News Clips for the Channel Islands National Marine Sanctuary Advisory Council[1]
March 2015 through May 2015

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1. Volunteers clean up 1,300 pounds of trash from Santa Cruz Island - March 26, 2015
2. The Electric Coral Acid Test – March 26, 2015
3. Off Channel Islands, Scientists Explore Coral – and our Ocean's Future – April 1, 2015
4. The Channel Islands: a great place for a quick weekend visit – April 18, 2015

Volunteers clean up 1,300 pounds of trash from Santa Cruz Island

theLog.com
March 26, 2015
http://www.thelog.com/Local/Article/Volunteers-clean-up-1-300-pounds-of-trash-from-Santa-Cruz-Island#sthash.9OgS3mUC.dpuf

By: Catherine French

SANTA CRUZ ISLAND—Thirty-eight volunteers joined together onboard the Island Packers ferry Islander and headed offshore to the east end of Santa Cruz Island to remove trash from several beaches.

"Most years we go to Chinese Harbor on the island's north shore for this annual trash removal, but weather conditions weren't favorable, so we headed south east to Yellow Banks," said Alex Brodie, Island Packers fleet captain.

For the past decade teams of volunteers from diverse backgrounds have gathered together each year to remove trash build up from the Channel Islands National Park. This year, more volunteers than ever weret involved.

"It was a great turnout and everyone was thrilled to be a part of this important project. We all depend on a clean environment and this is one way we can help the cause," Brodie said.

Michael Cohen, owner/director of Santa Barbara Adventure Co., has become the lead coordinator for this project, "Santa Barbara Adventure has been involved the last eight years. With the help of business associates and friends we were able to put together a coalition of like-minded people who care about the Channel Islands National Park and the National Marine Sanctuary."

In addition to Cohen's company, the coalition included Santa Barbara Channelkeeper, Environmental Defense Center, Channel Islands National Marine Sanctuary, Aquasports, Channel Islands Outfitters, Santa Barbara Zoo, Ty Warner Sea Center, California Condor Project and Four Seasons Hotel.

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[1] *Articles shared specifically mention the sanctuary and/or are related to issues of known interest to the sanctuary advisory council. Any external opinions expressed within these articles do not reflect the views of sanctuary staff or NOAA, and sharing these stories does not indicate staff endorsement of views contained therein.*

Volunteers got in kayaks and went ashore. An inflatable skiff was also taken to land volunteers on the beaches and help with shuttling trash back to the boat.

“We removed the Islander’s aft deck seats and covered it with tarps to convert it to a ‘garbage scow’. We removed 1,300 pounds of trash and had to leave about a ton more. We just ran out of room,” Brodie said.

Trash consisted mostly of plastic, but some unusual items were picked up as well, like an actual message in a bottle.

“A boy fishing with his father in 2003 sent ‘sea mail’,” Cohen said. “He put the year, his name, and age and phone number on the message. My 8-year old Aiden was onboard and he asked if we could contact him. We have tried without success. We took a picture and have posted it on Facebook. We hope he responds.”

Back in Ventura Harbor, Islander docked at the National Park headquarters to unload all of the trash with the help of National Park crew. Most of the trash was recyclable.

“This year we found an unusual amount of fishing gear and lobster pots, we suspect that is due to the extreme swells from winter storms and hurricanes from the south,” Brodie explained. “Some of my fisherman friends said they would like to help next year and would be able to reuse some of the gear. We all count on a clean ocean.”

Cohen is already planning next year’s trip, with a twist. “There is a growing tourism segment called voluntourism where people travel to great places and give back by paying to participate in good works and, help cover the cost. Next year, I hope to have such a trip for this effort. You have never seen so many enthusiastic and happy people digging through the sand to collect trash!”

For more information, visit sbadventureco.com.

The Electric Coral Acid Test

Santa Barbara Independent
March 26, 2015
http://www.independent.com/news/2015/mar/26/electric-coral-acid-test/

By Brandon Fastman

Last Wednesday afternoon, a group of scientists and a handful of lucky onlookers crowded around a heap of computer monitors onboard a NOAA research vessel in between Santa Cruz and Anacapa islands. In the middle of this scrum were two men controlling a remotely operated vehicle (ROV) 500 feet beneath the boat’s hull.

Later in the day, an oceanographer named Peter Etnoyer would ruminate on the fact that when he was in college, researchers still believed that the deep sea consisted of dead zones devoid of life; however,

the ROV's electrical eyes revealed an ecosystem teeming with fish, crustaceans, and the organism that nobody knew actually existed in the Santa Barbara Channel until recently: coral.

Everyone held their breath as they watched the ROV clamp onto a pink gorgonian coral bush, more commonly known as a sea fan, and deposit it onto the submersible's "front porch." Exhales. Applause. Soon after, scientists and their assistants were slicing and dicing the specimen so it could be preserved for examination. The abiding question is how deep-sea corals are impacted by ocean acidification.

Corals, the second-most simple animals (the first being sponges), form hard exoskeletons from calcium carbonate, and they tend to thrive in conditions where the water is saturated with such minerals. However, when oceans absorb carbon dioxide — which they have been doing increasingly since the Industrial Revolution, becoming on average 30 percent more acidic — the change in chemistry reduces the number of carbonate ions.

Marine scientists use the saturation of one particular calcium carbonate called aragonite to discuss acidification. The "aragonite saturation horizon" marks the depth below which corals cannot form their exoskeletons. As acidification increases, the depth of the horizon becomes shallower. In the California Current system, it was between 300 and 350 meters in the pre-industrial era, before 1750. It is roughly now 150 meters, and by some predictions, it will be 50 meters by 2050.

Aside from their beauty, corals provide habitat for both invertebrates and fish. "Corals are to fishes as trees are to birds," said Etnoyer. They support entire ecosystems. They also hold pharmaceutical potential, Etnoyer explained, are crucial to biodiversity, and are an "indicator species," manifesting earlier than other species' impacts to the ocean environment.

The scientists were particularly interested in Lophelia pertusa, a white-colored stony coral species. Lophelia, said Etnoyer, is a "poster child" because it exists all over the world. The Lophelia in the Channel Islands National Marine Sanctuary seem to be healthier than the scientists predicted. They guess this might have to do with the richness of food sources in the area, or it may be due to the fact that this portion of the Pacific is naturally highly acidic due to upwelling, so perhaps the corals had already become inured to such conditions.

Because of their inaccessibility, deep-sea corals are still quite mysterious creatures. "Eighty percent of the data we collect is imagery," said Etnoyer. He surmises that he was drawn to studying deep-sea corals because of his first career working on Hollywood movie sets. "It's all cameras, it's all light," he said of the submersible vehicles that marine scientists depend on.

The ROV on the Bell M. Shimada was designed by a nongovernmental organization called Marine Applied Research and Exploration (MARE). Executive Director Dirk Rosen, one of the ROV operators on the ship, is based in San Francisco, but his motivation for founding the nonprofit is a Santa Barbara story.

A graduate of UCSB's engineering program, Rosen had been diving in the channel since 1976 when he attended early meetings on the formation of Marine Protected Areas (MPAs) within the Channel Islands sanctuary. Distressed at the "demise" of sea life in the area, he asked scientists what they most needed, and

their response was “deepwater data.” He launched MARE in 2003, the same year the MPA regulations went into effect, and his machines have been gathering data up and down the West Coast ever since.

At the end of the day, everybody was pleased. The mission was a success. They’d collected all the coral samples they could hope for, and after 30-knot winds the night before, the waters were calm.

GREAT READ - OFF CHANNEL ISLANDS, SCIENTISTS EXPLORE CORAL — AND OUR OCEANS' FUTURE

Los Angeles Times
April 1, 2015
http://www.latimes.com/science/great-reads/la-sci-c1-channel-islands-corals-20150401-story.html#page=1

By DEBORAH NETBURN

Five hundred feet beneath the ocean's surface, a robotic submarine is bumping into a grove of bone-white coral in the waters off the Channel Islands.

The robot — the size of two ovens placed back to back — has been sent to an underwater rocky ridge between Anacapa and Santa Cruz islands to collect samples of stony corals living, unexpectedly, in an acidifying ocean.

A team of deep-sea scientists and engineers watches live footage of the collision on a suite of computer screens aboard the Bell M. Shimada research ship. As the brittle branches of the coral colony tumble to the ocean floor, the group lets out a collective, "Oh!"

But the bump was deliberate.

With jerky movements, the remotely operated vehicle, or ROV, gathers a few of the fallen chunks into a plastic scoop attached to the end of its arm and deposits them into a storage basket.

"Let's try for one more scoop," says Peter Etnoyer, a marine biologist with the National Oceanic and Atmospheric Administration. Dirk Rosen and Andy Lauermann, the two ROV pilots, use joysticks to guide the underwater vehicle into another set of jerky maneuvers.

"You never take the only one and you never take the biggest one, but ultimately you have to take samples to protect the habitat," Etnoyer says.

Rosen, a deep-sea engineer who once worked with NASA on developing robotic standards for the International Space Station, says working in the depths of the sea can be just as challenging as working in space.

"They are both largely unexplored, and both don't support life like us without substantial protection," he says. "But we know more about the surface of the moon than we do about the bottom of our ocean."

The researchers are wrapping up a weeklong science cruise in the Channel Islands National Marine Sanctuary, a protected area of 1,470 square miles established in 1980.

They've spent the last week aboard the Shimada, a towering research vessel that sleeps 41 people — 17 scientists and 24 crew members — to monitor the health of the coral colonies in the sanctuary and to update maps of its underwater topography, which were created in the 1930s.

But collecting coral specimens so far below the surface is often clumsy at best, never mind the race to get some of them into refrigerated fish tanks before they die.

"We don't have a James Bond lab behind us, so we are always MacGyvering it — working on the fly to develop ways to get the necessary samples for the scientists," says Rosen, whose company, Marine Applied Research and Exploration, provides technological support for researchers who explore the deep sea.

One of the coral scientists on board the 208-foot ship is Branwen Williams, a professor at the Keck Science Department of the Claremont Colleges. Williams wants to understand how old the corals of the Channel Islands are, what they are eating and how fast they grow.

"They look like little trees, and if you cut them, you can see they have growth rings like trees too," she says. When the cruise is over, she will take five soft corals shaped like large fans back to her lab and cut across their trunks with a small saw.

To calculate their ages, she'll analyze their tiny concentric rings for trace amounts of radiocarbon. The corals would have incorporated the radioactive compound in the 1950s after it was released by thermonuclear bombs being tested over the Pacific. By looking at where in the rings the radiocarbon signal begins and where it peaks, she can tell how quickly the coral has grown.

For now, she won't even hazard a guess at how old the corals the ROV brings up each day might be.

"They could be 10, 20, 80 or 90 years old — we just don't know," she says.

The other coral scientist is Etnoyer, who works for NOAA's National Centers for Coastal Ocean Science. He is making his second trip to the Channel Islands in five years. This time around, he's studying the health and distribution of sea fans, as well as how a type of stony coral called Lophelia pertusa is responding to ocean acidification.

"Corals are an indicator species," he says. "If you see changes in the coral communities, you will see changes in other deep-sea communities too."

As man-made sources pump more carbon dioxide into the atmosphere, more of it is absorbed by the world's oceans, which raises acid levels in the water.

Lophelia pertusa is found all over the world, but it has never been reported in waters as acidic as the ones off the California coast. Lophelia, like other stony corals, forms its thick skeleton from calcium carbonate that it collects from the seawater — and it gets less of it in more acidic waters. That's why the change in the oceans on the planet has been called "osteoporosis of the sea."

Because of currents, weather patterns and geography, the waters along the West Coast of North America have a lower pH than most other ocean regions. But other oceans are expected to catch up as they absorb more carbon dioxide.

"We call it a glimpse into our future oceans," Etnoyer says.

After visiting several sites around the sanctuary, Etnoyer and his team report that for now, the Lophelia pertusa are doing OK, but are not forming reefs and are more brittle than those found in the Atlantic Ocean.

"They are surviving," says Leslie Wickes, who works in Etnoyer's lab, where she is chief of sea chemistry. "Now we just have to figure out how they are doing it."

At lunchtime the scientists load their plates with spaghetti, chicken nuggets, BLTs and brownies, but they aren't focused on the food. Instead, they turn their attention to a large-screen television hanging in the ship's small mess room. The ROV is streaming live video from a site called Footprint six miles south of Anacapa Island, revealing a craggy terrain dotted with hot pink, yellow and white corals.

Not so long ago, scientists thought corals were most abundant in shallow, tropical waters, but Etnoyer says the footage from this cruise has yielded spectacular images of thriving colonies in the deep.

"We've seen coral in almost every ROV image," he says. "At 600 feet we are talking about 25 species of corals and an equal number of sponges, some of which we don't even have names for yet."

He adds: "What we are learning here is the deeper we go, the more species we see."

As the ROV winds its way around the corals, Etnoyer narrates the images in between bites of salad.

"That's a black coral," he says gesturing to a long gray branch. "It's huge; it's probably 100 years old."

Next he spots a small lobster crawling up a coral fan. "It's trying to get higher in the water column where there is more food," he says.

Chris Caldow, the research coordinator for the sanctuary, points out the particles of white detritus that fall through the water. "That's called marine snow," he says.

Etnoyer nods his head. "It's always Christmas in the deep."

By 2:30, it's time for most of the scientists to say goodbye to the Shimada. Rosen and his crew are hosing off the ROV with freshwater and rolling up the thick umbilical cord that connects it to the boat.

Etnoyer and Williams are in the ship's wet lab, packing their specimens in plastic bags and coolers.

"It smells just a little ripe," Etnoyer cautions a visitor. "But that's the smell of science!"

Many of the coral specimens collected on the cruise have been allowed to dry out and die, but Etnoyer has four fish tanks full of living stony coral in a refrigerated room that he will ship via UPS back to his lab in Charleston, S.C.

The key to keeping the corals alive is to keep the water cold.

"Cold and dark, that's how they like it," he said.

The scientists hug goodbye as they board the boat that will take them back to land.

As she rides back to shore, Williams says doing research in the Channel Islands has been especially meaningful for her.

"A lot of times when we think of corals we think of warm vacation localities remote from where we live," she says. "It is amazing to me that we have these coral ecosystems right in our backyard."

The Channel Islands: a great place for a quick weekend visit

British Weekly
April 18, 2015
http://www.british-weekly.com/?p=17087

By Leo Lewis

When the National Park Service invited me recently to cover an event being held at the Robert J Lagonasino Visitor Center and the Park Headquarters of Visitor Center at Channel Island National Park in Ventura Harbor, I considered it an honor. Not dissimilar to the National Trust in the UK, the NPS are the custodians of some of the most amazingly beautiful land and islands that America has to offer, from the Grand Canyon to the Grand Tetons.

The Channel Islands National Park, referred to as “The American Galapagos,” is no exception since it was established as our 40th national park on March 5, 1980. The Park Service saw the need to protect the heritage of this magnificent area for future generations to enjoy its marine life, habitats, historical and cultural resources.

This isolated chain of islands just off the Southern California coast boasts pristine natural splendor. Half of the Channel Island National Park’s 49,354 acres are underwater and the area is home to 2,000 species of plants and animals. Congress actually passed a bipartisan bill to protect these resources while at the same time giving access to the general public.

This event was held at their headquarters on the peninsula by the entrance to Ventura Harbor, with sand dunes on the Pacific Ocean side and the marina on the other, right next to the delightful Harbor Village. We were introduced to their newest attraction which is part of their magnificent exhibition featuring a native plant garden, a fish pool at waist level that features numerous local marine life (excluding gray whales, sea lions, and dolphins, of course!)

The exhibit takes visitors on an underwater journey through several ocean habitats beginning at ground level with the dark and mysterious deep sea and ascending to a breaching humpback whale at the third

floor lookout tower. The journey is complete with a short dive descent in the tower elevator. Superintendent Russell Galipeau said, “We hope this exhibit helps visitors appreciate the beauty, diversity, and values of our ocean. We highlighted some of the current threats to ocean health in hopes to inspire future stewards of the sea.”

What fun and oh, so educational, and it’s FREE for all the family to enjoy. Oh, did I mention Jean, from Middlesbrough in Yorkshire, is there to greet and help answer questions? But don’t stop there. Be adventurous. The National Park Service and National Marine Sanctuary over-sees all the Islands and surrounding ocean up to six nautical miles: San Miguel, Santa Rosa, Santa Cruz, Santa Barbara, and Anacapa.

The islands are currently in full bloom. You won’t find shops, supermarkets, gas stations, homes, or crowds of people but you WILL find flowers, birds, hiking trails, a very basic campsite and breathtaking views everywhere you look, in every direction. Karen and I have watched schools of whales swimming past the islands on their migration. The islands are also easy to get to. Visit www.nps.gov or call (805) 658-5730, or visit Channel Islands National Park at 1901 Spinnaker Drive in Ventura at the far end of Ventura Harbor.

Next door at Harbor Village you will find the Connally Family, who since 1968 have run Island Packers boats to the islands. Working hand in hand with the Park Service they have one common goal: to protect the environment for future generations. They run full and half day trips, as well as whale watching year round. Contact (805) 642-1393 or visit www.islandpackers.com