

STAFF SUMMARY FOR DECEMBER 6-7, 2017

22. RECREATIONAL ABALONE**Today's Item**Information Action

Adopt proposed changes to recreational abalone regulations.

Summary of Previous/Future Actions

- | | |
|-----------------------------------|---------------------------------|
| • Adopted emergency regulations | Dec 7, 2016; San Diego |
| • MRC vetting | Jul 20, 2017; MRC, Petaluma |
| • Readopted emergency regulations | Aug 16, 2017: Sacramento |
| • Notice hearing | Aug 16, 2017; Sacramento |
| • Discussion hearing | Oct 11-12, 2017; Atascadero |
| • Today's adoption hearing | Dec 6-7, 2017; San Diego |

Background

In Dec 2016, FGC took emergency action to adopt regulations reducing the annual recreational limit from 18 to 12 abalone (except for Sonoma County, for which the annual limit remained at 9 abalone) and reducing the recreational fishing season from 7 months to 5 by closing Apr and Nov, the first and last months of the regular season. On Aug 16, 2017, FGC readopted the emergency regulations, which are set to expire on Dec 5, 2017.

In Aug 2017, FGC also authorized publishing a notice of its intent to amend regulations for the recreational abalone fishery with proposed management measures more restrictive than the 2017 emergency regulations, due to the lack of significant improvement to environmental conditions and continued severe declines in abalone densities and abalone health observed by DFW in 2017 (exhibits 1-2). The proposed regulation changes include the option recommended by DFW (Option 1) and additional options discussed and requested by FGC at the Aug 2017 meeting (Option 2):

- **Option 1– Full Fishery Closure**, based on abalone densities below the density triggers for fishery closure specified in the Abalone Recovery and Management Plan (ARMP) harvest control rule (below 0.30 abalone per square meter).
- **Option 2 - Limited Fishery Option**, with four sub-options for limiting the fishery, per the request of FGC. The ISOR is written such that the four sub-options can be selected individually or in any combination. If adopted, two of the sub-options have ranges from which specific numbers must be selected at the adoption hearing.
 - *Sub-Option A*: Re-open Fort Ross for Abalone Fishing
 - *Sub-Option B*: Reduce Daily Bag/Possession and Annual Limits
 - *Sub-Option C*: Increase Minimum Size Limit to 8 Inches
 - *Sub-Option D*: Limit the Number of Report Cards to between 5,000 – 25,000

A sub-option not yet explored, but available as a tool to FGC if it adopts a full closure (Option 1), is to include a sunset clause that limits the closure to a defined period of years after which the fishery would reopen. Such an approach has been suggested by abalone divers who support a short-term closure to give relief to the stressed abalone stock, but are concerned

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that the high ARMP density standards for reopening a closed area would lock the fishery into closure in perpetuity. Sufficient survey data could be collected in a 3-5 year closure period to measure changes in the stock density and health, and to allow completion of the red abalone fishery management plan, therefore avoiding the fishery being subject to conditions for reopening as currently defined in the ARMP.

In Nov 2017, MRC received an update from DFW with new survey data that reinforced concerns about density declines and losses of nearly all abalone in deep water refugia; today DFW will present its findings and rationale for proposing closure (exhibits 4 and 14).

A draft notice of exemption (Exhibit 3) gives FGC notice of DFW's recommendation to rely on a California Environmental Quality Act (CEQA) categorical exemption for this regulation change.

Significant Public Comments

1. Three principal investigators provided scientific monitoring data from their academic and citizen science monitoring programs, independent from DFW's density surveys, which found:
 - their independent surveys corroborate DFW's findings and conclusions;
 - incremental declines in abalone density and abundance have occurred across all but the intertidal portion of abalone's depth range;
 - while abalone abundance in intertidal area is within long-term range, the subtidal densities show sharp declines below any of their recorded surveys;
 - the temporary density increases into shallow water indicate movement of individuals from deep to shallow water, consistent with DFW's findings; and
 - size structure trends show that density declines have impacted all size classes, consistent with extreme oceanographic conditions, disease, and starvation, rather than fishing (Exhibit 5).
2. About a dozen comments support Option 1, full fishery closure (see example, Exhibit 6).
3. Waterman's Alliance, and several supporting emails, support Option 2 with sub-options A, B, and D as follows: (A): open Fort Ross; (B) maintain daily limit of 3 abalone; reduce annual limit to between 6-12; and D) reduce report cards to between 10,000 and 25,000. Provides a table with supported combinations (Exhibit 7).
4. A majority of comments received oppose Option 1 (closure) and support a limited or drastically reduced fishery under Option 2; many are based on disputing the legitimacy of ARMP standards or DFW density survey methods. Commenters recommend reducing take through a combination of different sub-options or proposed new ideas, such as closing specific sites or counties, reducing tags and yearly limits, adding requirements that support improved enforcement, and spreading of fishing effort (see examples in exhibits 8-12).
5. A former commercial fisherman commented on the north coast abalone fishery based on his experiences in the south coast commercial fishery; challenges DFW and FGC findings that the proposed action is exempt from CEQA; and questions why an environmental impact report isn't being prepared as required under CEQA for Option 1, the proposed fishery closure (Exhibit 13).

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Recommendation

FGC staff: Adopt DFW's recommendation (Option 1) to close the recreational abalone fishery), consistent with the ARMP harvest control rule and evidence from DFW's findings of continued declines in the stock. Staff believes precautionary management is warranted in response to uncertainty in what level of population decline will be realized before the stock stabilizes and fishery sustainability can be evaluated. Staff recommends adding and adopting a *sub-option* to establish a sunset clause of 3-5 years, which will allow for re-evaluation once sufficient new stock status data can be collected.

DFW: Full closure of recreational abalone fishery (Option 1), consistent with the ARMP and reflecting evidence that the fishery is unsustainable and in rapid decline. If FGC chooses to allow fishing (Option 2), recommend a *de minimus* fishery using Sub-Option B, with an annual bag limit of no more than 3 abalone per year (Exhibit 14).

Exhibits

1. DFW transmittal memo, received Sep 19, 2017
2. ISOR
3. Draft notice of exemption
4. DFW presentation
5. Email from Mark Carr, Peter Raimundi, and Jan Friewald, received on Nov 22, 2017
6. Email from Ralph Hilton, received Nov 11, 2017
7. Email from Joshua Russo and Waterman's Alliance, received Nov 21, 2017
8. Email from Dale Della Rosa, received Oct 25, 2017
9. Email from Jack Likins, received Nov 8, 2017
10. Email from Cameron Appleton, received Oct 21, 2017
11. Email from Mark Barbour, received Nov 6, 2017
12. Email from Gene Callahan, received Oct 18, 2017
13. Emails from Don Thompson, received Oct 27, 2017 and Nov 15, 2017
14. DFW memo, received Nov 29, 2017

Motion/Direction**Option 1**

Moved by _____ and seconded by _____ that the Commission determines, based on the record, this project is exempt from the California Environmental Quality Act pursuant to the guidelines in Title 14, subdivision 15061(b)(2), Section 15307, and Section 15308, and adopts **Option 1**, to close the recreational abalone fishery consistent with the ARMP and DFW's findings.

AND

Adopts / Does Not Adopt a sunset clause to reopen the fishery after ____ years [select a number] with a sunset date of April 1, 20____, or upon adoption of an abalone fishery management plan, whichever comes first.

OR (see next page)

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Option 2

Moved by _____ and seconded by _____ that the Commission determines, based on the record, this project is exempt from the California Environmental Quality Act pursuant to the guidelines in Title 14, subdivision 15061(b)(2), Section 15307, and Section 15308, and adopts **Option 2**, with the following sub-options:

- Sub-Option A:* Re-open Fort Ross for abalone fishing;
- Sub-Option B:* Reduce the daily bag/possession limit to ____ per day and annual limit to ____ per year
- Sub-Option C:* Increase minimum size limit to 8 inches;
- Sub-Option D:* Limit the number of report cards to _____[select a number between 5,000 and 25,000].

Memorandum

2017 SEP 19 PM 1:00

Date: September 19, 2017

To: Valerie Termini
Executive Director
Fish and Wildlife Commission

From: Charlton H. Bonham
Director



Subject: **Initial Statement of Reasons to Amended Section 29.15 Re: Red Abalone Regulations**

At its August 16th meeting, the Fish and Game Commission (Commission) authorized publishing notice of its intent to amend regulations for the recreational abalone fishery, including the regulatory option presented by the Department and additional options discussed and requested by the Commission at the meeting. The Initial Statement of Reasons (ISOR) must be filed by September 19th to accommodate the 45-day public comment period and allow the Commission to consider adopting new regulations at its meeting on December 6th.

The Department is submitting the ISOR with two proposed regulatory options for the recreational red abalone fishery in 2018.

- Option 1– Full Fishery Closure due to continued decline of abalone densities below the Abalone Recovery and Management Plan (ARMP) fishery closure density trigger of 0.30 abalone m². Additionally, the Department has not observed any significant improvement to the environmental conditions and health of the red abalone resource in 2017.
- Option 2 - Limited Fishery Option with four sub-options for limiting the fishery. This option was included in the ISOR at the request of the Commission. The four sub-options include:
 - Sub-Option A: Re-open Fort Ross for Abalone Fishing
 - Sub-Option B: Reduce Daily Bag/Possession and Annual Limits
 - Sub-Option C: Increase Minimum Size Limit to 8"
 - Sub-Option D: Limit the Number of Report Cards from 5,000 – 25,000

The four sub-options can be selected individually or in any combination. Some of the sub-options have ranges that must be selected from at the adoption hearing.

The Department recommends Option 1 to close the recreational abalone fishery. This recommendation is consistent with the ARMP and reflects the evidence that this fishery is unsustainable and in rapid decline.

Valerie Termini, Executive Director
Fish and Game Commission
September 19, 2017
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A draft Notice of Exemption (NOE) is also attached. Since the NOE is not anticipated to change, this early submission gives the Commission notice of the Department's recommendation to rely on a California Environmental Quality Act (CEQA) categorical exemption for red abalone.

If you have any questions or need additional information, please contact Dr. Craig Shuman, Marine Region, Regional Manager at (805) 568-0216.

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devices, abalone report card requirements, and minimum size. Red abalone may only be collected by skin diving (without SCUBA) or rock picking during low tides, so that a deep-water refuge population is maintained to enhance productivity of the fishery. The recreational red abalone season is scheduled to open April 1, 2018.

In 2005, the Commission adopted the Abalone Recovery and Management Plan (ARMP) pursuant to requirements in statute (Fish and Game Code Section 5522), to provide a cohesive framework for recovering depleted abalone populations in southern California, and for managing the northern California fishery and future fisheries, including red abalone. The ARMP articulates a framework for sustaining red abalone populations based largely on densities, catch, size, and reproductive success which serve as triggers for adjusting total allowable catch (TAC) and engaging other management measures. Using criteria described in the ARMP, the TAC is adjusted when specific triggers are met, through various management actions such as changes to daily bag/possession limits, seasonal limits, and season length.

In 2013, when average densities in northern California fell below established ARMP triggers, the Commission took action to adjust the TAC from 280,000 to 190,000, with the goal to sufficiently reduce take such that densities would stop declining and eventually recover to target densities. The Commission also took management action to meet the adjusted TAC by amending the annual limit for red abalone north of the Mendocino/Sonoma county line from 24 to 18, amending the annual limit south of the Mendocino/Sonoma county line from 24 to 9, and moving the start time for fishing from one half hour before sunrise to 8:00 a.m. The Fort Ross area was closed to red abalone fishing as a result of hitting the site closure trigger. The new regulations went into effect in 2014, resulting in a 35 percent decline in take to approximately 148,000 in 2015.

In 2015, a combination of unprecedented environmental and biological stressors began to take their toll on red abalone populations, including warmer-than-normal waters and decreasing food resources, leading to starvation conditions. In 2016 the California Department of Fish and Wildlife (Department) determined from surveys that deep water red abalone densities were below ARMP minimum sustainable levels, which prompted the Commission to take emergency action to reduce the season by two months and the annual limit from 18 to 9 for the 2017 season. Throughout 2016 and 2017, the Department conducted surveys, visual assessments, and histological sampling of red abalone along the north coast, and documenting citizen reports of unhealthy or moribund red abalone within the fishery. The Department has identified wide-sweeping changes in the density, occurrence, depth distribution, size and health of

red abalone and the kelp upon which it depends for food. Specifically, the Department has found:

- **Warm Water Conditions and Kelp and Algae Declines.** Red abalone are herbivores that live on rocky reefs in kelp forests, eating red and brown algae. In 2014, the kelp forests in the abalone fishery region declined by 93 percent from known maximum potential due to (1) extreme warm water conditions, (2) a dramatic decline in sea stars, important sea urchin predators, due to sea star disease, and (3) an unprecedented 60 percent increase in herbivorous purple sea urchin populations. Unlike red abalone, sea urchin populations are generally resilient to food shortages and can survive longer, such that even if water conditions cool, grazing pressure from surviving sea urchins may still keep kelp from wide-spread recovery. Warm water conditions persisted through 2015, impacting kelp recovery and red abalone health. Recently there has been some improvement in kelp growth with cooler water this year, but current kelp canopies are still very sparse compared to the long-term average.
- **Starvation Conditions.** Red abalone are susceptible to starvation when kelp and algal abundances decline. Kelp and other algal species are being actively cleared from rocky bottom habitat that is dominated by grazing purple sea urchins, which are at least sixty times more abundant now than prior to 2013. Urchin populations increased, in part, to large-scale loss of predatory starfish species in 2013 due to sea star wasting disease. Bull kelp and other algal food sources for red abalone have remained at extremely low levels since 2014; the large number of purple urchins is likely keeping kelp recovery confined to very limited areas.

Red abalone have been observed stacked on top of each other in shallow water, which could be attributed to either red abalone moving from deeper water to shallower water where algae is slightly more abundant, or red abalone trying to graze whatever algae is growing on the shells of other red abalone; shells were observed to be unusually clean of algal growth. Recent evidence indicates the starvation conditions have not yet abated; additional impacts have been observed in 2017 and are expected to continue through the 2018 season.

- **Density Declines.** In spite of the Commission's 2013 actions to reduce take and allow for recovery, densities continued to decline from an average of 0.47 red abalone per square meter (m²) in 2013 to 0.44 per m² in 2016. The Department believes the density decline is largely due to the environmental conditions described herein. The emergency action taken by the Commission last year was made with a level of optimism about environmental conditions that are not being realized. Recent Department

surveys conducted in August of this year (2017) in Sonoma and Mendocino counties show a large decline in densities at seven of the ten index sites, to an average of 0.16 per m² (Table 1).

Table 1. Sonoma County and Mendocino County index site red abalone densities past (2012-2016) and current (2017) with percentage decline.

Index Site (Sonoma-SC or Mendocino-MC)	Past Density (abalone/m²) (year sampled)	2017 Density (abalone/m²)	Decline
Fort Ross (SC)	0.44 (2015)	0.20	-55%
Timber Cove (SC)	0.38 (2015)	0.15	-60%
Ocean Cove (SC)	0.44 (2016)	0.17	-61%
Salt Point (SC)	0.38 (2016)	0.06	-84%
Sea Ranch (SC)	0.37(2012)	0.27	-27%
Sonoma Average	0.39	0.17	-46%
Point Arena (MC)	0.66 (2014-15)	Not sampled	NA
Van Damme (MC)	0.33 (2016)	0.14	-58%
Russian Gulch (MC)	0.60 (2014)	Not sampled	NA
Caspar Cove (MC)	0.35 (2013)	Not sampled	NA
Todd's Point (MC)	0.47 (2013)	0.16	-60%
Mendocino Average	0.49	0.15	-69%
Overall Average	0.44	0.16*	-58%

* The ARMP fishery closure is 0.3 abalone/m². The overall average, when including past densities as a proxy for sites not sampled in 2017, is 0.28.

- Deep-Water Refuge.** Deep-water refuge is believed to be a critical component in maintaining a highly productive recreational fishery. Deep-water red abalone are generally safe from take and can be a source of both adults to replace red abalone removed from shallower waters and larvae to enhance red abalone reproduction rates. Surveys in summer of 2016 showed large reductions in red abalone densities in deep water refuges (greater than 28 foot depths). The average density of deep-water red abalone populations over the past four years has declined below the ARMP management trigger and increases the risk that the fishery is not sustainable. It should be noted that red abalone movement from deep water into shallow water or from cryptic locations to exposed shallow areas can give the impression that red abalone populations are stable or have increased if the absence of red abalone in deeper waters is not considered.

- **Abalone Health, Reproduction, and Mortality.** The abundance of warm water, coupled with a lack of algae, has severely impacted the health and reproductive development of red abalone. Fishermen and the public have reported weak, shrunken, and dying red abalone, as well as unusually high numbers of empty shells of all size classes throughout 2016, which has continued into the 2017 season. Department surveys in 2016 revealed that more than 25 percent of catch at 10 survey sites had body mass that was shrunken (foot observably smaller than the size of the shell), a sign of starvation conditions. The first survey of the 2017 season at nine survey sites show similar results with approximately 25 percent of the catch continuing to show starvation conditions. Reductions in body mass lead to reduced reproductive fitness; just a 20 percent reduction in body mass can reduce reproduction by 60-90 percent. Red abalone require approximately 12 years to grow to minimum legal size, so that multi-year gaps in reproduction will be observed in the fishery for years to come. Furthermore, recent laboratory feeding studies of starved wild red abalone indicate that reproductive capability may take more than one year to recover to normal levels after algal conditions improve.
- The weakened condition of red abalone may also reduce their ability to withstand normal storm waves during the winter months, and increase mortality. 2017 appears to be the third consecutive year of poor reproduction compared with previous average or good years, which is likely to put future sustainability of the fishery at risk. Four plus years of no or little reproduction (three consecutive years plus one year to recover to normal if conditions improve) will have very significant effects on the red abalone fishery in the future. Lack of kelp and other algae greatly reduces cover for red abalone, making them easier to locate by fishermen. In addition, fishermen are able to select the healthiest of the remaining red abalone from declining populations.

On December 7, 2016, the Commission took emergency action to reduce the annual limit for the take of red abalone from 18 to 12 (except for Sonoma County, which remains at 9) and reduce the months open to fishing from 7 to 5 by closing April and November. The emergency actions, along with the reductions in the fishery from action taken in 2014, have not had the desired effect of stopping the decline in red abalone densities during this unprecedented environmental disaster for red abalone in northern California's nearshore rocky reef habitats.

The ARMP adopted by the Commission in 2005 outlines management triggers (also known as control rules) to help guide fishery management.

- Fishery Reduction Density: The ARMP prescribes a 25% reduction in the catch when the density drops by 25%. **The fishery reduction trigger of 0.5 red abalone/m² has been met.** The next trigger for a 25% reduction in the catch is when the overall density of the fishery drops below 0.375 red abalone/m², which current densities are well below, **thereby triggering further reduction under the ARMP.**
- Fishery Closure Density: The ARMP prescribes a fishery closure if the average density of the index sites falls below 0.3 red abalone/m². Average density in this case is calculated using the most recent data from all ten index sites. **The fishery closure density of 0.3 red abalone/m² has been met (Table 1).**

Proposed Regulatory Options to Reduce Catch

The proposed regulations respond to continued dramatic decline of the red abalone population following severe, wide-spread, starvation conditions throughout the fishery. The proposals are grouped into two options:

- **Option 1– Full Fishery Closure**, until it recovers, due to continued decline of red abalone densities below the ARMP fishery closure density trigger of 0.30 red abalone/m².
 - The Department has not observed any significant improvement to the environmental conditions and health of the red abalone resource in 2017. This option is consistent with the ARMP.
- **Option 2 - Limited Fishery Option**, with four sub-options for limiting the fishery, which are not consistent with the ARMP. This option was included at the request of the Commission at the August 2017 meeting for further discussion. The four sub-options include:
 - Sub-Option A: Re-open Fort Ross for Abalone Fishing
 - Sub-Option B: Reduce Daily Bag/Possession and Annual Limits
 - Sub-Option C: Increase Minimum Size Limit to 8 inches
 - Sub-Option D: Limit the Number of Report Cards to within a Range of 5,000 to 25,000.

Estimates of the reduction in catch for some management sub-options are presented below, and are based on past fishing behavior and catch from report card data; however, these estimates are highly uncertain due to changes in the fishery and environment. Because past experience does not necessarily predict future behavior, especially when combining multiple sub-options, there are varying degrees of uncertainty associated with these estimates.

Option 1 - Full Fishery Closure: Amend Section 29.15 to close the fishery until it recovers.

Pros

- Consistent with the ARMP
- Consistent with general policies of the MLMA to ensure conservation, sustainable use, and restoration of state marine living resources for the benefit of all citizens of the state
- Easy to understand and enforce
- Maintains red abalone populations in shallow water since there are functionally none in deep water, which previously acted as a refuge population
- Population and fishery recovery rate maximized
 - Long-term economic impacts may be minimized
 - Maximizes future sustainable fishing opportunities
- Provides language for red abalone legally taken prior to the April 1, 2018 closure and still in possession at a residence.

Cons

- Eliminates all fishing opportunity in the near-term until recovery
- Will adversely affect local businesses in the-near term until recovery
- May increase illegal fishing
- Ceases Department funding from abalone report card sales to support biological research and enforcement

Option 2 – Limited Fishery Option: Amend Section 29.15 to establish a limited fishery to reduce take.

The limited fishery option uses as baseline the regulations that existed prior to the 2016 emergency action that modified the 2017 season. For example, the proposal assumes the season length is 7 months, April – June plus August through November. The limited fishery option has four sub-options that can be selected individually or in any combination. Some of the sub-options have ranges that must be selected at the adoption hearing.

Pros

- Allows limited red abalone fishing opportunity in the short-term
- Provides some economic benefits as compared to a complete closure

Cons

- Not consistent with the ARMP

- Not consistent with the MLMA objectives of conducting sustainable fisheries
- Allows continued targeting of healthiest remaining red abalone from declining populations
- Increases risk of collapse of California's last red abalone fishery

Sub-Option A: Re-open Fort Ross for Abalone Fishing

Fort Ross was closed through regulatory action in 2014 due to a severe decline in density following a toxic harmful algal bloom (HAB) in 2011. The most recent surveys from 2017 show an additional 18% density reduction from 2012 values, despite nearly four years of no fishing allowed in the area. Density at Fort Ross remains low (Table 1), below the site closure threshold, although it is higher than most of the other sites in Sonoma County. The sub-option to re-open Fort Ross acknowledges that all of the Sonoma County sites are now at similarly very low densities, and seeks to reduce fishing impacts at any given location by further distributing effort. In the past, a newly-opened site (e.g. Sea Lion Cove at Stornetta Ranch) experienced higher fishing pressure than surrounding sites and local densities were severely reduced (>65%) in just three years. The response of fishers to re-opening a very low-density site is not predictable.

Pros

- See Option 2 pros above
- May help spread fishing pressure so that most sites may experience somewhat reduced fishing pressure
- Re-introduce red abalone fishing access to the historically most-popular fishing site

Cons

- See Option 2 cons above
- Allows fishing of a population that is not self-sustaining. The density at Fort Ross has declined even in the absence of fishing. Opening this site to fishing pressure while starvation conditions persist will drive densities to decline more rapidly.
- Continued density declines at Fort Ross will severely hinder future population recovery through reduced reproduction.

Sub-Option B: Reduce Daily Bag/Possession and Annual Limits

The proposed regulation to reduce the daily bag/possession and annual limits is to allow limited fishing effort under the current conditions; a reduction in these limits is relatively simple to enforce and the regulation is easy to understand. A range of 1 to 3 red abalone per day (daily bag/ possession limit) and 2 to 9 red abalone per year (annual limit) is proposed. Some combinations of reduced

bag/possession and annual limits are listed in Table 2 with corresponding estimates of possible catch reductions. The estimates are based on data from abalone report cards returned in 2016 and are provided to frame take that could occur as a result of this sub-option. However, behavior of the fishers under these regulations are unknown. Estimates assume people will not increase or decrease the number of trips they made in 2016. Actual reductions in catch could be significantly different because of changes in availability of red abalone, the reluctance of fishers to buy abalone report cards under more restrictive limits, or a change in the numbers of trips per individual to take red abalone.

Table 2. Examples of estimated catches for reduced bag/possession and annual limits (Sub-Option B) using 2016 abalone report card data.

Daily Bag/ Possession Limit	Annual Limit	Estimated Catch
3	9	120,000
3	6	94,000
2	6	82,000
1	5	52,000
2	4	63,000
3	3	54,000
1	3	42,000
2	2	37,000
1	2	32,000

Pros

- See Option 2 pros above

Cons

- See Option 2 cons above
- Allows fishing on a resource that is not self-sustaining
- May increase illegal fishing. The demand for black market red abalone is already high and any further restrictions that limit take will increase the value of black market red abalone creating a greater incentive for poaching. In particular, poaching under the guise of recreational fishing (i.e., altering report card information) may increase.
- Lower annual limits may increase violations of card alteration, failure to complete card, or false application for lost card
- Fishers accustomed to taking larger annual limits might decide greatly reduced annual limits are not worth the cost of a report card
- Fishers from outside the region who are accustomed to taking larger bag/possession limits might decide that the necessary travel and costs are not worth the effort, impacting fishing-related businesses

Sub-Option C: Increase Minimum Size Limit to 8 Inches

Increasing the minimum size limit is often used to allow more time for animals to reproduce before fishing. However, during this starvation event most red abalone are starving and are not reproductive. It is unclear if increasing the size limit to 8-inch red abalone under these conditions will result in the expected benefits. In addition, there is evidence that increasing the size limit will likely increase incidental fishing mortality as fishers remove red abalone searching for larger animals that are less common. Red abalone have no blood clotting mechanisms and so injury with an abalone iron can lead to mortality even when sublegal red abalone are returned to the ocean. Another potential negative effect of an increased size limit is that fishing effort will focus on larger animals, which produce exponentially more gametes, and would therefore hinder the recovery of populations once ocean conditions improve.

This option is often proposed as a way to lower the number of red abalone taken without reducing daily or annual limits. While the total number of red abalone taken would be lower, the number of larger red abalone taken will increase along with the mortality of sublegal red abalone; the overall effect would be reduced reproductive capacity of the population. A reduction in daily/possession and annual limits should also be included with an increase in size limit to reduce the negative effects.

Pros

- See Option 2 pros above

Cons

- See Option 2 cons above
- Allows fishing on a resource that is not self-sustaining
- Increases fishing-related injuries and incidental mortality to red abalone
- Targets most valuable (large) red abalone needed for recovery when conditions improve
- Requires every fisher to buy or make new fixed gauges, increasing compliance costs

Sub-Option D: Limit the Number of Report Cards to within a range of 5,000 to 25,000.

The number of fishery participants since the 2014 regulation change has averaged around 25,500 annually. The estimated total catch for 2016 was

154,000 red abalone (25,129 participants). Limiting the number of report cards sold is one alternative to potentially reducing the fishery catch and still allow a limited fishery under current conditions. Current regulations limit the number of cards an individual can purchase per season to one. There is also a provision for limited replacement due to lost cards.

Table 3 shows estimated catch for various limits on abalone report cards sold. The estimated catch is based on a season with an annual limit of 18, but the actual estimate of catch may be lower with a lower annual and/or bag/possession limit. Similar to Sub-option B, the estimates are based on data from abalone report cards returned in 2016 and provide a framework of the potential take that could occur. As with Sub-option B, behavior of the fishers under these regulations are unknown and assume that people will not increase or decrease the number of trips they made in 2016. Actual reductions in catch could be significantly different because of changes in availability of red abalone or the demographic group of fishers that are likely to purchase a limited number of cards on a first-come-first-serve basis (i.e., fishery highliners versus casual participants).

Table 3. Examples of estimated catches from limiting report cards (Sub-Option D) using straight percentage reductions (2016 catch is the basis for catch estimate)

Number of Report Cards	Estimated Catch
5,000 (20%)	30,800
10,000 (40%)	61,600
15,000 (60%)	92,400
20,000 (80%)	123,200
25,000 (2016)	154,000

Pros

- See Option 2 pros above

Cons

- See Option 2 cons above
- Allows fishing on a resource that is not self-sustaining
- The fishery is no longer an open access fishery and access will be first-come-first-serve until the report card sales quota is reached
- May increase illegal fishing. The demand for black market red abalone is already high and any further restrictions that limit take will increase the value of black market red abalone creating a greater incentive for poaching. In particular, poaching under the guise of recreational fishing (i.e., altering report card information) may increase.

Necessity of Regulation Changes

This regulatory proposal is necessary to facilitate the red abalone population's recovery from the multi-year poor environmental conditions and massive losses of red abalone in both shallow and deep-water habitats. The Department finds the following detrimental red abalone resource conditions:

- (1) A dramatic decline in sea stars, important sea urchin predators, due to sea star disease.
- (2) A dramatic decline (93 percent) of the kelp canopy in Sonoma and Mendocino counties in 2014 which continues to persist.
- (3) A dramatic increase (60 times) in the density of purple sea urchins in 2015, increasing competition with red abalone for food.
- (4) An increased efficiency of fishing efforts in shallow habitats due to the lack of kelp and movement of red abalone into shallow fishing areas.
- (5) A decline in deep-water red abalone densities.
- (6) Continued decline in overall average red abalone densities in spite of significant take reductions implemented in 2014 and in 2017.
- (7) Visual body health scores for red abalone taken in the fishery during the spring of 2016 show that more than 25 percent of red abalone were shrunken in body mass at sites in northern California. Similar body health scores have been seen in the fishery in the spring of the 2017.
- (8) Body condition index was very low in both Sonoma and Mendocino county sites in 2016 and 2017 (60 red abalone per county per year).
- (9) Department staff and red abalone fishermen have observed weak red abalone washed up on shore and easy to remove from the rocks.
- (10) Department staff and red abalone fishermen have observed many new shells of all size classes, indicating significant increases in natural mortality.
- (11) Gonad index was very low in both Sonoma and Mendocino county sites in 2016 and 2017 (60 red abalone per county per year).
- (12) Low numbers of larval red abalone observed in plankton surveys in Sonoma and Mendocino counties in 2015.
- (13) Low numbers of newly settled red abalone observed in coralline-covered rock samples from Sonoma and Mendocino counties in 2015 and 2016.
- (14) No juvenile (< 21 millimeter) red abalone observed in artificial reefs in Van Damme State Park in 2016 and 2017.

Department Recommendation

The red abalone fishery is in an unprecedented state and its future is at risk. The possibility of a complete fishery collapse is unknown; however, this period of extreme natural mortality (>50%) is ongoing and has not yet begun to subside.

The risk of fishery collapse increases when abalone densities fall below levels identified in the ARMP at the fishery closure density trigger. For example, Southern California's abalone fisheries collapsed after densities fell below 0.3 abalone per m². MLMA requires that fisheries are managed to meet specific objectives, including that the fishery is conducted sustainably so that the long-term health of the resource is not sacrificed in favor of short-term benefits (Fish and Game Code Section 7056(a)).

Based on the sustainability mandates in the MLMA and the fishery management measures outlined in the ARMP, the Department's recommendation is to close the fishery (Option 1) which is consistent with the management triggers of the ARMP.

Option 2 consists of four sub-options for a limited fishery that are not consistent with the management triggers in the ARMP; as such, the Department does not recommend Option 2.

Updates to Authority and Reference Citations Based on Recent Legislation

Senate Bill 1473 (Stats. 2016, Ch. 546) made organizational changes to the Fish and Game Code that became effective January 1, 2017. The changes included moving the Commission's exemptions from specified Administrative Procedure Act time frames from Section 202 to Section 265 of the Fish and Game Code, moving the Commission's notice requirements from Section 210 to Section 260 of the Fish and Game Code, and moving the Commission's authority to adopt emergency regulations from Section 240 to Section 399 of the Fish and Game Code. These were organizational changes only. In accordance with these changes to the Fish and Game Code, sections 202, 210 and 240 are removed from, and sections 260, 265 and 399 are added to, the authority and reference citations for Section 29.15. Senate Bill 1473 also repealed subdivision (b) of Section 220 of the Fish and Game Code; therefore, Section 220 is removed from the list of authority and reference citations in Section 29.15.

- (b) Authority and Reference Sections from Fish and Game Code for Regulation:

Authority: Sections 200, 205, 260, 265, 399, 5520, 5521, and 7149.8, Fish and Game Code.

Reference: Sections 200, 205, 265, 5520, 5521, 7145 and 7149.8, Fish and Game Code.

- (c) Specific Technology or Equipment Required by Regulatory Change:

None.

- (d) Identification of Reports or Documents Supporting Regulation Change:

Abalone Recovery and Management Plan
<https://www.wildlife.ca.gov/Conservation/Marine/ARMP>

- (e) Public Discussions of Proposed Regulations Prior to Notice Publication:

November 5, 2016, Cotati, California
December 3, 2016, Fort Bragg, California
December 7, 2016, San Diego, California
February 8, 2017, Rohnert Park, California
March 18, 2017, Sacramento, California.
March 23, 2017, San Clemente, California
June 22, 2017, Crescent City, California
July 20, 2017, Petaluma, California
August 16, 2017, Sacramento, California

IV. Description of Reasonable Alternatives to Regulatory Action:

- (a) Alternatives to Regulation Change:

Site closures were considered but rejected because it would concentrate fishers to a smaller number of locations, be complicated and confusing to enforce, and would most likely put excessive pressure on the open sites.

- (b) No Change Alternative:

Without the proposed regulatory change, red abalone fishery regulations will revert back to those that existed before the 2016 emergency rulemaking. Evidence exists that levels of take prior to the emergency rulemaking will be unsustainable under current environmental and stock health conditions. The no change alternative is not consistent with established ARMP triggers and management measures.

- (c) Consideration of Alternatives:

In view of information currently possessed, no reasonable alternative considered would be more effective in carrying out the purpose for which

the regulation is proposed, would be as effective and less burdensome to affected private persons than the proposed regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

V. Mitigation Measures Required by Regulatory Action:

The proposed regulatory action will have no negative impact on the environment; therefore, no mitigation measures are needed.

VI. 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 initial determinations relative to the required statutory categories have been made:

(a) Significant Statewide Adverse Economic Impact Directly Affecting Businesses, Including the Ability of California Businesses to Compete with Businesses in Other States:

The proposed action will not have a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states because the regulatory action is not likely to significantly increase compliance costs, may or may not significantly impact fishery activity, and only applies to a fishery that is unique to the state of California.

(b) Impact on the Creation or Elimination of Jobs Within the State, the Creation of New Businesses or the Elimination of Existing Businesses, or the Expansion of Businesses in California; Benefits of the Regulation to the Health and Welfare of California Residents, Worker Safety, and the State's Environment:

The Commission anticipates limited impacts on the creation or elimination of jobs within the state; no impact on the creation of new businesses or the elimination of existing businesses; generalized benefits to the health and welfare of California residents; no effects on worker safety; and benefits to the State's environment. The proposed action is designed to ensure the sustainability and quality of the fishery, promoting participation, fishing activity, and economic activity. However, a complete closure of the red abalone fishery could result in up to 250 direct job losses.

(c) Cost Impacts on a Representative Private Person or Business:

Except for Option 2, Sub-Option C: Increase Minimum Size Limit, wherein

fishers may have to spend from \$5 -\$15 to purchase a new abalone measuring gauge, the agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

- (d) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:

No costs or savings; however, the Department has the potential to lose revenue from abalone report card sales, from \$103,750 to \$520,825. Federal funding to the state would not be impacted by this proposed change in recreational abalone fishing regulations.

- (e) Nondiscretionary Costs/Savings to Local Agencies:

No costs or savings, however local governments have the potential to receive less sales tax and transient occupancy tax revenue.

- (f) Programs Mandated on Local Agencies or School Districts:

None.

- (g) 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.

- (h) Effect on Housing Costs:

None.

VII. Economic Impact Assessment:

The proposed regulations are designed to serve the objectives of resource management and the interests of the recreational fishing community, while minimizing the potential for adverse economic impacts to fishery area businesses and throughout the state. Restrictive actions are only proposed to preserve the sustainability of the resource and thus the long-term viability of the fishery that should continue to draw economic benefits to the relatively isolated coastal communities in the fishery area.

The proposed Full Fishery Closure (Option 1) is anticipated to eliminate all recreational abalone fishers' visits, along with their spending traveling to and spending in the fishery areas on food and accommodations, equipment, and

other retail. In the absence of the unique draw of recreational abalone fishing, a 100% drop in direct expenditures of \$18.6 million is estimated; this drop is estimated to reduce the total (direct, indirect, and induced) economic impact by \$26.7 million. A maximum of 250 direct jobs could be eliminated.

The Limited Fishery (Option 2) with an array of sub-options that may be applied singularly or combined is anticipated to reduce direct expenditures by varying degrees. The degree by which each sub-option impacts fishing trips, days and spending is difficult to predict. Conjecture about the extent to which abalone fishers reduce fishing trips, days, overnight stays, and/or opt out of abalone fishing for the entire season would be speculative. Additionally, the combination of sub-options that may be chosen is not known. Given that, we present estimates for how a 25%, 50%, 75% and 100% decline in fishery activity could impact the local and statewide economies.

Table 4. Economic Impact of Incremental Reductions in Abalone Fishing

Percent Change in Direct Expenditure	Total Seasonal Direct Expenditure	Total Economic Output	Change in Total Output	Job Direct Impacts
2014*	\$18.6	\$26.7	\$0.0	250
-25%	\$14.0	\$20.0	-\$6.7	-63
-50%	\$9.3	\$13.4	-\$13.4	-125
-75%	\$4.7	\$6.7	-\$20.0	-188
-100%	\$0.0	\$0.0	-\$26.7	-250

* 2014 season had a reduced bag/possession limit, later start time, and the closure of Fort Ross (Reid, et al., 2016). Dollar figures are in millions of 2016\$.

While reaction of abalone fishers to Option 2 sub-options is difficult to predict, previous emergencies and restrictive actions taken in 2014 and 2016 have shown drops in abalone report cards sales only as large as 15.6%. If sub-option C, a limit on the number of cards, is implemented alone, then the anticipated economic impact could be more predictable. However, the reduction in daily and/or annual bag/possession limits, the opening of Fort Ross, and/or the increase in size limits may have various influences on the extent that fishery participants may be inclined to reduce fishing trips. Other factors may also influence participation in the fishery, such as the quality of the red abalone, the weather, gas prices, and other unknowns. That said, the impacts may range from a \$6.7 to \$20 million reduction in red abalone-associated spending and 63 to 188 potential job losses.

Fiscal Impact Assessment

Local Government Tax Impact

Abalone regulatory options were evaluated as if visits and spending to the fishery

areas were to drop by 25%, 50%, 75%, or 100%. Abalone fishers introduce expenditures in the retail, food and accommodations, automotive service and fuel, sporting equipment sales/rent/lease, and recreational services sectors; these direct expenditures generate local sales taxes and transient occupancy taxes for the fishery area local governments. The California State Board of Equalization reports local sales tax rates for the areas under evaluation. Local sales tax rates in Sonoma, Marin, Mendocino, Humboldt, and Del Norte counties range from 1.5% to 2.5%. Reduced spending due to reduced numbers of visits and reductions in the length of stay could result in sales tax revenue losses that range from \$66,750 to \$267,000 over the season.

Transient occupancy tax (TOT) fishers' survey responses reveal that those who travel a greater distance to the fishery area are more likely to choose to stay overnight in the area. Those who live in the closest proximity to harvest sites and those who harvest in the earliest hours of the day show a lower likelihood of staying overnight. Overnight stays are often at private campgrounds, motels, and hotels, all of which collect TOTs. County treasurer tax collectors report the county transient occupancy taxes. TOT rates in Sonoma, Marin, Mendocino, Humboldt, and Del Norte counties range from 9% to 10%. The projected losses in overnight stays range from 1,000 to 10,000 nights, which could result in losses in local TOT revenues to local governments from \$7,600 to \$76,000 over a season.

State Government Fiscal Impact

Fiscal impacts to the state via Department revenue could occur through reduced abalone report card sales, with limits on card sales (Option 2, Sub-option D), declines due to changes in bag/possession and size limits (sub-options B, C), and/or the full closure of the fishery (Option 1).

Abalone report card sales from 2012 to the partial year 2017 show that the 2016 emergency action did not precipitate a substantial drop in abalone report card sales revenue to the Department. Notably, the 2014 regulation change that targeted a 25% reduction in red abalone take elicited the largest drop of 15.6% in card sales.

Table 5. Abalone Report Card Sales 2012 – 2017

Abalone Report	2012	2013	2014	2015	2016	2017
Cards Sold	29,202	30,579	25,798	25,542	25,129	21,062*
% Change	-6.35%	4.72%	-15.63%	-0.99%	-1.62%	N/A

*Partial 2017 data – as of 6/30/2017.

Reductions in abalone report card sales are estimated to range from about 5,000 to 25,000 cards, which could result in card sales revenue losses from \$103,750 to \$520,825 at the 2017 card price of \$20.75. Assuming similar decreases in report card sales both years, potential losses in revenues for fiscal years 2018 and 2019 are projected below.

Table 6. Projected Revenue Loss

Fiscal Year	Projected Report Card Revenue Loss
2018	\$103,750 to \$520,825
2019	\$131,775 to \$527,100

Federal funding to the state would not be impacted by this proposed change in recreational abalone fishing regulations.

(a) Effects of the Regulation on the Creation or Elimination of Jobs Within the State:

The Commission anticipates limited negative impacts on the creation or elimination of jobs within the state. The proposed action is designed to ensure the sustainability and quality of the fishery, promoting participation, fishing activity, and economic activity. However, a complete closure of the red abalone fishery could result in up to 250 direct job losses.

(b) Effects of the Regulation on the Creation of New Businesses or the Elimination of Existing Businesses Within the State:

The Commission does not anticipate the impact of take limitations or potential seasonal closure of the red abalone fishery to be a principle impetus for the creation of new businesses or the elimination of existing businesses within the state. Restrictive seasonal actions are only proposed to preserve the sustainability of the resource and thus the long-term viability of the fishery that may then continue to support fishery-related businesses.

(c) Effects of the Regulation on the Expansion of Businesses Currently Doing Business Within the State:

The Commission does not anticipate the impact of take limitations or potential seasonal closure of the red abalone fishery to have a significant impact on the expansion of businesses currently doing business within the state. Restrictive seasonal actions are only proposed to preserve the sustainability of the resource and thus the long-term viability of the fishery that may then continue to support fishery-related businesses.

(d) Benefits of the Regulation to the Health and Welfare of California Residents:

The Commission anticipates generalized benefits to the health and welfare of California residents through the sustainable management of the red abalone fishery.

(e) Benefits of the Regulation to Worker Safety: None

(f) Benefits of the Regulation to the State's Environment:

The Commission anticipates benefits to the State's environment. It is the policy of this State to ensure "the conservation, sustainable use, and, where feasible, restoration of California's marine living resources for the benefit of all the citizens of the State" (Fish and Game Code sections 1700, 7050(b)).

(g) Other Benefits of the Regulation: None

Informative Digest (Plain English Overview)

The recreational red abalone (*Haliotis rufescens*) fishery is one of California's most successful and popular fisheries, and is economically important, particularly to Sonoma and Mendocino counties where approximately 95 percent of the multi-million dollar fishery takes place. Over 25,000 fishermen participate in the fishery each year. Red abalone may be taken with a sport fishing license subject to regulations prescribed by the Fish and Game Commission (Commission).

Under existing statute (Fish and Game Code Section 5521) and regulation (Section 29.15, Title 14, CCR), red abalone may only be taken for recreational purposes north of a line drawn due west magnetic from the center of the mouth of San Francisco Bay, except in the closed Fort Ross area. The current regulation also specifies the season, hours, a combined daily and possession limit, daily limit, special gear provisions, measuring devices, abalone report card requirements, and minimum size. Red abalone may only be collected by skin diving (without SCUBA) or rock picking during low tides. The recreational red abalone season is scheduled to open April 1, 2018.

The California Department of Fish and Wildlife (Department) has identified major changes in the density, occurrence, size and health of red abalone and the kelp upon which it depends for food. Specifically, the Department has found no meaningful changes in three red abalone resource conditions: fishing grounds, health and reproduction.

Critical negative impacts to red abalone fishing grounds:

- (1) A dramatic decline in sea stars, important sea urchin predators, due to sea star disease.
- (2) A dramatic increase (60 times) in the density of purple sea urchins in 2015, increasing competition with red abalone for food.
- (3) A lack of kelp, a vital food for red abalone and which has resulted in increasing the efficiency of fishing efforts in shallow habitats.
- (4) A decline in deep-water red abalone densities.
- (5) Continued decline in overall average red abalone densities in spite of significant take reductions implemented in 2014. 2017 Department surveys in Sonoma and Mendocino counties show a dramatic decline in densities at seven of the 10 index sites, to an average of 0.16 per m². This average is below the ARMP fishery closure trigger of 0.3 per m²

Critical negative impacts to red abalone health:

- (1) Visual red abalone body health scores for red abalone taken in the fishery during the spring of 2016 show that more than 25 percent of red abalone were shrunken in body mass at sites in northern California.

- (2) Body condition index declined at Van Damme State Park by 20 percent, but no significant difference was observed at Fort Ross in summer of 2016 (60 red abalone per site).
- (3) Department staff and abalone fishermen have observed weak red 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.

Critical negative impacts to red abalone reproduction:

- (1) Gonad index declined significantly at Van Damme State Park and at Fort Ross in the summer of 2016 (60 red abalone per site).
- (2) Small numbers of larval red abalone observed in plankton surveys in Sonoma and Mendocino counties in 2015.
- (3) Small numbers of newly settled red abalone observed in coralline-covered rock samples from Sonoma and Mendocino counties in 2015.
- (4) No juvenile (< 21 millimeter) red abalone observed in artificial reefs in Van Damme State Park in 2016 and 2017.

Proposed Regulatory Action

At the August 16, 2017 Commission meeting, the Department presented its recommendation that the fishery be closed due to hitting the trigger as set forth in the ARMP (Option 1). The Commission added additional regulatory options to protect the tradition of abalone fishing. These additional options are presented as Option 2 with sub-options that can be selected individually or in any combination. Some of the sub-options have ranges that must be selected from at the adoption hearing. Option 2 is not consistent with the ARMP.

Option 1 is consistent with the ARMP and protects the fishery during poor environmental conditions without the addition of fishing mortality. The Department recommends this regulatory proposal as a necessary step to facilitate the red abalone population's recovery from the multi-year poor environmental conditions and massive losses of red abalone fishery stock.

Option 2 is a set of regulatory options to maintain some fishing opportunity to maintain the tradition of abalone fishing. This option is divided into sub-options that allow limited take as follows:

Sub-Option A: Open Fort Ross to abalone fishing

Sub-Option B: Reduce the daily bag/possession limits within the range of [1 to 3] and the annual limit within the range of [2 to 9]

Sub-Option C: Increase the size limit to 8 inches

Sub-Option D: Limit the number of report cards sold annually within the range of [5,000 to 25,000]

The Commission may adopt one or more sub-options from Option 2 and must specify a specific number for sub-options B and D.

Updates to Authority and Reference Citations Based on Recent Legislation

Senate Bill 1473 (Stats. 2016, Ch. 546) made organizational changes to the Fish and Game Code that became effective January 1, 2017. The changes included moving the Commission's exemptions from specified Administrative Procedure Act time frames from Section 202 to Section 265 of the Fish and Game Code, moving the Commission's notice requirements from Section 210 to Section 260 of the Fish and Game Code, and moving the Commission's authority to adopt emergency regulations from Section 240 to Section 399 of the Fish and Game Code. These were organizational changes only. In accordance with these changes to the Fish and Game Code, sections 202, 210 and 240 are removed from, and sections 260, 265 and 399 are added to, the authority and reference citations for Section 29.15. Senate Bill 1473 also repealed subdivision (b) of Section 220 of the Fish and Game Code; therefore, Section 220 is removed from the list of authority and reference citations in Section 29.15.

Benefits of the Regulation

The proposed reduction within the red abalone fishery will benefit the valuable red abalone resource by protecting it from excessive fishing mortality during the current poor environmental conditions. Further conserving the red abalone resource now will allow it the opportunity to rebuild and be sustainable for the future.

Consistency and Compatibility with Existing State Regulations

The Legislature has delegated authority to the Commission to promulgate recreational fishing regulations (Fish and Game Code, sections 200, 205, and 265); no other state agency has the authority to promulgate such regulations. The Commission has conducted a search of Title 14, CCR and determined that the proposed regulation is neither inconsistent nor incompatible with existing State regulations and that the proposed regulations are consistent with other recreational fishing regulations and marine protected area regulations in Title 14, CCR.

Regulatory Language

OPTION ONE

Section 29.15, Title 14, CCR is amended to read:

§ 29.15. Abalone.

~~(a) Open Area: Except in the area described in subsection (a)(1) below, abalone may only be taken north of a line drawn due west magnetic from the center of the mouth of San Francisco Bay. No abalone may be taken, landed, or possessed if landed south of this line.~~

~~(1) No Abalone may be taken in the Fort Ross area bounded by the mean high tide line and a line drawn due south true from 38°30.63' N, 123°14.98' W (the northern point of Fort Ross Cove) and a line drawn due west true from 38° 29.45' N, 123°11.72' W (Jewel Gulch, south boundary Fort Ross State Park).~~

(a) Effective April 1, 2018, all ocean waters are closed to the take of abalone. Abalone may not be taken or possessed. The following exceptions are for abalone in possession prior to April 1, 2018:

(1) Minimum Abalone Size: All red abalone must be seven inches or greater measured along the longest shell diameter.

(2) Abalone Possession and Transportation: It shall be unlawful to possess any untagged abalone or any abalone that have been removed from their shell, except when they are being prepared for immediate consumption.

~~(b) Open Season and Hours:~~

~~(1) Open Season: Abalone may be taken only during the months of May, June, August, September and October.~~

~~(2) Open Hours: Abalone may be taken only from 8:00 AM to one-half hour after sunset.~~

~~(c) Bag Limit and Yearly Trip Limit: Three red abalone, *Haliotis rufescens*, may be taken per day. No more than three abalone may be possessed at any time. No other species of abalone may be taken or possessed. Each person taking abalone shall stop detaching abalone when the limit of three is reached. No person shall take more than 12 abalone during a calendar year. In the Open Area as defined in subsections 29.15(a) and 29.15(a)(1) above, not more than 9 abalone of the yearly trip limit may be taken south of the boundary between Sonoma and Mendocino Counties.~~

~~(d) Minimum Abalone Size: All legal size abalone detached must be retained. No undersized abalone may be brought ashore or aboard any boat, placed in any type of receiver, kept on the person, or retained in any person's possession or under his control. Undersize abalone must be replaced immediately to the same surface of the rock from which detached. Abalones brought ashore shall be in such a condition that the size can be determined.~~

~~(e) Special Gear Provisions: The use of SCUBA gear or surface supplied air to take abalone is prohibited. Abalone may not be taken or possessed aboard any boat, vessel, or floating device in the water containing SCUBA or surface supplied air. Abalone may~~

~~be taken only by hand or by devices commonly known as abalone irons. Abalone irons must be less than 36 inches long, straight or with a curve having a radius of not less than 18 inches, and must not be less than 3/4 inch wide nor less than 1/16 inch thick. All edges must be rounded and free of sharp edges. Knives, screwdrivers and sharp instruments are prohibited.~~

~~(f) Measuring Device. Every person while taking abalone shall carry a fixed caliper measuring gauge capable of accurately measuring seven inches. The measuring device shall have fixed opposing arms of sufficient length to measure the abalone by placing the gauge over the shell.~~

~~(g) Abalone Possession and Transportation:~~

~~Abalones shall not be removed from their shell, except when being prepared for immediate consumption.~~

~~(1) Individuals taking abalone shall maintain separate possession of their abalone. Abalone may not be commingled in a float tube, dive board, dive bag, or any other container or device, until properly tagged. Only after abalones are properly tagged, as described in Section 29.16(b), Title 14, CCR, may they be commingled with other abalone taken by another person.~~

~~(h) Report Card Required: Any person fishing for or taking abalone shall have in their possession a nontransferable Abalone Report Card issued by the department and shall adhere to all reporting and tagging requirements for abalone defined in Sections 1.74 and 29.16, Title 14, CCR.~~

OPTION TWO

There are 4 Sub-Options for subsections (a), (c), (d) and (h)

Section 29.15, Title 14, CCR is amended to read:

§ 29.15. Abalone.

[Sub-Option A – Opens Fort Ross for no site closures in Northern California]

~~(a) Open Area: Except in the area described in subsection (a)(1) below,~~
~~abalone~~Abalone may only be taken north of a line drawn due west magnetic from the center of the mouth of San Francisco Bay. No abalone may be taken, landed, or possessed if landed south of this line.

~~(1) No Abalone may be taken in the Fort Ross area bounded by the mean high tide line and a line drawn due south true from 38°30.63' N, 123°14.98' W (the northern point of Fort Ross Cove) and a line drawn due west true from 38° 29.45' N, 123°11.72' W (Jewel Gulch, south boundary Fort Ross State Park).~~

(b) Open Season and Hours:

- (1) Open Season: Abalone may be taken only during the months of April, May, June, August, September, October, and November.
- (2) Open Hours: Abalone may be taken only from 8:00 AM to one-half hour after sunset.

[Sub-Option B – Reduces daily bag/possession and/or annual limits]

(c) Bag Limit and Yearly Trip Limit: ~~Three~~^[1-3] red abalone, *Haliotis rufescens*, may be taken per day. ~~No more than three abalone may be or~~ possessed at any time. No other species of abalone may be taken or possessed. Each person taking abalone shall stop detaching abalone when the limit of ~~three~~^[1-3] is reached. No person shall take more than ~~48~~^[2-9] abalone during a calendar year. ~~In the Open Area as defined in subsections 29.15(a) and 29.15(a)(1) above, not more than 9 abalone of the yearly trip limit may be taken south of the boundary between Sonoma and Mendocino Counties.~~

[Sub-Option C – Increases minimum size limit for take]

(d) Minimum Abalone Size: All red abalone must be ~~seven~~^{eight} inches or greater measured along the longest shell diameter. All legal size abalone detached must be retained. No undersized abalone may be brought ashore or aboard any boat, placed in any type of receiver, kept on the person, or retained in any person's possession or under his or her direct control. Undersize abalone must be replaced immediately to the same surface of the rock from which detached. Abalones brought ashore shall be in such a condition that the size can be determined.

[...No changes to subsections (e) through (g)]

[Sub-Option D – Provides limit on report card sales]

(h) Report Card Required: Any person fishing for or taking abalone shall have in their possession a nontransferable Abalone Report Card issued by the department and shall adhere to all reporting and tagging requirements for abalone defined in Sections 1.74 and 29.16, Title 14, CCR.

(1) Starting January 1, 2018, a total of not more than [5,000-25,000] Abalone Report Cards may be issued by the department per season.

(2) Abalone report cards will be available on a first-come, first served basis no earlier than 45 days prior to the first day of the abalone season.

Note: Authority cited: Sections 200, ~~202~~, 205, ~~240~~, 220, ~~240~~²⁶⁰, 265, 399, 5520, 5521 and 7149.8, Fish and Game Code. Reference: Sections 200, ~~202~~, 205, ~~220~~²⁶⁵, 5520, 5521, 7145 and 7149.8, Fish and Game Code.

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: N/A

From: (Public Agency): CA Fish and Game Commission
1416 Ninth Street, Room 1320
Sacramento, CA 95814

(Address)

Project Title: Amend § 29.15, Title14, CCR, Abalone take reduction due bad environmental conditions

Project Applicant: N/A

Project Location - Specific:
Statewide

Project Location - City: N/A Project Location - County: N/A

Description of Nature, Purpose and Beneficiaries of Project:

A combination of environmental and biological stressors has greatly reduce abalone populations due to starvation conditions. In 2016, the Commission took emergency action to reduce the annual take limit and close the season in April and November. This project will continue the emergency regulations protection.

Name of Public Agency Approving Project: California Fish and Game Commission

Name of Person or Agency Carrying Out Project: California Department of Fish and Wildlife

Exempt Status: (check one):

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number: Cal. Code Regs., tit. 14, §§ 15307, 15308
- Statutory Exemptions. State code number: _____

Reasons why project is exempt:

See attached.

Lead Agency
Contact Person: Valerie Termini Area Code/Telephone/Extension: (916) 653-4899

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: _____ Date: 12/7/2017 Title: Executive Director

Signed by Lead Agency Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

December 7, 2017

**ATTACHMENT TO NOTICE OF EXEMPTION
Adoption of Red Abalone Take Reduction
Due to Harmful Environmental Conditions**

The California Fish and Game Commission (Commission) has taken final action under the Fish and Game Code and the Administrative Procedure Act (APA) with respect to the proposed project on December 7, 2017. In taking its final action for the purposes of the California Environmental Quality Act (CEQA, Pub. Resources Code, § 21000 *et seq.*), the Commission adopted the regulations relying on the categorical exemption for “Actions by Regulatory Agencies for Protection of Natural Resources” contained in CEQA Guidelines section 15307, and the categorical exemption for “Actions by Regulatory Agencies for Protection of the Environment” contained in CEQA Guidelines section 15308. (Cal. Code Regs., tit. 14, §§ 15307, 15308.)

Categorical Exemptions to Protect Natural Resources and the Environment

In adopting the sport fishing regulations for red abalone take reduction due to harmful environmental conditions, the Commission relied for purposes of CEQA on the Class 7 and 8 categorical exemptions. In general, both exemptions apply to agency actions to protect natural resources and the environment. The regulations define annual fishing seasons and daily and yearly bag limits. A combination of unprecedented environmental and biological stressors began to take their toll on abalone populations, including warmer-than-normal waters and decreasing food resources, leading to starvation conditions. The Department of Fish and Wildlife (Department) has identified wide-sweeping changes in the density, occurrence, size and health of red abalone and the kelp upon which it depends for food. Because these regulations are intended to protect the sustainability of the fishery as a natural resource, Commission adoption of these regulations is an activity that is the proper subject of CEQA’s Class 7 and 8 categorical exemptions.



Red Abalone – Adoption Hearing

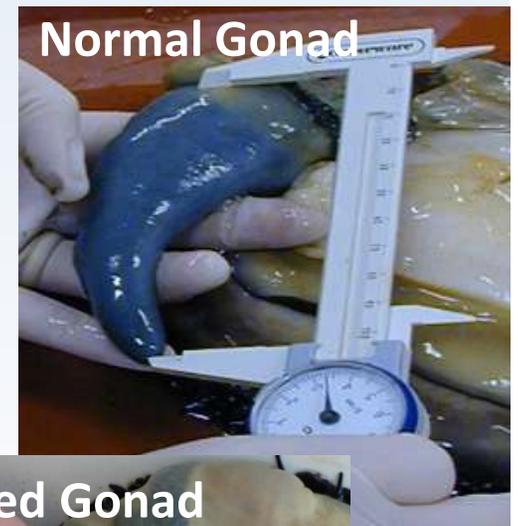


Sonke Mastrup
Program Manager, Marine Region
Fish and Game Commission Meeting
December 7, 2017



Causes and Impacts to Red Abalone

- Persistent Urchin Population Explosion
- Little to No Recovery of kelp
- Abalone Starvation for 4 years
- Reproduction Failure
- Significant Abalone Death
- Weakened Surviving Abalone





ARMP Fishery Triggers

- Fishery Wide Trigger 1
 - Fishery Density <0.375 abalone/m²
-- 25% reduction in TAC
- Fishery Wide Trigger 2
 - Fishery Density <0.3 abalone/m²
-- Fishery Wide Closure
- Site Trigger
 - Site Closure Trigger = 0.25



Current Density Data

Index Site (Sonoma-SC or Mendocino-MC)	Past Density (ab/m ²) (year sampled)	2017 Density (ab/m ²)	% Decline In Density
Fort Ross (SC)	0.44 (2015)	0.20	54%
Timber Cove (SC)	0.38 (2015)	0.15	60%
Ocean Cove (SC)	0.44 (2016)	0.17	61%
Salt Point (SC)	0.38 (2016)	0.06	79%
Sea Ranch (SC)	0.37(2012)	0.27	27%
SONOMA AVERAGE	0.39	0.17	56%
Point Arena (MC)	0.66 (2014-15)	0.25	62%
Van Damme (MC)	0.33 (2016)	0.14	58%
Russian Gulch (MC)	0.60 (2014)	0.07	88%
Caspar Cove (MC)	0.35 (2013)	0.05	86%
Todd's Point (MC)	0.47 (2013)	0.16	66%
MENDOCINO AVERAGE	0.49	0.15	69%
Overall Average	0.44	0.15	65%



Abalone Regulatory Options

- Option 1: Close the Fishery per ARMP guidance
- Option 2: Limited Fishery Option
 - Sub-option A: Reopen Fort Ross
 - Sub-option B: Reduce Daily Bag/Possession and Annual limits (1-3 and 2-9)
 - Sub-option C: Increase Size Limit to 8 inches
 - Sub-option D: Limit the number of Report Cards (5,000 – 25,000)



CDFW Recommendation

- Close the fishery per ARMP guidance
- If not closure, no more than 3 abalone/year
- Any action taken will be re-evaluated when new FMP adopted



Thank You



CDFW Invertebrate Program

Abalone Team:

Sonke Mastrup

Ian Taniguchi

Laura Rogers-Bennett

Cynthia Catton

Jerry Kashiwada

Christy Juhasz

Shelby Kawana

Tallulah Winquist



MARK H. CARR
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<http://www.piscoweb.org>

22 November 2017

Re: status of red abalone stock in northern California

Dear Commissioners,

We write to provide you with information that we believe can help inform your management decisions for the Northern California recreational red abalone fishery. We apologize and are disappointed that we cannot present this information to you in person at the public Commission meeting in December. The salient points that we intend to convey in this letter are that:

- 1) The information conveyed here has been generated by separate academic and citizen science monitoring programs that are independent of CDFW's red abalone monitoring program. The information we present corroborates the information and conclusions conveyed to you by CDFW staff responsible for conducting stock assessments for the red abalone recreational fishery.
- 2) A series of environmental and biological anomalies (oceanographic conditions and disease, respectively) described below has incrementally caused declines in the density (number of individuals per area of rocky reef) and abundance due to the mortality of all sizes of red abalone across all but the intertidal portion of the abalone's depth range. These anomalies are not associated with recreational take.
- 3) Abalone abundance in the rocky intertidal has remained within the long-term range of abundance throughout the study period. In sharp contrast, abalone densities in the subtidal depths indicate declines to the lowest numbers observed by the two kelp forest monitoring programs. The resulting subtidal densities in 2016 and 2017 are below the ARMP fishery closure trigger of 0.30 abalone per m² (= 18 abalone per 60m²).
- 4) The sequential temporary increases in density from deeper to shallower survey depths are suggestive of movement of individuals from deeper to shallower depths. This also corroborates CDFW's conclusion that abalone are moving from deeper to shallower depths (i.e. from a deep refuge below the recreational fishery to where they are now exposed to recreational take). However, actual movement data would help clarify this, and some of these increases (i.e. in the rocky intertidal) are also associated with the implementation of MPAs.
- 5) Trends in size structure of abalone in the rocky intertidal reflect the history of fisheries management interventions with declines in larger individuals attributed to fishing. Trends in deeper subtidal depths instead indicate no change in size structure. Lack of change in size structure over time at deeper depths indicate little impact of fishing and that declines in density impact all size classes and are attributable to environmental and ecological impacts (i.e. lack of food and starvation as the primary source of mortality).

Background:

We are the principal investigators of three long-term monitoring programs. Dr. Mark Carr oversees the kelp forest survey program sponsored by the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) in the central and north-central coasts of California (<http://www.piscoweb.org/kelp-forest-study>). Dr. Jan Freiwald directs the state wide kelp forest monitoring studies conducted by Reef Check California (<http://reefcheck.org/california/ca-overview>). Dr. Peter Raimondi, a principal investigator with PISCO and the Multi-Agency Rocky Intertidal Network (MARINE: <https://www.marine.gov/>) oversees long-term rocky intertidal community surveys throughout the state of California. In northern California, all three programs were designed to inform the evaluation and adaptive management of the MLPA marine protected areas. The years of sampling and number of sites sampled each year reflect this. Surveys conducted by PISCO are only conducted in 2010 and 2011 associated with the North Central Coast Baseline Characterization, and again in 2016 and 2017 with the onset of the long-term MPA monitoring program on the north-central coast. Reef Check surveys include those same time periods as well as additional intervening years. The surveys are designed to characterize change in kelp forest ecosystems and therefore include information on many more species than abalone as described below. This allows us to better understand what environmental and biological factors (including fishing effects) are influencing observed changes in kelp forests across the regions surveyed.

For broader context and evidence of what factors are likely driving changes in abalone abundance, we first describe recent trends in key species in kelp forest communities on the north central coast that we believe explain observed abalone mortality events and declines in density. In 2013, a West Coast-wide sea star wasting disease led to near local extinction of sea stars by 2014, including the sunflower star (*Pycnopodia helianthoides*), a voracious predator of sea urchins (Figure 1). In the absence of its predator, numbers of exposed purple sea urchins began to increase (Figures 1 and 2). Anomalously warm water temperatures referred to as the “blob” occurred in 2014, followed by a brief El Nino event between 2014 and 2015. These oceanographic events were associated with low nutrient availability and reduced production of kelps that provide food for both sea urchins and abalone (Figures 1 and 2). This lack of food further increased the number of exposed sea urchins that deforested reefs of algae and created “urchin barrens” characterized by pavements of encrusting pink coralline algae (Figure 2). These same trends were observed by Reef Check surveys to the North Coast region of California. Thus, abalone on the north central coast experienced unprecedented declines in the availability of their food, drift bull kelp (*Nereocystis*) and the northern sea palm (*Pterygophora*).

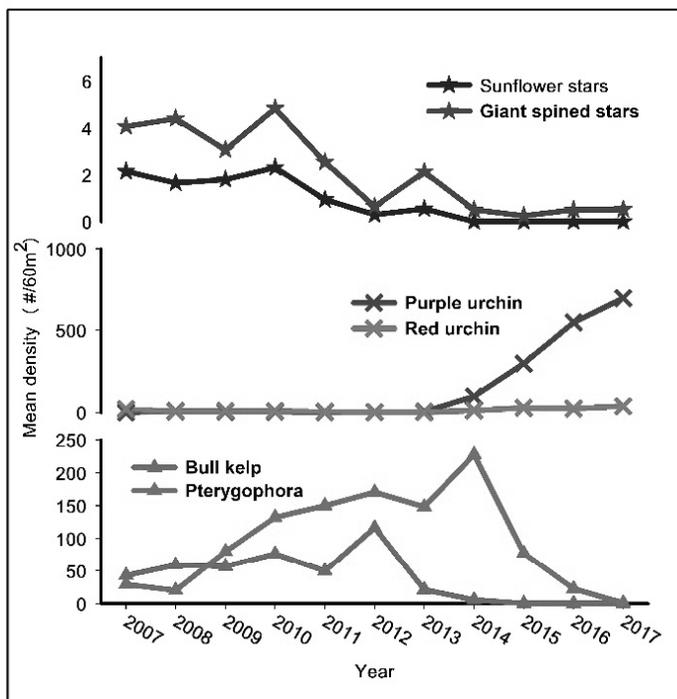


Figure 1. Trends in sea stars, sea urchins and kelps in North Central California kelp forests characterized by the Reef Check California kelp forest monitoring program. Sea stars declined markedly since the sea star wasting disease of 2013 with concomitant increases in the purple sea urchin and declines in kelps.

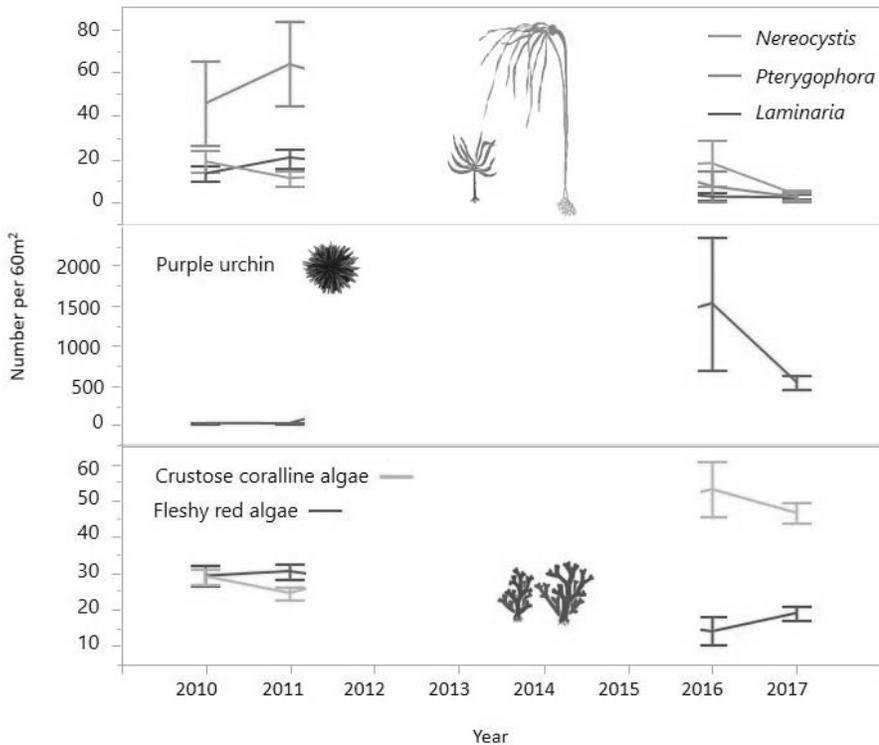


Figure 2. Trends in kelps, sea urchins and understory algae in North Central California kelp forests characterized by the PISCO kelp forest monitoring program. Surveys were conducted only in 2010 and 2011, and again in 2016 and 2017. Kelps and foliose red algae have declined markedly between the two sampling periods, while densities of exposed purple sea urchins and cover of encrusting coralline algae have increased.

Trends in red abalone abundance differ across the species depth range (Figure 3). Abalone abundance in the rocky intertidal has remained within a consistent range throughout the study period. In contrast, densities of abalone at intermediate subtidal depths (0-8m and 8-16m) have declined to all time low levels. Both PISCO and Reef Check density estimates for 2016 and 2017 are below the ARMP fishery closure trigger (0.3 per m² equates to 18 per 60m²). Densities are very low in the 16-22m depth bin, indicating that the vast majority of the stock resides above 16m depth. The decline between 2010 and 2011 reflect the Harmful algal bloom event that caused mass mortalities at many sites across the study region. Another notable trend is the sequential decline in density at deeper depths with subsequent increase at shallower depths (2014, 2015, 2016), suggesting that individuals are moving from deeper to shallower depths. Although the peak in numbers in 2016 in the rocky intertidal also suggest this, it may be confounded by other factors (e.g., MPAs).

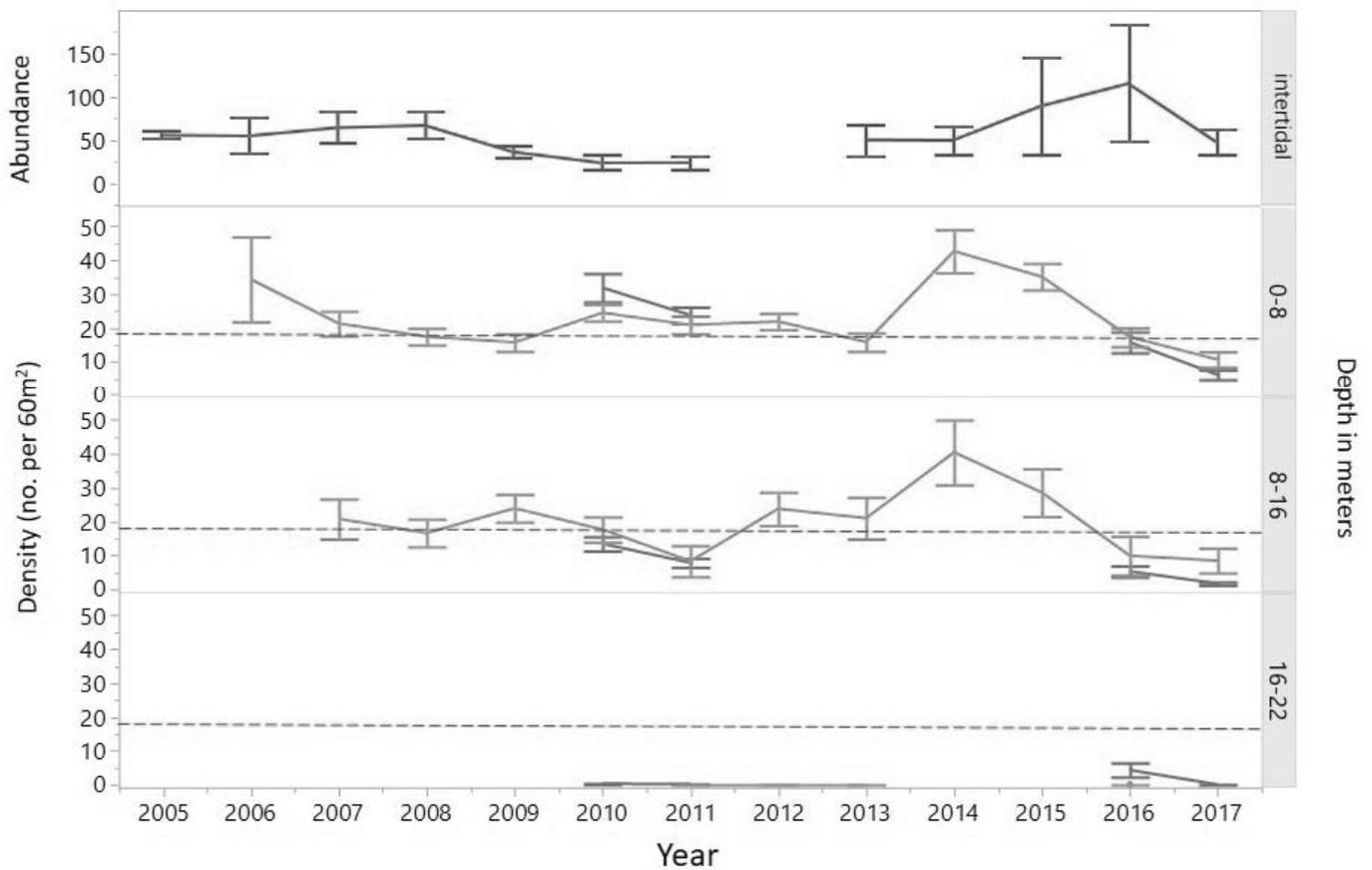


Figure 3. Trends in abundance (rocky intertidal) and density (deeper depths) of red abalone in North Central California. Trends in the rocky intertidal are depicted in the upper panel. Trends at increasing depth bins are depicted in lower panels. Note the lack of abalone at the deepest depth bin, indicating that the vast majority of the stock is restricted to depths less than 16 meters. The dashed red line indicates the ARMP fishery closure trigger.

Trends in the size structure of red abalone also vary across the species' depth range (Figure 4). Size structure in the rocky intertidal reflects changes in levels of protection from fishing over the study period (Figure 4, upper panel). In 2005, abalone were protected from fishing on private lands and individuals above the legal size limit were abundant. Upon opening those sites to fishing, the number of individuals larger than the size limit declined dramatically. With establishment of the MLPA MPAs in 2010, numbers of individuals at and above legal size limit has increased through time. In the two deeper subtidal depths, there has been no change in the size structure over time, including legal-sized abalone. This suggests that the declines in abalone density at these deeper depths depicted in Figure 3 apply to all size classes. This implies that the declines in abalone density at these deeper depths are not attributable to fishing, but instead are the result of environmental conditions and ecological interactions that impact all sizes of abalone.

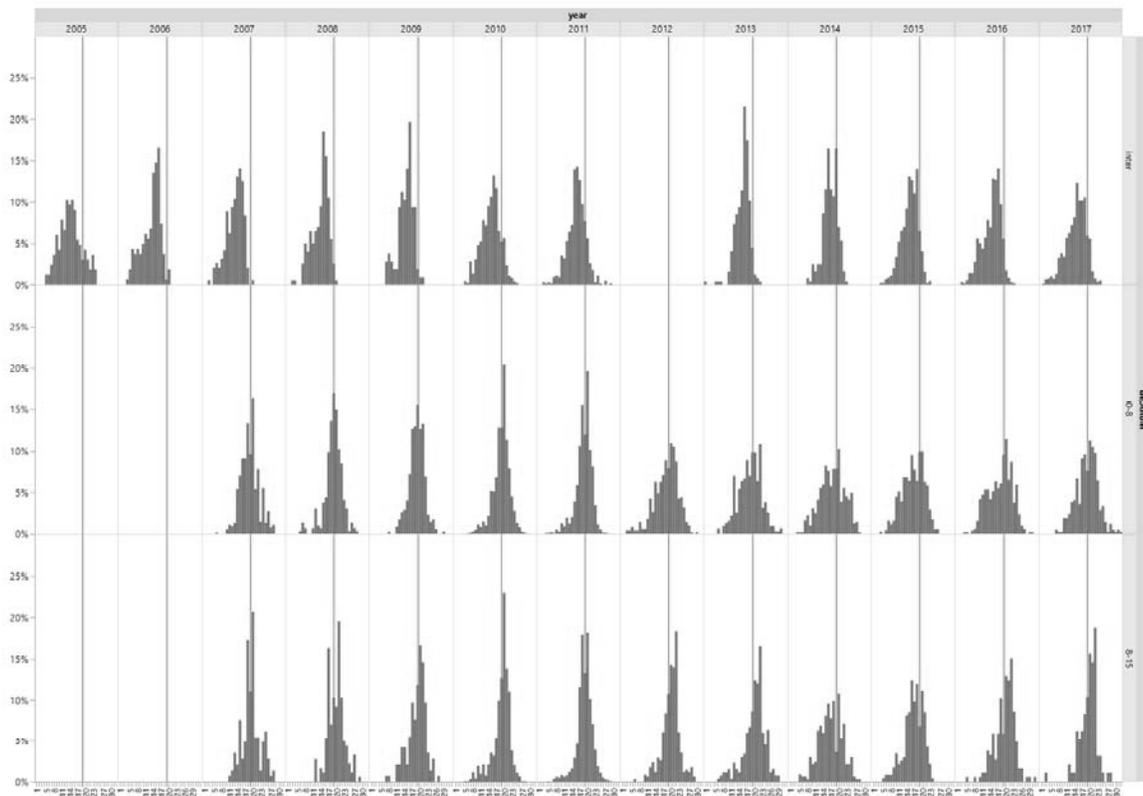


Figure 4. Trends in the size structure of red abalone in North Central California over time in each of three depth bins: intertidal, 0-8m, and 8-15m. There are insufficient numbers of abalone below 15m depth to plot size structure. The vertical red lines are the legal size limit.

Conclusions:

The results presented here corroborate CDFW’s evidence of dramatic declines in abalone density at depths below the rocky intertidal zone. Our estimates indicate that abalone at subtidal depths within and below that accessible by the fishery are below the ARMP fishery closure threshold. These results also demonstrate the combined value of both population density and size structure across the entire depth range of a stock for interpreting the overall status of a stock. The results presented here are the combined product of long-term MPA monitoring programs and demonstrate the broader value of these integrated monitoring programs for informing nearshore fisheries management. Again, we apologize for not being able to present and discuss this information with you and others at the upcoming Commission meeting, but we are eager to discuss them with you before or after the meeting at your convenience.

Sincerely,

Jan Freiwald
Director, Reef Check California

Pete Raimondi
Principle Investigator, PISCO

Mark H. Carr
Principle Investigator, PISCO

From:
Sent: Friday, November 10, 2017 10:12 AM
To: FGC
Subject: Proposed Abalone Regulations

I have been abalone diving on the North Coast for over 40 years. Over the last 3 years I have noticed exactly the conditions described in the notice of regulatory changes, with the situation getting progressively worse. This year the starvation of the abalone was particularly evident and painful, and it will only get worse until the kelp returns. I strongly urge the commission to close the abalone fishery entirely. Not only will this go the furthest in preserving what is left of the abalone population, but it will also make enforcement easier if no abalone-taking is allowed. Obviously the businesses along the North Coast may suffer somewhat, but I will still be going up there out of tradition and to enjoy the area, and I expect that many other abalone divers will do the same.

I request that I be kept updated on this topic, at this email address.

From: Joshua Russo
Sent: Friday, October 13, 2017 1:00 PM
To: FGC; Mastrup, Sonke@Wildlife
Subject: Abalone Regulatory Action 2018
Attachments: Avoid Closure 2017.pdf

Please find the attached letter to the commission regarding the regulatory action for 2018 abalone season. If there are any questions please contact me.

Josh Russo

Watermen's Alliance
521 Arroyo Grande Lane
Suisun City, CA 94585



October 13, 2017

California Fish and Game Commission
1416 Ninth Street
Sacramento, CA 95814-2090

Dear President Sklar and members of the Commission,

Thank you for your continued effort to avoid full closure of the 2018 abalone season. As you heard Sonke Mastrup say after public comment at the October 12 meeting -- the department is obligated to present options based on the ARMP, however the ARMP is attempting to keep the fishery at a level that is just not possible anymore. As the environment changes, we too must change our way of thinking. The new normal is not going to be carpets of abalone, but there is still a sustainable fishery. It is clear that even under current conditions we still have a surplus above natural levels. So what should the new limits be?

I'm writing to urge you to 1) reduced the annual limit and 2) reduce the number of cards sold. Combined, these steps allow us to keep the fishery open until the next management plan is in place. Moreover, These steps allow you to be less drastic setting daily and annual limits because now you're actually setting a hard limit on the number of abalone possible to legally remove from the fishery.

As documented in previous meetings and by the departments surveys, most people who travel to pull abalone feel three (3) per day is the lowest daily limit that warrants the effort. If we keep the daily limit at three and reduce the annual limit and number of cards sold, the percentage of reduction is shown in this table.

CARDS SOLD (x1000)	25	20	15	10
ANNUAL LIMIT 12	0	20	40	60
ANNUAL LIMIT 9	25	40	55	70
ANNUAL LIMIT 6	50	60	70	80

For example, if we reduce the annual limit to 9 and restrict card sales to 15,000 we achieve a 55% reduction in possible take. Watermen's Alliance supports any of these options to avoid full closure as well as reopening Fort Ross to relieve pressure from Ocean Cove and Timber Cove.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joshua Russo'.

Joshua Russo
President
Watermens Alliance
(707) 333-9575

From: dale della rosa < >
Sent: Wednesday, October 25, 2017 6:00 PM
To: FGC
Subject: Recommendations for a 2018 Abalone Season

To the California Fish and Game Department,

My name is Dale Della Rosa, I'm a lifelong California resident and have been abalone diving for over thirty years. While I don't go as often as I used to, it is still important to me, especially as I introduce my son to the sport.

The decision on the 2018 season is slated to be made in December. Therefore, herein, I offer specific comments and proposals.

In the past I believe the normal course of action would be for the Commission to follow the recommendation of the CDFW and the guidelines of the ARMP. However, in this case with the ARMP admittedly being flawed, the new Red Abalone FMP being in the works, and the observed, albeit slight, improvement in conditions and kelp this year, I believe another course of action is available and am encouraged by the Commissions' attitude towards other options that I observed in the video of the Oct 12 session.

With that said I offer the following specifics, which is simply my personal opinion after reviewing all the data I could find as well as a couple trips to the coast last week. One was a trip for surface observation (looking for kelp) and talking with divers. The second one was a personal dive trip to see conditions for myself before writing this proposal.

Proposal for a 2018 Abalone season;

1. Limit the number of cards sold to 15000,
2. Total Annual limit of 8
3. Daily limit of 2
4. Annual limit for Sonoma County and southward of no more than 4 total
5. Annual limit for Mendocino County and northward of no more than 6 total
6. Increase the cost of the Abalone card to make the estimated revenue equal to the average revenue of the last 3 years.
7. All other facets of the current regulation remain in place.

The proposal is designed to drastically reduce total take and spread fishing effort across the entire range of open water while offering a higher level of protection to Sonoma County in light of the higher degree of concerns in that area. It is also designed to keep current revenues in place. A reduction in revenues would result in a reduction in CDFW efforts whether abalone specific or not. The increased card cost is warranted as I believe any reduction in CDFW efforts would be counter-productive.

While each item above is painful to the abalone fishing community it offers a way to have a 2018 season versus the CDFW recommendation of a complete closure of the fishery. Hopefully proposals like this can help the Commission to decide to have a season and at the same time not reduce revenues.

Another reason to have some season versus a total closure is poaching. An active group of legal abalone divers is one of the best prevention measures to spot and limit poaching. No season means no legal divers and an extremely limited enforcement effort due to lack of divers to check (just plain less enforcement work) and the funds to have the wardens there. Legal sportsman have always been the in frontline against poaching.

I would also like to make recommendations against some of the options I've seen offered.

1. Changing the minimum size to 8",

First, while this most likely would reduce take, it has a potentially significant downside. I sincerely believe, when considering everyone involved in the abalone fishery, that in the attempt to take abalone of 8" minimum size more undersize animals would be removed from the rocks and the resulting mortality even when they are immediately replaced would be greater than is now occurring with a 7" minimum size limit. I believe from experience that it would be highly likely that there would be an increase in the total abalone mortality per legal abalone taken.

Second, this change would result in more ≥ 8 " abalone being removed from the breeding pool versus with a ≥ 7 " minimum. An 8" abalone produces more offspring than a 7" abalone. This change could in effect reduce the mass of the breeding pool.

I believe for these two reasons an 8" minimum size may actually be more detrimental than protective to the overall abalone population.

2. Requiring abalone to be measured before removing from the rock.

In the case of "rock picking" this change might make sense, but most abalone are taken by divers where this measurement would take place underwater out of sight of enforcement officers. Therefore it would be especially hard to enforce to the point of being a mostly meaningless unenforceable regulation. CDFW especially doesn't not like regulations that are hard to enforce. This item would just clutter up the regulations.

In closing, I think at this point there is a mountain of undeniable evidence that the abalone population has been under extreme stress and some significant action must be taken. Red Tides, a starfish die off that resulted in a kelp munching urchin population explosion, and warm water intrusion have all contributed to get the abalone population and kelp to its current state.

I've spent many hours gathering and digesting what information was available from CDFW surveys and studies as well as other sources. I recently took a trip up thru Sonoma County to observe the kelp canopy and talk with divers. I also did a single dive day at Van Damme State Park in Mendocino County last week to see the conditions for myself. I was quite disheartened to see the acres and acres of purple urchin barrens where I used to find a vibrant community of sealife including thick kelp and almost countless abalone. On the other hand during the same dive just a few yards away I was also excited and encouraged by what I found in the current existing kelp beds, sealife and abalone everywhere, truly, cracks where the abalone were shoulder to shoulder "just like it has been for decades".

Thank You,
Dale Della Rosa

November 8, 2017

Mr. Eric Sklar, President
California Fish and Game Commission
1416 Ninth Street, Room 1320
Sacramento, CA 95814

RE: How to keep the 2018 Abalone Season Open

Dear President Sklar and Commission Members:

The Commissioners have asked the CDFW to evaluate a laundry list of sub-options for abalone management that would keep the abalone fishery open in 2018. I would like to suggest a combination of those sub-options which should be acceptable to all involved.

We all want an alternative which would keep the fishery open, not put the fishery at risk of collapse, keep fishermen engaged and not create an irreversible economic hardship on associated businesses.

As you know, the CDFW's recommendation for full closure is based on the ARMP which would have to be set aside by the Commission in order to accept another alternative. There are good reasons to follow this course of action.

1. The ARMP is "flawed", outdated and will be replaced by a new and better Fisheries Management Plan (FMP) for the 2019 season.
2. The ARMP attempts to maintain an unnatural, high level "Cadillac" fishery. Fishermen and scientists alike agree that this level of fishery is no longer possible and should not be pursued as a goal, especially when it means closing the fishery. Most everyone, including the Department, wants the new FMP to have more flexibility and is agreeable to managing to a lower level fishery.
3. The ARMP is based on densities and calls for fishery closure when overall abalone densities fall below the level set by the ARMP. But the ARMP level is still well above the species and gratifying fishery sustainability levels.

Suggested for Maintaining the 2018 Fishery

Starting from an average actual catch level of 150,000 abs/yr over the past 3 years (2014-2016) and to provide a precautionary cushion, a targeted reduction to ½ of the current actual landings or 75,000 abs/yr is recommended. This number is small compared to natural mortality which occurs along the total 800 miles of the Northern California Coastline, even without the current environmental problems. This level of fishing removal won't significantly affect the overall biomass of abalones.

Using the Department's estimates, in the ISOR, for associated reductions of the various sub-options, ***it is recommend that we reduce the annual limit from 18 (baseline) to 9 and reopen Fort Ross. Although the ISOR doesn't recognize that reductions in***

annual limits will decrease the number of report cards sold, it's predictable that a 50% reduction in annual limits will reduce the number of cards sold by at least 20% from 25,000/yr to 20,000/yr. A combination of these circumstances will achieve the desired reductions without specifically limiting card sales. A catch reduction of 50% is drastic but at least fishermen have the "opportunity" to fish; and the reopening of Fort Ross spreads the fishing pressure away from some of the more heavily fished areas. The reasons I recommend these specific changes are as follows:

1. We acknowledge the reality of a lower level fishery and move away from the idea of maintaining a "Cadillac" fishery.
2. We do not want to discourage fishermen participation by limiting the number of cards sold. Limiting card sales will obstruct fishermen who only fish once or twice per year, travel long distances and those who are new to the sport. These so called "*casual fishermen*" are the ones who buy their report cards later, usually during a trip, and should have the same opportunity to fish as the so called "*highliners*" who fish more frequently and will buy their report cards earlier. The casual fishermen are likely to spend more money and time in the local economies. The number of cards sold will decline with lower limits so why add further restrictions? We also have to keep in mind that fewer report card sales mean less money coming to the Department for management and enforcement.
3. We should make sure that whatever we do doesn't have long-lasting effects on the sustainability of the fishery. We know that the species and a lower level fishery will be sustainable at lower densities than specified in the ARMP.
4. If the Commission and Department want more than a 50% reduction in landings, I suggest raising the minimum size limit. Raising the minimum size limit would not only reduce landings but also increase the time an abalone has to reproduce by at least 5-6 years before it enters the fishery.

Whatever the concerns are for keeping the fishery open, it is only a one year commitment and will likely change in 2019 when the new FMP is implemented. Keeping the fishery open and making these changes will give managers and the public an opportunity to see, firsthand, the results of regulation variations and their effect on human behavior as well as their effects on the health and sustainability of the fishery.

Sincerely,

Jack Likins

Cc by email:
President, Eric Sklar
Director Fish and Wildlife, Carlton Bonham
Marine Region, Dr. Craig Shuman
Invertebrate Manager, Sonke Mastrup

October 21, 2017

California Fish and Wildlife Commission
P.O. Box 944209
Sacramento, CA 94244-2090

RE: 2018 Red Abalone regulation

Dear **Commission** Members:

First, I would like to express my appreciation for the work the Commission and the Dept. have and are doing to gather and disseminate science associated with the current condition of the red ab fishery.

I am a sport fisherman and diver. My take area is the Mendocino and Humboldt coast. I have been an ab diver for 45 years. My parents raised me as a conservationist so I have made every effort to protect this incredible fishery, as well as all natural resources encountered. I believe strongly that 85-90% of 21st century divers also have a strong sense for conservation of our nature resources. Today's sportsman cannot be compared to that of even 20 years ago. Through education and failure to manage resources properly we have evolved as better stewards of our environment and those that depend on it. It is with this preface that I feel our Dept of Fish & Wildlife should transition toward using more public/private partnership to solve challenges like we are currently experiencing with red abs. I hope the commission and dept have the latitude to allow more public participation & stewardship responsibilities in responding to issues and setting regulation. We want to help protect our resources.

That being said, and having knowledge of the collapse of the black, pink, green, white and flat abalone in the 60's and 70's, it has been clear, throughout my diving "career", that management of all fisheries has been necessary to sustain healthy populations and conditions. Until about 2 years ago we all observed fantastic densities in pretty much any area of the Mendo coast with much more dispersed concentrations in Humboldt. Empty shells were something you might see 4 or 5 of, at most, in a 1 hour ocean entry. It was rare that, in reasonable weather conditions, any capable diver left the beach without being at or close to his/her limit. In 2014 and 2015 we all began to notice a decline in the red ab population in the lower Mendocino coast. We were aware of the hardships that the starfish were experiencing in years leading up to that time and concern spread quickly for the ab. The dept had already begun tightening regs.

I have read many of the recent reports issued by the Dept of F&W regarding the condition of the fishery and have listened to the video of the Oct Commission meeting. I am in total agreement that regulations for the 2018 season MUST be tightened if we hope to see the red ab through the "perfect storm" conditions we all seem to agree as having triggered the steep population declines in recent years.

I wish to go on record in support of the following changes/considerations to the 2018 ab regs:

- **Adopt Option 2, Sub-Option B (2 /day, 4/yr)**
- **Direct Dept to seek out and assist legitimate interest groups who wish to devise program/s to reduce purple urchin populations asap.**

- **Limit 2018 ab regs to 2018 only (temporary), leaving longer term planning for the soon to be complete FMP where regulation can be designed having benefit of both 2017 & 18 data.**
- **Give due consideration to fact that parameters/conclusions existing in AMRP of yesteryear cannot necessarily be applied to those affecting the fishery on the northcoast today.**
- **Approach any change to regs with full regard for the recent signs of improved ocean temps, upwelling, kelp beds, starfish recovery, and testimonials of possible reduction in purple urchin pops. Also, the divable area is a very small portion of the entire red ab range along the north coast – most is too deep. In addition, a full closure would be duplication of the current MLP closures previously established to protect fisheries such as this one.**

Thank you for your consideration.

Respectfully,

Cameron Appleton

From: Mark Barbour
Sent: Monday, November 06, 2017 6:11 PM
To: FGC
Subject: Abalone Closure

I've been an abalone diver for nearly 40 years. I have seen the cycle of population abundance rise and fall over the decades. I understand the current conditions and the ARMP triggers that population surveys have tripped.

I have heard that the Department will be recommending a fishery closure for the 2018 season to the Commission at the October 11-12 meeting. There is no doubt that the population is under stress given the ocean conditions and increasing urchin population.

However, there are other options that will keep the season open. For example:

- 1. Splitting card sales to the two seasons we have now. One for May and June and one for August through October. July has been closed for years. This could generate additional revenue as well. They systems and processes are already in place and this would be little incremental cost for the department.*
- 2. Reducing the daily and or annual bag limit. Easily accomplished at no additional cost to the department.*
- 3. Closing specific areas that the surveys have shown to be the most depleted. Would require limited analysis and GPS coordinate publication.*
- 4. Reducing abalone card sales through a lottery system similar to the waterfowl refuge draw system. The department has the experience and systems to do this.*

These are a few ways to mitigate harvest while keeping the season open Please forward my input on to the Commission for their consideration.

It is important for me to share this fishery with my children!

Regards;

Mark Barbour

To: All Commissioners, CA Fish and Game Commission
Re: Proposed changes to recreational regulations for abalone
October 15, 2017

Having been a northern California sports abalone diver for almost 50 years, never missing a season, here are my thoughts on the options.

The red abalone population in northern California is in deep peril. Starting 3 or 4 seasons ago, some of our favorite sites have turned into vast sea urchin deserts.

Van Damme, Mendocino Headlands, MacKerricher State Park, are a heartbreak. In the Trinidad area (nearest my home) where the abalone are sparse anyway, the amount of meat inside a trophy shell is so small, I'm ashamed I took it. Every remaining piece of bull kelp has a multitude of urchins clinging to it. Even populations of seemingly numerous abs, especially north Mendocino headlands, we've found the meat to be miniscule. I do not know if this is caused by starvation (there seems to be kelp around) or by wasting disease. The only healthy population I've encountered are north Mendocino coast between Westport and Hardy Creek.

Sad to say, I would opt for a limited closure until the root causes are addressed.

Here are some suggestions:

- Absolutely close diving for ab north of Humboldt Bay.
- Limit takes to 6 abs per year.
- Monitor the commercial abalone farms since they are likely cause of the spread of wasting disease pathogens.
- Triple the area of marine protection zones and post them better.
- Have every every able-bodied diver harvest without mercy, the urchin populations. This could be organized and supervised, starting with the obvious effected locations like Van Damme, or the Mendocino headlands.

Sincerely,

Gene Callahan

From: Don Thompson
Sent: Wednesday, November 15, 2017 12:17 AM
To: FGC
Subject: re: Public Comments - Dec. 2017 Commission mtg. - Recreational Abalone fishing regulations
Attachments: FGCLetterNov14_17.docx; Densities (landings & sea otter reoccupation).pdf; 1997Statement of Facts (densities).pdf

Nov. 15, 2014

To: CA Fish and Game Commission

Re: Proposed Regulatory changes - recreational abalone fishing regulations.

Dear Executive Director Termini,
Would you please include my letter attached regarding proposed changes to recreational abalone fishing regulations in the Commissioner's briefing book for the upcoming December meeting.
Thank you,
Don Thompson
displaced commercial abalone fisherman

Don Thompson

11/14/17

To: CA Fish and Game Commission

1416 Ninth St.

Sacramento, CA 95814

RE: Dec. 5, 2017 Commission Meeting

Agenda Item: Proposed Changes to Recreational Abalone Fishing Regulations

Dear President Sklar and Commissioners,

I am a former commercial abalone fisherman, and was the last diver to enter into the commercial fishery (2 yrs. Prior to the complete closure of Southern California in 1997). Thank you for your consideration of my public comments.

In reading the ISOR published with the notice of proposed regulation, I see that the DFW is attributing recent declines in densities of N. Coast red abalones to lack of kelp resulting in increased mortality due to starvation. If this is correct, and there is not enough food to support the current population, then a fishery closure will only exacerbate the current situation. Removing some of the larger animals in the population through harvest would have a positive impact on the remaining population by increasing the chances of survival of a greater number of small and medium sized animals.

A closure of the fishery, will negatively impact the population under these conditions.

The basis for DFW making a recommendation to close the fishery, is predicated upon density based triggers outlined in the ARMP. These numbers are arbitrary and have little scientific basis. The concept of "MVP", Minimum Viable Population was derived from a study in Australia by Scoresby Shepherd on a stunted population of a much smaller species than Red Abalone. According to all the published scientific literature on abalones, egg production is a function of size of the animals. Red abalones, being the largest of any abalone species in the world, therefore have the highest reproductive potential, and should be able to reproduce successfully at lower density levels than other species with much smaller size.

There are fundamental flaws in the way the DFW calculates it's density estimates. Firstly, the habitat is not *defined*. In Northern California, the DFW's surveys are conducted in known abalone fishing

grounds, aka "high use" areas. They go do a transect over a measured area in a fishing spot. Then average out all of them over broad areas. Yet, without any estimate of total habitat, there is no estimate of overall abundance. Absent the estimate of total abundance, there is no analysis of how much impact the fishery is having on the parent population. How much is it being exploited. In 1997, DFW staff said off the record, that they guessed the fishery on the North Coast was harvesting somewhere between 2-5% of the total population annually but they had no basis for this, it was just a gut feeling.

The point being, that a risk assessment of the various options for some limited levels of fishing should identify some estimate of how much impact it will have on the resource. Granted DFW will say they don't have enough information. In response to that, the analysis should qualify what their levels of confidence are in those data, and assessment of risk.

For the record, in 1996/7 DFW presented density data to the Commission citing declines in densities at the Channel Islands, from 800-1000 ab / HA down to a few hundred ab/HA. (see Commission's statement of facts). In comparison, the DFW's own published literature by Wendell also documented declines at Pt Estero (Morro Bay) prior to and after reoccupation by sea otters at similar levels. When the commercial divers cried foul over the data, the Commission directed DFW biologists to go back out to San Miguel, and survey in the areas where fisherman were diving. Despite finding densities much higher (1000-1500 ab / HA range), the DFW continued to refute that there was a healthy population. They reported to the commission that there was a problem with the size ratio, in that few animals were legal size (approx. 1 percent). And that they found preliminary observations of skewed sex ratios (25:1 male/female), which were alarming, only later after lab results turned out to be normal 1:1.

Also in 1997, the Dept. presented to the Commission the (CEQA document) it was preparing as and "Informational Document", abandoning it's commitment to the constituents to complete a full EIR. Included in the Informational Documents was and Appendix 1, Draft Fisheries Recovery and Management Plan for California Abalones. The basis of this plan was built around "Harvest Refugia", and establishing no fishing areas as reserves to insure against overharvest. The North Coast was given as the example of a successful fishery, based upon an estimated 20 percent of the populations being in deep water creating a defacto refuge beyond the reach of breath hold divers, and attributing recruitment into the fishery to these populations.

But the 1997 Legislation that pre-empted the Commission's authority, and closed the fishery by statute, led to the DFW abandoning it's efforts to complete the EIR, and it's FMP. By 2005, the DFW had completely rewritten the ARMP, and rather than continuing with the harvest refugia idea, they changed to the current density based plan. A couple of key points here are the fact that Legislation had passed (MLPA) which resulted in the 20% harvest refugia goals having already been satisfied prior to the Commission's receipt of the ARMP. Also, after So. Cal. Abalone fishing was closed by statute, the DFW started conducting surveys in the high use areas on the N. Coast and compiling it's density data. This is where the higher 6600 Ab / HA number originated from. Data collected after the closure.

When the DFW presented the draft ARMP to the Commission in 2005, their conclusions were that So. Calif. Continued to be in decline, based upon the data from before, and at the time of the closure 1997. They had not done any surveys in the period after, to see if any recovery had occurred. This led to the Commission directing DFW staff, once again to go out with the commercial divers and conduct current surveys. An extensive effort was made to collect current density data for San Miguel Island. In this

effort, an attempt was made to quantify the total habitat, and kelp canopy was used a proxy for abalone habitat. This was to dispel pessimistic arguments alleging that the population was “small”, etc.

As a result a total estimate of abundance for emergent abalones was derived at 3 million animals. However in applying the densities in the survey to a biomass estimate, it also resulted in the densities being diluted down, as compared to how the density number is calculated in Northern California.

And as a result, the proposed experimental fishery was denied on the basis that the density was below the MVP outlined in the ARMP.

Here is what is wrong with DFW’s methodology. First, the scale that the density numbers are being applied is way too big. Hundreds of miles of coastline. When you find abalones they are patchy. Lots of areas with none, and then pockets or parts of reefs where they are bunched up. It’s rare to find solitary animals on the bottom of the ocean. This being the case, as far as reproduction goes, it’s a lot less important how many there are averaged out over a large area, than it is how close they are together. The way DFW has used density is based on a flawed perception that they are evenly distributed across the habitat, and that the end density number equates to distance between animals, and if the distance is too great, then reproductive failure occurs. This is a flawed idea.

Also, it does not take into consideration that the animals have the ability to move, and can aggregate together when it’s time to spawn. And additionally, it does not indicate if there is recruitment. A better indicator if recruitment is occurring is to take a look at the size classes of the animals in the population.

If you act to Close the remaining fishery the following negative consequences will occur:

1. More animals will die of starvation.
2. DFW loses the revenues from report card sales.
3. All fishery dependent data will cease.
4. The efforts by the sportsmen to generate new data on size structure will undoubtedly end, in the absence of any fishing opportunity.
5. DFW will likely curtail fishery independent monitoring.
6. You lose the checks and balances of corroborating fishery dependent data with fishery independent data.

In 1995 when the Commission acted to close the fisheries for Pink, Green, and White abalones, the Commission directed DFW to develop an FMP for pink abalones at the request of commercial divers who believed there was still a viable resource. DFW failed to fulfill that promise.

In 1996/7 DFW committed to doing a full EIR during consideration of the closure of So. Calif. Red abalone fishing, and allow the Commission to consider all of the alternatives. The Legislature pre-emptively stepped in micromanaging the process and arbitrarily closed the fishery down before the completion of the EIR. Then, DFW abandoned the CEQA process on the basis that “the need for the environmental document had been eliminated.” This was an act of bad faith, because it presupposes that no other feasible alternative could have reasonably achieved most of the Dept.’s basic objectives.

In 2006 the Commission adopted the ARMP, incorporating Alternative #8 for an experimental fishery at San Miguel Island as the preferred alternative. But by 2008 the DFW derailed the idea which led to the Ocean Science Trust review. CEQA was circumvented in the Commission’s review and adoption of the

ARMP. A key element of CEQA is the requirement for “feasible alternatives”. Feasible by definition is “capable of being achieved within a reasonable amount of time.” The ARMP goals fail to meet this criteria. No estimates of time are given for any of the goals.

The ARMP also fails to accurately describe the whole record historically.

DFW’s slide show in Atascadero followed by an emotional appeal was pathetic. Obviously the days of adhering to the scientific method are gone. Of adhering to the scientific method, and publishing peer reviewed data no longer exist, nor of adhering to proper procedure and compiling a full CEQA EIR.

If you look back of the decades of the management plans, and CEQA documents, the descriptions of the causes of mortality and the biology of the animals really has not changed. However DFW has disregarded most of that. They keep going around bean counting and looking at their one or two decade long set of density data which gives no meaningful risk assessment of the fishery to the decision makers.

In Atascadero, Sonke Mastrup made a statement that recovery in So. California “hasn’t worked.” Where is the evidence. In 1996 the density at SMI was estimated few hundred animals / HA. By 1997 it was 1000-1500. By 2006 it was 2000 avg. (over the entire kelp canopy area) with a biomass estimate of 3,000,0000 emergent animals. And today, 2017, the DFW has not done any surveys for 8 years. Yet they can make baseless claims that recovery has not occurred. The ARMP and the DFW and the closure at hand has more to do with saving face than any biologically based need.

Here is what I see happening. The ISOR and the Commission’s Notice lays the foundation to close the fishery. DFW recommends following the triggers they created in the ARMP. The Commission closes fishery with the caveat that DFW does a new FMP. After the fishery is closed, the need for the FMP goes away.

The need for the FMP always seems to precede a closure, but is never followed through on. Now I’m being told that DFW is working on a “Northern FMP”, but that it won’t include southern California. Won’t include the red abalone species throughout it’s entire range. Won’t reconcile any of the disparities or double standards that have plagued the previous closures and the ARMP.

After 20 yrs. of frustration, I think it’s time the Commission and DFW stop leading people on. Why say you are going to consider the alternatives, if they are not consistent with the ARMP. Why waste everyone’s time. As someone whose livelihood depended on the resource and was financially devastated this issue has had lifelong consequences, both financially and emotionally.

Respectfully,

Don Thompson

1

FISH AND GAME COMMISSION
STATEMENT OF PROPOSED EMERGENCY REGULATORY ACTION

Emergency Action to Amend Sections 29.15 and 100,
Title 14, California Code of Regulations,
to Prohibit the Sport and Commercial Take of Red Abalone
South of Point Lobos, San Francisco County

EXCERPT - DENSITIES
1997

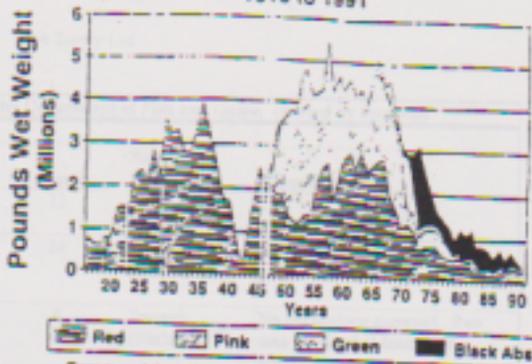
05-12-1997 03:21PM FROM CA FISH & GAME COMMISSION TO

In determining the status of abalone populations, the Department has relied on fishery independent and fishery dependent data as measures of red abalone stock abundance. Underwater surveys conducted by the Department and others are the basis for fishery independent assessment while landings and catch success by sport and commercial fishermen are the basis of fishery dependent assessment. It is important to examine both current data and trends over time. Four regions of California were compared by the Department: 1) northern California, north of San Francisco, where no sport SCUBA or commercial take is allowed; 2) The San Francisco area, including the Farallon Islands, Fitzgerald Marine Reserve, and the San Mateo coast where commercial take and sport without SCUBA is allowed; 3) central California, where sea otters have reestablished their range; and 4) southern California, south of Pt. Conception.

According to the Department, the fishery independent information for southern California shows a clear trend of declines at Santa Cruz and Santa Rosa Islands and low densities at all sites relative to those of northern California. Declines are most apparent at Santa Rosa and Santa Cruz Islands. On Santa Rosa Island densities declined ten-fold from 600 to 1,000 abalone-per-hectare in 1973-83 to 60-150 abalone-per-hectare by 1996. Sampling stations on Santa Cruz Island declined from 480 in 1983 to 0 by 1988. San Miguel Island densities were low throughout the survey period, ranging from 150 abalone-per-hectare during 1983-89 to 90 abalone-per-hectare in 1990-96. The decline to 90 abalone-per-hectare was statistically significant. San Miguel Island densities need to be interpreted cautiously since they are not corroborated by landing declines seen in other areas of central and southern California. The two locations surveyed off San Miguel Island by CNPS represent good kelp habitat but may not be optimal abalone habitat. Additional surveys are needed at San Miguel to establish remaining densities at optimal abalone habitat surrounding the Island.

The Department's fishery dependent information for central and southern California

Calif. Commercial Landings of Abalones 1916 to 1991



Commercial abalone wet weight landed from all California for 1916 to 1991 and for California (Karpov and Tegner 1993)

From Draft Environmental Document: ABALONE OCEAN SPORT FISHING State of California, The Resource Agency, Department of Fish and Game, August, 1993

1-A: This graph was included in a report to the California Legislature by the Abalone & Marine Resource Council. A sentence above the graph, citing DFG Lieutenant, J.E. Watkins states, "There is as much poaching going on currently as when this report was written." The implication is that poaching is the cause of decline.

Commercial divers cite loss of habitat caused by pollution in southern California (sewage, offshore oil wastes, etc) as the cause of decline for southern species and sea otters on the south-central coast.

1-B: This graph was omitted by AMRC. Large-scale depletion of abalone by sea otters is well documented: Ebert, 1968 a&b; Wild & Ames, 1973; Miller, 1973; 1980; Gotsall, 1984; Wendell, '94.

Commercial divers have lost approximately 90% of commercial fishing grounds to the sea otter. Commercial landings now average approx. 10% of historic.

Source: Supplemental Environmental Document: ABALONE OCEAN SPORT FISHING, State of California, Resources Agency, DFG, 8-93.

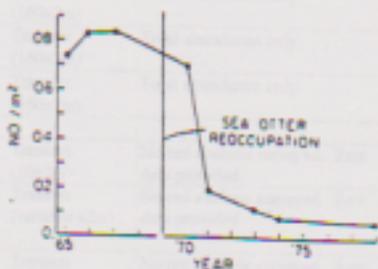
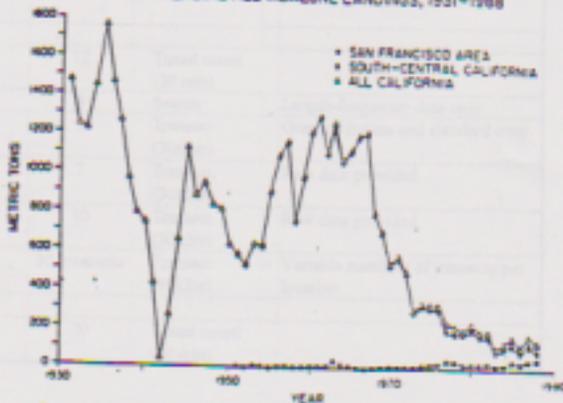


Figure 3.17. Red abalone density before and after sea otter reoccupation of Point Estero, central California (Hardy et al 1982).

1-C: This graph shows the decline in red abalone as it relates to those above (1-A & 1-B).

Source: Karpov, handout, Abalone Ad-Hoc Committee, 1993/Tegner, et al.

COMMERCIAL RED ABALONE LANDINGS, 1931-1988



Tegner et al., Figure 3

pared by Steve Rabuck 6-95

From: Don Thompson
Sent: Friday, October 27, 2017 10:27 PM
To: FGC
Subject: Information Request
Attachments: DFGCEQA2005.doc

Valeri Termini
Executive Director
CA Fish and Game Commission

Re: proposed changes to recreational abalone fishing & CEQA

Oct. 27, 2017

Dear Ms. Termini and all members of the Fish and Game Commission:

I would like to know why the DFW and Commission are not preparing an Environmental Impact Report as required under CEQA for the proposed closure of recreational abalone fishing on the North Coast?

Undoubtedly such a closure will have significant environmental and socioeconomic impacts on communities who rely on the fishery and resource.

Attached is a letter from FGC Counsel in 2005 during the Commission's adoption of the ARMP.

I am at a complete loss to understand why the ARMP was never held to CEQA standards if it has and will determine the future regulatory actions to manage abalone fishing? This is irrational.

I look forward to your reply,

Sincerely

Don Thompson

Displaced Commercial Abalone Fisherman



State of California - The Resources Agency

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF FISH AND GAME

Office of the General Counsel
1416 Ninth Street, 12th Floor
Sacramento, CA 95814
<http://www.dfg.ca.gov>
(916) 654-3821



August 01, 2005

Mr. Don D. Thompson

Re: Abalone Recovery and Management Plan

Dear Mr. Thompson:

This is in response to your letter, dated July 22, 2005, concerning the above-referenced subject. Specifically, you requested copies of the "Initial Study and Negative Declaration" relating to the ARMP. No such documents exist. The ARMP is not a "project" that requires CEQA analysis. This is expressly stated at Section 4.2.2. in the December 4, 2002 version of the draft ARMP, which states in relevant part:

"The ARMP functions as an advisory document, making recommendations for possible future actions in the environment. For this reason, the ARMP is not subject to CEQA (Public Resources Code 21102, CEQA Guidelines 15262). The authorization of future actions that are based on ARMP recommendations will be subject to CEQA."

Actions affecting the north coast fishery are analyzed in the Commission's sport fishing CEQA document. The level of future CEQA analysis depends on the particular activity. Some activities, such as those involving information collection or experimental management, may be categorically exempt, while other activities could conceivably require a Negative Declaration or even an EIR.

I hope this addresses your concerns. Should you have any additional questions please do not hesitate to contact me at (916-654-5336), or care of the address above.

Sincerely,

JOSEPH MILTON
Staff Counsel III
Office of the General Counsel

Conserving California's Wildlife Since 1870

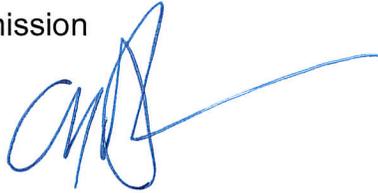
Memorandum

2017 NOV 29 AM 11:30

Date: November 17, 2017

To: Valerie Termini
Executive Director
Fish and Game Commission

From: Charlton H. Bonham
Director



Subject: **Department Recommendation: Proposed Changes to Recreational Red Abalone Regulations**

Over the past two years, the Department has regularly updated the Commission on the unusual oceanographic and biological events that have impacted coastal ecosystems along much of California's north coast. The "perfect storm" of unusually warm water, a toxic algal bloom off the Sonoma coast, a widespread sea star disease, and a population explosion of purple urchins combined to reduce kelp cover by upwards of 90 percent. Deprived of its primary food source, red abalone populations on the north coast are starving, resulting in high mortality and low reproduction. Recent Department surveys have documented that abalone densities at Department Reference Sites have fallen below fishery closure levels prescribed by the Commission's Abalone Recovery and Management Plan (ARMP). The Department strongly recommends adherence to the criteria in the ARMP and closure of the fishery. However, in the event the Commission chooses not to close the fishery, the Department is offering the following recommended approach to help minimize long-term impacts to the fishery and to avoid setting a precedent that may undermine long-term fisheries management efforts by the State.

The Department's recommendation to close the Red Abalone fishery is based on the best available information and the management criteria of the ARMP that was adopted by the Commission in 2005. The fishery is still in a state of decline, approaching levels not seen since the collapse of the central and southern fisheries in the 1990's. The Department appreciates and understands the concerns associated with the density survey methodology and the socio-economic, cultural, and recreational impacts that could result from a fishery closure. However, as guided by the ARMP, the prudent path is to close the fishery until the stock becomes stable and exhibits signs of meaningful recovery.

Harvest control rules, such as the closure trigger in the ARMP, are an integral component of fisheries management. These rules are established to guide management action from a pre-established set rules when conditions warrant management changes. Deviation from established harvest control rules should be carefully considered to avoid undermining the Commission's ability to sustainably manage California's fisheries.

Valerie Termini, Executive Director
Fish and Game Commission
November 17, 2017
Page 2

If the Commission decides to proceed in a manner inconsistent with the ARMP, it should clearly substantiate its rationale and specify the conditions under which the fishery would operate until it is managed under the Fishery Management Plan (FMP) currently being developed under the Marine Life Management Act. These conditions could include continued monitoring of ocean conditions, the health and reproductive capacity of the population, and the status of the population and the fishery.

Should the Commission choose to allow continued fishing activity, the Department recommends a de minimis fishery with an annual bag limit of no more than three abalone. Based on the recent number of card sales (~25,000) and annual average take by abalone fishers, this would result in an estimated legal take of approximately 75,000 abalone.

The Department commits to working with stakeholders and Commission staff to bring the FMP for consideration in time to inform the 2019 season. If the population of red abalone continues to experience high mortality and low reproductive conditions, it is likely the new FMP will recommend full or partial closure of the fishery.

cc: Stafford Lehr, Deputy Director
Wildlife and Fisheries Division
Stafford.Lehr@wildlife.ca.gov

Sonke Mastrup, Marine Region
Environmental Program Manager
Sonke.Mastrup@wildlife.ca.gov

Mike Stefanak, Assistant Chief
Law Enforcement Division
Mike.Stefanak@wildlife.ca.gov