

What does a lack of sea urchins mean for kelp in Laguna's protected reserves?

Tide pool educator, Virginia Gregurek of the Laguna Ocean Foundation, shows off some kelp that washed ashore at Treasure Island Beach in Laguna Beach on Wednesday, April 24, 2019. Gregurek and other educators talk with beachgoers about the the sea life in and around the tide pools of the area.(Photo by Mark Rightmire, Orange County Register/SCNG)

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LAGUNA BEACH — Sandy Dildine remembers seeing ocean reefs covered in purple urchin.

Now, as a part-time educator with the Laguna Ocean Foundation's tidepool program, they're so rare she and others jot down each urchin they spot.



Tidepool educator, Virginia Gregurek of the Laguna Ocean Foundation, wanders the tide pools of Treasure Island Beach in Laguna Beach on Wednesday, April 24, 2019. Gregurek and other educators talk with beachgoers about the the sea life in and around the tide pools of the area.(Photo by Mark Rightmire, Orange County Register/SCNG)



“We didn’t count them before when there were thousands — it was sort of how it was at the time,” said Dildine, who has snorkeled off Laguna since the mid-1980s. “Now, there are just a few sometimes found in cracks in the rocks.”

The lack of urchin could mean that the local Marine Protected Areas (MPAs) and No Fish zones, designated by the state in 2012, are helping to create an ecosystem that is starting to survive environmental stresses. With less urchin eating the kelp, the sea plant has started to rebound and marine life overall seems to have increased.

Laguna Beach’s 7.2 miles of coastline are among a handful of such areas statewide and are the only completely protected areas in Orange County.

Areas off Newport Beach and Dana Point also are protected but still allow hook-and-line fishing of predator fish, such as the California sheephead and lobster, both known to eat urchin.

To celebrate the improving ocean environment, the Laguna Ocean Foundation — a nonprofit dedicated to education, conservation and appreciation of Laguna’s ecosystems — will hold its ninth annual KelpFest at Main Beach on Saturday, April 27.

KelpFest was started in 2009 by marine biologist Nancy Caruso — who launched a kelp restoration project in 2002 — and Laguna Beach ocean advocate and artist Michael Beanan.

The festival is put on to inspire ocean awareness and to create better ocean stewards among the public. Local environmental groups will participate in lectures, and there will be diving presentations, art and music. There also will be docent-led tidepool tours.

Key to the celebration is the regrowth of kelp forests off Laguna. Like redwoods on land, kelp forests are considered ecosystem engineers, providing shelter, structure and food.

Dildine, among those who advocated for the MPAs, still recalls the years before there were reserves.

“At that time we had urchin barrens and they were out of control,” she said. “We didn’t have otters who ate the urchin and the other two predators were lobster and California sheephead. That was our talking point for the MPA. Create it and they (sheephead and lobster) get bigger and eat the urchin and the kelp can grow.”

As the MPAs were established and fishing of lobster and sheephead was prohibited, the urchin population dipped and the kelp forests grew.

“When we’d go out and snorkel, we’d see this feeding frenzy between sheephead and other fish,” Dildine said. “If they were chomping on an urchin, all the other fish would come to get a piece of that. You would see the urchin covering the reefs slowly disappear.”

In 2012, scientists — along with officials from the California Department of Fish and Wildlife — conducted a baseline survey of kelp forests off Laguna Beach, Dana Point and Newport Beach. Another report by the Southern California Coastal Water Research Project found species unique to the Laguna Beach reserve.

Scientists have received state funding and expect to do a follow-up survey this year to quantify improvements.

With the urchin numbers reduced, the kelp off Laguna began to face a new challenge from rising ocean water temperature and an invasive species known as devil weed. The weed, native to Korea, China and Japan and likely brought over by ships, is prolific and invades rocks where kelp normally grows.

“When you used to swim around Bird Rock, there was a pretty good-sized kelp forest,” said Howard Burns, of Laguna Hills, who swims off Laguna daily. “That’s all become weedy now.”

For locals like Beanan, who is on the city’s Environmental and Sustainability Committee, protecting the MPA is essential to restoring ocean health.

“Outside the reserve, there is little to no kelp,” he said. “Inside the reserve there are growing patches of kelp and the local fish size — including sheephead, lobster and even abalone — continue to improve.”