

ABALONE HAVE A UNIQUE BIOLOGY AND REGULATIONS REFLECT IT

The California Department of Fish and Wildlife (CDFW) uses the best available science to set rules for red abalone diving and rock-picking, with the goal of maintaining a sustainable fishery.

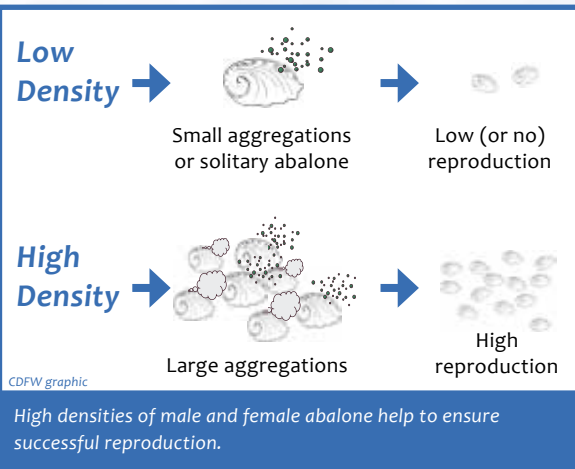
When abalone are grouped close together in high densities, fertilization success is greatly enhanced. Male and female abalone release sperm and eggs into the ocean to reproduce. If adults are too far apart, the eggs remain unfertilized.

CDFW's regulations are designed to maintain enough successfully reproducing red abalone so the next generation can contribute to the fishery. High densities of adult abalone not only ensure reproductive success, they help to maintain a world-class fishery in which the majority of participants are able to get their daily bag limits.



photo by K. Joe

Divers and rock-pickers identify legal-sized animals using a 7-in. abalone gauge. If in doubt about an abalone's size, leave it and move on.



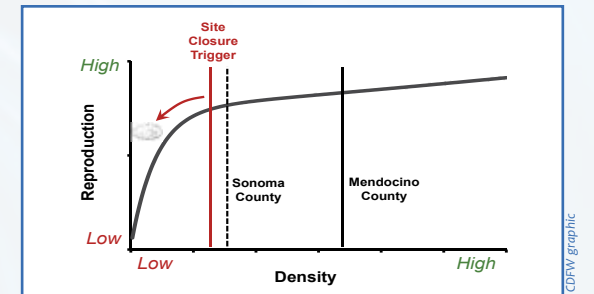
THE SCIENCE OF DENSITY: ENSURING THE NEXT GENERATION

CDFW's rigorous monitoring program tracks abalone density (number per area searched) on the fishing grounds. Trained divers measure red abalone density at eight sites in Northern California to track the impact of fishing and other events. Sustainable fishing, achieved through effective fishing regulations, is intended to maintain critical breeding stock.

Density is the key to maintaining abalone fertilization success and producing the next generation of abalone, according to California Sea Grant-funded research. Lower densities decrease the chances of fertilization and having both a male and female in a given group. If densities drop significantly, fishing may need to be reduced.

ADAPTIVE MANAGEMENT

Monitoring and tracking abalone density at different sites helps fishery managers to set daily and annual abalone limits. Recently, density across the fishery has declined to levels that require fishery managers to reduce fishing effort. In 2013, the Fish and Game Commission responded to a 35 percent decline in density by dropping the annual limit from 24 to 18 abalone (only 9 of which can come from south of Mendocino County) AND closing early morning fishing before 8:00 a.m. These two actions are expected to decrease fishing by about 25 percent, as required by the Abalone Recovery and Management Plan. The Commission also voted to close the Fort Ross site to allow it to recover, because densities there have declined below the site closure trigger.



WHAT HAPPENED TO RED ABALONE IN SONOMA COUNTY?



photo by Nate Buck

Dead red abalone washed ashore at Fort Ross.

In August 2011, abalone densities were impacted by a harmful algal bloom (commonly known as a *red tide*), which killed large numbers of red abalone off Sonoma County. Single-celled algae multiplied in large numbers and produced a toxin that killed abalone, sea urchins, and sea stars (but not fish).



TURN IN POACHERS AND POLLUTERS.

Cheaters ruin the resource and your sport. To bust them, make an anonymous call to CalTIP: **1.888.334.CalTIP (1.888.334.2258)**

YOUR FISHING SKILL CAN SAVE ABALONE

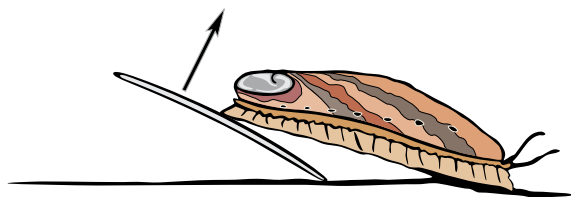
By learning to skillfully select and “pop” an abalone, divers and rock-pickers can help maintain large aggregations and reduce unwanted mortality of abalone that are too small to legally keep.

- First, target abalone with fewer neighbors rather than breaking up large aggregations.
- Target legal-sized abalone, and avoid disturbing those that are too small to legally keep.
- Sneak up on them. When an abalone perceives a threat, human or otherwise, it clamps tightly to the substrate. An abalone will be easier to remove and less likely to sustain injury if you surprise it.
- Next, quickly slide the abalone iron between the foot and rock surface, getting as much of the iron under the abalone as possible. Do NOT push the iron into the foot.
- Quickly lift the handle of the iron so that it acts as a pry bar (fulcrum). Use leverage and strength to “pop” the abalone off the rock.

HOW TO “POP” ONE



Slide iron under abalone's foot, away from its head.



Lift handle of iron, using end as a fulcrum.

Illustration courtesy of California Sea Grant

Abalone have no blood clotting mechanism (they are *hemophiliacs*), and may bleed to death if cut by an abalone iron. Abalone have blue tinted, clear blood due to their copper-based oxygen transport system; in comparison, humans have an iron-based oxygen transport system.



HDPE

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ABALONE REGULATIONS

Every abalone diver or rock-picker age 16 and older must have a fishing license. **Abalone report cards are required for all abalone fishermen regardless of age, even on Free Fishing Days.**

Species: Only red abalone may be taken.

Daily bag/possession limit: 3 **Annual bag limit:** 18

Sonoma/Marin County Bag Limit: 9 (only 9 of the annual limit of 18 abalone may be taken south of Mendocino County)

Minimum Size Limit: 7 inches. Undersized abalone must be returned to the rock surface from which they were removed.

Area: Red abalone may only be taken north of San Francisco Bay, except Fort Ross in Sonoma County is closed year-round.

Time of Day: Abalone fishing starts at 8:00 a.m. and ends one half-hour after sunset.

Season: April 1–June 30; and Aug. 1–Nov. 30. Closed for July, December, January, February, and March.

Tools: Abalone irons must be smooth with no sharp edges, less than 36” long, and at least 3/4” wide and 1/16” thick.

Measuring devices: You must have a fixed-arm measuring gauge, capable of spanning an abalone's shell. It is a violation to take an abalone when not in possession of a gauge, even if the abalone is legal sized.

Tagging Requirement: Each abalone report card includes 18 detachable tags, one for each abalone that may be taken toward a cardholder's annual bag limit. Only 9 of the 18 tags are valid south of Mendocino County. The date, time and location of each abalone taken must be recorded on both the tag and card. Every abalone must be tagged immediately after exiting the water, except for divers coming aboard non-motorized vessels such as kayaks. Each tag must be securely fastened to the abalone's shell by passing a “zip tie,” string, or other suitable material through a hole in the shell.

No Scuba: Abalone may not be taken on scuba or possessed aboard any boat, kayak or other floating device in which scuba gear is present.

No High Grading: It is illegal to remove a legal-sized abalone and then discard or replace it for a bigger one. All detached, legal abalone must be kept and included in your limit.

No Dry Sacking: You cannot take abalone for another person's bag limit.

Abalone fishing regulations are contained in the annual Ocean Sport Fishing regulations booklet, available online at www.dfg.ca.gov/regulations or wherever fishing licenses are sold.

A video demonstration that shows how to fulfill abalone tagging and reporting requirements is available at <http://tinyurl.com/abalonevid>

Learn more about the California Sea Grant-funded abalone density research mentioned in the text at <http://tinyurl.com/abdensity>



CDFW /K. Joe

California Red Abalone

A guide to understanding the essentials of abalone biology and their relation to recreational red abalone fishing regulations