

Response to Follow-up Questions from Northwest Regional Meeting:
Science and Policy Interface in Fisheries Management Panel

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1. On the effectiveness of the Fishery Management Councils and how the makeup of the Councils compares with that of the Halibut Commission.

Several reports in the media have presented the view that the regional Fishery Management Councils are “morally bankrupt” and will never serve the needs of resource conservation because of their makeup. Proponents of this view have maintained that individuals who stand to benefit financially from continued harvest of natural resources cannot be expected to exercise responsible conservation.

Is this view conceptually correct?

I do not believe it is. The International Pacific Halibut Commission was formed in 1923 and is the oldest fishery management body in North America. It was established at the request of halibut harvesters in Canada and the United States to address conservation concerns about the Pacific halibut resource. At the outset and ever since, the Commission has been composed of harvesters, processors, and government officials. The present composition of the Commission is six commissioners, three from each country. Each national section is composed typically of one harvester, one processor, and one government official. Individuals with vested interest in the harvest outnumber those without. By the standards of the foregoing argument, the Commission should be “morally bankrupt”. In spite of this, the Commission has an 80-yr unmatched record of successful management and the stocks of Pacific halibut are presently near historic high yields. How could this be possible if the foregoing argument were correct?

The simple answer to this is that it is not the composition of a management body that is important. Rather, it is the operational principles under which the body functions and the objectives to which it adheres that are the paramount issues. The management body must have resource conservation as a primary focus and must formulate its decisions according to sound science. Further, it should not be allowed to adopt quotas that exceed allowable catches, as determined through peer-reviewed and accepted scientific analysis.

Trading short-term gain, from increased harvest, for long-term resource collapse is not a rational business decision. Most harvesters understand that sustainable yield is not just a sound biological decision, it is a sound financial decision as well. This is well demonstrated in the history of decisions by the International Pacific Halibut Commission, where harvesters have always based decisions on conservation, occasionally being even more conservative than the recommendations from the scientific stock assessment. They have done so because of their inherent conservation ethic, because they participate in

decision making, and because their decisions have demonstrated that fishery management based on conservation principles provides sustained financial benefit.

2. The role of science in recent fishery collapses.

I will speak only to the West Coast issue out of familiarity. The West Coast groundfish collapse, if it should be characterized as such, is not the result of a scientific failure. The biological nature of these species has been known for over twenty years. Understanding of the extended life span and low productivity of groundfish and rockfishes in particular was first brought forward in the late 1970s. The biology of these species was understood. Certainly, knowledge of historical exploitation histories and resource distribution was much more limited. Identification of individual species was often missing in historical catch records and they were amalgamated into broad species groupings. In this sense, there was a failure of data collection.

I believe it is incorrect to say that there was a failure to use the scientific knowledge. Species' biology was known to be different from historical perceptions and, although there were similar morphological and distributional characteristics, the biology of each species was known to be unique. However, it was not possible to generate appropriate stock assessments and individual management plans for 20-30 species without the detailed data upon which to conduct the analysis. Managers had historical data only on aggregates of species and initial management plans attempted to manage these multiple species as similar aggregates. However, the population dynamics of these individual species were in some cases drastically different. We are now faced with the equally daunting prospect of generating rebuilding plans or new management plans for many of those same species that were previously aggregated and for which the information base may be only marginally improved.

Currently, fishery science is incorporated into fisheries management through the Councils' reviews of recommended allowable catches. This process is reasonable, although the end product of those reviews may be open to other judgements. I do not believe a different process of incorporating science would have prevented the collapse of the groundfish fisheries. The same may not be said for what Council's actually do with the recommended allowable catches.

3. How should managers respond when scientists tell them the science is incomplete or has a high degree of uncertainty?

I believe managers need to take a very conservative stance in such circumstances. In the cases of uncertainty, the choice is normally to continue at present harvest levels, or to harvest less. No groundfish resource has been put in jeopardy through being too conservative. Stakeholders often pressure Councils to harvest more but we are now seeing instances where stakeholders and communities are being put in substantial long-term jeopardy because we have harvested too much under conditions of uncertainty.

The distribution of a statistical error around an estimate may be symmetrical, i.e., there is equal likelihood of a true value being either higher or lower than the estimate. However, the consequences of making the wrong management decision under conditions of uncertainty are highly asymmetric. If we are more conservative than we need to be, some harvest may be lost over a short-term but the error of management will generally be detected over a similarly short term and the resource will not be harmed. If we err on the side of excessive harvest, we may lose yield over a substantially longer time frame.

4. Should fisheries science and fisheries management be separated to eliminate the potential conflict between setting quota levels and the allocation process?

No. Fisheries science is applied science, not academic science. In my view, separating fisheries science from fisheries management serves no purpose and may isolate scientists from vital knowledge about the fishery and its effect on interpretation or collection of data. Allocation decisions in general are not scientific decisions and I don't perceive a conflict with scientific assessment.

5. Are there scientific studies examining the effectiveness of marine protected areas in rebuilding and maintaining healthy fish stocks? If so, what have they shown?

I am not an expert in this field. However, I am not aware of instances involving marine temperate water groundfish where MPAs have been used successfully and rehabilitated a depleted resource outside the boundaries of the MPA. Unquestionably, MPAs create positive changes inside the MPA but their success at rehabilitating and sustaining depleted resources outside the MPAs, for temperate groundfish species, is undemonstrated to my knowledge. This does not say that MPAs may not be effective in this role and, indeed, they should be investigated as such.