

MARE

Eyes in the Ocean Illuminate its Unknowns

Pt. Richmond nonprofit organization provides deep ocean research capability

By Ellen Weis

Now more than ever, people are becoming aware of the fragility of the oceans. The BP Gulf Oil Spill was tragic, but is helping to increase awareness about our oceans' delicate fish and plant resources.

Deepwater engineer Dirk Rosen, raised in Marin County, now an Oakland resident, founded MARE in 2003 to help scientists learn about and protect our oceans. A nonprofit 501c3 organization, MARE, an acronym for Marine Applied Research

& Exploration, provides expertise and specialized technology needed for deepwater research, habitat monitoring and restoration.

MARE's specific expertise is deploying underwater robots. Technically known as remotely operated vehicles or ROVs, these robots allow scientists and marine managers to "see" and study fish in deepwater zones that divers rarely access.

"MARE is a vital partner for marine conservation efforts in California," explains Dr. Mary Gleason, Lead Marine Scientist for The Nature Conservancy. "It occupies a unique niche as a nonprofit with capacity, tools, and the skills to lead and support deepwater data collection using ROVs and other technologies - some of the most difficult to obtain yet most important for improving our understanding of California's marine ecosystems."

Working in partnership with both The Nature Conservancy and Cal State University Monterey Bay's Institute for Applied Marine Ecology, MARE is now collecting baseline data in the newly established North Central Coast Marine Protected Areas (MPAs), an area from Half Moon Bay up the Sonoma coastline to Pt. Arena.

"Bay Area residents who care about the health and restoration of our ailing oceans should be paying attention to what happens in these conservation zones," notes Rosen.

Zeke Grader, Executive Director of the Pacific Coast Federation of Fishermen's Associations, explains the importance of MPA monitoring: "Without monitoring, there will be no hope of reviewing and modifying MPA regulations and boundaries for effective conservation. The work MARE is doing is crucial."

MARE recently completed the first ROV data collection cruise in the North Central Coast MPAs. "The quality and quantity of video and

photographic data we've brought back exceeded our best expectations," said Rosen. "We collected 280 hours of video and some 8,600 high resolution digital still images."

The partners use the ROV Beagle, a customized robotic submarine that uses video and digital still cameras to shoot high resolution, color pictures to capture life on the ocean floor. It can dive to 3,300 feet, and features a real-time joystick or auto-pilot control, and GPS-integrated navigation and data logging.

The Beagle, owned by The Nature Conservancy and purchased using funds from California's Ocean Protection Council, was specifically designed for scientific monitoring purposes. The Beagle will be on display at the California and the World Ocean Conference 2010, being held at the Hyatt Regency in San Francisco, September 7-10.

Rosen will present "Collaborative Baseline Assessment of Marine Protected Areas of the Northern Channel Islands Using Remote Operated Vehicles" on Wednesday, September 8, as part of the Conference activities.

MARE is headquartered right in the Bay Area-in the Pt. Richmond Marina. In addition to its local work, it has conducted seven consecutive years of monitoring in the Channel Islands Marine Protected Areas; assisted in removing lost fishing gear, and completed many exploratory surveys.

MARE still needs to raise \$60,000 in matching contributions to fully complete MPA monitoring in the San Francisco region. Those interested in supporting this important work can make donations via the MARE website. As a nonprofit, MARE can accept individual, business or corporate gifts.

Visit their website and see the results of their exciting work: <http://www.maregroup.org>. MARE - 510-232-1541.

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