

Exhibit (E)

**Public Correspondence received between
January 18 and March 1, 2018.**

Peter L Haaker
14096 Baker St
Westminster, CA 92683

January 18, 2018

Scott Groth
Marine Resources Program
Oregon Department of Fish and Wildlife
P.O. Box 5003
Charleston, OR 97420

Dear Scott,

I received your letter of January 10, 1918 and questionnaire through my participation in CDFW Recreational Abalone Advisory Committee (RAAC). I am retired from the Department of Fish and Game (now Wildlife), where I was a Senior Marine Biologist dealing with California abalone. I am one of the authors of California's Abalone Recovery and Management Plan.

I thought I would make a few comments about your Oregon fishery which might be useful in your management of an Oregon abalone fishery. I hope they are helpful. I relate my comments to the items in your letter.

- 1) The rarity of habitat is a major problem in developing any fishery. The available individuals for harvest are more or less concentrated in the habitat and are likely more susceptible to take. As the habitat is at the northern end of the abalone range there are probably stressors on the population which are limiting the range. Since the density is well below sustainable levels, I believe there is little chance that an enduring fishery could be established.
- 2) Reduced kelp is one of the major reasons causing the decline in the California fishery. There is likely a temperature component to the kelp scarcity, and that temperature regime may also be directly affecting the reproductive physiology of red abalone, in addition to the absence of food. I think your suspicions about environmental change in Oregon are correct.
- 3) You can expect to see an increase in fishers for abalone in the absence of a California fishery, but not for long. The available stocks will be removed rapidly. Is there any data about the below legal sized abalone which would grow into the fishery? Such data would allow you to determine if the fishery is viable. It would also be good to get an indication of the amount of habitat available for small (<25mm) individuals, and the occurrences of these sized abalone, which are the basis of the resource.
- 4) Totally agree. It is also possible that some California-collected abalone will be taken there and transported to Oregon and presented as Oregon catch. There might be a need to coordinate regulations between the two states.

These are my thoughts on the basic information in you letter. I would now like to comment on your 10 points.

- 1) Groups are important in many areas, for reproductive reasons (Alle effects), but in smaller areas the fishery will quickly eliminate groups. Abalone in crevices may be as important as groups of larger abalone for reproduction. Crevices are contained areas which enhances concentration of numbers and increased fertilization. Settlement may be enhanced or facilitated locally as well. Small abalone (~40 - 50mm) living in the crevices situation were likely responsible for most of the abalone resources along the Pacific coast when sea otter were present. It is unlikely that large numbers of emergent abalone (> than about 100 mm) were the norm in the nearshore environment. We observed the decline and eventual loss of the red

abalone fishery along the central California coast concurrent with the expansion of sea otter range. Small abalone are still to be found, but not emergent individuals.

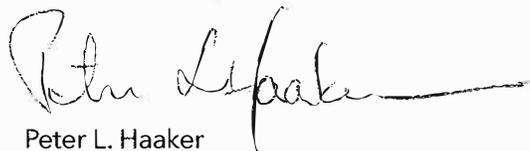
- 2) Abalone can have long lives, but this probably has not been the case forever, particularly when effective predators are present. The large individuals in the fishery are a result of long time predator-free periods of building populations and extension into expanded ranges. One reason the north coast California abalone fishery lasted was the *de facto* deep refuge for abalone where free dives generally could not go. Reproduction appears to be episodic, certainly in large areas where fishery populations occur. Reproduction also involves successful settlement which is dependent upon oceanic conditions as waves and currents, and sea temperature.
- 3) We have attempted numerous out-planting of pre-settlement abalone, post-settled individuals, and abalone of various sizes up to three or four inches, with little demonstrated success. Larger sizes were translocated to enhance specific areas, but these were attractive to divers who found them, even though they were of illegal size. Most out-planting and transplanting operations were expensive in cost and human resources.
- 4) Would a fisher continue to purchase a permit and attempt to fish in this situation? Some would do it just for the "joy" of the hunt and being in the water. Finding an abalone would be just frosting on the cake. I suspect fishers living near the resource would be more likely to participate?
- 5) Totally concur. Addressing the poaching problem is time consuming and expensive, and has a serious deleterious effect on the fishery. A determination of whether the fishery is efficacious needs to be made.
- 6) There are successful abalone fisheries in the world, but they need to be heavily regulated. California had valuable successful abalone fisheries (several species) for 150 years, a result of the virtual removal of the sea otter from the state by 1850. The southern fisheries collapsed as a result of increasing fishing pressure resulting from the use of SCUBA (recreational) and surface supplied air (commercial), and increasing numbers of divers. Disease and oceanic conditions are also implicated. The north coast fishery was somewhat different in that it was a free dive recreational only fishery, but still with much regulation. The final factors in this fishery were likely variable ocean regimes, i.e., sea water temperature which disrupted kelp beds and herbivore communities, unusual local dieoffs, poaching, and continuous harvest. The southern California abalone population is showing sign of recovery but a fishery is not likely soon as illegal take continues, and the area of recovery is limited. The northern fishery has just recently been closed but probably will not recover until extensive natural conditions return and a period of population regrowth.
- 7) The *de facto* deep water refuge was an important source of abalone to the more available shallow fishery. The loss of this refuge in the northern California fishery is one of the reasons for the depletion of fishable stocks.
- 8) Totally agree. And monitoring such a fishery probably makes the fishery very expensive in any case.
- 9) The stocks which now occur will quickly disappear in an unregulated fishery. Depending on the habitat and the crevice population, the species may be extirpated from Oregon. This may also occur with continued variable oceanic conditions.
- 10) Considering all the natural affects which are impacting California's red abalone populations and the fishery, the contentious dialog about the fishery, I would say that prosecuting an abalone fishery in Oregon is unlikely.

All-in-all, Oregon has a real problem with the abalone fishery. Individually, abalone are valuable, but the low current numbers are unlikely to support a very large fishery. If wildlife protection is anything like in California, i.e., underfunded and understaffed, this fishery could be an unwanted distraction to the warden's operations. The value of the abalone is very attractive, particularly when the fishery to the south is closed. I doubt whether

the current stocks can hold up any take for very long, especially considering that the Oregon fishery is at the northern edge of the range of the species. All of the options for management approach involve some enforcement observation involving utilization of your resources. Even a total closure would as well. I would suggest that a temporary closure be established, during which time more data can be collected, particularly about the crevice populations and growth. Since part of the reasons for closing California's fishery involve poor inadequate conditions, it should be relatively easy to defend closure of the Oregon fishery.

I hope my comments are useful. If you want to discuss this issue I would be happy to talk with you.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter L. Haaker", with a long horizontal flourish extending to the right.

Peter L. Haaker
Senior Marine Biologist (RET.)
California Department of Fish & Game
PLHaaker@gmail.com

Scott Groth

From: Brandi Easter <brandi.easter@yahoo.com>
Sent: Friday, January 12, 2018 6:07 PM
To: odfw.commission@state.or.us
Cc: Scott.D.Groth@state.or.us
Subject: Oregon Abalone Fishery

January 12, 2018

Oregon Department of Fish and Wildlife Commissioners
4034 Fairview Industrial Drive SE
Salem, Oregon 97302

RE: Oregon Abalone Fishery

Dear Chair Finley and fellow Commissioners,

I appreciate that Oregon Department of Fish and Wildlife (ODFW) has postponed the Oregon abalone fishery until you can discuss the state of the fishery at your March Commission meeting. I am writing to you to share my concerns about the possible undesired effort shift from California to Oregon for the opportunity to dive for abalone. I am concerned that since California's abalone fishery is closed, there will be substantial pressure that will negatively impact the density of your fishery.

I would like to offer some initial suggestions for discussion considerations:

- Postpone the abalone season in 2018 to mirror California's 2018 closure.
- Whenever it is determined your season is to open, retain 1 per day, 5 annually and 8" minimum.
- Eliminate the 24-hour access, change opportunity times to half hour before sunrise to half hour after sunset for both safety and enforcement.
- Limit the permit allocation to the current estimated 300 annually providing permit preference to Oregon residents, re-evaluate annually to see if a cap is still warranted.
- Assess a permit fee for out of state divers.

I welcome the opportunity to discuss my concerns and suggestions with you.

Thank you for your consideration,

Brandi Easter
707-822-4815
Arcata, California
CA abalone diver for 25+ years

CC: Scott Groth

From: Scott Groth
To: [April H Mack \(april.h.mack@state.or.us\)](mailto:April.H.Mack@state.or.us)
Subject: FW: Scallop Harvest Card Renewal... and Abalone Harvest Thoughts
Date: Tuesday, February 27, 2018 10:40:03 AM
Attachments: [Abalone H. cracheroidii reproductive cycles.png](#)

Hi April,

Not sure if had previously given you this public correspondence.

Thanks

Scott

From: Justin Ainsworth [mailto:Justin.C.Ainsworth@state.or.us]
Sent: Saturday, January 27, 2018 7:10 PM
To: Scott Groth <scott.d.groth@state.or.us>
Subject: Fwd: Scallop Harvest Card Renewal... and Abalone Harvest Thoughts

----- Forwarded message -----

From: Philip Graber <philip.graber@gmail.com>
Date: Jan 27, 2018 6:09 PM
Subject: Scallop Harvest Card Renewal... and Abalone Harvest Thoughts
To: Justin.C.Ainsworth@state.or.us
Cc:

Mr. Ainsworth, my name is Philip Graber, Hunter/Angler ID # 983608

I've sent in my Abalone/Scallop harvest card along with the Oregon Recreational Abalone Fishery Questionnaire. Is there any way to get the new 2018 scallop card back out to me before my old one arrives at your office? My card is empty (Didn't have a chance to dive), but I will have a chance next weekend and I'm hoping to have a scallop card in hand! Thank you very much for your consideration on the matter!

Also, in regards to the Abalone Harvest Questionnaire... in case mine doesn't come in time to count.

- 1) I am fully against complete closure of Abalone Harvest as my experience with species closures in Oregon has always been that it's exponentially more difficult to re-open once fisheries have improved.
- 2) I fully support a multiple approach methodology including restrictions on the following:
 - **Max. annual harvest decreased to 3/year (or 2 if the avg. harvest/diver/yr is close to 3 anyway.)**
 - **Minimum size increased to 10"**
 - **Requirement for breath-hold only harvesting technique (No SCUBA, etc.)**

3) I would consider the following hesitantly.

- Intertidal Restriction (If there is an unknown genetic variation in intertidal abalone vs sub-tidal, this restriction may imbalance the genetic diversity resulting in future populations of abalone pre-disposed to living in shallower water and subsequently more vulnerable to predation from birds/mammals.

- Shutting down harvest during peak season for Oregon (June-July)... I've attached a screenshot of a document about northern California abalone reproduction, which I'm sure is a little different from our own species, but I would suggest that the harvest could be limited to seasons with statistically lower evidence of reproductive habits.

Sincerely,

~Philip Graber
(971) 285-2624