

OVERCAPACITY IN SPORT FISHERIES¹

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As described in the Final Programmatic SEIS (2004) for the commercial groundfish fisheries, fishing **capacity** is defined as the ability of a vessel or fleet of vessels to catch fish (NMFS 1999). This ability is a function of the number of fishing vessels in the fleet; the size of each vessel; the technical efficiency of each vessel (determined by factors such as on-board gear and equipment, fishermen's knowledge and techniques, and the size of the crew); and the time spent fishing (NFCC undated). Loosely speaking, **overcapacity** in a fishery occurs when the ability to catch fish exceeds what is needed to harvest sustainable yields. It is a consequence of the perverse incentive system confronting fishermen in an open access or regulated open access condition (Gréboval and Munro 1999). Under this condition, the so-called "race for fish" induces fishermen to apply an excessive level of operating inputs (e.g., labor, fuel, time) and capital inputs (e.g., vessel and gear improvements) as they compete with each other for shares of the quota. If these additional inputs are not applied, the individual fisherman may find that he or she is unable to increase, or even maintain, his or her share of the TAC over a number of fishing seasons.

Overcapacity in commercial fisheries is a management problem because a market failure has created a race to fish, removing the free market's ability to keep capacity in check. Overcapacity in recreational fisheries may not exist because there is no race to fish. Anglers are extremely inefficient harvesters who willingly spend more than the commercial ex-vessel value of the fish to be inefficient. From a societal standpoint, this behavior generates large economic values and large, positive economic impacts. Commercial fishermen are the exact opposite; they focus their energy on becoming the most efficient fish removers.

Due to the differences in the motivations of commercial and recreational fishermen, it is not clear that the meaning of "capacity" and the methods used to assess it in commercial fisheries are even appropriate for recreational fisheries or that the customary rationale used to manage capacity in commercial fisheries also justifies capacity management in recreational fisheries. The differences in motivation include the following².

1. The primary goal of commercial fishermen is to derive revenue from the sale of fish, but recreational fishermen are more interested in the fishing "experience." Therefore, the output of recreational fishermen is not the market value of the fish, but rather the experience of the angling trip, which depends on the size and quantity of fish caught, companionship, and numerous other things.
2. Economic incentives motivate commercial fishermen to harvest large quantities of marketable fish. Recreational fishermen exhibit varying preferences regarding catch, sometimes deriving more satisfaction from catching an unusually large fish or a highly prized species than from catching large numbers of fish. However, recreational fishermen often indicate no preference regarding the types of fish caught, may take a fishing trip primarily for reasons other than the fish, or may be motivated to release rather than retain their catch. The relationship between harvest and profits in commercial fisheries is much better understood than the relationship between harvest and angler satisfaction in recreational fisheries.
3. Fishing is an income-generating activity for commercial fishermen; the more they fish, the more income they earn. Fishing is an income-constrained activity for recreational fishermen; the more they fish, the less money they have available for other leisure activities.
4. Commercial fishermen are motivated to utilize inputs in such a way as to enhance their ability to harvest fish in an economically efficient manner. Recreational fishermen utilize inefficient fishing technology, sometimes deliberately in order to enhance the challenge of catching fish. Angler expenditures on gear, charter boat fees, private boat fuel, etc. are motivated not only by the desire to catch fish but also more generally by their subjective preferences regarding what constitutes a satisfying fishing experience.

¹ This document summarizes an email exchange Jane DiCosimo, NPFMC staff, had with economists Jim Kirkley, Virginia Institute of Marine Science and Joe Terry and Brad Gentner of NOAA Fisheries Service, Headquarters.

² This discussion is taken from NMFS (2005)

There are several ways to address **allocation** between different user groups, separate from the issue of capacity. Excess demand in recreational fisheries or overcapacity in the commercial fisheries can make it more difficult to meet the conservation and management objectives for the management of living marine resources.³ However, there are important differences in the motivations of commercial and recreational fishermen as described above. Therefore, more research is required to determine what concepts and analytical methods should be used to assess the recreational fisheries' counterparts to fishing capacity, excess capacity and overcapacity in the commercial fisheries. The need for additional research should not prevent the Council and NOAA Fisheries Service from improving the management of recreational fisheries in a variety of ways when it is appropriate to do so. This could include actions that would increase the net benefits the Nation receives from recreational fisheries.

In summary, NOAA Fisheries Service economists have been **unable to define capacity or overcapacity in recreational fisheries**, or guided recreational fisheries. It is unlikely to be an issue that the Council could successfully address. **Identification of other problems in the charter halibut fisheries** would assist the Council better in adopting successful management solutions.

References

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³ This discussion is taken from NMFS (2006)