



A REPORT OF OUR 2012 ACCOMPLISHMENTS



ORANGE COUNTY
COASTKEEPER®



COASTKEEPER'S FIVE PROGRAM PILLARS

EDUCATION

W.H.A.L.E.S. (Watershed Heroes: Actions Linking Education to Stewardship) is Coastkeeper's environmental education program, providing robust marine science curricula, field trips, and bus transportation at no cost to middle schools and high schools in Orange County. Students participate in water testing, biological assessments, marine life surveys, habitat restoration, community action projects and career development activities.

ADVOCACY

Through a collaborative approach we work with public and private agencies to develop water quality solutions that balance the needs of the environment and the community. Our main focuses are eliminating polluted urban runoff and advocating for behavioral changes that will ensure a healthy future water supply.

RESTORATION

To preserve critical habitat and species, Coastkeeper has worked to restore kelp forests off our coast and eelgrass in Upper Newport Bay. We are also building oyster beds, and looking to revive the green abalone population off the Orange County coast.

RESEARCH

Coastkeeper conducts scientific research on sediment and water quality analysis in local waterways and harbors. Our reports are utilized by governmental agencies at every level to create policy and regulations that address water-related challenges. Coastkeeper keeps a special focus on emerging technologies and innovation that can prevent pollution and reduce water and energy use.

ENFORCEMENT

Coastkeeper's Law and Policy staff strongly believes our natural environment should be preserved, restored, and accessible. Our staff helps shape government policy, enforces the Federal Clean Water Act by filing litigation against polluters, and protects safe coastal access.



O R A N G E C O U N T Y COASTKEEPER

MISSION & VISION

Orange County Coastkeeper is a non-profit organization founded in 1999 to identify and remedy pollution issues affecting water quality in Orange County's rivers, bays and coastal regions. We are dedicated in our mission to protect and preserve the region's marine habitats and watersheds through education, advocacy, restoration, research and enforcement.

Our vision is to preserve the integrity of our community by ensuring clean waterways, harbors and coastal waters, along with a healthy water supply for generations to come. We collaborate with a variety of stakeholders and believe that environmental solutions are also smart business solutions. Our unique community-wide approach to watershed management promotes equitable, achievable strategies that meet broad societal goals and avoids future conflicts.

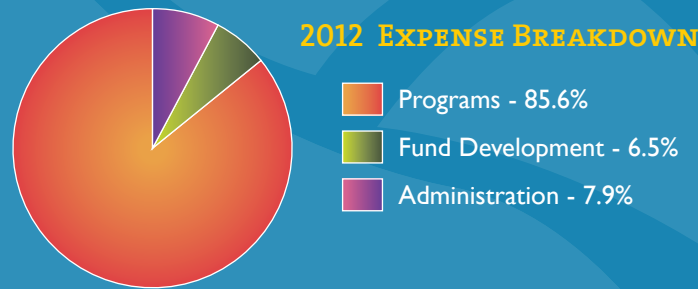
One thing is for sure, it is impossible to be bored at Orange County Coastkeeper. During 2012, we have been busy managing and growing our five program pillars. We responded to a myriad of issues throughout our region, which includes not only Orange County, but the greater portions of Riverside and San Bernardino Counties as well. In addition, Coastkeeper continues to maintain several special projects, such as the Coastkeeper Garden and SCE SmartScape.

Early in the year, our Board of Directors authorized two new positions that we were excited to fill. We hired two very capable women; Pamela Crouch as our Director of Communications and Marketing and Trisha Deshmukh as Development Director. Coastkeeper's public exposure has been dramatically enhanced and we are implementing a strategic plan to increase our exposure to and build relationships with corporate Orange County.

We have had some provocative issues this year that demand a lot of staff energy. The most pronounced has been the proposed ocean desalination project in Huntington Beach. Though we are not against desalination, it is the most expensive, environmentally impactful, and highest energy intensive source of drinking water. In January, we saw the implementation of Marine Protected Areas (MPAs) that were established in 2011, and we operate the county-wide MPA watch program. We also were able to reconnect the public to the Santa Ana River with our kayak program in September.

Other milestones of 2012 include Coastkeeper's expansion of our watershed education program to south Orange County. We successfully planted and are growing eelgrass in Upper Newport Bay, and accomplished tissue sampling of fifty native green abalone so we can get permitted to plant abalone along our coast this year. We successfully collaborated with the metal recycling industry to write a new and unique permit that will substantially clean up the water quality in their discharges to storm drains. This publication will describe each of these accomplishments in further detail.

Thank you for your support throughout the years. Coastkeeper's ongoing success would not be possible without your support and contributions. We have been able to hang steady in this slowly recovering economy, but it has not been easy. The competition for philanthropic grants, corporate support, and individual giving is greater than ever. Coastkeeper has achieved many successes for clean water and healthy marine habitats, but the biggest challenge will be to secure the resources we need to continue this work in 2013. I am proud of the fact that 86 cents of every donated dollar directly supports our programs. It is our hope that you will review this summary of our work, realize its value, and begin or continue to support Orange County Coastkeeper.



All the best,

GARRY BROWN
FOUNDER AND EXECUTIVE DIRECTOR

ORANGE COUNTY COASTKEEPER STAFF

- Garry Brown, *Executive Director*
- Ellen Orange-Brown, *Associate Director*
- Ray Hiemstra, *Associate Director of Programs*
- Colin Kelly, *Staff Attorney*
- Trisha Deshmukh, *Development Director*
- Pamela Crouch, *Director of Communications & Marketing*
- Briana Madden, *Education Director*
- Dyana Peña, *Education Coordinator*
- Amanda Bird, *Marine Restoration Coordinator*
- Austin Brown, *Project Manager - Garden Program*
- Matt Trostad, *Garden Coordinator*
- Megan Brousseau, *Programs Director, Inland Empire Waterkeeper*

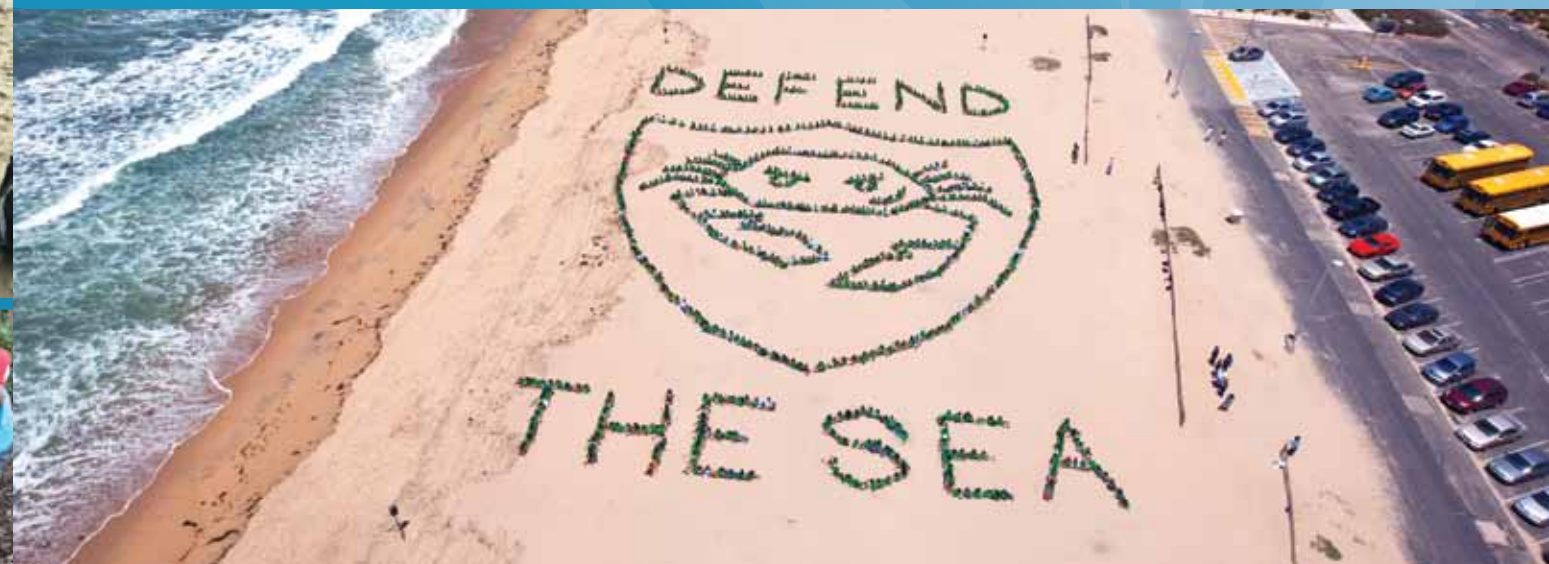
ORANGE COUNTY COASTKEEPER BOARD OF DIRECTORS

- Robert King, *Board Chairman, CPA, Robert W. King Certified Public Accountant*
- Garry Brown, *President and CEO, Orange County Coastkeeper*
- Frank Tolerico, *Board Vice-Chairman, CEO, Alpha Consulting*
- James Parkhurst, *Board Treasurer, President, Newport Bay Hospital*
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- Richard Nicholson, *President, West Pacific Medical Laboratory*
- Juan Vazquez, *President, Santiago Canyon Community College*
- Larry McKenney, *Counsel, Santa Ana Watershed Project Authority*
- Penelope Bryan, *Dean, Whittier Law School*
- Dani Gold, *Realtor, Sotheby's Realty*

DEDICATED COASTKEEPER VOLUNTEERS

Sharon Koch, Tom Burton, Pete Gartner

QUICK STAT: In 2012, Coastkeeper educated **2,600 students** through the WHALES program and Kids Ocean Day



WHALES expansion with SDG&E Grant

In 2012, Coastkeeper's education team officially expanded into south Orange County with field trips to San Onofre State Beach. In partnership with the San Onofre Foundation, Coastkeeper brought over 600 students from 3 junior high schools in Mission Viejo, San Clemente and Ladera Ranch on the ultimate watershed education field trip. Students spent the day learning about the unique watershed of San Mateo Creek. Activities included water quality testing, a hike from the beach to San Mateo Campground, and a discussion of the geology that makes Trestles a world-class surf break. The WHALES program expansion is made possible by funding from San Diego Gas & Electric's Environmental Champions Initiative.

NEW SUMMER PROGRAMS

This summer, students got to enjoy learning about their watersheds year-round when Coastkeeper brought WHALES to the Boys & Girls Club Twilight Program and the City of Bellflower's "Weird Science" Summer Camp. According to our City of Bellflower partners, students from the Weird Science Program "will not stop talking about their trip" to the Bolsa Chica Wetlands, and had "an AWESOME time."

Coastkeeper's largest WHALES summer program was specially crafted for two local Boys & Girls Club branches: Huntington Beach and Fountain Valley. The "Coastkeeper Club" met weekly to learn about local waterways while performing real-world science! Coastkeeper club members tested water quality at local channels, learned about waste water treatment at the OC Sanitation District, and explored a wetland habitat with the Bolsa Chica Conservancy. Due to the success and growing demand of these programs, Coastkeeper has obtained funding to continue with summer and after-school programs in 2013.



KIDS OCEAN DAY 2012

On June 5, Coastkeeper's fifth annual Kids Ocean Day brought 800 students and over 150 educators and volunteers to Bolsa Chica State Beach to "Defend the Sea!" Through this program, many inland and low-income schools get the opportunity to receive a fun, comprehensive lesson on the importance of protecting the ocean.



EDUCATION



HUNTINGTON BEACH DESALINATION

Coastkeeper continues to work with a state-wide coalition to oppose building a desalination plant in Huntington Beach because it is the most expensive, energy intensive and environmentally damaging source for water. Most importantly, north and central Orange County have other water supply options, so this \$1 billion project is not necessary. Coastkeeper closely monitored the progress of the Carlsbad desalination plant as it is likely that events will unfold in a similar fashion for Huntington Beach. We urged city and water officials to consider alternative supply methods including stormwater capture and expanding recycling facilities such as the Groundwater Replenishment System.



MS4 PERMITS

The Clean Water Act requires municipalities to have Municipal Separate Storm System (MS4) permits in order to discharge stormwater. When permits are renewed every five years, it provides an opportunity to comment on the permit terms, ensuring that pollution runoff from stormwater drains will not threaten water quality. Coastkeeper represents the public's interest in regionally protective MS4 permits that take into account advancements in cost-effective water quality technologies and building standards that both reduce the volume of stormwater discharge and improve the quality of discharged stormwater by on-site treatment. Coastkeeper is negotiating south Orange County's new MS4 permit that is scheduled for adoption in early 2013.



MEASURE M

In 2006, Coastkeeper successfully advocated that a fund be established with the Measure M extension that would fund cities and the county to install water quality devices and natural treatment systems to clean up polluted urban runoff before it discharges to our harbors and ocean. The fund was established by Orange County voters and Coastkeeper; Garry Brown, has served as both Chair and Vice-Chair of the Environmental Cleanup Allocation Committee. 2012 was the second year of actual funding; approximately \$19 million dollars have been allocated to cities and the county for projects that will clean up polluted runoff that has a nexus to our transportation system. This directly improves the water quality of our 42-mile coastline.



MARINE PROTECTED AREAS

South Coast Marine Protected Areas (MPAs) came into effect on January 1, 2012. The South Coast study region is a suite of 36 MPAs covering 187 square miles from Point Conception in Santa Barbara County to the California-Mexico border. Coastkeeper runs the Orange County MPA Watch Program, the first part of a three step process of monitoring, education, and enforcement to assure that the MPAs are given the chance to succeed. Coastkeeper deploys teams of trained volunteers to identify human activities within MPAs and evaluate the effects these activities may have on marine resources. The data collected by our MPA Watch teams are used to better understand how individuals use MPAs. In 2012, we completed approximately 752 surveys and observed 43,575 activities, consumptive and non-consumptive, onshore and offshore. To continue the education and outreach necessary for the ongoing success of MPAs, Coastkeeper produced a new Orange County MPA map that is easy to use for boaters, fishers, and divers.



ADVOCACY



SANTA ANA RIVER CONNECTION

In September, Coastkeeper opened up a section of the Santa Ana River for kayaking trips in order to reconnect Orange County residents to their river by providing legal access to its waters. The Santa Ana River is an untapped jewel for recreation right here in Orange County. Unlike what most people tend to believe, the river is more than just a concrete channel. It is a rich, flowing waterway with an abundance of natural reaches that belongs to the public.

In order to prove that the river is navigable and safe, Coastkeeper had to obtain a permit that exempted us from a county ordinance that prohibits the public from boating, swimming or performing other water-related activities in rivers and channels owned by the Orange County Flood Control District. It took a year and a half to go through the permitting process, and for the first time in over 30 years the public was able to legally recreate in the Santa Ana River. This pilot program demonstrated that public access to the river can provide recreational and educational opportunities while protecting other uses, such as wildlife habitat. By getting to know this vital waterway, our hope is that participants will better understand how their Santa Ana River watershed directly affects the 5 million people that live in the region.



QUICK STAT: In 2012, Coastkeeper restored **2,100 square feet** of eelgrass in Upper Newport Bay!



EELGRASS

After three years of research, planning, and community outreach, Coastkeeper partnered with Coastal Resources Management and the Department of Fish and Game to complete the first year of our pilot eelgrass restoration project. Over 40 land-based volunteers and volunteer divers worked over the course of four days in June to restore this native seagrass to Upper Newport Bay. Together, we were able to restore 2,100 square feet of eelgrass in Upper Newport Bay.

Volunteer divers worked tirelessly to collect eelgrass by hand in natural eelgrass beds in the lower bay. Divers then planted each bundle by hand, laid each TERF (eelgrass tied to wire frames), and helped volunteers position BuDS (bags of eelgrass seeds tied to buoys and anchored to the bay floor). We successfully built over 150 bundles, 20 TERF frames, and 20 BuDS buoys.

Now that this restoration phase is complete, Coastkeeper will evaluate the success of the first transplant over the next 12 months. In June 2013, we will begin round two and plant an additional 4,300 square feet of eelgrass in the same area using only the most effective transplant methods.



RESTORATION



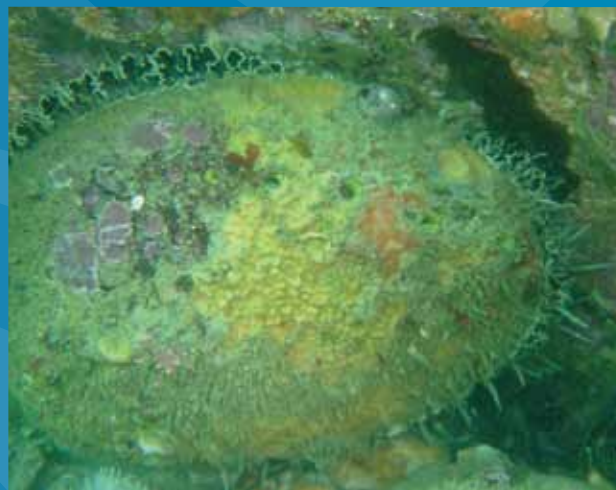


ABALONE

During the first phase of the green abalone restoration project, Coastkeeper and project partners collected over 230 samples from multiple abalone species, including 50 tissue samples from green abalone throughout Orange County. We were pleasantly surprised to find that our coastal waters are home to a few small populations, whereas before we thought there may be close to none. Through regular surveys performed by staff and volunteer SCUBA divers, we were able to verify observations of existing abalone provided by scientists, fishermen, and other recreational divers. We were also able to identify new sites where populations appear to be stable.

The preliminary results of genetic testing from the tissue samples indicate that the individual animals sampled at sites located throughout Southern California, including Santa Catalina Island, are relatively genetically similar, which is exciting news. However, further testing of the samples collected will provide more detailed information that will better inform future outplanting of abalone into restoration sites.

In 2013, we will move on to the next phase of the project, which involves identifying sites with ideal abalone habitat for outplanting. It is important to define the habitat characteristics, such as other plant, animal, and invertebrate life, associated with wild abalone populations. This information, along with data about numbers, sizes, and locations of wild abalone will help us to determine the best sites to outplant abalone raised in land-based aquaculture facilities. Our goal is to enhance wild populations using hatchery-raised abalones to establish stable populations. The methods developed through this work will likely be transferable to the restoration of the endangered white abalone and black abalone.



OYSTERS

In early 2012, Coastkeeper teamed up with Dr. Danielle Zacherl, Associate Professor in the Department of Biological Sciences at CSU Fullerton to implement a native oyster restoration project in Alamitos Bay in Long Beach, CA. The project, funded by the NOAA Restoration Center, California State Coastal Conservancy and the CSU Special Fund, will restore the native Olympia oyster (*Ostrea lurida*), which forms an ecologically and culturally important habitat, in the Jack Dunster Marine Reserve over the course of two years. This project was made possible with the participation of numerous volunteers and Alamitos Bay homeowners, and other project partners including Dr. Christine Whitcraft, Assistant Professor in the Department of Biological Sciences at CSU Long Beach, and KZO Education.

While native oysters are present in Alamitos Bay, there are no natural intertidal "beds" of oysters anywhere in Alamitos Bay for oyster larvae to settle and grow in large communities. Oysters are gregarious settlers and while they will settle on many hard substrates, they prefer oyster shell. In spring 2010, Dr. Zacherl implemented a small-scale native oyster restoration project in Upper Newport Bay, an area that historically supported oyster beds, by using "dead" oyster shell to create a desirable surface for oyster larvae to grow. After two years, native oyster densities were 30-80 times higher on constructed oyster beds. Dr. Zacherl implemented a similar restoration project in June 2012 in Alamitos Bay at the Jack Dunster Marine Reserve. The initial restoration bed was built with the participation of 80 community volunteers under the supervision of Dr. Zacherl and project partners.



RESEARCH



QUICK STAT: The Orange County / Inland Empire Public Interest Green Funds were distributed to 3 organizations totaling **\$50,000** for environmental programs in the region



COASTAL ACCESS

In June, Coastkeeper opened a beach to public access at the Huntington Harbour Bay Club. In a small ceremony, the beach was announced open to the public as more than a dozen paddle boarders made their way from across the harbor to the new beach. In 2009, the State Coastal Conservancy contacted Coastkeeper about this public access easement at the Huntington Harbour Bay Club. Without anyone to manage the area, it could have been lost to private development. Coastkeeper officially took over this public access easement in November 2009 and has worked to guarantee that the area remains open and accessible to the public.

This small pocket beach is protected by the Huntington Harbour waterways and provides a safe alternative for novice recreational water users from the open waters nearby at Huntington State Beach. Therefore, Coastkeeper opened this area for fishing and the hand launching of sabots, kayaks, canoes, standup paddle boards, etc., free of charge. Beach users get to park in one of the ten designated free parking spots every day of the week, including holidays.



SCRAPYARD MONITORING

In February, the Santa Ana Regional Water Quality Control Board (Water Board) approved Coastkeeper's permit to reduce polluted runoff from scrapyards. The permit requires all facilities engaged in scrap metal recycling within the region to implement phases of Best Management Practices (BMPs) to reduce and eliminate runoff pollution. Five years ago, Coastkeeper started collecting runoff samples from scrapyard facilities throughout the region and found high metal concentrations in the stormwater runoff from these facilities, consequently polluting the surrounding watershed.

Coastkeeper initiated and settled a dozen federal cases against metal recycling facilities in both Orange County and the Inland Empire in order to have the scrapyard operators treat or eliminate the discharge of polluted runoff from their sites. Although litigation efforts have been successful on a case-by-case basis, it did not lead to a shift across the entire industry. So, we spent the past few years working with a stakeholder group of industry members, the Water Board, and engineers to develop standards that all metal recyclers can achieve while making significant water quality improvements. With an agreed upon suite of basic BMPs, advanced treatment systems, and numeric discharge limits, this permit will benefit metal recyclers by giving a clear path of compliance and leveling the playing field for each facility to make sure they are protecting water quality.



COPPER REDUCTION PROGRAM

2012 concluded the Newport Bay Copper Reduction Program, which provided a financial incentive for boaters with slips in Balboa Yacht Basin to switch to non-biocide boat bottom paint. Up to fifty-thousand pounds of copper is deposited yearly into Newport Bay, having detrimental effects on marine life and making it a state-recognized impaired water body. The largest source of this copper pollution comes from copper-based bottom paints. Initially, skepticism and uncertainty have been obstacles with this incentive program, but the performance of the non-biocide paints have since become more widely apparent, especially when a Newport Beach city boat's non-biocide hull paint demonstrated lasting performance. Thanks to a grant from the US EPA and matching funds, Coastkeeper has helped convert 6 boats, preventing approximately 36 pounds of copper from polluting the bay each year. The ultimate goal is to have a much larger impact, but this can only come from a large-scale shift in bottom paint preferences, or implementing regulations.



ENFORCEMENT



LEGAL INTERNSHIP PROGRAM

The Coastkeeper Legal Internship Program trains the next generation of environmental attorneys by providing "real-world" experience in the field of environmental advocacy. Through this semester long internship, law students learn the intricacies of environmental law and how local, state, and federal regulations impact the environment and the people who rely and enjoy our beautiful inland and coastal areas. In 2012, we hosted legal interns from Whittier Law School, Lewis & Clark Law School, California Irvine School of Law, and Tulane University Law School.



ORANGE COUNTY & INLAND EMPIRE PUBLIC INTEREST GREEN FUND (GREEN FUND)

Administered by the Orange County Community Foundation, the Orange County & Inland Empire Public Interest Green Fund is supported exclusively by the settlements from Coastkeeper's litigation. In 2012, the Green Fund's independent advisory board awarded grants totaling \$50,000 to non-profit organizations working to protect and preserve recognized ecological resources, recipients include Inside the Outdoors Foundation, Trails4All, and Inland Empire Waterkeeper.

Since its inception in 2009, Coastkeeper has directed over \$250,000 to the Green Fund.

QUICK STAT:: In 2012, Coastkeeper removed **over 40,000 pieces** of trash from Huntington State Beach!

QUICK STAT: In 2012, Coastkeeper reduced water use by **66%** at Southern California Edison's Villa Park substation!



SPECIAL PROJECTS



SMARTSCAPE

April marked the one-year anniversary of the SmartScape Project at the Southern California Edison (SCE) Villa Park substation. SmartScape is a landscape retrofit that Coastkeeper designed, installed and maintains. This 3-acre pilot project was designed to reduce maintenance by 50%, water consumption by 60%, carbon emissions by 70%, and retain onsite 100% of the stormwater in an average rainfall year. The sustainable landscape retrofit included Mediterranean and Southern California native plants, a water-efficient irrigation system, and a system of bioswales and detention areas designed to reduce urban runoff and manage stormwater.

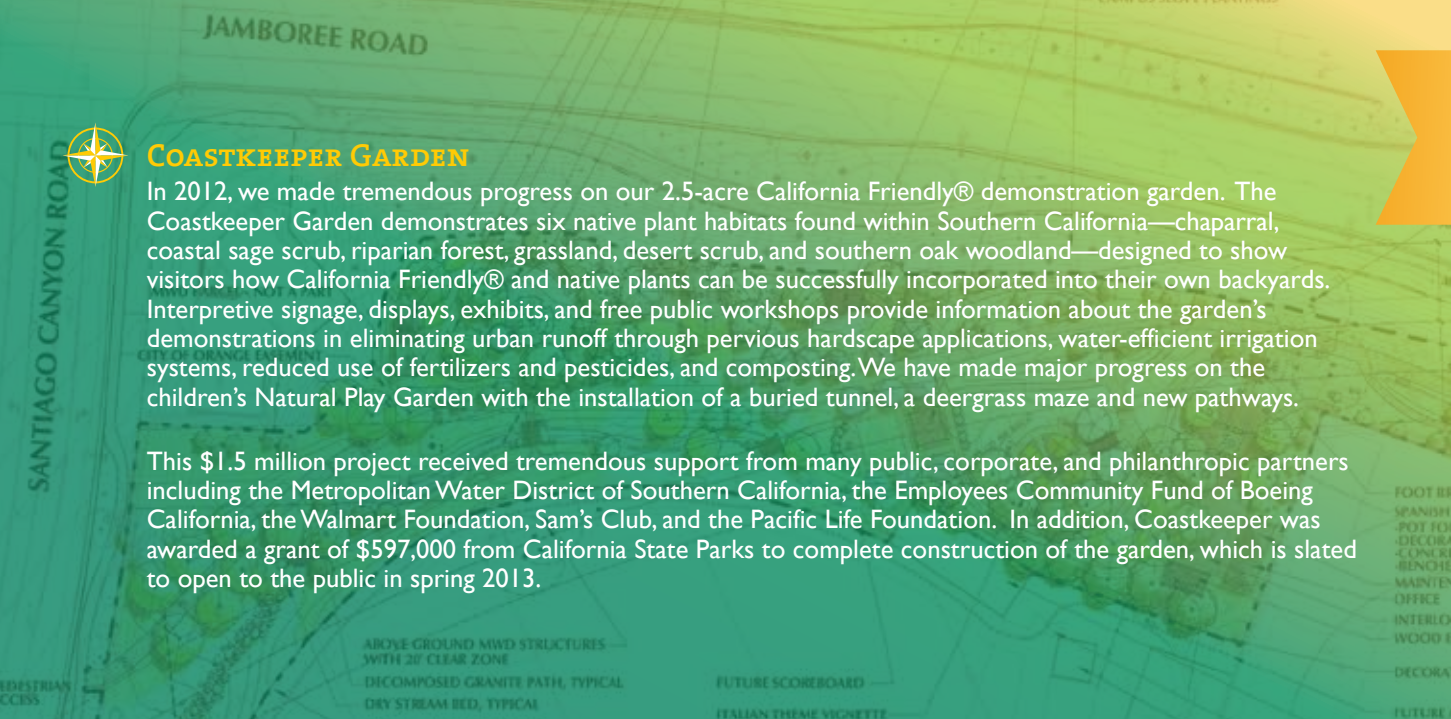
After just one year of monitoring the project's ecological benefits, Coastkeeper has observed a 66% reduction in water consumption and a major increase in the diversity of bird species observed at the substation. Federal, state, and local organizations have praised the project for its innovative solutions, which SCE plans to replicate in future landscape projects. Coastkeeper was also recently asked to implement another SmartScape project for San Diego Gas & Electric with their proposed plan to upgrade electrical transmission lines between substations in San Juan Capistrano and San Clemente.



COASTKEEPER GARDEN

In 2012, we made tremendous progress on our 2.5-acre California Friendly® demonstration garden. The Coastkeeper Garden demonstrates six native plant habitats found within Southern California—chaparral, coastal sage scrub, riparian forest, grassland, desert scrub, and southern oak woodland—designed to show visitors how California Friendly® and native plants can be successfully incorporated into their own backyards. Interpretive signage, displays, exhibits, and free public workshops provide information about the garden's demonstrations in eliminating urban runoff through pervious hardscape applications, water-efficient irrigation systems, reduced use of fertilizers and pesticides, and composting. We have made major progress on the children's Natural Play Garden with the installation of a buried tunnel, a deergrass maze and new pathways.

This \$1.5 million project received tremendous support from many public, corporate, and philanthropic partners including the Metropolitan Water District of Southern California, the Employees Community Fund of Boeing California, the Walmart Foundation, Sam's Club, and the Pacific Life Foundation. In addition, Coastkeeper was awarded a grant of \$597,000 from California State Parks to complete construction of the garden, which is slated to open to the public in spring 2013.





2013 AGENDA

We have hit the ground running in 2013; our five program pillars are all in full-forward motion. Some highlights will be:



EDUCATION

Further expansion of our watershed education program into more schools and 1,000 elementary school children will participate in our Ocean Day program.



ADVOCACY

The debate over the proposed Huntington Beach Desalination plant will be decided. Projects such as MPA monitoring, opening up the Santa Ana River for public recreational use, and collaboratively working with agencies to improve the quality of our waterways, harbors and near-shore waters will dominate our agenda. Water supply issues such as expanding recycling and water re-use science and legislation will share priority as well.



RESTORATION

Eelgrass planting in Upper Newport Bay has shown to be very successful, and will continue to expand. Hopefully, we will be permitted to plant green abalone along our coastline.



May 4, 2013 will be the Grand Opening celebration of the Coastkeeper Garden. This special event will also serve as Coastkeeper's Annual Fundraiser. How does the combination of wine and jazz sound while strolling through the Garden?



To follow the Coastkeeper Garden and SCE SmartScape project, there are potentially two projects that Coastkeeper will develop and commence in 2013. It is vital that the public sees first-hand how we should transition to beautiful and drought tolerant landscapes.

These are just a few highlights of our packed 2013 agenda. Our successes would not be possible without your support and the invaluable work of our many volunteers. We are most humbly grateful to you.



Allergan showed their commitment to the environment by joining us for a beach cleanup.



Ernst & Young volunteers give back to the community for their Intern Connect Day.



The PIMCO Foundation participated in two beach cleanups this year for their Global Week of Volunteering and National Make a Difference Day.



Disney's College Program and VoluntEARS both provided much needed assistance at the Coastkeeper Garden.



Chapman University regularly sends student volunteers to the Coastkeeper Garden for a Day of Service.

2012 SNAPSHOTS

**SAVE
THE DATE!
SATURDAY,
MAY 4, 2013**

Coastkeeper Garden Grand Opening and Coastkeeper's Annual Fundraiser!

Many thanks to our friends and supporters, whose generosity and commitment to clean water make Coastkeeper's work possible.

To make a gift to Coastkeeper, please visit our website, give us a call, or send a check to the address below.

From all of us at Coastkeeper, thank you for your support.



O R A N G E C O U N T Y
COASTKEEPER®

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The Coastkeeper Compass 2012 designed by:

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A Statewide Voice for Our Waters

