

Public comments received on the SEPA for the Pinto Abalone draft recovery plan

WDFW made the Draft Pinto Abalone Recovery Plan available for public comment for more than 90 days in late 2021 and early 2022. Staff attempted to solicit comment by publishing a notice in the October 2021 Washington Register, issuing a press release, posting the draft plan and State Environmental Policy Act (SEPA) determination on the WDFW SEPA webpage and Department of Ecology's SEPA Register, notifying interested parties via the SEPA distribution list for affected western Washington counties, and directly contacting known concerned individuals, organizations, and those that commented on the 2019 Status Review of Pinto Abalone or associated rulemaking.

WDFW received twenty public comments via the online comment portal, one additional proposed change via email, and three copies of the plan attached to email that had been annotated with proposed changes. None of the comments were opposed to the adoption of the recovery plan. Ten comments were in support of the plan and recovery efforts in general without specific questions or proposed changes. For brevity, we have only excerpted partial comments below that contained questions or proposed changes. We also summarize other changes made as a result of the annotated plans. [Authors' responses are in blue.](#)

1. Has their (sic) been discussion of using camera surveys to assist with finding/measuring pinto abalone? I just saw a paper (Rooper et al., 2021) that used this method to monitor the pinto abalone (or northern abalone, as they call them) in Canada. Maybe that method could improve the efficiency of monitoring each site, especially when the number of sites increases dramatically.

[Thank you, we have reviewed the suggested paper. We plan to use cameras to assist in scouting for abalone habitat. Using cameras or video to determine the utility of deploying divers is likely to be much more efficient way to scout larger areas. We have added mention of this in recovery strategies and tasks section 3.2.](#)

2. We received two comments concerning the REEF organization, including "You might look at utilizing recreational divers trained by the REEF organization for surveys. They have been certified for conducting underwater surveys with multiple species identification."

[Abalone observations from REEF are a critical part of identifying abalone habitat and remnant populations. We have added specific mention of this valuable resource in section 3.2 as WDFW hopes to continue to use observations from recreational and citizen scientist divers. However, for safety reasons we cannot direct members of the public to undertake dedicated surveys or search specific areas.](#)

3. I have 3 specific suggestions:

... I urge you to interact with Marine Resource Committees under the Northwest Straits Initiative for identifying potential outplant sites. ...

We have engaged with the Marine Resource Committees (MRCs) from several counties for pinto abalone restoration in the past and have re-engaged with specific MRCs for the purposes of identifying new outplant sites as suggested. As we expand to new territory, we will continue to communicate with MRCs.

...An attempt to characterize successful habitats physically, biologically, and chemically should be a proposed activity of the recovery plan. ...

We agree that characterizing successful habitat is a key aspect of abalone recovery. We have research underway now studying the biological and chemical aspects of outplant sites, list it as the first “key knowledge gap”, and identify it as a part of the “priority 1” action 2.1.3 for the future.

Disease and aquatic invasive species (AIS) monitoring programs for captive broodstock and imported abalone should be included in the recovery plan. ... Periodic disease screening (section V.1.1) and a section on quarantine protocols is commendable (section V.1.5), but inadequate to address adverse risks of pathogen and AIS transfer among sites as well as interstate.”

We concur that screening for disease and invasive species in captive broodstock is a crucial part of abalone restoration and will continue to do so. If we do import broodstock from out of state, we will take this advice to develop strict isolation and screening protocols to govern those actions.

4. We received two comments with specific suggestions for outplant sites.

Thank you. We will explore these areas as soon as possible.

5. Wallace, 1999. Evaluating the effects of three forms of marine reserve on northern abalone populations in British Columbia, Canada. *Con. Bio.* 13(4):882-887 is another excellent example of how protection from illegal harvest did and can benefit abalone populations.

Thank you. We have included this citation.

While widespread loss of kelp forest and expansion of urchin barrens has not been observed within the range of pinto abalone in Washington, there have been more than just increases in purple urchin densities as mentioned. Montecino-Latorre et al., 2016 show increases in *M. franciscanus* (Fig. 7) and *S. droebachiensis* (Fig. 8) in the Northern Straits oceanographic basin.

We have amended this section to include this citation and mention of other urchin species.

You point out that the 2008 study (Friedman et al., 2010) found that re-introduction of broodstock to the wild was not successful, yet Action 1.4: Rotation of hatchery broodstock into wild spawning aggregations suggests sending post-spawn broodstock

back into the wild.

Although a previous attempt at this was not successful, we would like to retain this strategy for more research. Post-spawning mortality in hatchery females can be high, and we'd like to see if disease-free broodstock will have better post-spawning survival in the wild. Based on your comment we have clarified our intent in the *Restoration Efforts* section.

Develop quarantine protocols for out-of-state importation of broodstock. While this may be implicit in the description under "import abalone... from other states" I would specifically call out the option for bringing in (and / or trading) broodstock with our contiguous neighbors in British Columbia.

We have amended this section to include British Columbia.

... I don't see any mention of collaborating with the Department of Fisheries and Oceans in Canada. ... Why not try to collaborate on the science and hatchery methods for recovery and call that out in the recovery plan?

We concur and started this process by requesting and receiving review of our recovery plan from a DFO representative.

Method 2.1.2 ... eDNA ... is promising technology. You might want to list this in the final plan as a possible tool for identifying future abalone outplant sites (Method 2.1.3) or monitoring existing sites (Method 2.1.2).

We have added this tool to Method 3.2 for identifying future outplant sites and wild aggregations (as we have already started to use this technique). We believe more research will be needed to add this to Method 2.1.2.

I would love to see a modeling exercise done that estimates how many hatchery-reared 1- or 2-year-old abalone need to be released to achieve recovery. ... Building such a model will enable you to better identify how much you need to increase hatchery capacity...

We have added this suggestion to section 3 "key knowledge gaps" and section 5 "close additional knowledge gaps" in the recovery strategies and tasks section.

It is important to remember that no matter how well researched and written, if the action items proposed in this draft recovery plan are not fully funded, the plan will fail. I strongly urge the Department of Fish and Wildlife to invest fully in the financial and personnel resources necessary to enact the pinto abalone recovery plan. ... It can be daunting to put numbers to actual recovery, but it is critical that we identify costs early and seek long-term and stable funding that is sufficient to do the job right.

Although we feel that developing the specific budget for recovery is outside the scope of this recovery plan, we agree that the budget exercise will be crucial to pinto abalone recovery.

6. I would advocate for increases in broodstock sizes. I realize this is a tall order and everyone is already doing the best they can, but as the program grows and output increases, the need for larger broodstock sizes will become increasingly important to

avoid reductions in effective population size.

As I believe is already being done, I would recommend that existing productive outplant sites continue to receive new outplants at regular intervals. This will help increase effective population sizes at outplant sites and reduce the chances of inbreeding between closely related individuals.

We concur with both of these suggestions and will increase broodstock sizes either through increased collection efforts or importation of broodstock from out of state. We will also continue to add new families to existing sites.

7. A few areas we encourage you to consider giving expanded attention to in the final plan include: exploration of marine reserves and other tools to address poaching and protect habitat, kelp research efforts ...

We have included changes to the *Sources of Mortality and Future Vulnerabilities* portion of section I, and edits to section V: *Recovery Strategies and Tasks* section, including a new task 6, to more completely address habitat protection.

... discussion of the dedicated staffing and funding resources that will be required to implement the plan...

Although we feel that developing the specific budget for recovery is outside the scope of this recovery plan, we agree that the budget and staffing exercise will be crucial to pinto abalone recovery.

... and the consideration of more aggressive recovery targets given the uncertainty associated with changing ocean conditions.

We agree that changing ocean conditions may introduce considerable uncertainty to pinto abalone recovery. We have added a new recovery criterion that is more aggressive than the existing draft criteria, in that it requires a stable or increasing population over time. We believe this will guard against the previous recovery criteria being met while uncertain other factors such as climate change threaten longer term persistence.

8. Increased use of novel research methods such as eDNA, and ecosystem health monitoring (sic) should be encouraged/implemented.

We have added this technique to method 3.2 for identifying future outplant sites and wild aggregations. We include ecosystem (kelp forest) health specific actions in task 6, and have added discussion of the interaction with the Puget Sound Kelp Recovery Plan in the introduction and Section V, Task 6.1.

9. In response to a comment received outside the online portal, a reviewer suggested the addition of protocol for interaction with Native American Tribes.

We added a new section 4.1 regarding tribal consultation and partnerships. All existing sections of task 4 “continued relations with partners and the public” have been retained.

10. In an annotated draft plan, a commenter suggested more discussion of the relationship

between juvenile abalone and sea urchins.

We include further discussion of this under the introductory section *Habitat Requirements and Habitat Status*.

11. In an annotated draft plan, a commenter suggested adding a third criterion to address evidence for a stable or increasing population trend over time.

We have added such a criterion to section IV.

12. In an annotated draft plan, a new criterion was proposed stipulating that pinto abalone populations in neighboring states and provinces remain stable.

Although we appreciate the reasoning behind this proposal, we believe considering populations outside Washington State is not appropriate for a recovery plan specific to a state-endangered listing. We recognize that populations of animals across political boundaries are potentially interdependent for persistence. The authority for this plan and its actions are located in WAC 220-610-110 (see Appendix A) and are specific to the state's borders.

13. In two annotated draft plans, a similar modification to de-listing criterion 2 concerning population size structure was suggested. The reviewers proposed to include a percentage above a certain size as well as the existing percentage below a certain size.

Currently, pinto abalone populations are suffering from apparent reproductive collapse, as evidenced by the lack of juvenile sizes observed. We included a recovery criterion to mandate a certain percentage observed below a certain size to represent evidence of the re-establishment of significant natural reproduction. We did not originally include a requirement that a certain percentage of *larger* individuals exist because that is not a current concern – currently large individuals make up almost all of the observed wild population. However, we concur that a healthy population would include a variety of sizes including large, highly fecund individuals. Since it is possible that a future state of the population would be limited in this way (for instance, if reproduction resumed but illegal harvest targeting larger individuals increased) we have modified this criterion to also necessitate larger sizes before de-listing.

14. In an annotated draft plan, a reviewer suggested a more thorough discussion of threats to pinto abalone habitat including kelp.

We have included changes to section I to more completely address habitat protection and specifically kelp.

* * *

Annotated draft plans also included proposed typographical, terminology, and citation edits that were minor in nature. We have incorporated these suggestions. Copies of the annotated plans and complete text of comments received are available upon request. We thank all reviewers and commenters for their helpful suggestions which have improved the plan.

