

# Dedicated scientists and volunteers working to better understand now rare abalone species

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The sun was just beginning to rise as two men headed down to the beach to board a small inflatable boat. Searching for abalone was on their agenda for the day. Their excitement was difficult to contain as they surveyed the coastline looking for sand ridges—an important clue that abalone may be near. The two men, David Witting and Bill Hagey, share a passion for finding the now rare white abalone and understanding the movement and feeding behaviors of all abalone species.

David Witting, a NOAA Fisheries biologist, has been engaged in efforts to restore abalone populations on the West Coast for over a decade while working at NOAA. Bill Hagey, a developer of underwater instruments used by marine scientists, started working with the pioneer of abalone research, Dr. David Leighton, when he was in high school. Witting and Hagey began diving together and searching for abalone in San Diego, California's La Jolla and Point Loma areas a few years ago. Then, within a short time, this venture turned into a volunteer-based Citizen Science Group, made up of mostly scientists who are taking action to contribute new information to our understanding of southern California abalone populations.

"Bill and I were just two passionate people who thought we would go out on a few dive trips and find some white abalone," claims Witting. "At the time, we didn't realize this was going to turn into a community effort to learn more about abalone populations in southern California—with

over 30 volunteer divers, two boats, and micro-scale maps of all abalone species encountered."

While Witting serves as one of the scientific advisors for this Citizen Science Group, Hagey handles all of the dive trip logistics, detailed trip reports, and engineering support. Last year, Hagey and his colleague Ronan Gray, from Sub Aqua Imaging Systems, Inc. designed a camera system that captured time-lapse images of a wild [pinto abalone](#). The result was a video showing an individual abalone that remained within centimeters of the same location feeding on drift kelp during an entire two week period. This video is just one piece of the puzzle that Witting, Hagey, and others are hoping to discover about abalone movements.

Understanding abalone movement is a key element in determining actions to effectively aid in their recovery. Two individual abalone of opposite sexes need to be in close enough proximity for successful fertilization. To better understand abalone movements, Witting and Hagey are using additional cameras over longer time spans, such as 4-6 weeks. This time, they are recording the movements of two white abalone that are close to each other and hope to capture images of a spawning event. To understand longer-term movements, NOAA Fisheries received funding from the U.S. Navy to perform an acoustic tracking study of tagged pinto abalone, a surrogate species for white abalone. This study will begin in 2016.

"This citizen science group is collecting data that is helping NOAA Fisheries update the status of depleted abalone populations," states Witting. "As we get more data we will be able to provide critical information for restoring these populations."

Another key outcome from this group was a contribution to the understanding of pinto abalone populations. Amanda Bird, a member of the Citizen Science Group, is pursuing her Master's degree at California

State University, Fullerton, studying the population dynamics of pinto abalone.

"We continue to find pinto abalone," notes Bird. "And due to the recent petition to list this species under the Endangered Species Act, it really motivated me to find out more about this species."

Bird completed the first comprehensive surveys for pinto abalone in southern California, building on studies conducted by California Department of Fish and Wildlife. Her work contributes to NOAA Fisheries' understanding of pinto abalone populations and was used in the agency's Status Review Report for Pinto Abalone. NOAA Fisheries made the decision to not list pinto abalone under the Endangered Species Act based on the findings of the status review, which were both released in December 2014.

The members of this [citizen science](#) group are really dedicated to aiding [abalone](#) recovery. When asked his reasons for leading the group, Hagey quoted John Lennon: "If you want to save the white rhino—go and save it and don't wait for someone to do it for you.' This is why I do this important work and why I will continue to support NOAA Fisheries' efforts," says Hagey proudly.

Provided by NOAA Headquarters

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