

# **Regional Residential Education Plan**

## **San Diego County Copermittees**

### **Education and Residential Sources Workgroup**



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**Prepared by Michael Baker International**

**Michael Baker**  
INTERNATIONAL

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## 1. INTRODUCTION

This 5-year Regional Residential Education Plan (Plan) has been developed for the Regional Education and Residential Sources (ERS) Workgroup, a San Diego County Stormwater Copermittee workgroup. Although not a requirement of the 2013 MS4 Permit, the Plan sets the course for the ERS Workgroup during the next 5 years, including a schedule of outreach activities with annual strategies and campaign suggestions.

This is an update to the 2008 Regional Residential Education Plan, submitted to the Regional Water Quality Control Board (Regional Board) as Attachment 2.0 to the 2008 Regional Urban Runoff Management Plan (Regional URMP). The major updates to the Plan from the 2008 version include newly defined target audiences, pollutant sources of concern based on 2013 MS4 Permit prohibitions, and updates to the annual outreach strategies and campaigns.

As proven through implementation of a regional residential education plan since 2008, executing a regional program to target residential sources of stormwater pollution allows the ERS Workgroup to leverage resources, utilize economies of scale, and communicate a consistent brand and message throughout the San Diego County region. The regional plan is meant to complement, not replace, the Jurisdictional Runoff Management Programs (JRMPs) and watershed Water Quality Improvement Plans (WQIPs).

The overall goals of the Plan are to:

- Increase awareness and knowledge;
- Improve attitudes toward stormwater pollution prevention; and,
- Provide a foundation for changing behaviors that contribute to stormwater pollution.

Based on an independent analysis of previous and existing education outreach efforts, 2013 MS4 Permit requirements and extensive input from the Copermittee Regional Stormwater Management Committee (RMC) and the ERS Workgroup during the development of the 2008 Regional Residential Education Plan, the following objectives were developed to support these goals:

- Maintain a consistent image, message, and brand;
- Use positive messages to increase knowledge and awareness, and ultimately change behavior;
- Develop community partnerships to leverage resources; and,
- Develop assessment strategies for program effectiveness.

Program evaluation methods and strategies will evolve as various program elements are implemented. Regional assessment methods will measure knowledge, awareness, and attitudes of residents. Program elements that are determined to be ineffective or least effective will be replaced by more effective elements or improved upon as needed. The regional program will also facilitate the measurement of changes in pollutant-generating behaviors outlined in the JRMPs and WQIPs.

## 2. SOURCE CHARACTERIZATION

The San Diego region encompasses 4,261 square miles and has a population of 3,150,178 people.<sup>1</sup> Quality of life in the San Diego region is heavily impacted by surface water resources.

Although less than 10% of the region is developed as residential land, residential areas have shown to be a significant source of urban runoff in the San Diego region. The majority of the urban activity is clustered in the western third of San Diego County; however, residential land-based activities throughout the entire region contribute to the pollution of stormwater runoff.

The Regional Residential Education Plan will focus efforts on high priority residential pollutant sources that are common throughout the San Diego region. Water quality monitoring data, source characterization studies, past reports of waste discharge, and the Water Quality Improvement Plan development processes have provided the ERS Workgroup with useful information in determining regional residential sources of stormwater pollution and constituents of concern.

### 2.1 POLLUTANT-GENERATING ACTIVITIES AND CONSTITUENTS OF CONCERN

As identified by the ERS Workgroup, the pollutants of concern and priorities to be addressed by the Plan include:

- Irrigation runoff;
- Bacteria;
- Trash;
- Sediment;
- Pesticides and herbicides; and,
- Fertilizers.

Some jurisdictions may have additional pollutants that are of specific concern to them. Each jurisdiction will be individually responsible for addressing additional pollutants and their sources. The pollutants listed above will remain the focus of the Regional Residential Education Plan for the next five years.

Table 1 shows the residential pollutant-generating activities associated with the identified pollutants of concern and priorities.

**TABLE 1. RESIDENTIAL POLLUTANT-GENERATING ACTIVITIES**

	Pollutants of Concern and Priorities				
	Irrigation runoff	Bacteria	Trash	Sediment	Pesticides and Herbicides
Activities					

<sup>1</sup> SANDAG Demographic & Socioeconomic Estimates, January 1, 2013

Irrigation runoff; Improper irrigation and system maintenance	X	X		X	X
Improper landscaping activities, fertilizer use, pesticide use	X	X		X	X
Leaving pet waste in yard, street, or on sidewalk; Improper disposal of pet waste		X			
Inadequate slope coverage (bare slopes) and unpaved driveways				X	
Improper cleaning of outdoor impervious surfaces (e.g., driveways, patios) and cars		X	X	X	
Improper waste disposal		X	X	X	X
Misdirected runoff (no rain barrels or downspout diversion)		X	X	X	X
Improper disposal of fats, oil, and grease (FOG)		X			
Improper swimming pool / spa maintenance		X	X	X	

## 2.2 TARGET AUDIENCES

As identified by the ERS Workgroup, the target audiences for the Plan may include:

- Traditional neighborhoods (single-family homes without homeowners' associations [HOAs]);
- Single-family homes within HOAs;
- HOA boards and property management companies and managers;
- Multi-family residences;
- Condominium complexes; and
- Mobile home parks

Within the San Diego region, there are 1,169,095 housing units, of which 60% are single-family units, 36% are multi-family units, and the remainder are mobile home and other units.<sup>2</sup>

One of the challenges of program implementation will be developing materials and outreach activities that compel action by the audiences. One of the more effective ways to do this is by combining stormwater quality objectives with other ones, such as water conservation, that resonate in all areas, including non-coastal areas. The materials and outreach activities must also be cost-effective in development and implementation. It is anticipated that many of the materials will be developed in English and Spanish, as 21.9% of San Diego County residents speak Spanish at home.<sup>3</sup>

## 3. TARGETED CHANGES TO KNOWLEDGE, AWARENESS, AND BEHAVIOR

The overall goals of the Plan are to raise the levels of knowledge and awareness with regards to stormwater pollution among residents, while encouraging changes to behaviors that are harmful to San Diego's waterways. Knowledge describes the accuracy of one's beliefs, and awareness indicates recognition of the severity of the issues, whereas attitude can be described as an individual's evaluation of the issue (favorable or unfavorable).

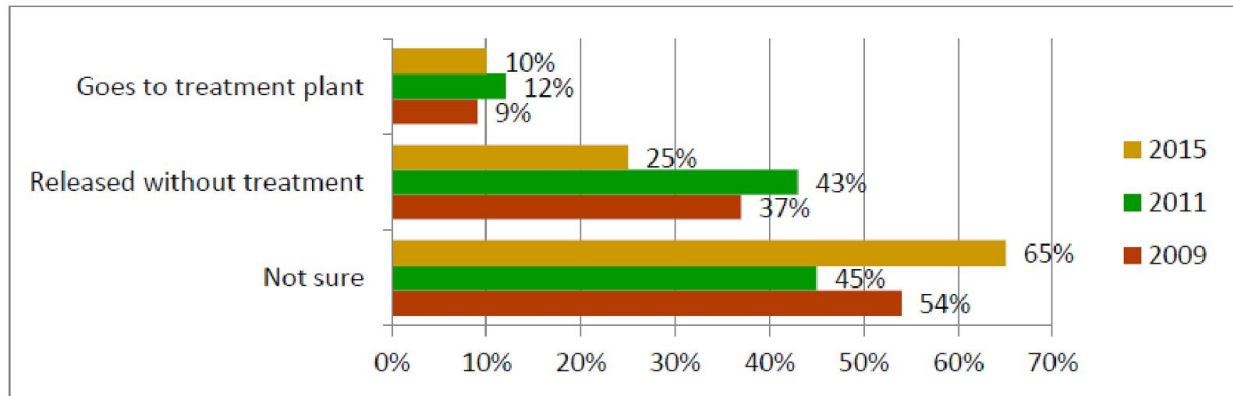
In 2015, the ERS Workgroup hired Action Research to conduct a regional stormwater survey. The survey results indicated that 25% of the 800 adults interviewed knew that water in storm drains is

<sup>2</sup> SANDAG Demographic & Socioeconomic Estimates, January 1, 2013

<sup>3</sup> City-Data.com, May 26, 2015

released into local waterways or the ocean without treatment and 65% were not sure. This decreased from 43% from the previous 2011 survey, indicating that many residents still do not understand that storm drains and sanitary sewer systems are completely separate and that storm drains do not treat water entering storm drain systems like sanitary sewer systems treat sewage.

**FIGURE 1 SURVEY RESULTS FOR KNOWLEDGE ON HOW STORMWATER IS RELEASED**



This is a fundamental stormwater pollution prevention issue and general awareness concept. Awareness of local surface waters and the stormwater conveyance systems that empty into them is the first step towards understanding water pollution prevention.

Ultimately, it is anticipated that the plan’s targeting increased awareness and knowledge of these concepts will lead to positive changes in attitude. Furthermore, improved attitudes toward the importance of stormwater issues can provide motivation for changing pollutant-generating behaviors.

In the 2008 Plan, the ERS Workgroup agreed on a number of positive behavior outcomes for stormwater issues. Table 2 shows the pollutant-generating activities and the desired behavior outcomes as identified by the ERS Workgroup in 2008, as well as additional activities and behaviors added by the ERS Workgroup for this update of the Plan. Primary target behaviors are shown in **bold**. Secondary target behaviors will become a focus if the initial efforts are determined to be unsuccessful.

**TABLE 2. POLLUTANT-GENERATING ACTIVITIES AND EXAMPLES OF POSITIVE BEHAVIOR**

Pollutant-Generating Activities	Knowledge/Awareness	Examples of Desired Behavior Outcomes
Irrigation runoff; Improper irrigation and system maintenance	Irrigation runoff causes water and pollutants in its path to run into the storm drain and/or receiving water bodies.	<b>Reduce irrigation runoff by regularly inspecting and maintaining irrigation systems.</b> Use irrigation controller technology to reduce the amount of over-watering. Adjust irrigation schedule according to seasonal changes.
Landscaping activities	Soil, sediment, and yard waste can clog storm drains and/or receiving water bodies.	<b>Collect grass clippings and yard waste and place them in the appropriate disposal container in order to prevent them from entering the storm drain systems.</b>

		Protect exposed soil from rain with a tarp, vegetation, and/or mulch.
Leaving pet waste in yard, street, or on sidewalk; Improper disposal of pet waste	Pet waste left in the yard and streets may introduce solids, bacteria, and nutrients to the storm drain and/or receiving water bodies.	<b>Pick up pet waste and properly dispose of in trash can.</b> Pick up pet waste around home regularly.
Fertilizer use; Pesticide use	Fertilizers and pesticides become pollutants that can be harmful to natural ecosystems when entering receiving water bodies.	<b>Reduce fertilizer use by applying chemical fertilizer only as needed and using organic or slow-release fertilizers.</b> <b>Use compost as a soil amendment to provide more nutrients to plants.</b> <b>Reduce chemical pesticide use through Integrated Pest Management (IPM).</b> Choose plants that reduce the need for fertilizers (i.e., native plants). Store chemicals inside a shed or storage cabinet where they are protected from rainfall.
Inadequate slope coverage	Soil and sediment released from bare slopes can clog storm drains and/or receiving water bodies.	<b>Vegetate slopes with a variety of plants, ground cover, and trees to hold soil in place. Use California-friendly plants when possible.</b>
Cleaning outdoor impervious surfaces (e.g., driveways and patios)	When it rains, trash, dirt, and chemicals that have built up on these surfaces can run into the street, the storm drain, and eventually local waterways.	<b>Sweep up outside areas such as driveways, walkways, and patios instead of hosing them down.</b> Direct wash water to soak into lawn or garden.
Cleaning cars	Car wash water can carry dirt, oil, and other automotive fluids into the street, the storm drain, and eventually local waterways. Also, soap (even if biodegradable) is a pollutant that may be harmful to aquatic life.	<b>Take cars to a commercial or self-service car wash where the water is recycled and wastewater is disposed into the sanitary sewer.</b> Wash cars so the water drains into grass or landscaping to provide filtration. Create a barrier to pool wash water and pump the wash water to a stabilized landscaped or grassy area.
Improper waste disposal	Litter and debris dropped on the ground will be washed into storm drains and local water bodies.	<b>Put litter and cigarette butts in trash cans.</b> Keep lids closed on trash cans.
Misdirected runoff (no rain barrels or downspout diversion)	Stormwater runoff carries pollutants into local waterways. Reducing runoff prevents pollutant transport and encourages groundwater recharge.	<b>Use rain barrels to protect and conserve water, reducing peak flows.</b> <b>Divert downspouts to landscaped areas to filter pollutants and prevent erosion downstream.</b>
Improper disposal of fats, oils, and grease (FOG)	Fats, oils, and grease poured in the kitchen sink can cause build up in sewer pipes, resulting in blockages and back-ups of raw sewage that can overflow into local water bodies through the storm drain system.	<b>Scrape or wipe off greasy sauces, oils, and grease into leak-proof containers and dispose in the trash.</b> <b>Pour used cooking grease in a can, store it in the freezer, and dispose in the trash on trash day.</b>

Improper swimming pool/spa maintenance	When drained to storm drains, chemical-laden or algae-laden pool or spa water ultimately makes its way to local waterways, where it can kill aquatic life and threaten water quality. Diatomaceous earth is also a by-product of pool maintenance that clouds the water and smothers aquatic organisms.	<p><b>Discharge pool or spa water to the storm drain only when:</b></p> <ul style="list-style-type: none"> <li>▪ <b>Other disposal methods (sanitary sewer or landscaping) are not possible.</b></li> <li>▪ <b>The water is free of chlorine residual.</b></li> <li>▪ <b>The water is pH neutral.</b></li> <li>▪ <b>No filter media, algae, diatomaceous earth, or debris will be released.</b></li> <li>▪ <b>Draining the water will not pond or flow to neighboring properties or result in erosion.</b></li> <li>▪ <b>Sweep curb and gutter from discharge point to the storm drain to prevent pollutants being transported by the pool water.</b></li> </ul> <p>Saltwater pools should never be drained into a storm drain unless it drains directly to the Pacific Ocean via a pipe or concrete channel.</p>
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These desired behavior outcomes will continue to be the focus of this Plan, since they address the pollutants of concern and priorities identified above.

Ideally, an increase in desired behaviors occurs when there is an increase in knowledge and awareness. Since 2008, the ERS Workgroup has been working to increase knowledge and awareness and has measured the regional efforts through telephone and event surveys.

The ERS Workgroup has conducted three regional telephone surveys (2009, 2011 and 2015) to measure their outreach efforts. The regional telephone surveys also asked questions regarding pollution prevention behaviors. The table below provides data from comparison of the two surveys regarding general awareness of storm drain systems and their connection to local waterways.

**TABLE 3. SURVEY RESULTS: KNOWLEDGE ABOUT STORMWATER TREATMENT BY GENDER**

	All Residents			Men			Women		
	2009	2011	2015	2009	2011	2015	2009	2011	2015
Stormwater is not treated	37%	43%		40%	47%		33%	40%	
Stormwater is treated	9%	12%		10%	12%		8%	12%	
Not sure if stormwater is treated or not	54%	45%		49%	41%		59%	47%	

In addition, the ERS Workgroup has collected survey cards at regional outreach events. The table below provides data analyzed in assessing the event survey cards.

**TABLE 4. SURVEY RESULTS: KNOWLEDGE ABOUT STORMWATER TREATMENT BY GENDER**

	EnviroDay 2011 at San Diego County Fair (302 surveys)	EnviroDay 2012 at San Diego County Fair (161 surveys)	Paws at the Park, March 25, 2012 (170 surveys)	Apartment Association Education Expo, April 17, 2012 (47 surveys)
Had heard of Think Blue before attending the event	69%	62%	60%	62%



Stormwater is not treated	67%	66%	65%	64%
Stormwater is treated	11%	17%	14%	9%
Not sure if stormwater is treated or not	22%	17%	21%	27%

The event survey cards also asked questions regarding pet waste awareness and pet waste management behavior.

The numeric objectives for survey results are set so that they exceed the statistical margin of error of 2.5% (assuming a sample size of 1000) so that if they are achieved, they will be statistically significant. In addition, the objectives are intentionally set high, with the understanding that they are intended as a point of reference rather than a pass/fail measure. With that in mind, the ERS Workgroup has set a target of a 10% increase in knowledge that when water goes into storm drains it is released into local waterways or the ocean without treatment, and a 5% increase in the number of participants who report making a change in behavior as a direct result of seeing or hearing any information about what polluted water in storm drains does to local waterways, the beaches, and the ocean..

#### 4. EDUCATIONAL METHODS AND APPROACHES

Since 2008, the ERS Workgroup has utilized a variety of methods and approaches to implement the 2008 Plan, including the following:

- Standardized Regional Brand (Think Blue San Diego Region);
- Think Blue San Diego Region Website;
- Mass Media (Broadcast);
- Mass Media (Outdoor);
- Regional Outreach Materials (Development and Distribution);
- Regional Outreach Events;
- Partnerships; and,
- Regional Stormwater Hotline.

Moving forward, the ERS Workgroup will continue to use a variety of methods and approaches to reach the target audiences identified in this 5-year plan, as funding is available. In addition to considering continuation of the above-listed outreach methods, the ERS Workgroup is also developing a Guidance Manual for Residential Neighborhood Assessment and considering development of more outreach materials, including booth displays, print-ready newsletter articles, letters, announcements, outreach fact sheets, PowerPoint presentations, posters, and other items to help residents with positive behaviors to prevent stormwater pollution. It must be understood that implementation of all the recommendations in the Plan is dependent on available funding each year.

##### 4.1 STANDARDIZED REGIONAL BRAND – THINK BLUE SAN DIEGO REGION

The Think Blue campaign from the City of San Diego created a locally recognizable brand with demonstrated effectiveness in stormwater outreach. Under the 2008 Plan, the City of San Diego allowed the brand to be used by the ERS Workgroup as Think Blue San Diego Region. With a

consistent look and brand, the ERS Workgroup continued to conduct their own outreach using the Think Blue San Diego Region brand in conjunction with the City of San Diego's materials for consistency. A Think Blue San Diego Region Graphic Standards Guide was created to provide standardized fonts, colors and logo layouts to be used for all outreach materials. This helps reinforce the Think Blue San Diego Region brand and provide consistency for its use in messages and materials. Moving forward, the ERS Workgroup will continue to use the Think Blue San Diego Region brand.

## **4.2 THINK BLUE SAN DIEGO REGION WEBSITE**

The Internet is a powerful means of communication. Web sites can reach large audiences with relatively minimal effort. The Think Blue San Diego Region website was developed by a contractor and is located at [ThinkBlueSDRegion.org](http://ThinkBlueSDRegion.org). It helps build upon and reinforce the branding strategy. It contains the regional hotline number, a link to report complaints online via Project Clean Water, links to jurisdictions' websites, a short survey, and may include additional resources as they are developed. The website is available in English and Spanish. The ERS Workgroup may continue to use this website as part of its outreach portfolio.

## **4.3 MASS MEDIA**

Although the website is an important component of the outreach efforts, many residents still get the great bulk of their environmental messages from more traditional venues such as the television and radio (broadcast media). Public Service Announcements (PSAs) and advertisements are the most common forms of broadcast media. Some PSAs have already been developed under the Think Blue San Diego Region campaign and through the combined efforts of the ERS Workgroup, including the following:

- "Ants in Your Plants" – regional PSA for radio and television done under the Healthy Garden, Healthy Home branding;
- Litter PSA –under the Think Blue San Diego Region branding; and,
- Regional Information PSA - under the Think Blue San Diego Region branding.

The ERS Workgroup also developed a video entitled "Green It Up" which was originally targeted toward the tourism industry and then modified as a general public outreach piece.

The ERS Workgroup can utilize regional funds to expand and complement the existing Think Blue San Diego Region campaign. The public relations component will involve news coverage such as news stories, interviews, and event coverage. Public relations provide valuable outreach opportunities that will be sought whenever possible. Outdoor media such as bus placards and billboards can also be utilized for outreach. The location of outdoor media advertisements will need to be carefully placed in order to reach the regional target audience.

## **4.4 REGIONAL OUTREACH MATERIALS**

Print materials and promotional items are critical items for successful outreach. Materials include items like fact sheets, brochures, flyers, booklets, coupon booklets, posters, and doorknob hangers. These materials are easily created and the target audience can refer to them repeatedly. Promotional materials are good for promoting the regional brand, increasing knowledge and awareness, and

encouraging simple actions to prevent stormwater pollution. Listed below are the regional outreach materials the Education and Residential Sources Workgroup has produced or used.

- Integrated Pest Management English and Spanish materials, tip card packets;
- Think Blue rally towels;
- Recycled pencils;
- Pet waste bag dispensers;
- Stormwater Pollution Prevention Calendars in English and Spanish;
- Posters at transit bus shelters in English and Spanish;
- Reusable shopping bags;
- Stormwater Pollution Prevention Bilingual coloring books with crayons;
- Countywide voter sample ballot insert; and,
- *All the Way to the Ocean* children's books.

The ERS Workgroup will re-order appropriate materials and develop new materials to address current priorities and audiences. In addition, plate scrapers, reusable water bottles, poppy seeds, and carabineers are being added to the promotional items for fiscal year 2015-16 and a Neighborhood Guidance Manual is being developed.

#### **4.5 REGIONAL OUTREACH EVENTS**

The ERS Workgroup has participated in several regional outreach events, including the following:

- EnviroDay at San Diego County Fair;
- Paws at the Park;
- Movies in the Park;
- San Diego County Apartment Association Education Expo;
- Day Without a Bag;
- Independence Jam; and,
- High Tech High Science Fair.

Regional outreach events are energizing and successful venues for distributing outreach messages. Participation in regional outreach events requires pre-planning, material or display development, and volunteer time for staffing the event.

Regional outreach events may also include conducting event surveys that include the basic questions regarding general awareness of storm drain systems and their connection to local waterways as well as target-specific questions to encourage dialogue.

The ERS Workgroup will continue participating in regional outreach events provided volunteers are available for staffing the events.

#### **4.6 PARTNERSHIPS**

Partnerships are both a management and outreach element of the program. A partnership is a voluntary collaboration of agencies, organizations, or other groups or individuals that have joined to work toward a common goal. The ERS Workgroup can maximize resources through the use of partnerships. The potential for partnerships is immense. Potential partnerships include local water districts (combine water conservation and water pollution prevention messages), hardware stores and

nurseries, pet stores, and homeowner's associations and property management companies. Initial development of partnerships with businesses and business organizations, nonprofits, and other government agencies, will be necessary before the full benefits can be realized. The ERS Workgroup may then encourage partners to distribute materials or spread messages through signage, advertising, and websites. Partnerships require time to develop and may result in different arrangements with different partners.

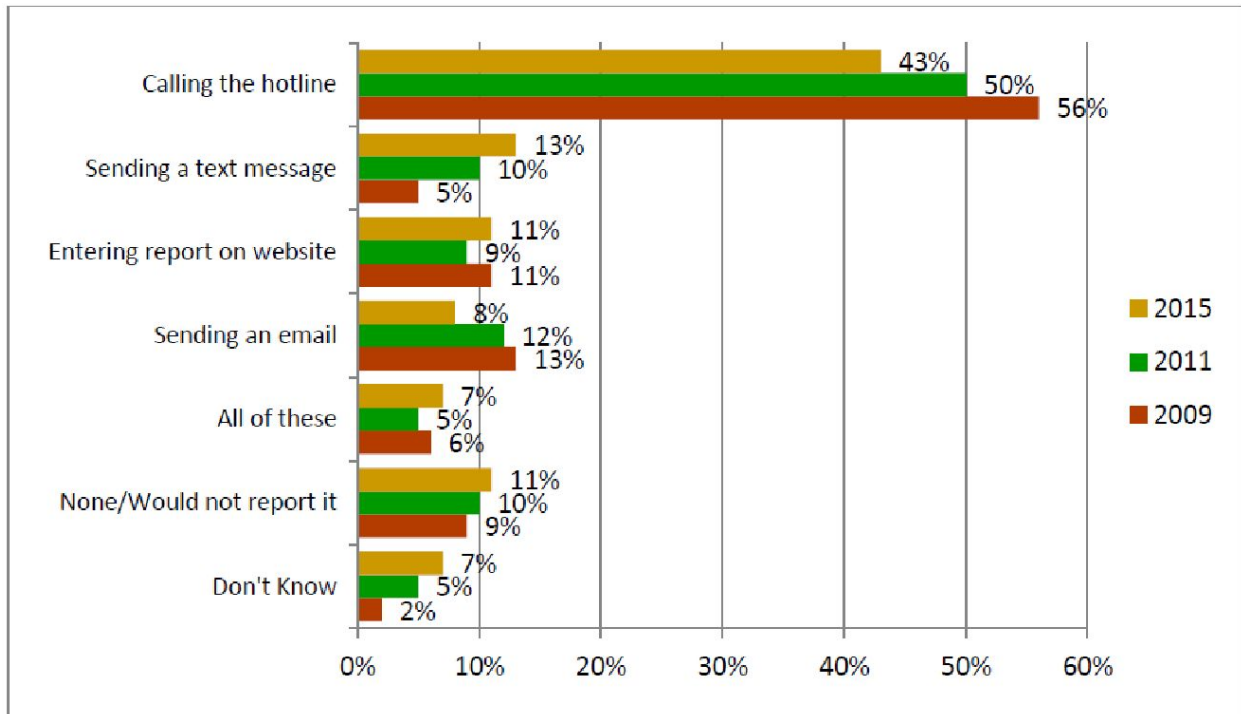
In the past, the ERS Workgroup has partnered with Wildcoast for distribution of Spanish materials. They have also pursued potential partnerships with the San Diego County YMCA and tourism operators (Hornblower Cruises and San Diego Trolley Tours). Currently, the ERS Workgroup is partnering on outreach with the North County Transit District. This partnership may allow for expanded outreach using NCTD displays, buses, trains, and online media (web, social media, e-blasts) to educate the public on regional stormwater protection. The ERS Workgroup is also actively considering other partnerships with regional agencies and organizations to expand outreach opportunities.

The ERS Workgroup is developing a Watershed Stewardship/Ambassadors Project to create partnerships with individuals. This will be a public information and public participation element where individuals are invited to attend a series of presentations, field trips, or other activities to encourage the individuals to become watershed stewards for their communities.

#### **4.7 REGIONAL STORMWATER HOTLINE**

The regional stormwater hotline (1-888-THINK-BLUE) helps the public report potential stormwater violations and gain access to information quickly and easily. The hotline is promoted through the website, media advertising, and other promotional venues. As identified in the 2009, 2011, and 2015 regional telephone surveys, a telephone hotline is the most preferred method of reporting pollution. See Figure 2 below.

**FIGURE 2 MOST CONVENIENT METHOD OF REPORTING POLLUTION**



The number of calls to the hotline can be tabulated to help gauge whether some advertising is effective (if the call to action is a hotline call). However, all Copermittee agencies also have a local hotline which may receive calls as a result of the ERS workgroup’s efforts to publicize the existence of hotlines in general, making effectiveness harder to measure. Since the hotline is a resource, careful consideration will continue to be given to managing the hotline as the program moves forward.

#### 4.8 BEHAVIOR-SPECIFIC OUTREACH METHODS

Table 5 lists the primary target behaviors for the program during this permit cycle. The table indicates which of the outreach methods described above may be utilized to deliver messages designed for each behavior. Primary target behaviors may be updated as program evaluation progresses. If necessary, resources may be reallocated to address the other (secondary) target behaviors previously listed in Table 2.

**TABLE 5. APPLICABILITY OF OUTREACH METHODS TO PRIMARY TARGET BEHAVIORS**

Examples of Desired Behavior Outcomes	Website	Materials	Regional Outreach Materials	Regional Outreach Events	Partnerships
Pick up pet waste and properly dispose of in trash can.	X	X	X	X	X
Reduce irrigation runoff by regularly inspecting and maintaining irrigation systems.	X		X	X	X

Collect grass clippings and yard waste and place them in the appropriate disposal container in order to prevent them from entering the storm drain systems.	X		X		
Reduce fertilizer use by applying chemical fertilizer only as needed and using organic or slow-release fertilizers.	X	X	X	X	X
Reduce chemical pesticide use through Integrated Pest Management (IPM).	X	X	X	X	X
Vegetate slopes with a variety of plants, ground cover, and trees to hold soil in place. Use California-friendly plants when possible.	X		X	X	X
Sweep up outside areas such as driveways, walkways, and patios instead of hosing them down.	X	X	X	X	
Take cars to a commercial or self-service car wash where the water is recycled and wastewater is disposed into the sanitary sewer.	X		X	X	X
Put litter and cigarette butts in trash cans.	X	X	X	X	X
Use rain barrels to conserve and protect water.	X		X	X	X
Divert downspouts to landscaped areas.	X		X	X	X
Scrape or wipe off greasy sauces, oils, and grease into leak-proof containers and dispose in the trash.	X		X		
Pour used cooking grease in a can, store it in the freezer, and dispose in the trash on trash day.	X		X		
Properly discharge pool or spa water to the storm drain only when necessary and within recommended practices.	X		X		X

Specific messages will be developed to increase knowledge and awareness that will lead to each desired behavior outcome.

## 5. PROGRAM IMPLEMENTATION

For any successful program, there are three steps in the program implementation process:

- Development;
- Implementation; and,
- Assessment.

Under the Plan, development includes planning projects and developing materials and messages; implementation includes initiating an outreach method or activity and maintaining it; and assessment includes all levels of determining the effectiveness of the outreach methods and activities as well as making revisions to the Plan based on knowledge gained through assessment.



Table 6 shows the schedule of program implementation for major tasks over the next 5 years.

**TABLE 6. PROJECTED IMPLEMENTATION SCHEDULE**

Projects or Activities	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20
Public Events	(see Table 7 for Calendar of Events)				
Regional Survey		RFP	Conduct survey		

Promotional Items	Purchase/ Distribute <sup>1</sup>	Purchase/ Distribute	Purchase/ Distribute	Purchase/ Distribute	Purchase/ Distribute
Watershed Stewardship/ Ambassador Project	Pilot Project	Regional Rollout	Implement	Implement	Implement
Calendars	English	Spanish	English	Spanish	English
Coloring Books	Reprint	Reprint	Reprint	Reprint	Reprint
Neighborhood Guidance Document	Development	Printing/ Distribution	Reprint	Reprint	Reprint

1. Giveaways for FY 15-16 include water bottles, FOG scrapers, poppy seeds, pet waste bag dispensers, and carabineers.

Additional projects or activities not listed here in detail may be developed by the ERS Workgroup.

Table 7 highlights possible public events and outreach opportunities available throughout the year.

**TABLE 7. CALENDAR OF EVENTS**

Event	Date	Location
Paws in the Park	March	Kit Carson Park, Escondido
SDCAA Education Expo	April	SD Convention Center, San Diego
Earth Day	April	Various locations region-wide
Day with a Bag	June TBD	Various locations region-wide
EnviroFair at the SD County Fair	June	Del Mar Fairgrounds, Del Mar
Movies in the Park	June - July	Various county parks region-wide
Surf Dog Event	September	Del Mar Dog Beach
Watershed Summit (SDG&E)	October	Del Mar Fairgrounds

The Regional Residential Education Plan is not a permit requirement; however, implementation of the Plan will assist Copermitees in meeting some of the permit requirements as presented in Table 8.

**TABLE 8. 2013 MS4 PERMIT REQUIREMENTS  
ADDRESSED BY THE REGIONAL RESIDENTIAL EDUCATION PLAN**

Permit Requirement (page reference)	Target Audience	Related Regional Residential Education Plan Elements
WQIP Priority Areas and Pollutant Sources – Identify non-stormwater discharges and pollutants; conduct education and incentive programs for areas and sources (pg. 26, B.3)	Residents Businesses	<ul style="list-style-type: none"> <li>Watershed Stewardship/Ambassador Program</li> <li>Regional Outreach Materials: Neighborhood Guidance Manual</li> </ul>
Residential areas – Pollution prevention, BMP implementation, Pesticides, Herbicides and Fertilizers BMPs (pg. 102, E.5)	Residents	<ul style="list-style-type: none"> <li>Regional Outreach Events – giveaways</li> <li>Regional Outreach Materials: New art highlighting landscape BMPs</li> <li>Regional Outreach Materials: Neighborhood Guidance Manual</li> </ul>
Educational activities, public information activities, and other appropriate outreach activities intended to reduce pollutants associated with the application of pesticides, herbicides, and fertilizer. (pg. 109, E.7)	Residents	<ul style="list-style-type: none"> <li>Regional Outreach Events – giveaways</li> <li>Regional Outreach Materials: New art highlighting landscape BMPs</li> <li>Regional Outreach Materials: Neighborhood Guidance Manual</li> </ul>
Appropriate education and training measures for specific target audiences, such as ...residents, underserved target	Residents Spanish speaking	<ul style="list-style-type: none"> <li>Regional Outreach Events – giveaways</li> <li>Regional Outreach Materials: Handouts translated in Spanish</li> </ul>

audiences and school-aged children (pg. 109, E.7)

School-aged children

- Regional Outreach Materials: Neighborhood Guidance Manual

Opportunities for members of the public to participate in programs and/or activities that can result in the prevention or elimination of non-stormwater discharges...reduction of pollutants...and/or protection of the quality of receiving waters. (pg. 110, E.7)

Residents

- Watershed Stewardship/Ambassador Project
- Regional Outreach Events – beach cleanups
- Regional Outreach Events – Watershed Summit

## 6. SOCIAL MARKETING APPROACHES

In all of the aforementioned efforts, a variety of social marketing approaches will be utilized whenever possible. There are so many techniques described as social marketing that it is not possible to utilize them all, especially with limited staff and budgets. Social marketing uses many of the principles of social psychology and marketing techniques to bring about behavior change. Rather than being product oriented, social marketing focuses on people and their behaviors. All social marketing approaches use audience research to learn how to motivate an audience to change one or more recurring actions.

Social marketing consists of several basic components that result in delivering messages that will increase knowledge and awareness, thereby prompting people to change certain behaviors. The challenge is to present the new behavior in a positive way and emphasize the benefits to adopting a new behavior. Forming strategic partnerships with community resources can help to achieve the end goal of behavior change. Social marketing campaigns deliver messages that are strategically created for a specific target audience and positioned to give people a compelling reason to adopt a new behavior. In order to overcome the barriers to action it is necessary to understand what the barriers are and why they exist. Researching and understanding the audience is a critical step in developing a social marketing campaign. Messages are conveyed through advertising, websites, materials and other communications. Messages should be simple, memorable and easy to follow. There should be one simple message for each of the targeted areas of knowledge and awareness. Each message needs to be used consistently in communications.

Community Based Social Marketing (CBSM) is a type of social marketing. It has gained popular appeal among the environmental community as an effective alternative to traditional information-based marketing approaches. CBSM packages basic principles of behavior change and social science research in a way that provides a usable framework for practitioners working to promote positive behavior change.

A key element of the CBSM approach is to pilot test the program with a small representative segment of the community, and compare the results to a control group. For example, a small jurisdiction may implement a project that essentially serves as a pilot for the regional program. If the pilot is not successful, the strategy should be refined and then pilot tested again. If the pilot is successful at changing behavior, the strategy can be implemented more broadly throughout the community or on a regional level. Once the successful pilot program has been widely implemented, CBSM requires that the program be carefully evaluated at several points to measure continued success.



The ERS Workgroup has agreed that CBSM offers a solid foundation for developing an effective program. However, it may not always be feasible to utilize the CBSM approach on a regional scale, hence the need for a combined approach that uses traditional social marketing techniques as well as CBSM. Some methods will lend themselves more readily to developing CBSM-based approaches. When implementing each of the methods, a CBSM approach will be pursued whenever feasible.

## **7. RELATIONSHIP OF REGIONAL, WATERSHED, AND JURISDICTIONAL OUTREACH**

There are multiple overlaying plans for stormwater pollution prevention in the San Diego region. The San Diego region includes 10 watershed management areas, each of which is developing a Water Quality Improvement Plan (WQIP) as required by the 2013 MS4 Permit. In addition to the WQIPs at the watershed level, each Copermittee of the 2013 MS4 Permit is also required to develop and implement an updated Jurisdictional Runoff Management Program (JRMP). In contrast to the WQIPs and JRMPs, the Regional Residential Education Plan is a voluntary program designed to complement those plans and programs and set the course for the ERS Workgroup during the next five years.

The Think Blue San Diego Region website includes links to jurisdictional programs, watershed program websites, and other regional websites such as Project Clean Water, which is the Copermittees' Regional Clearing House. The Think Blue San Diego Region website provides user-friendly information for the public in a single location, thereby promoting consistency and coordination among the regional, jurisdictional, and watershed programs.

In addition, the ERS Workgroup provides a platform for integration of regional, jurisdictional, and watershed messages. The ERS Workgroup is open to coordination with non-profit organizations, private institutions, and governmental agencies providing environmental and water quality education. Meetings will continue to provide a forum for educators, trainers, and public information officers to collaborate, share methods and materials, and seek policy-level support and direction.

Watershed and jurisdictional programs may look to the Regional Residential Education Plan and ERS Workgroup when designing residential educational activities. The Regional Residential Education Plan can thereby serve as a basis for developing these other programs. Some specific watershed or jurisdictional issues may not be covered by the Regional Residential Education Plan, and must still be met by the jurisdiction or watershed groups. These issues will be addressed in the WQIPs or JRMPs and can supplement the Regional Residential Education Plan. As a result, each WQIP and JRMP may be unique in some respects and their elements may go beyond those in the regional program.

With respect to assessing residential educational activities, Section 8 below provides potential assessment methods for the Regional Residential Education Plan. The regional assessment will focus on changes in attitudes, knowledge, and awareness. While the regional plan may play a role in encouraging behavior changes as well, the assessment of behavior change is better suited to the jurisdictional programs because of their ability to implement pilots on a small scale.

## **8. ASSESSMENT OF REGIONAL EDUCATION ACTIVITIES**

Assessment helps ensure that regional education activities are properly targeted, helps determine whether intended results are being efficiently and cost-effectively achieved, and helps guide the

workgroup toward implementation strategies with the greatest opportunity for long-term success. Assessment of the Plan is based on the CASQA document “A Strategic Approach to Planning for and Assessing the Effectiveness of Stormwater Programs” (February 2015).

In order to evaluate whether the various components of the program are resulting in the targeted knowledge and awareness outcomes, a number of assessment methods may be utilized, including surveys, incident reporting, and impression tracking. Surveys are commonly used to assess awareness of the target audiences with respect to stormwater issues. Repeating survey questions over time can show changes in public awareness that may be a result of the education and outreach efforts. For these reasons, a random digit dial telephone survey will be the primary tool for measuring changes resulting from implementation of the regional program.

Different types of assessment methods will be employed in order to gauge the outcomes of each activity and thereby determine effectiveness. ERS Workgroup members have agreed to work cooperatively on funding and conducting market research and surveys. Measurement tools outlined in the Plan may be modified somewhat to correspond with different program elements. The Plan basically provides a model for program effectiveness assessment. Specific assessment methods will depend on the type of outreach or education activity conducted and other constraints.

**TABLE 9. POTENTIAL PROGRAM ELEMENT ASSESSMENT MEASURES**

Program Element	Type of Assessment Measure		
	Survey	Incident Reporting	Impression Tracking
Standardized Regional Brand	Count how many survey respondents are aware of brand.		
Think Blue San Diego Region Website	Administer survey through website.		Count number of hits on website. Count number of downloads of materials.
Mass Media	Count how many survey respondents are aware of PSAs.		Count number of household/individuals reached.
Regional Outreach Materials	Administer survey/quiz to material recipients.		Count number of materials distributed.
Regional Outreach Events	Administer survey/quiz to event attendees.		Count number of visitors to booths.
Partnerships	Count number of household/individuals reached through partners.		
Regional Stormwater Hotline	Count number of incidents reported.		

In addition to assessing the overall program, the ERS Workgroup also plans to use qualified consultants to assess the effectiveness of outreach materials through the use of focus groups and other standard material assessment methods. The goal of material assessment is to ensure the desired message is being communicated effectively to the desired target audience. Materials and

outreach methods may be adjusted based on conclusions and recommendations from these assessments.

## **9. CONCLUSIONS**

The San Diego region has widely diverse socio-economic, ethnic, biological, and physical characteristics. These characteristics create the region's appeal and present many challenges to the entities charged with developing and implementing an effective Regional Residential Education Plan.

The Regional Residential Education Plan allows the ERS Workgroup to leverage resources, utilize economies of scale, and communicate a consistent brand and message throughout the region. This program is a voluntary effort designed to increase knowledge and awareness of stormwater issues, improve attitudes toward stormwater pollution, and potentially change pollutant-generating behaviors. The Plan is meant to complement, not supersede, the Water Quality Improvement Plans and Jurisdictional Runoff Management Programs in the region.

The Regional Residential Education Plan focuses efforts on residential pollutant sources of concern common to the San Diego region, including irrigation runoff, bacteria, trash, sediment, pesticides and herbicides, and fertilizers. Target audiences include traditional neighborhoods, single-family homes within HOAs, HOA boards and property management companies and managers, multi-family residences, condominium complexes, mobile home parks, and residential service providers.

The Regional Residential Education Plan identifies primary target desired behavior outcomes for the residential pollutant sources of concern common to the San Diego region. An array of methods and approaches will be utilized for program management, message delivery, and effectiveness assessment, including continued use of the standardized regional brand (Think Blue San Diego Region), regional stormwater hotline, and Think Blue San Diego Region website, as well as mass media, regional outreach materials, regional outreach events, and partnerships.

The outreach materials and methods, as well as the overall effectiveness of the Plan will be assessed using surveys, incident reporting, and impression tracking. Over time, the Regional Residential Education Plan will be adapted to utilize the most effective outreach and education strategies practicable while maintaining a clear focus for the entire region.