Where have all the fish gone?

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Fishing boats are docked in Kawaihae Harbor. (PHOTO BY ANNA PACHECO | SPECIAL TO NHN)

A fisherman casts his line from the shore in North Kohala. (PHOTO BY ANNA PACHECO | SPECIAL TO NHN)

Chad Wiggins, marine coordinator with the Nature Conservancy, weighs roi, an invasive species of fish, during a Roi Roundup earlier this year. (PHOTO BY ANNA PACHECO | SPECIAL TO NHN)

A young butterfly fish hides in the coral of a tide pool, a fish popular for aquarium collectors. (PHOTO BY ANNA PACHECO | SPECIAL TO NHN)

Net fisherman, Kawika Auld, early morning on the Puako coastline, Lalamilo ahupuaa, South Kohala. (COURTESY PHOTO BY JOHN DE MELLO)

BY MELORA PURELL

SPECIAL TO NORTH HAWAII NEWS

In the words of Francis Ruddle, who grew up near Puako in the 1950s, "For every fish you see here today, I've seen 60."

Randy Clarke, Puako Makai Watch ranger, has noticed the changes since his childhood as well. "The kupuna told stories of massive schooling 'bait balls' of thousands of akule fish. I have only seen one school like that in my life, a long time ago," said Clarke.

"When we went fishing when I was young, in the late 70s, early 80s, we would see huge blue uhu (parrotfish) — we called them 'blues.' Now you don't see as many uhu, and you never see them that big any more," said

Paul Chang, who grew up in Kohala, and fished with his family on the coast from Kukuihaele to Mahukona.

Stories from local fishers about the changes in fish stocks in the oceans of North Hawaii are echoed in a 2012 report from the State DLNR, Division of Aquatic Resources, which compared recent fish counts at Puako and Pauoa to those taken 20 years ago, during the years 1979-1981. The University of Hawaii's Cooperative Fisheries Research Unit originally surveyed the two sites, representing different coral reef habitats. During 2007-2008, Hawaii Division of Aquatic Resources personnel re-surveyed each of the original sites a total of 12 times. Data from each study was utilized to examine long-term changes in the coral communities.

The results document "drastic declines." Total abundance of all species of fishes declined up to 69 percent on all sites at Puako, and up to 76 percent at Pauoa between the original and most recent surveys. Some fish, like the yellow tang, saw less dramatic reductions (no change at Pauoa and 9 percent at Puako), but some fish were nearly gone — including mamo, threespot chromis, and achilles tang.

The report clearly documents the declines in fish populations, but doesn't offer explanations or ameliorating actions.

So what is causing our fish populations to be in "dire straits"? What can be done to address the problem?

A diverse team of kupuna, planners, residents, biologists, educators, navigators, cultural practitioners, students, and developers came together in 2011 to try to answer these questions. Their goal: to develop the South Kohala Conservation Action Plan, to identify the key natural and cultural resources that needed to be conserved, as well as the threats to those coastal resources, and actions that could address the threat.

The answers weren't mysterious, but they were complex. Unsustainable fishing practices — those methods of harvesting that reduced the resources

beyond the capacity of nature to replenish them — were identified as the key concern, multiplied by the negative impacts of land-based pollution, invasive species like roi, recreational misuse, and sea level rise.

Unsustainable fishing practices look different to different people.

The Kohala Divers, a diving club based in Kawaihae, recently sponsored a talk by Rene Umberger from For the Fishes, a non-profit on Maui that supports elimination of aquarium collecting in the state. She elaborated on the negative impact from aquarium collectors on certain species of Hawaiian reef fish like the bandit angelfish, that have been harvested to near extinction.

“When I was young, there were spearfishing tournaments — who could spear the most weight of fish, and the largest fish. That was the mentality — spear anything in sight, just fill your stringer,” said Chang.

“We knew it wasn’t sustainable, but the new technology (spear guns, fins, rebreathers) made it so much easier to get more fish that your family could eat,” he said.

The CAP planning group also identified a need for improved fisheries management through establishment of effective regulations such as community-based subsistence fishing areas, marine reserves through Act 306, size and bag limits, and community supported rules.

The State of Hawaii is the only U.S. state where no license is required for recreational saltwater fishing. The DAR website says “There is no marine recreational fishing license in Hawaii for either residents or visitors, so you don’t need to worry about that as long as you don’t sell your catch.”

“Anyone can come to Hawaii, jump in the water with a spear gun, and take as many fish as they want,” said Chang.

We need to educate our fishers, so they can make informed decisions and we can get back to understanding the balance of nature, said Clarke. “If

they come in and take the first big fish they see, this will reduce the population of mature fish that can reproduce and replenish the fish supply."

"I'm worried that without proper education, we will end up with a population that is driven by ego — they will want to dive the deepest, explore the uncharted waters, and catch the biggest fish," said Chang.

An innovative way to educate the entire family about traditional, sustainable fishing practices is the Lawaia Ohana fish camps, which have brought together local children and their parents in the summer at various locations across the state since 2010. Kehau Springer is the fishing community partnership specialist for Conservation International's Hawaii Fish Trust program, and organized the camp at Kiholo last year. She reflected on the union of modern science and traditional Hawaiian fishing practices.

"We talked about the importance of integrating traditional knowledge and Western science to monitor our environment and help us manage our lands and ocean as best we can. We know our Hawaiian ancestors were on to something, as they were able to survive here for generations before barges brought food and supplies," she said.

"We need to look to our past to plan for our future," said Springer.

For a copy of the DAR report on the Puako fish studies, visit http://data.nodc.noaa.gov/coris/library/NOAA/CRCP/project/20642/S-Kohala.... To view the South Kohala Conservation Action Plan, visit http://hawaiicoralreefstrategy.com/PDFs/3_Priority_Sites_Kohala/skcap_fi.... For more information about efforts to ban aquarium collecting, visit http://www.forthefishes.org/. To learn more about the Hawaii Fish Trust and Lawaia Ohana camps, visit http://www.conservation.org/global/marine/initiatives/fisheries/hawaii/p....