

Exhibit E

**Public Correspondence
received as of
November 30, 2023**



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To: Dr. Steve Rumrill, Scott Groth, and Kendall Smith

Re: Comments on Draft Conservation and Fishery Management Plan for Oregon's Red Abalone

Date: Nov. 29, 2023

Dear Steve, Scott, and Kendall:

Thanks for all your work that went into developing the draft red abalone Conservation and Fishery Management Plan (CFMP) for Oregon; for coming down to our South Coast communities to share your knowledge, expertise, and original research; for caring about Oregon's unique abalone resource; and for the opportunity to provide input on your draft.

I am writing both as a person who cares about the future of abalone on the west coast, who has a broader perspective on the history and cultural values of abalone, and also as a South Coast resident and conservationist interested in supporting the stewardship of our region's marine ecosystems. Although I am not a fisher, I appreciate that fishing for abalone has been a part of the human experience for thousands and years, and I'd like to see it continue, provided that it is biologically and ecologically sustainable.

I very much appreciate and support the CFMP's approach of recognizing that this is an important time for precautionary and proactive management of our red abalone.

As you know, there is a long history of abalone fishery managers not foreseeing key tipping points ahead of time and/or not being able to respond quickly enough to change fishery limits, which has ended in devastating damage to some populations. ODFW now has a crucial opportunity with this CFMP plan to envision a path forward for conservation and perhaps a sustainable fishery in the future, without the inherent pressures of an open fishery.

I have a number of specific comments to make, but I'll begin with an overarching concern. I was fascinated to learn about ODFW's genetic research that suggests that Oregon's red abalone are connected to a larger meta-population and may actually be a sink population, fed—perhaps only intermittently—by a source population in northern California. It would be crucial to have more understanding of this possible dynamic before re-opening any fishery.

If more evidence substantiates the sink population hypothesis, then Oregon's red abalone population could be particularly vulnerable to overfishing because adults may not be in a position to actually reproduce, which is typically the basis of a sustainable fishery. If the existence of Oregon's red abalone depends on a distant source of broodstock for parentage, a fishery, even a small one, could end up whittling down the population.

If it turns out that Oregon red abalone are dependent on distant broodstock, I think ODFW would need to carefully consider the future of this population in a broader context. Given the backdrop of increasing risks from climate change, populations red abalone will likely need to move north to habitats with colder waters. Giving these animals both the opportunity to move north and to reproduce in the wild may be crucial to give them the chance to adapt to emerging conditions and to survive into the future.

While this plan identifies specific possible scenarios for the future fishery management, it does not include any similar consideration of possible conservation scenarios. That may be well beyond the purview of your agency's current fishery management authorities—but it seems important to identify this disparity and, perhaps the need for vision. If we can foresee that animals will likely need to adapt to fast-changing conditions to survive into the future, it may be important to start considering how we give them the means to do that, especially if there may be research needs.

Plan Goals (p. iv)

I appreciate that the goal #1 of the plan is *to ensure the long-term sustainability, reproductive capacity and natural dynamics of the red abalone population at the northern limit of its biogeographic range and foster their resiliency in response to changing conditions in the nearshore environment;*

The CFMP goals read as if all three are co-equal. However, we are certainly now in the situation where the second two goals completely depend on the first. For that reason, I urge you to consider better defining the relationship between these goals. For example, you could add "as sustainable" to goals #2 and #3 or to the opening sentence. Perhaps it would be more realistic for ODFW to say that it will "provide for" rather than "promote" opportunities to use, enjoy, and harvest red abalone and that ODFW will "recognize" rather than "support" red abalone as a "high-value target" for a de minimis fishery.

Or perhaps, on page 42, where you describe your objectives to achieve these goals, you could add "as sustainable" to 2.1, 2.2, 3.1, and 3.2.

You may think this is already implied—because the fishery won't open unless the LRP is met, but it could be useful to clarify.

Biology and ecology of red abalone

Your resource analysis is excellent and makes some important scientific contributions to the understanding of west coast abalone populations, especially with respect to population genetics. This is impressive, and I appreciate that ODFW is working at this level.

Threats (p. 35-38)

It seems important to add “poaching” to the list of threats for red abalone. This remains a threat in California (and elsewhere in the world), and given that we now have red abalone coming into shallower waters, it seems likely that people may take these particularly vulnerable animals –either unwittingly or with intent.

Also, the draft plan, on p. 37, identifies two disease related threats but describes only one: withering syndrome. There seems to be a section that was inadvertently left out here.

In the habitat subsection, the threat of smothering deposits from coastal construction is identified (p. 35). In California, materials deposited by landslides from Highway 101 have been problematic for endangered black abalone, and similar highway landslides could also be a threat for red abalone in Oregon, especially if they increasingly migrate inshore given lack of food offshore. This may be something to consider adding.

Finally, although threats are identified in this CFMP, it does not seem that there is any specific place where mitigation of threats is identified or planned for. For example, adding “poaching” as a threat would help ODFW to identify possible measures to reduce this threat, including outreach to enforcement staff and perhaps to the public. If the second unlisted disease is a virus that is decimating abalone across the Pacific, then a mitigation could be to recommend prohibition of importation of non-native abalone (or other shellfish) into Oregon. A mitigation for smothering by construction or landslides might be to identify specific habitat areas at potential risk and outreach to DSL and ODOT to ensure there will be careful clean-up and movement of materials in these areas.

It seems important to explicitly add mitigation objectives for the threats you have identified –if there are any. Perhaps these fit under conservation recommendations.

Information gaps: Recruitment variability (p. 39)

The CFMP identifies that “one proposed management strategy for northern California’s red abalone fishery” has been to quantify successful reproduction through “Spawning Potential Ratios” (SPR), a technique to model populations based on lengths of animals present in a population. Although SPR was indeed considered as part of a strategy to tap fishers/divers to obtain more data to help provide for better population assessments for abalone management in northern California, it’s important to underscore that the California Department of Fish and Wildlife (CDFW) ultimately determined that this technique could lead to errors in areas with very small populations, especially during times of environmental stress. As a result, the CDFW recommended that SPR be used only a one of several data streams to ensure a more holistic evaluation of population abundance and capacity to endure fishery pressures and

environmental stressors. Although ODFW is not considering SPR as part of the data stream for its LRP at this time, as California did, it's important to be aware of its limitations as you consider methods to monitor abalone populations and their recruitment.

It may also be useful to consider studying recruitment by using abalone recruitment modules in specific areas known to host abalone habitat (see more below).

Social and Economic components (p. 48)

I appreciate that ODFW recognizes the potential for non-consumptive value—which could include finding shells on the beach, knowing the history of the cultural importance of abalone to indigenous people, or simply knowing about the presence of these beautiful animals in Oregon's marine environment. I appreciate these values.

Other social and cultural uses (p. 49)

The CFMP identifies the historic use of red abalone shell by indigenous people in Oregon for a variety of cultural purposes, and suggests that the shells used were mostly those traded north—sourced from areas in California with greater red abalone abundance. To my knowledge, this is very likely the case, especially during specific periods in history, but—as ODFW indicates—published scholarship on this topic is limited. The source referenced in your plan, Zobel DB, "Ecosystem Use by Indigenous People in an Oregon Coastal Landscape," (2002), refers primarily to the Tillamook people of Cascade Head, a place that is clearly north of the red abalone range. Another source—Barner DC, "Shell and archaeology: an analysis of shellfish procurement and utilization on the central Oregon coast" (1981)—includes a review of shell middens composition at archaeological sites more specifically on Oregon's South Coast, including at Pistol River and near Cape Ferrelo, and further substantiates the very limited presence of abalone, compared to other shellfish, in the past.

Because we are now living in a time when there is greater interest in considering tribal perspectives as a way to reckon with and heal past harms, in the future, ODFW may want to consider outreach to tribal nations to gain additional perspective and to better fulfil this part of its plan.

Evaluation of management tools (p. 49)

Also on page 49, where ODFW describes fishery management tools, it would be helpful and clearer to indicate that this was in the past: (eg. The management tools that ODFW used to manage Oregon's red abalone fishery were minimum legal size, daily and annual limits, etc.)

It seems that the use of catch reports—including location information—would be especially important in the future if ODFW could seek to minimize impacts to particular aggregations of animals. This information would need to be carefully managed, of course.

Limit Reference Points (p. 54-55)

On pgs. 54 and 55, your description of the limited reference point (LRP) is a bit confusing. On p. 54, it says minimum value is 0.1 ab per square meter; on p. 55, it says surveys must ensure that “densities are double the previous baseline set at 0.1 ab per square meter.” This should be re-written to clarify.

I strongly support your #1 LRP—that a regional red abalone fishery must be active. This allows Oregon to lean on established science and monitoring efforts of the primary fishery in California and presumes that, if California is a source population, it will have regained sufficient reproductive capacity to support an Oregon fishery. This approach has the benefits of cost-efficiency and collaboration.

I am concerned that your #2 LRP—the density reference point of 0.1 red abalone per meter, is based not on biological knowledge of density needed for reproduction, but rather on a past density reference. Although you are doubling the known past density at a time that the fishery was pursued, that density may not, actually, be sustainable. I recognize that this is a data poor fishery, and so this doubled number may be a fine short-cut for now, especially when used in tandem with LRP #1. However, a key failure of abalone management has been to not tier fishery take to the density needed for the animals’ reproductive success and actual viability and so I’d hate for Oregon to not learn from that mistake if conditions that allow for the re-opening of a fishery.

If it turns out that Oregon’s red abalone population does, in fact, depend on a distant broodstock for parentage, it may make more sense for the LRP to be tiered to actual recruitment of animals into the fishery areas rather than to historic index densities that are based not on the actual productivity of the red abalone population.

This may be a matter to consider for additional research. California has long experimented with abalone recruitment modules as a way to study and understand the dynamics of populations in specific areas and could be a technique for you to consider as part of your abalone monitoring.

Of course, if conditions change that will allow for an Oregon red abalone fishery in the future, there may well be the need to revisit this LRP and to include more diverse factors (as California has done), which would be in alignment with your stated intention to provide for adaptive management.

Fishery options (p. 55)

It seems that you need a new header here that better identifies this subsection as Fishery Options. This section is a bit unclear because 2 options require for LRPs to be met and one does not.

Option 1: De minimis fishery

I am concerned that the proposed total allowable catch (TAC) is set too high because it includes the final “go-go” year of the recreational red abalone fishery (2017), which was unsustainable as

it included the take by many additional fishers displaced from California (after their fishery closed).

Since the historic high catch in 2017 was 299 –half of that would be in line with what the annual fishery take had been from 1996-2016. However, as you indicate, ODFW’s understanding of sustainable harvest levels for red abalone in Oregon are weak and draw mostly on fishery dependent data (p. 38). In retrospect, I don’t think ODFW can be confident that was actually a sustainable level of take, since you indicate the population was already in decline in 2015. For this reason, I’d urge you to plan for starting with a more conservative fishery. If you want to use “half the historic catch” as a method to establish the TAC, I urge you to use a range of years (such as 1996 to 2015) that does NOT include the final exceedingly high harvest year.

Option 2: Alternative fishery

I am concerned that there is too little specific information described for this potential biological fishery and the conditions needed to open it. It seems to be entirely at the discretion of ODFW staff, which in the future may or may not be the same people who are knowledgeable about abalone now. I urge you to consider including more specific criteria, especially as it appears that requests for take in this fishery are already fairly high (according to p. 32 Table 3) and because this fishery does NOT require meeting the LRP. Perhaps it makes sense to set a percentage cap per location to avoid damage to small populations or to outline conditions for approval of such a permit. Perhaps there should be language included to indicate there will be site-specific conditions applied for this fishery.

Option 3: Open fishery

I am concerned about the language in this description –“if the need for red abalone fishing opportunities exceed the conservation needs.” It is not clear who will be making this judgement. Also, it’s clear from your evaluation of management tools, the status quo approach may well not be a viable management approach for the future.

It seems that *after* this section on Fishery options, you need to revisit your evaluation of management tools to include specific recommendations, or at least a direction to revisit management tools to determine how best to not exceed the TAC. For example, you identified as a threat that “removing adults from aggregations can have adverse effects on reproduction and overall population viability.” This may be a particularly important risk given small populations and aggregations, and so it could be important to identify a management tool to reduce this risk. For example, rather than a daily limit or annual limit, it may be important to limit removal of more than one animal from a particular aggregation, or to identify locations of take in the catch report permit so that ODFW could be responsive to too much take from a particular aggregation. I realize this may be a matter for the future, but, in general, it would be good to tie-up the end of your plan with some more specific guidance, even if it is to develop more appropriate management tools to meet your goals.

Oregon's other vulnerable abalone

Finally, while red abalone have always been the species that has most interested fishers owing to their large size, Oregon has other abalone species that are also now at high risk. I'd urge you to consider if there is any way to add into this plan ongoing monitoring for Oregon's Flat and Pinto abalone as a way to better understand our abalone in general and to help ensure that they are not falling through the cracks.

In conclusion, I thank you again for all your work in putting together this important plan for Oregon's red abalone. I recognize that we'd not have the opportunity for this plan without your keen interest, local knowledge, and expertise.

Thanks for considering my perspective.

Sincerely,

A handwritten signature in cursive script that reads "Ann Vileisis". The signature is written in black ink and is positioned above the printed name.

Ann Vileisis