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'A SCIENCE TREASURE HUNT'

Dig this: Iconic clams make a comeback at Pismo Beach



PHOTOS BY STEPHANIE SECREST — FOR THE BAY AREA NEWS GROUP

Cal Poly San Luis Obispo students search in January for clams they buried in this spot at Pismo Beach in August 2020.

QR codes help marine biologists understand mollusks' life cycles and why they have returned

By Graycen Wheeler Correspondent

cal fishery, Pismo clams went missing from their namesake beach for decades.

The treasured shellfish, however, are now making a steady, triumphant return. No one knows exactly why. But Ben Ruttenberg, the director of the Center for Coastal Marine Sciences at Cal Poly San Luis Obispo, is determined to find

In 2014, when the clam population was still languishing, Pismo Beach city officials asked Ruttenberg if he could find out how to

bring the clams back to the city's beaches.

"We said, 'Well, that's a great PISMOBEACH» Once a cherished lo- idea," Ruttenberg recalled. "And then we realized that it was a lot more complicated than the simple question that they were asking."

To truly understand the life cycles and movements of Pismo clams and unravel the mystery of why they're making a surprise comeback, students from his lab are doing monthly clam surveys and also festooning the mollusks with identification numbers, QR codes and metal washers that allow clams buried in the sand to be found with metal detectors.

CLAMS » PAGE 5



Super glue and nail polish dry on freshly tagged clams.

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Pismo Beach

Los Angeles

BAY AREA NEWS GROUP

During the summer

of 2020, three men were

San Francisco

San Jose

(101)

Santa Barbara

Monterey

Pacific

Ocean

100 miles

Clams

FROM PAGE 1

During the Pismo clams' glory days in the 1950s, marine biologists had come up with estimates of the growth rates and life spans of the clams. But Ruttenberg discovered that nobody knew if the estimates still held true for today's Pismo clam population. He also learned that no one ing plankton and tiny bits had studied how the clams move around throughout their lifetimes.

"We realized that there was this incredible vacuum of information about this cool creature that was so culturally important here," Ruttenberg said.

The QR codes on the buried clams link to a survey, where clam-spotters can report information about the clams' location and well-being. Since Ruttenberg's team reburied more than 400 of the QR-coded clams in August and October, beachgoers have found 44 of them.

"It's definitely like a science treasure hunt," said Marissa Bills, a graduate student in marine biology who currently leads the Pismo Clam Project in Ruttenberg's lab. "We know that it's working, which is very exciting for us."

of Fish and Wildlife officers, meanwhile, are aiding in the clams' revival corded a clam big enough by counting the thousands of clams they rescue from poachers each year. The of-

FUN FACTS ABOUT PISMO CLAMS

- They can live for decades. In 1964, a surveyor found a 53-year-old Pismo clam the oldest on record — on Malibu's Zuma Beach.
- When banks were shuttered during the Great Depression, some Pismo Beach businesses scrawled IOUs on clamshells to use in place of currency.
- The clams eat by filterof plants out of the water. Each clam filters about 16 gallons of water a day.
- Seabirds love to snack on unburied clams. To help an exposed clam, you should bury it in the sand, placing the clam's hinge side down or facing the ocean.

ficers then rebury the molwith Cal Poly researchers.

You couldn't blame visitors to Pismo Beach, a surfing town with retro vibes and broad beaches, for thinking it's still the "Clam Capital of the World," a title the city claimed in 1947. Pismo Beach's three giant concrete clams still greet began conducting clam motorists entering the downtown. And this fall, the town celebrated the 75th anniversary of its annual clam festival, replete with clam costumes, a parade and chowder made California Department from nonlocal clams.

> So it may be easy to forget that no one has reto legally harvest -4.5inches or larger in diameter — in Pismo Beach for al-



most three decades.

"They used to till up this beach and sell the clams for pig food," said Lt. Matthew Gil, a game warden with the Department of Fish lusks and share their data and Wildlife. "Hundreds of thousands of clams! They didn't start regulating un-

til it was way too late. Some harvestable Pismo clams can still be found in a smattering of places on the California coast, including the Monterey Bay area. But when Ruttenberg's team surveys on Pismo Beach in 2014, he said, "We would spend four hours digging and find nothing."

But two years later, the team began noticing something remarkable: More and more Pismo clams were turning up on their digs.

The clam population continued on a promising trajectory over the next five years. And then last summer, Ruttenberg and Bills

saw the clam population ex- worst clam poaching year plode.

"There are more Pismo clams on the beach right now than there have been stretch of Pismo Beach. in any of the years that we've been monitoring tion and think, 'What difthem," Bills said.

No one knows exactly how many clams now call Pismo Beach home, but judging by the number conlate, it could be in the hundreds of thousands or even millions. Bills is crunching the ZIP codes of poachers, the numbers to come up allowing the state and the with an estimate.

Despite the return of the test outreach efforts to disnatives, Gil said, the clams courage poaching. remain under threat from humans.

Poaching has always been a serious problem in Pismo Beach, but the pandemic made it much worse Makeyev, an environmenwhen cooped-up Californians flocked to the town nates outreach and eduand found it studded with cation in the department's tasty-looking clams.

Gil said 2020 was the system Program.

by hand in January to find tagged clams, buried last August at Pismo Beach. From left, Olivia Ross, Robert Moon. Marissa Bills and Tommy Gray.

Cal Poly San

Luis Obispo

students dig

STEPHANIE SECREST — FOR THE BAY AREA

ference did I make for that

Cal Poly team to create and

The biggest threat comes

from "really serious poach-

ers who are willfully ig-

noring the rules and reg-

ulations," said Claudia

tal scientist who coordi-

Pelagic Fisheries and Eco-

species?" he said.

caught with about 3,800 **NEWS GROUP** Pismo clams at Zmudowski State Beach in Moss Landing, said Fish and Wildlife on record. Fish and Wildlife Lt. Jeff Heitzenrater. He officers seized more than said the department has re-25,000 clams along a 3-mile ceived unconfirmed reports that some of the clams from "I used to write a citaorganized poaching operations are ending up in Bay

In Pismo Beach, Gil said, Now his department Fish and Wildlife has increased the number of padoesn't just track the citations it issues. In addition trols dedicated to keeping fiscated from poachers of to counting and reburying an eye out for organized poaching. Initial fines can seized clams, the agency has also begun collecting be as high as \$100,000.

Area markets.

Makeyev, Gil and the Cal Poly team say it's been heartening to see Pismo Beach residents talking to fellow beachgoers about the clams and discussing how to protect them.

"Every time we're out doing a survey, there are older community members that come over, and they are just fascinated by what we're doing," Bills said. "They all remember clamming when they were children.'

Olympics

Human rights, Led by

Dignitaries won't at

Health and safety. To try

Tennis player Peng Sh-

Cybersecurity. Many

Russia. President Vladi-

■ The environment. The