

## MEMORANDUM

## State of Alaska

DEPARTMENT OF FISH AND GAME

TO: Ken Florey  
Regional Supervisor  
Division of Commercial Fisheries FILE NO.. KP31588.txt

THRU: ~~Ken Florey~~  
Director

DATE: March 17, 1988

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SUBJECT: Research and Management Needs for Upper Cook Inlet

Title

I have put together an assessment of research and management needs for Upper Cook Inlet, following the discussions in the recent Cook Inlet staff meeting. The Cook Inlet staff meeting was very productive. The staff put together a very useful overview of the problems and their perspective on research needs and should be commended for their efforts.

I will attempt to summarize the discussions and provide some recommendations that emerged from the staff meeting. Note that these views are my own and do not necessarily reflect a consensus of the staff. However, in my opinion there are some difficult problems facing us in Upper Cook Inlet and, if a consensus can be reached on alternative management plan, then we need to work with the board to resolve these issues by next fall.

Management Problem

Most of the management problems associated with the Upper Cook Inlet fisheries stem from the fact that the major (Susitna, Kenai, Kasilof) sockeye stocks, upper inlet coho stocks, all chum stocks, and late run Kenai chinook stock have virtually identical run timing and share the same migratory corridor to natal spawning streams. Thus, these stocks co-mingle and are collectively harvested in the Cook Inlet commercial gill net fishery.

The commercial fisheries are currently managed only for sockeye escapement goals with coho and chinook harvested incidental to sockeye. Coho and chinook are treated as bycatch necessary to harvest sockeye. Escapements are monitored for Kenai River, Kasilof River, and Susitna River as indexed by Yentna River sonar.

The current in-season program attempts to apportion sockeye catches to the three major sockeye systems. However, recent work shows that the accuracy and precision of these estimates is questionable. Escapement estimates for the Susitna are poor. Thus, any escapement goals for the Susitna are very soft.

It is my opinion that the goals of the current management system are not realistic. The fishery is in effect managed for Kenai



and Kasilof escapement goals. There is very little that managers can do to meet Susitna escapement goals. Very restrictive policies to achieve Susitna escapement in the face of a strong Kenai run cannot be implemented because of the softness of in-season indicators of Susitna run strength.

Recognizing the fact that precision and accuracy of historical Susitna escapement data is suspect, there appears to be little difference in the rate of exploitation exerted by the commercial fishery on the Kenai and Susitna systems. Susitna sockeye may have a more western migratory distribution and be less vulnerable to drift and eastside setnet fishery. However, the Susitna stocks are the primary contributor to the Northern district fishery. The savings due to the lower rate of exploitation by the drift and eastside set net fishery are harvested in the Northern district. With the Northern District fishery, the fishery on Susitna stocks is more of a gauntlet type fishery. Any expansion of the Northern District fishery is dangerous without better stock assessment of Susitna stocks.

#### Recommendations

Management Policy. Management policies should be altered to reflect more realistic goals that can be attained with in-season information available under the current program. The elements of such a policy:

1. Manage the sockeye fishery to meet Kenai and Kasilof escapement goals only.
2. Establish some cap on the Northern District set nets, by some fixed allocation of fishing time that maintains historical allocations. Note this policy is going to be controversial since it does not give Northern District fishermen opportunities to harvest the Susitna during strong runs and will guarantee fishing time even when stocks are weak. The alternative is to negotiate a rigidly frameworked procedure to allocate extra fishing periods whenever CPUE's are above some level and reduces fishing when CPUE's are below minimum levels.

This altered policy may be consistent with the theoretical optimal policy for the mixed stocks fishery based on Hilborn (1976, J. Fish. Res. Bd. Can. 33: 1-5.) if the exploitation rate for the Susitna stocks is less than that for the Kenai. This could be guaranteed if more restrictive allocations to Northern District fishermen were implemented.

Research Policy. The research program should be designed to monitor the Susitna's response to exploitation. With this goal, the priority should be obtaining more accurate system-wide

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estimates of escapement and stock separation available on a post-season rather than on an in-season basis. In the long run, this information has two purposes. Firstly, to evaluate the Northern District fishery, which is more gauntlet in nature and the potential for overfishing cannot be dismissed. Secondly, this information would be the basis for development of more optimal management policies in the future.

With less emphasis on meeting Susitna escapement goals, the need for season stock separation is questionable, particularly in light of recent analysis that shows that poor accuracy and precision are due to lack of representative standard samples. If funds are limited, then those monies could be redirected to beef up the collection of standard samples. Stock separations are more likely to be feasible on a post-season basis.

### Discussion

Sustainable harvest from these stocks must be allocated to competing commercial gear groups (Northern District set net, eastside set net and drift gillnet) and sport fisheries. The economic valuation of the Cook Inlet sport fisheries in terms of dollars spent in the activity and commercial fishery in terms of the wholesale value of commercial catches are collectively worth hundreds of millions of dollars. The relative value of commercial and sport fisheries are comparable based on the above mentioned measures of value. Thus, these issues are going to be around for a long time. Resolving these allocation issues is intractable at present. We currently do not have a stock assessment program to monitor changes in stock status that would result from real or alleged fisheries exploitation. This is a tough situation to be in.

It is of critical importance to know the catch and escapement of Upper Inlet sockeye, chinook, and coho salmon stocks. This is a difficult task and will require effective coordination of department resources to achieve this information.