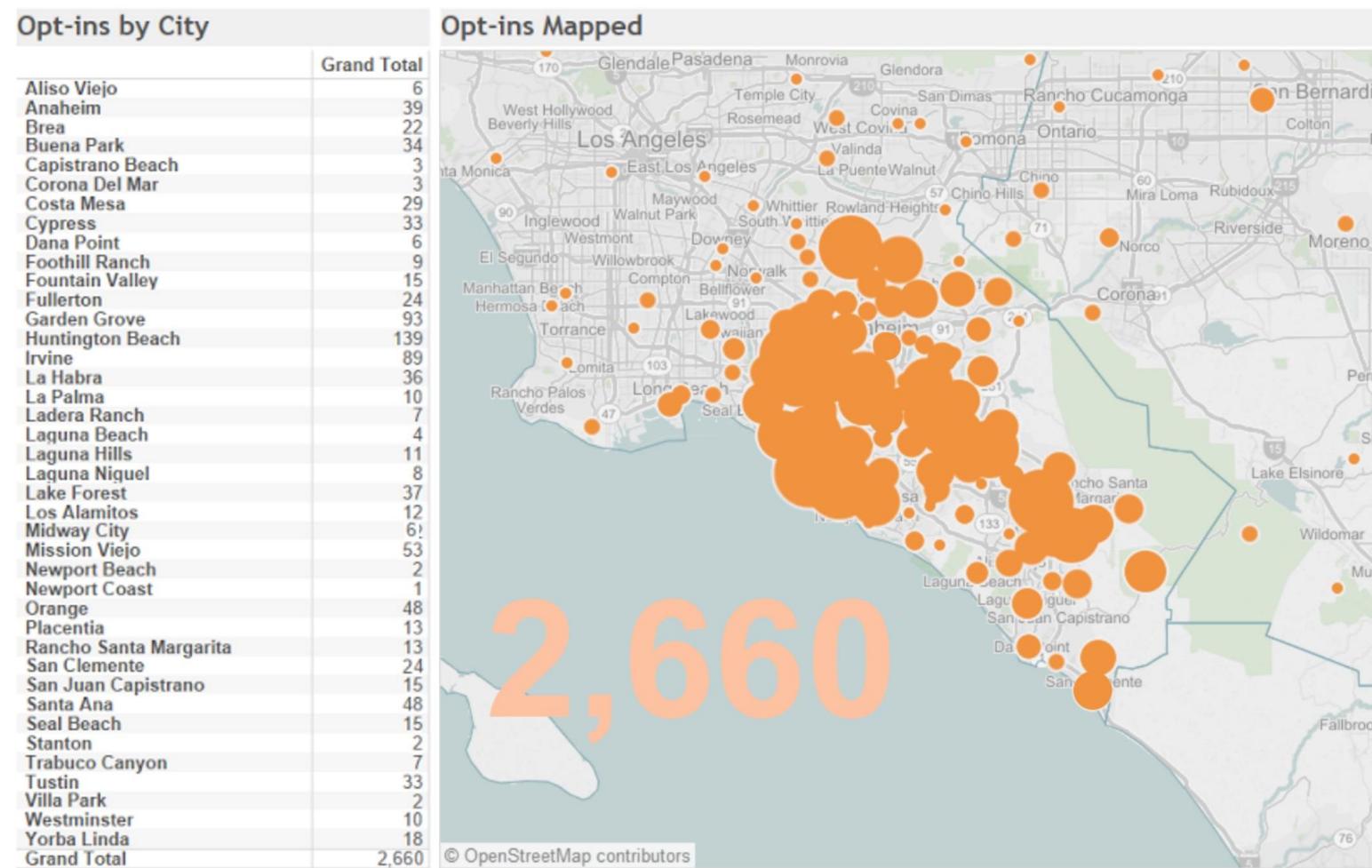


Figure C-6.6: *Overwatering Action Campaign Website Landing Page Action Map*



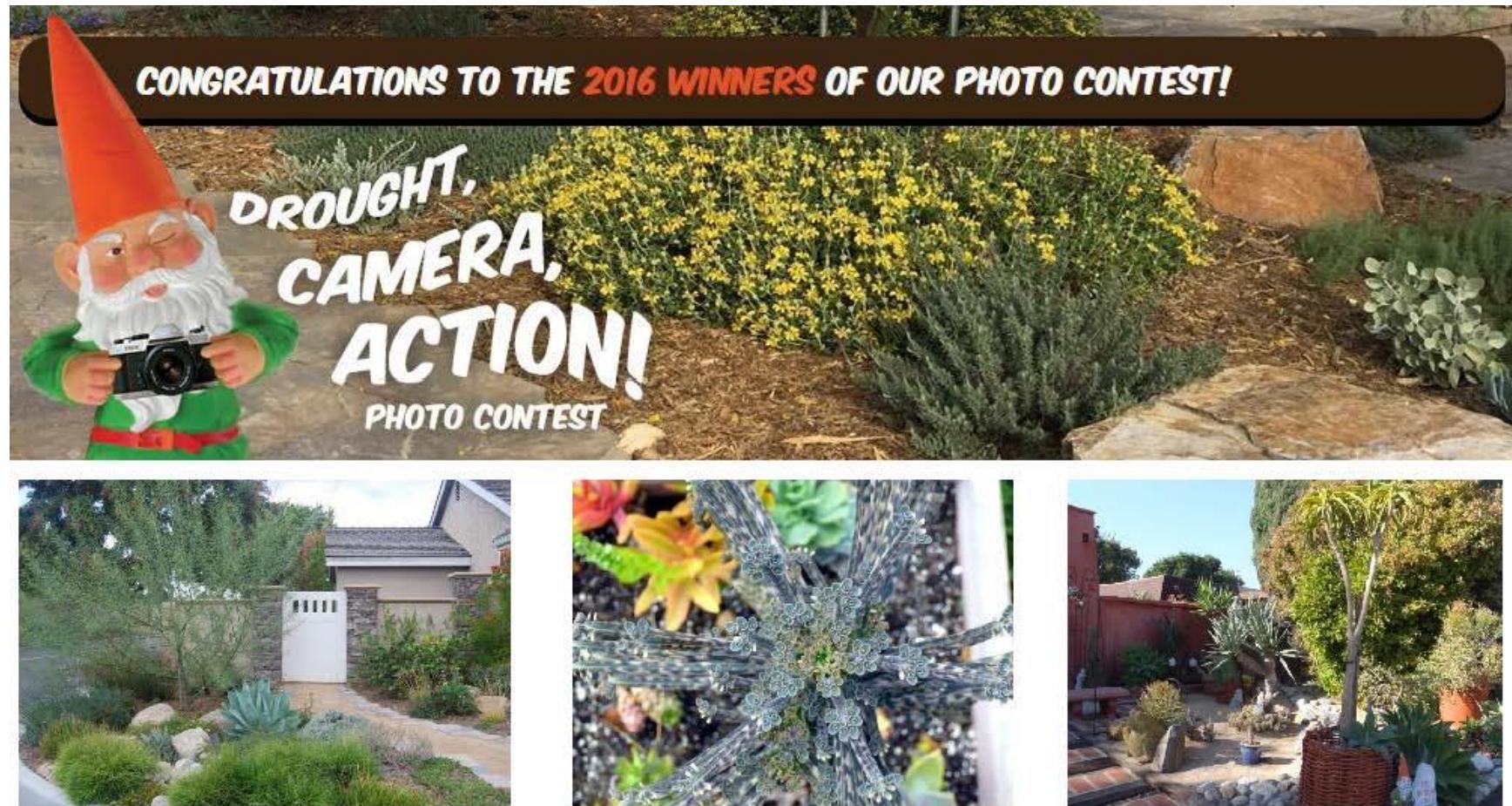
Figure C-6.7: John Wayne Airport Water Conservation Advertisement



Figure C-6.8: Featured Resident Video: "Kevin's Story"



Figure C-6.9: *Drought, Camera, Action* Photo Contest



Most Beautiful Photo of a Drought Resistant Landscape
Jane DeLorenzo, Lake Forest

Most Beautiful Photo of a Drought Resistant Plant
Lynda Wilson, Irvine

People's Choice
Karen Spurlock, Garden Grove