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November 2, 2007

Mr. Donald K. Hansen, Chair  
Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 101  
Portland, OR 97220

Mr. D. Robert Lohn, Administrator  
National Marine Fisheries Service, Northwest Region  
7600 Sand Point Way NE  
Seattle, WA 98115-0070

**RE: Groundfish Management: Management Recommendations for 2009-2010**

Dear Mr. Hansen and Mr. Lohn:

As the Pacific Fishery Management Council (PFMC) and National Marine Fisheries Service (NMFS) review the groundfish stock assessments and make preliminary decisions on the 2009-2010 rebuilding analyses and management measures, we ask that you pay particular attention to rebuilding overfished stocks as quickly as possible, address uncertainty with precaution, minimize bycatch, and provide protection for the marine ecosystem in setting catch levels. It is important that decisions for setting catch levels and management measures are not made in isolation of each other, but rather in a holistic and programmatic manner.

**1. Account for the protection of the ecosystem in setting catch levels**

It is increasingly clear that fishing has ecosystem-wide impacts and the current MSY-based approach does not adequately consider fishing in an ecosystem context. As the National Research Council Committee on Ecosystem Effects of Fishing states:

If the United States is to manage fisheries within an ecosystem context, food-web interactions, life-history strategies, and trophic effects will need to be explicitly accounted for when developing harvesting strategies. Other uses and values derived from marine resources should also be considered, because fishing activities directly or indirectly impact other ecosystem components and the goods and services they provide.<sup>1</sup>

An example of fishery-induced ecosystem impacts is the shift in West Coast fish assemblages from large to small species of rockfishes and from rockfish to flatfish dominated communities. In *Shifts in a Pacific Ocean Fish Assemblage: the Potential Influence of Exploitation*, the authors find that in the California Current marine ecosystem:

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<sup>1</sup> National Research Council. 2006, at 4. *Dynamic Changes in Marine Ecosystems; Fishing, Food Webs, and Future Options*. The National Academies Press. Washington D.C.

Fishing affects more than the trends of individual species; it influences the state of the entire community (Steneck et al. 2002). In this paper, we have not only shown changes in populations, but we have also documented a shift in the fish assemblage from large to small species of rockfish and from rockfish to flatfish domination. To the extent that fishing caused these shifts, it has clearly affected not only individual populations, but has also disturbed the entire community.<sup>2</sup>

The MSA gives the PFMC and NMFS the necessary framework and authority for integrating ecological considerations into setting catch levels. In defining the “optimum” yield (OY) of a fishery, Congress specifically mandated that fishery managers “*tak[e] into account the protection of marine ecosystems,*” and specified that optimum yield be calculated as MSY “*as reduced by any relevant...ecological factor*” (16 USC §1802 (33)).

In past years, decisions for determining OY for Pacific groundfish have been based on achieving MSY and social and economic objectives. NMFS and the PFMC have the opportunity in the 2009-2010 rebuilding plans and proposed harvest specifications to explicitly analyze and consider how proposed catch levels affect ecosystem interactions. Such analyses should consider fishing impacts on biodiversity, direct and indirect impacts on predators, impacts to local population and age structure, and habitat.

## **II. Rebuilding analyses must account for age structure, not biomass alone**

In the article, *Pacific Rockfish Management: Are We Circling the Wagons around the Wrong Paradigm?* (2006), Dr. Steve Berkeley, states “One of the critical assumptions underlying this management strategy [Pacific rockfish management] is that all larvae have an equal probability of survival regardless of their parents’ age. Recent evidence suggests, however, that maternal age can have a substantial influence on larval survival.”<sup>3</sup> Rebuilding plans require a management strategy that accounts for old growth age structure in rockfish populations and does not simply focus on spawning biomass.

We recommend that rebuilding plans consider management measures and OYs designed to preserve mega-spawners and natural extended age structures.

## **III. Account for uncertainty in management decisions and rebuild as quickly as possible.**

The recent stock assessments highlight the high degree of uncertainty in estimating groundfish population size. It is imperative that managers understand this uncertainty and incorporate it into decisions determining OY and management measures. Below are a few specific examples.

### **A. Canary rockfish**

The 2005 rebuilding analyses for canary rockfish estimated that the stock was at 9.4% unfished biomass. The 2007 assessment estimates the population to be at 32% unfished biomass with alternative models estimating the stock to be between 12% and 56%.<sup>4</sup> The dramatic change in biomass from the 2005

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<sup>2</sup> Levin, P.S., E.E. Holmes, K.R. Piner, and C.J. Harvey. 2006. Shifts in a Pacific Ocean Fish Assemblage: The Potential Influence of Exploitation. *Conservation Biology* 20(4): 1181–90.

<sup>3</sup> Berkeley, S.A. 2006. Pacific rockfish management: Are we circling the wagons around the wrong paradigm? *Bulletin of Marine Science* 78(3): 655-668.

<sup>4</sup> Rebuilding analysis for canary rockfish based on the 2007 stock assessment. PFMC Agenda Item D.3.a Attachment 7. November 2007.

estimate to the 2007 estimate hinges largely on a new estimate of “steepness”, a measure of how fast recruitment increases as stock size increases. In the 2007 assessment, estimates of steepness ranged from 0.345 to 0.72, with 0.511 being used in the “base” model. This estimate of steepness is highly uncertain and is based on a meta-analysis of rockfish in general, excluding canary, rather than any canary-specific data about steepness.

The high degree of uncertainty of key parameters used in stock assessments raises serious questions about how to manage rockfish populations. We recommend using increased precaution with higher levels of uncertainty, by incorporating a large buffer between OY and ABC. Specifically to canary, we recommend that catch levels not be raised above current levels. The canary stock must be rebuilt as quickly as possible. If steepness has been overestimated, and the model is wrong about the current state of nature, raising catch levels may adversely impact the canary population and significantly delay rebuilding.

#### B. Blue Rockfish

The 2007 blue rockfish assessment, the first that has been performed, indicates the stock was overfished by 1982 and is currently depleted at 29.7% unfished biomass. Further, it is likely that overfishing is occurring. “According to the base model, blue rockfish may be experiencing overfishing (current F exceeds proxy FMSY), and the total catch should be reduced.”<sup>5</sup> This stock assessment provides significant warning that overfishing is occurring and actions must be taken to stop overfishing and rebuild blue rockfish as quickly as possible. We recommend NMFS and the PFMC take action to stop overfishing immediately along with a risk-averse OY and management measures to ensure rebuilding of this population as quickly as possible. Uncertainty associated with this stock assessment should not be interpreted as a reason to delay action, but to advance precautionary management actions.

#### C. Bronzespotted Rockfish

In March 2007 the PFMC received a report on bronzespotted rockfish describing that this species is highly vulnerable to fishing impacts and that the stock is likely depleted.<sup>6</sup> The report states that commercial landings, after peaking in 1982, declined rapidly in the late 1980s. It is likely that this species experienced overfishing prior to the decline of other rockfish species such as cowcod. The Council and NMFS would be remiss to ignore this type information suggesting such a conservation concern. The report suggests that there are measures that would increase protection considerably, such as a zero fish limit on recreational and commercial trips. Precautionary management measures must be analyzed in the 2009-2010 harvest specifications and management measures EIS and ultimately adopted.

### IV. Prevent Overfishing

#### A. Whiting

We continue to have concerns about the declining whiting population - catch levels are bringing the stock toward an overfished condition, and there are adverse effects on the ecosystem associated with high catch levels of this important prey species. As we have submitted in previous comments, the 2007-2008 whiting catch levels are projected to bring the stock to within 1% of overfished by

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<sup>5</sup> Blue rockfish assessment. Agenda Item D.3.a. Attachment 3. November 2007.

<sup>6</sup> PFMC March 2007. Agenda Item E.2.b. Attachment 3. Summary of Bronzespotted rockfish (*Sebastes gilli*) conservation concerns.

2009 (based on the catchability coefficient ( $q_{mid}$ ) used by NMFS and the PFMC).<sup>7</sup> This fishing strategy is irresponsible, at best, if not unlawful.

The 2007-2008 whiting catch level sets the overfished level as a target. We are concerned that the PFMC and NMFS will again set risky catch levels in 2009-2010 that will continue to bring the stock towards or cross the overfished threshold. The GMT recommended range of OYs for 2009-2010 considers three alternatives, 50% of the 2007 OY, the 2007 OY and 150% of the 2007 OY.<sup>8</sup> Alternative 3 (150% of the U.S. OY, or 363,887 mt) is unreasonable since it represents setting an OY that would result in the stock being overfished. The March 2007 GMT report found that any U.S. OY over 271,500 mt (based on  $q_{mid}$ ) would bring the stock below the overfished threshold.<sup>9</sup> The Council and agency must construct an adequate range of lawful alternatives that will not continue to manage whiting at the overfished margin.

In closing, the 2007-2009 groundfish harvest specifications, management measures and rebuilding analyses are major federal actions with significant environmental, social and economic impacts. We expect the PFMC and NMFS to be mindful of its legal requirements under NEPA and the MSA at every step of this process. The agency must analyze and ultimately adopt plans that rebuild stocks as quickly as possible, prevent overfishing, minimize bycatch, and account for ecosystem needs in catch levels.

We look forward to continuing to work with the Council and NMFS to ensure a healthy ocean ecosystem for this and future generations.

Sincerely,



Ben Enticknap  
Pacific Project Manager

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<sup>7</sup> 72 Federal Register, 19390 (April 18, 2007).

<sup>8</sup> PFMC Agenda Item D.4.a, Attachment 2. November 2007.

<sup>9</sup> PFMC Agenda Item E.3.b Supplemental GMT Report March 2007.