

March 12, 2018

Phil Anderson, Chair  
Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 101  
Portland, Oregon 97220-1384

RE: Research on Heceta Bank and Essential Fish Habitat

Dear Chair Anderson:

This letter summarizes some of the research on Heceta Bank conducted by Oregon State University and other agencies beginning in the 1980's that may be relevant to the Council's evaluation of Essential Fish Habitat Conservation Areas in the Pacific Northwest.

Heceta Bank is located on the edge of the continental shelf, and is farther offshore than any other bank along the Pacific coast. It is one of the largest rocky bank complexes in the northern California Current with a rich diversity of habitats and bottom topography that hosts a wide array of fishes and invertebrates, including numerous species of rockfishes and other fishes of commercial importance.

Heceta Bank is a highly productive area of the northern California Current because of its location on the edge of the shelf combined with ocean circulation patterns. Satellite observation of temperature and chlorophyll show that currents from the north are diverted and accelerated around the bank intensifying upwelling of cool, nutrient-rich water. This leads to high primary and secondary productivity that fuels up the food chain. Currents deflected offshore create strong frontal structures. Productive waters are also recirculated around the bank, especially when upwelling relaxes. Acoustical and net sampling show that patches of euphausiids (krill) and forage fishes are concentrated along the edge of the shelf and along fronts, providing prey for rockfishes, salmonids and other commercially important fishes over and around the bank.

High definition multi-beam mapping of the Heceta Bank and surrounding area provides detailed information on the bank's complex bathymetry and diverse sediment types. This, combined with hundreds of submersible and ROV dives, reveal that different species of fishes are closely associated with specific habitats. Submersible and ROV dives on the bank found large schools of yellowtail rockfish over the bank and large yelloweye near the seafloor. Three repeated submersible surveys at the same precise GIS locations ten years apart documented little change in species composition and frequency of fishes.

Macroinvertebrates communities are also very abundant on the bank, with different assemblages found at different depths and on different substrates. Corals and sponges have recently been found to be important refugia for juvenile rockfishes, especially at night.

Possible Future Research:

Heceta Bank has a large population of mature rockfishes, such as yellowtail, yelloweye and other species. Juvenile rockfishes often have nursery grounds along inshore areas, such as the Cape Perpetua Marine Reserve. The life history linkages between offshore and inshore habitats across the shelf is an area ripe for future research. The effects of ocean climate change, hypoxic events and ocean acidification on the ecology of this relatively pristine area offshore area of Heceta Bank is another priority research need.

William G. Pearcy  
Emeritus Professor  
College of Earth, Ocean and Atmospheric Sciences

Attached are links to a videos produced by Oregon State University about Heceta Bank. The first video I would like to show at the April Council meeting.

<https://oregonstate.box.com/v/PFMC-Presentation>

<https://oregonstate.box.com/v/heceta-bank>

March 16, 2018

Phil Anderson, Chair Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 101  
Portland, Oregon 97220-1384

RE: Agenda Item F.3 – Amendment 28 EFH/RCA Heceta Bank

Dear Chair Anderson:

We are marine scientists with interests in Heceta Bank. Some of us have studied Heceta Bank first hand from submersible dives; others have conducted research on the bank and its relation to the California Current ecosystem and nearshore areas. We submit these comments as a proposal related to the Council's efforts to remove Rockfish Conservation Areas (RCAs) and reconfigure some Essential Fish Habitat Conservation Areas (EFHCAs) on Heceta Bank.

In so doing, we applaud the recovery of many groundfish stocks as a result of very difficult decisions made by the Council in the early 2000s to regulate harvest to restore those stocks. We also acknowledge the dedicated, thoughtful work of the Council, the Habitat Committee, the Groundfish EFH/RCA Team, Council staff, and many others to address complex issues to amend these regulations across a vast and varied ecological region. We appreciate the hard work of winnowing options for these changes.

Our proposal is based on nearly 40 years of studying the attributes of Heceta Bank, the largest contiguous rocky reef complex in the U.S. EEZ north of Cape Mendocino and one of the most productive areas on the Pacific Coast. It is an area that should be protected from offshore energy production, pollution, benthic disturbance, and fishing activities to ensure that it continues to serve as a key source habitat for commercial fish species and biodiversity.

Heceta Bank is essential to many species of groundfish during all life stages, including overfished yelloweye rockfish, invertebrates, seabirds and marine mammals such as the threatened and endangered distinct population segments of the eastern North Pacific humpback whale stocks. Heceta Bank provides a reserve for the production of rockfish juveniles, which are a critical forage resource for many predators in the northern California Current; research shows that these predators switch to sardines, anchovy, and more economically valuable species such as juvenile salmon, if juveniles are not available. In that regard, the topographic configuration and location of Heceta Bank and its connection to the shallower Stonewall Bank region amplify its intrinsic habitat values and create significant ecological and oceanographic effects on areas and fisheries inshore along the Oregon coast and southward beyond Cape Blanco.

Since 2006, a core area of Heceta Bank has been designated Essential Fish Habitat Conservation Area (EFHCA) while other areas on the Bank lie within sections of the trawl Rockfish Conservation Area (RCA) also designated by the Council. As you know, Heceta Bank is a

Priority Habitat area as defined in Amendment 19 of the Pacific Coast Groundfish Management Plan.

We request that as the Council reduces or removes the RCA designations on Heceta Bank, it expand the existing EFHCA designation to encompass additional rugged hard and mixed rocky reef habitat to the west and to the north. Both areas are predominately located on the continental shelf at depths less than 200 m; however, the western area drops to roughly 500 m in one spot. The western side includes newly identified reef habitat mapped with high resolution sonar.

Within the range of alternatives, Alternative 1.b (as it is now designated) would achieve this expansion. Alternative 1.c would provide some additional protection to the north but not the western area. Thus, we urge the Council to be as expansive as possible for Heceta Bank by approving Alternative 1.b. Expanding the EFHCA designations to these areas aligns with the Council's mission to effectively and sustainably manage groundfish and would meet the Habitat Objectives articulated in Amendment 19 to:

- 1. Protect a diverse array of habitat types across latitude ranges and within biogeographic zones that occur in the project area.*
- 2. Protect the full range of benthic habitat to account for each managed species.*
- 3. Prioritize pristine or sensitive habitats and the gear types most likely to have the highest impact.*

As scientists, we believe expansion of the EFHCA designation on Heceta Bank would support the Council's Habitat Committee to "allow for the development of studies to simultaneously examine the importance of both fishery closures and habitat recovery and...result in an unprecedented opportunity to facilitate applied research that addresses whether habitat protections improve EFH and conditions for groundfish."

In addition to research on Heceta Bank itself, the proximity of Heceta Bank to nearshore protected areas within state waters provides opportunities for long-term study of fishery and ecological linkages between nearshore and offshore areas and for long term research on the effects of climate change on habitats across the shelf. We also point out that Heceta Bank is geographically close to the marine research capacities of Oregon State University, NOAA Fisheries, and the Oregon Department of Fish and Wildlife in Newport, Oregon, as well as opportunities to collaborate on research with fishermen who know this area well.

We believe that this is an unprecedented opportunity for the Council to extend its commitment to research to support sustainable management of groundfish on the West Coast. We urge that these two additional areas of Heceta Bank be designated as EFHCA.

Thank you for the opportunity to comment.

Signed:

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