Status of pinto abalone in Washington State

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Outline

1. Historical overview
2. Population status
3. Recovery program
4. Status review process
Abalone are marine snails that graze algae, thereby clearing space in the rocky subtidal for more species to settle, such as bull kelp.

Abalone are broadcast spawners that release their sperm and eggs into the water. They need to be close and in high enough numbers to create larval abalone.

However, abalone are considered functionally extinct in the Puget Sound, likely due to high levels of legal and illegal harvesting. It is unlikely the population will rebound without human intervention.

Diagram by Caitlin O'Brien, PSRF
1. The Rise of the Pinto Abalone Fishery

1959
A recreational fishery in Washington is authorized.

1979-80
WDFW collects the first formal data on abalone abundance.

Mid 1980s
WDFW data estimates recreational harvest of abalone in the San Juans is ~40,000 individuals each year.

Late 1980s early 1990s
• Peak years for sea urchin and sea cucumber dive fisheries (~200 vessels).

• Abalone overlap with sea urchins and sea cucumbers at shallow depths; vulnerable to illegal harvest
1. The Decline of Pinto Abalone

1990
Declining abalone stocks force closure of British Columbia commercial and sport pinto abalone fisheries.

1991 - 1992
WDFW survey data shows a ~50% decline from 1981 data. Fixed index stations established to assess future changes in abundance.

1994
Data from index stations shows continued decline in abalone stocks, along with evidence of poaching, supports the closure of Washington pinto abalone recreational fishery.
1. The Decline of Pinto Abalone (continued)

1996
Alaska closes the commercial pinto abalone fishery.

1998
WDFW designates pinto abalone as a “State Candidate Species” based on continued declines shown in survey data.

1999
Canadian Government lists pinto abalone as a “Threatened Species.”

2004
NOAA Fisheries Federally lists pinto abalone as a “Species of Concern.”

2009
Canadian Government list pinto abalone as an “Endangered Species.”

2013-14
NOAA receives two petitions to list and conducts a status review for the Endangered Species Act. NOAA does not list the species.
Alaska - Recreational fishing only since 1996.

Canada - All fishing prohibited since 1990.

Washington - No commercial fishery; Recreational fishing closed since 1994.

Oregon/California - No substantial harvest; All fishing closed since 2004.
2. Population Status
2. Population Status

Fertilization threshold?

1994 fishery closure
2. Population Status

Aging population with lack of reproduction
2. Population Status Summary

- Earliest “density” information comes from 1979 surveys – from which we estimate a 96% decline compared to similar surveys today.

- This agrees with fixed index station data from 1992 – 2017, which shows a 97% decline in density.

- The population is aging, and no juveniles have been observed for a decade.

- Although disease, climate change or other factors cannot be completely ruled out, reproductive collapse due to low adult densities is the most likely explanation.

- Populations are unlikely to recovery without intervention.
3. Recovery Program

NOAA Manchester Research Station
Kenneth Chew Center for Shellfish Research & Restoration
3. Recovery Summary

- Singleton broodstock collected from the San Juan Islands, only first-generation juveniles outplanted.

- Over 15,000 disease-free juveniles from 96 hatchery families have been placed on 12 sites in the San Juan Islands (2009 – 2018).

- (Observed) survival one year after outplant averages 10.2%.

- (Observed) survival to reproductive size averages 3.4%.

- 8 of 12 sites have maintained reproductive densities throughout the program.

- Populations are unlikely to recover without intervention. A significant scale-up of current effort would be necessary to impact the overall population.

- Experiments are underway to optimize production by outplanting younger juveniles or even larval stages.
4. Status review process

- Present preliminary status review and recommendation to list as Endangered.

- Public comment period started in late October 2018, will extend through March 2019. All comments received so far have supported listing.

- Outreach to treaty tribes, recreational dive community, dive shops, conservation groups, commercial dive fisheries, academia, boating organizations, ports, aquaria and science centers.

- Two public meetings in Anacortes and Port Townsend.

- Final public hearing at April 2019 commission meeting.

- Presentation of final status review and recommendation, incorporating all public comment, after April 2019 meeting.
Implications of Endangered Listing

• Listing would clearly communicate the status of the species to public, funding agencies, private donors, gathering support for full recovery.

• Protect the agency investment in pinto abalone restoration:
  • current illegal harvest is “fishing in a closed season” = misdemeanor.
  • if Endangered, infractions would increase to gross misdemeanor, second offense a felony.

• Minimal regulatory burden on coastal communities
  • critical habitat overlap with federally listed species such as orca.
  • shoreline master plans already consider abalone as a “species of concern” and/or restrict development in areas of bull kelp beds.

• Pinto abalone would have to be removed from the list of classified food fish and shellfish (WAC 220-320-020) in order to be “wildlife” eligible for listing.

• Agency develops a recovery plan within one year of listing, status reviews every five years.
Questions and Discussion

Thank you:

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