

CALIFORNIA FISH AND GAME COMMISSION
FINDING OF EMERGENCY AND
STATEMENT OF PROPOSED EMERGENCY REGULATORY ACTION

Emergency Action to
Add Section 29.11,
Title 14, California Code of Regulations
Re: Emergency Regulation to Raise Recreational Purple Sea Urchin Daily Bag Limit

Date of Statement: April 3, 2018

I. Statement of Facts Constituting the Need for Emergency Regulatory Action

The recreational red abalone (*Haliotis rufescens*) fishery is one of California's most important fisheries, generating millions of dollars in tourism revenue for the northern California coast. Normally, red abalone may be taken with a sport fishing license subject to regulations prescribed by the Fish and Game Commission (Commission). However, severe environmental conditions over the past several years have triggered a cascade of ecological changes that greatly impacted abalone populations and led to closure of the fishery.

The combination of unprecedented environmental and biological stressors has caused the bull kelp forest, the primary source of food for abalone, to collapse. Today, the once abundant kelp is only 10% of its historical coverage along the coasts of Sonoma and Mendocino counties. The loss of the kelp forest has led to widespread starvation of abalone. In 2016 and 2017, more than 25 percent of the abalones assessed (greater than 6,000 abalone per year) in the nine creel surveys at key fished sites in Sonoma and Mendocino counties had shrunken foot muscles due to starvation. Starved abalones have an increased chance of mortality and severely reduced reproduction further limiting their recovery.

Additionally, the kelp forest recovery is severely hindered due to the increased abundance of purple sea urchin (*Strongylocentrotus purpuratus*). Unlike abalone, sea urchins are generally resilient to food shortage and can survive longer without food, and grazing pressure from surviving sea urchins may prevent kelp recovery even as ocean conditions rebound. The urchin population boom is further exacerbated by the absence of important predatory sea stars (*Pisaster spp.*), which were severely impacted by the sudden onset of the sea star wasting disease in 2013. With the sea star population still recovering from the epidemic, there will be little top-down control on the urchin population in northern California in the immediate future.

Habitat loss critically impacting red abalone has been documented along the north coast by California Department of Fish and Wildlife (Department) staff:

1. A dramatic decline in sea stars, important sea urchin predators, due to sea star disease 2013-2015.
2. A dramatic decline (greater than 93 percent) of the kelp canopy in Sonoma and Mendocino counties in 2014.
3. A dramatic increase (greater than 60 times) in the density of purple sea urchins since 2014, increasing competition with abalone for food.
4. Persistent warm seawater conditions in Sonoma and Mendocino counties, particularly in 2014 and 2015.
5. Continued decline in overall average abalone densities in spite of significant take reductions implemented in 2014, ultimately leading to closure of the 2018 fishing season.

Health and reproductive loss critically impacting red abalone has been documented along the north coast by Department staff:

1. Visual abalone body health scores for abalone taken in the fishery during the spring of 2016 and 2017 show that more than 25 percent of abalone were shrunken in body mass at sites in northern California.
2. Reproductive condition index declined by greater than 50 percent at Van Damme State Park and Fort Ross in 2017, with increasing impact to reproduction evident in shrunken abalone (60 abalone per site).
3. Department staff and abalone fishers have observed weak abalone washed up on shore and easy to remove from the rocks as well as many new shells of all size classes, indicating increased natural mortality.
4. Low numbers of larval abalone observed in plankton surveys in Sonoma and Mendocino counties in 2015.
5. Small numbers of newly settled abalone observed in coralline-covered rock samples from Sonoma and Mendocino counties in 2015.
6. Few juvenile (less than 21 millimeters) red abalone observed in artificial reefs in Van Damme State Park in 2015.

Prior Commission Action

In December 2017, the Commission closed the red abalone fishery for the 2018 season. Since then, the poor condition of the kelp forests has continued to persist. Recovery of the abalone fishery will not be possible without the prompt recovery of the bull kelp forests and the return of sufficient food to support abalone survival and reproduction.

Also in December 2017, the Commission considered alternatives to increasing or removing the take restrictions on the recreational purple sea urchin harvest, with the goal of supporting possible restoration of naturally occurring kelp along the environmentally impacted areas. In February 2018, the Commission approved the Department's request to bring an emergency rulemaking proposal to significantly increase take of purple sea urchin to the Commission at its April 2018 meeting.

Existence of an Emergency and Need for Immediate Action

The Commission considered the following factors in determining whether an emergency exists: The magnitude of potential harm; the existence of a crisis situation; the immediacy of the need; and whether the anticipation of harm has a basis firmer than simple speculation. All available information points to a highly volatile and adverse condition for northern California kelp forests and the resident abalone populations, and extraordinary measures must be taken immediately to help restore important but vulnerable habitats.

Proposed Action by the Commission

Interest among Californians to take sea urchins recreationally to assist with recovery has been rising in recent years. This interest is not currently being met in northern California due to the thirty-five (35) sea urchins per-person daily bag limit (14 CCR § 29.05(a)). The current bag limit is simply not high enough to affect the purple sea urchin population or to induce divers to take purple sea urchins for restoration purposes. Accordingly, the Department of Fish and Wildlife (Department) proposes that the recreational daily bag limit for purple sea urchins taken by divers in Sonoma and Mendocino counties be increased to twenty (20) gallons temporarily.

Due to the uncertainties associated with grazer population control, the scope of the proposed action is limited to only Sonoma and Mendocino counties. These areas were the hardest hit by the unprecedented kelp loss and constitute the core region of the red abalone fishery and the historic bull kelp forest. Furthermore, the higher daily bag limit would only apply to divers, whether they are skin-diving or using SCUBA. This stipulation would prevent increased disturbance to fragile intertidal habitats, where most species are susceptible to being trampled on. In addition, there are relatively few purple urchins located in the intertidal zone.

Twenty gallons is set as a high but realistic upper limit to ensure that divers would not take more urchins than what they could utilize properly. The amount is also low enough to deter hiding poached abalones within large volumes of sea urchins. Setting the limit at a multiples of 5 gallons also allows fishers and enforcement officers to check for compliance using ubiquitous household 5-gallon buckets, though the bucket is not required gear as long as the maximum

volume is not exceeded. The Department recommends that there be no limit on the possession of purple sea urchins to allow for better utilization and easier transportation once the urchins are brought ashore.

Raising the daily bag limit is intended as an emergency solution to an ongoing and volatile environmental condition. Department staff is currently establishing a collaborative framework with government, non-profit, academic, industry and other stakeholder partners to track the effect of the proposed emergency regulation. The results obtained will serve to inform future decision-making on kelp forest management.

II. Impact of Regulatory Action

The potential for significant statewide adverse economic impacts that might result from the proposed regulatory action has been assessed, and the following determinations relative to the required statutory categories have been made:

- (a) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State: None.
- (b) Nondiscretionary Costs/Savings to Local Agencies: None.
- (c) Programs Mandated on Local Agencies or School Districts: None.
- (d) Costs Imposed on Any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4, Government Code: None.
- (e) Effect on Housing Costs: None.

III. Authority and Reference

Authority cited: Sections 200, 205 and 399, Fish and Game Code.

Reference: Sections 200, 205 and 399, Fish and Game Code.

IV. Section 399 Finding

Pursuant to Section 399 of the Fish and Game Code, the Commission finds that the adoption of this regulation is necessary for the immediate conservation, preservation, or protection of red abalone.

Informative Digest (Policy Statement Overview)

Current regulations provide for a daily bag and possession limit of 35 purple sea urchin [(subsection 29.05(a), Title 14, California Code of Regulations (CCR)]. The Department of Fish and Wildlife (Department) proposes to temporarily raise the daily bag limit for purple sea urchins taken while skin-diving or SCUBA diving in Sonoma and Mendocino counties to twenty (20) gallons. Section 29.11, Title 14, CCR, is proposed to be added as an emergency regulation specifying the level of take. The much higher limits are necessary to catalyze existing recreational diving interest in purple sea urchin, and make a substantial contribution to restoring kelp forests and abalone in northern California. The proposal would also allow unlimited possession of recreationally taken purple sea urchin.

Abnormal weather conditions since 2014 have caused a greater than 93 percent decline in kelp coverage in the abalone habitats in Sonoma and Mendocino counties. The loss of kelp has led to a starvation-induced decline of the red abalone population, health, and reproduction. Purple sea urchin overpopulation is preventing healthy kelp regrowth in most areas.

The grazing pressure from purple sea urchin needs to be severely curtailed before the kelp can recover. In recent years there has been a growing interest in recreational diving for purple sea urchin, however, the current bag and possession limit is too low to meaningfully reduce the purple sea urchin population and does nothing to contribute to kelp and abalone recovery efforts.

The proposed emergency regulation will significantly reduce the purple sea urchin population, thus benefiting the northern California kelp forest ecosystem and the recovery of red abalone. Department staff will closely monitor the effect of the higher limit with local partner organizations to inform long-term kelp forest management.

To determine whether an emergency exists, the Department considered the following factors: The magnitude of potential harm; the existence of a crisis situation; the immediacy of the need; and whether the anticipation of harm has a basis firmer than simple speculation. Department field surveys demonstrate that all these factors have been met.

Benefits of the Regulation to the State's Environment:

The Commission anticipates benefits to the State's environment by the sustainable management of California's ocean resources. The increased take for the recreational purple sea urchin harvest, with the goal of supporting restoration of naturally occurring kelp along the environmentally impacted areas, is critical to the recovery of the red abalone.

The Department conducted an evaluation of existing regulations and this regulation is neither inconsistent nor incompatible with existing state regulations.