Discussion Paper Regarding Hard and Soft Cap Management

Prepared for the North Pacific Fishery Management Council

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In April 2005, as part of the motion on the BSAI Pacific cod allocation amendment, the North Pacific Fishery Management Council (Council) requested a discussion paper on alternative management measures that can be applied to hard and soft caps in order to avoid closing fisheries in which Pacific cod may occur as incidental bycatch, to avoid preemption of other fisheries, and to avoid overfishing. This paper is intended to help in developing management measures other than hard caps.

This paper will discuss what the terms hard and soft caps refer to by providing some familiar examples used in the Alaska Region and applying those concepts to program alternatives under consideration by the Council.

A hard cap stops any fishing that takes a species when its catch limit is taken. The intention is to stop all further mortality of the species. A soft cap implies that retention of the species is restricted (either discards are required or it may be retained as a proportion of another target fishery) but continued mortality is tolerated.

Within the context of the Pacific cod apportionments, hard and soft caps can play a variety of roles. Hard caps are seen as a way to prevent one component of the fishery from impacting another. Once the constituents have taken their allocation they stop fishing. Hard caps have the best chance of succeeding without large disruptions to the fishing industry when fishing is conducted in a controlled cooperative manner rather than in a competitive environment.

Cooperative fishing used with a soft cap approach can maximize the amount of fish taken within the directed fishery especially when the amount of fish required for incidental catch is well defined. When fishing is conducted in a competitive fashion the potential for overages increases and the management of the fishery must be more conservative to ensure the limit isn't exceeded. The incidental catch account (ICA) becomes greater and the amount available to the directed fishery less.

Hard caps are normally employed in the most restrictive conditions. When the agency wants to protect the reproductive capability of a stock, the overfishing level (OFL) functions as a bright line where further catch of the species is stopped even in fisheries that might have a very low incidental catch. A hard cap concept was initially employed for all the species that were allocated under the Community Development Quota system. If the allocation of a specie is caught, continued fishing in any target that might take the specie is essentially prohibited.

Leading up to the OFL closures are two soft caps, directed fishing closures and prohibiting retention or treating catch as prohibited species catch (PSC). When a total allowable catch (TAC) category is managed under the simplest 'open access' process, an ICA is created to cover catch in other targets. A proportion of target species determines retention amount, the proportion is defined as a maximum retainable amount (MRA). If sufficient TAC remains after deducting the ICA, a directed fishing allowance (DFA) allows for unlimited retention while a directed fishery is open. Once the directed fishery is closed, if catch reaches the TAC before the end of the year the specie is prohibited to retention. Participants in the fishery may not be able to retain the species but continued catch is allowed.

The following table shows several examples of hard and soft caps used in current Alaska Region groundfish management.

Program	Hard Cap	Soft Cap
Total Allowable Catch management	OFL closures, essentially closing all fisheries that take the specie incidentally.	Directed fishing closures, which allow retention of catch up to a proportion of the target species. Prohibiting retention once a TAC or ABC is taken.
CDQ management	Target species allocations. Once the target species category is taken any additional catch is prohibited.	'Other species' allocation. Originally was a hard cap but now restricted with a directed fishing closure and prohibited species catch closure.
	Squid allocation was a hard cap	Squid is entirely removed from the CDQ program.
American Fisheries Act		Sideboard amount determines whether AFA participants can directed fish or not. Catch retention is limited by MRA. If catch exceeds the sideboard there is no additional restriction on AFA vessels. Ultimately they have to respond to the TAC closures outlined above.
Program	Hard Cap	Soft Cap
American Fisheries Act		Pollock DFA. Once taken, the directed fishery stops. Vessels are allowed to continue retaining pollock under the ICA when fishing for species controlled by sideboards.
IFQ Sablefish		Sablefish. Once vessels take their allocation they are required to discard further catch.

When deciding what the structure of the allocation system will be under the Pacific cod apportionments in the BSAI, a basic question that affects the amount of catch allowed in the directed fishery is whether catch management can be deferred to the industry sectors (whether they are capable of managing their allocations). If the industry can control and limit their catch they can decide how much of their allocation they can apply to a directed fishery and how much is needed for incidental catch in other targets and in general realize the benefits of a slower paced, more controlled fishery.

Most of the components (sectors) of the fishery identified for analysis, especially within the non-trawl sector, are relatively simple for the agency to manage. Many have little incidental catch and catch rates are slow enough to allow the agency to consistently monitor and close the fishery accurately.

The **non-trawl component** has been managed for several years with a directed fishing allowance for the several fisheries and a single, small ICA that covers incidental catch in the few alternate fisheries in which they participate. With a few exceptions, the non-trawl directed fisheries are managed by the agency without seasonal apportionments being exceeded significantly.

The **trawl AFA fisheries** have relatively predictable incidental Pacific cod catch needs for their directed pollock fishery and currently closely regulate or can regulate both directed and incidental catch through legal agreements. This sector currently manages the catch of its Pacific cod (subject to sideboard limits) and could continue to manage its Pacific cod if it represented a direct allocation. **Non-AFA catcher vessels** only participate in the directed Pacific cod fishery and therefore have no need to create an ICA. However, to assure the allocation to that sector is not exceeded, the fishery may have to be managed conservatively which could result in a reduced directed fishing allowance and the potential for some amount of foregone catch. The degree to which that occurs depends on the number of vessels fishing, whether or not they can form a cooperative, and whether they can work effectively with inseason management to ensure the limit is not exceeded.

The most complex fishery within the trawl component is the **non-AFA trawl catcher/processors**. Pacific cod is taken in all of their groundfish targets. Incidental catch averages about 13% in the non-Pacific cod targets ranging from 3% in the Atka mackerel target to 12% in rock sole. In the Pacific cod target fishery, 55% of their catch is made up of an assortment of pollock, flatfish, and other species. Under Amendment 80, all or some portion of these vessels will be eligible to participate in a cooperative Absent allocating Pacific cod to the cooperatives in proportion to their past participation in the fishery, i.e., with whatever algorithm is used under Amendment 80, the directed cod fishery for this sector will have to be curtailed in order to ensure that a large enough pool of Pacific cod is maintained to ensure that it does not become a restriction on the other (non-cooperative) members of the sector.

The fundamental issue is how well can catch be controlled. The more likely the directed fishery will exceed the catch limit in a competitive (vs. cooperative) fishery, and the more uncertain level of incidental catch of a species, the greater the ICA must be. The greater the ICA, the less opportunity the industry has to extract the greatest value from the fishery.