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Kelp Forest Restoration Off Southern California Coast to Serve as International Model

Restoring Kelp to Help Marine Life, Divers and Fishermen

(Los Angeles, CA – July 23, 2013) Last week—after 15 years of scientific monitoring, research and planning—a major kelp restoration project began off the coast of the Palos Verdes (PV) Peninsula, long recognized as one of the most important kelp forest regions on the West Coast of the United States. A partnership of environmental groups, public aquaria, fishermen and researchers—led by the Santa Monica Bay Restoration Foundation (SMBRF)—are setting the stage for replanting and restoring the kelp forests, often referred to as the 'tropical rainforests of the sea' due to their high ecological value. The project is expected to serve as a model for coastal cities with similar issues both in the U.S. and internationally.

The PV Peninsula has experienced a 75% decline in kelp canopy over the past 100 years due to development, pollution, over-fishing and a changing ocean climate. The formerly healthy kelp forests supported hundreds of species of fish, invertebrates and other algae and were popular fishing spots. They have been replaced by "urchin barrens", or an overpopulation of purple sea urchins that grow very densely, covering the sea floor and crowding out most other life. "Urchin barrens" support very few species. Restoration can reverse this trend and reestablish the healthy kelp forest supporting many species, including robust sea urchins needed for local sea urchin fisheries.

The SMBRF has worked closely with its partners—Los Angeles Waterkeeper, California Science Center, California Sea Urchin Harvesters, Vantuna Research Group, National Oceanic and Atmospheric Administration (NOAA), Department of Fish and Wildlife (DFW), and Southern California Marine Institute—to find the best way to thin the millions of urchins that have become an underwater blight on marine animals and humans alike.

Fishermen, who supply urchins to many local restaurants for what sushi enthusiasts know as "uni", love the kelp forests because they provide healthy, large sea urchins. But now, the local purple sea urchins off the PV Peninsula have become undernourished, tiny and often diseased, and are of no value to their ecosystem nor to fishermen. With no action, these urchins continue to choke off the life-giving kelp. Because of their high population densities of up to 70 urchins per square meter in the barren, where normally there should be two per square meter, the deteriorating urchins are starved and constantly searching for food, expanding the barren area by eating every budding kelp plant so there is no chance for growth.

To set the stage for successful kelp recovery as expediently and safely as possible, technically adept divers will manually thin the emaciated urchin population so the baby kelp plants have the opportunity to grow and reclaim their historic abundance. Fortunately, giant kelp grows amazingly

fast, up to two feet per day, so it won't take centuries for this forest to mature. Past research has shown many of the characteristics of a mature kelp forest return in approximately one year.

"Our underwater kelp forests are a lot like tropical rainforests or redwood forests, providing a lot of the same life-giving benefits," says Tom Ford, Director of Marine Programs for SMBRF. "Just as our land-based forests need to be protected by controlling the bark beetle, we all are doing the same in the underwater forests, so everyone can again enjoy and make a living from the Bay."

If left alone, kelp forest recovery may take decades or may never come back at all. Manually culling the urchins will jump start the return of a healthy kelp forest and healthy urchins as expediently as possible.

The kelp restoration project is a multi-year, multi-site project along the PV Peninsula. Each site will be completed within four years and monitoring is ongoing for the life of the project and for five years thereafter. Once a kelp forest is restored, it can persist for many years with little or no maintenance.

Humans are partially responsible for the urchin overpopulation, and now science and experience are guiding a thoughtful, proven solution. Urchin barrens usually develop through a combination of factors:

- too few urchin predators, such as California sheephead, California spiny lobster and the southern sea otter;
- a lack of natural competitors for habitat and food, such as abalone; and
- poor growing conditions for kelp, including warm, nutrient-poor water typical of El Nino summers; cloudy coastal water; and frequent large storms which rip out established plants typical of El Nino winters.

States Mike Schaadt, Executive Director of the Cabrillo Marine Aquarium, "Kelp forests are important to life underwater and by extension, life above water. We know they are in decline in our region and this is a great opportunity for the Bay to help reverse that trend."

The Montrose Settlements Restoration Program (MSRP), consisting of six federal and state agencies with the National Oceanic & Atmospheric Administration as the lead agency, is providing funding for this project as part of its plan to restore fish habitat in southern California. MSRP was developed in 2001 following a case settlement against polluters that released DDTs and PCBs into the southern California marine environment. MSRP has allocated settlement funds to restore natural resources that were harmed by these chemicals including impacts to fish habitat due to their presence in ocean sediments (www.montroserestoration.gov).

Project FAQs are available here: http://santamonicabay.org/IntheOcean/KelpFAQs.pdf

Partner Statements are available here: http://santamonicabay.org/IntheOcean/PartnerStatements.pdf

About Santa Monica Bay Restoration Foundation (SMBRF)

bay restoration foundation
STEWARDS OF SANTA MONICA BAY

The SMBRF is a 501(c) 3 non-profit environmental group founded in 1990 to restore and enhance the Santa Monica Bay (from the LA-Ventura county line to the Palos Verdes Peninsula) and local coastal waters. The Foundation is the non-profit partner of the Santa Monica Bay Restoration Commission, raising and expending funds for research, education, planning, cleanup efforts and other priorities identified in the Commission's Santa Monica Bay Restoration Plan. As advocates for the Bay, SMBRF works collaboratively with a broad group of stakeholders, including government agencies, industry, environmental groups, and scientists, to implement innovative policies and projects that clean up the waterways, create green spaces and natural habitats in the Los Angeles region. (www.santamonicabay.org)

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