

Richmond-based firm sending robot on undersea missions

By Mike Taugher
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The images transmitted from the underwater robot show a seafloor near the Farallon Islands exploding with life in vibrant purple, red, green and orange.

"Every square inch, other than sand, is completely covered," said Dirk Rosen, president of the Richmond-based nonprofit that built and guides the remote-operated vehicle "Beagle."

"It's spectacular how much light you have at that depth," he added.

No mud or bare rock come into view as soft corals, anemones, sponges, sea cucumbers, sea squirts and the occasional rock fish pass beneath the ROV "flying" inches above the surface of the rocky reef, the temperate zones' equivalent of coral reefs in the tropics.

"Most Californians don't think about how colorful and vibrant the rocky reefs are," said James Lindholm, director of the Institute for Applied Marine Ecology at Cal State Monterey Bay.

"The ROV, because of its versatility and ability to stay down for long periods of time, gives us an opportunity to collect a lot of data," Lindholm said. This month, Rosen's team finished the first round of video and still-camera surveys of newly created marine protected zones from the San Francisco Peninsula north to Mendocino County.

The surveys in July resulted in 142 hours of video and about 8,600 still photographs, along with other information.

They want to capture what these underwater regions look like now so that scientists several years from now, or longer, can return and see what has changed as a result of the new marine reserves and other protected areas.

"You have all these laws and restrictions, so you want to make sure it's working, and if it's not you make adjustments," said Rosen, who ran a company that built and operated remote operated vehicles before starting up MARE, or Marine Applied Research & Exploration, a nonprofit organization at Point Richmond.

Rosen recently captured the video while sitting in the control van mounted on the deck of a fishing vessel during the survey.

Continues on reverse . . .



Dirk Rosen, founder and president of MARE (Marine Applied Research and Exploration), talks about the features of the "Beagle" Remotely Operated Vehicle (ROV) at the company's office in Richmond, Calif., on Wednesday, July 28, 2010. MARE is using the Beagle to monitor and survey marine ecosystems. (Kristopher Skinner/Staff)



Dirk Rosen, founder and president of MARE (Marine Applied Research and Exploration), sits in the control van as he talks about the features of the "Beagle" Remotely Operated Vehicle (ROV) at the company's office in Richmond, Calif., on Wednesday, July 28, 2010. MARE is using the Beagle to monitor and survey marine ecosystems. (Kristopher Skinner/Staff)

"When the Channel Islands marine protected areas went into being (in 2003), I began asking the question: Is anybody monitoring the deep water?" Rosen said.

Scuba divers were monitoring upper zones, but it is impractical to send them deeper than 60 or 80 feet.

The reef off the Farallones was about 150 feet deep; the Beagle can descend to 3,000 feet.

And, Lindholm said, the hours and hours of video will give researchers in the future plenty to investigate as they look for environmental changes.

"I expected it to be beautiful," said Donna Kline, a research associate at the Institute for Applied Marine Ecology at Cal State Monterey Bay. "It was more beautiful than expected."

Beginning in May, about 11 percent of state waters within three miles of the north central coast, between the Peninsula and Mendocino County, was made off limits to fishing or any other activity — such as crabbing or abalone diving — that results in taking marine resources. Another 9 percent was designated as conservation areas or other classifications where fishing is permitted but is more tightly regulated than before.

New reserves and other marine protected areas are due for the coast off Mendocino and further north by the end of the year.

Another network of reserves and conservation areas in the Bay is under consideration and that plan could be announced this year.

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**Read this article online and see underwater video clips taken by the "Beagle" ROV at:
http://www.contracostatimes.com/ci_15644498?IAID=Search-www.contracostatimes.com-www.contracostatimes.com&nlick_check=1**

