

Alaska Board of Fisheries  
Finding  
Supplemental to FB-01-92  
South Unimak/Shumagin Islands June Fishery

A. Background.

By legal notice dated February 10, 1992, the Board of Fisheries announced its intention to provide the Alaska Department of Fish and Game (ADF&G) an opportunity to present to the board and the public new information concerning the results of an ADF&G internal review of the 1987 South Peninsula Tagging Study ("Stock Composition of Sockeye and Chum Catches in Southern Alaska Peninsula Fisheries in June" Eggers et al. May 1991), which was not available to the board at its meeting in November 1991, when the board first took up the South Unimak/Shumagin Islands June salmon fishery.

The legal notice under AS 44.62.190 -- 44.62.210 provided that if upon review of the ADF&G revised analysis of the 1987 Tagging Study (Review and Revisions, ADF&G March 3, 1992) (Revised Tagging Analysis"), the board found insufficient information to show significant biological impacts of the South Unimak/Shumagin Islands June fishery (June Fishery) on western Alaska chum salmon stocks, the board would not take action to open up its November 1991 decision the June fishery for further review. The public was given notice that the board could adopt, amend, repeal, or take no action concerning its decision in November, 1991, to amend the South Unimak/Shumagin Island June Salmon Management Plan (5 AAC 09.365). That plan established the "chum cap" at 40 percent of the sockeye salmon guideline harvest level, not to exceed 900,000 fish. See FB-01-92, Alaska Board of Fisheries, South Unimak/Shumagin Islands June Fishery Findings.

The board took up the 1987 Revised Tagging Analysis at a specially scheduled board meeting in Juneau, beginning in the afternoon of Friday, March 13, 1992. The meeting was conducted in two parts. The board first heard a report from the ADF&G staff concerning its review of the 1987 tagging study; the board also hear nearly two days of public comments, and took written comments. Based upon this information, the board found that the information presented in the Revised Tagging Analysis was significant enough to warrant further review of its November, 1991, decision on the chum cap on the June fishery. The board then heard additional public comment on the June fishery and elicited additional information from ADF&G biologists. Based upon this information and board deliberations, the board makes the following findings, in addition to and supplementing those made after the November 1991 meeting.

B. Findings.

1. The 1987 tagging study was intended to ascertain the stock composition of salmon harvested in the June fishery. As explained further below, the study has significant limitations and the

analysis and conclusions to be drawn from it require a number of assumptions. The study indicated that chum salmon that were tagged and released in the June fishery in 1987 were later recovered in areas ranging from Kotzebue Sound to Norton sound, the Yukon and Kuskokwim River drainages, Bristol Bay, the Alaska Peninsula, Southeast Alaska, Russia, and Japan. Additional studies are needed to conclusively determine the stock composition of chum salmon in the June fishery.

2. Due to the subjective nature of the necessary assumptions in the tagging method of estimating stock composition, the department presented the revised tagging study results as a range of estimates rather than a single point estimate. One end of the range (Case 1) was based on assumptions that were thought to represent maximum estimates for the Arctic-Yukon-Kuskokwim (A-Y-K) stock composition and minimum estimates for the Asian stock contribution. The other end of the range (Case 3) was based on assumptions that were thought to represent minimum estimates for the A-Y-K stock composition and the maximum estimates for the Asian stock estimates. The revised tagging study also presented a type of analysis not presented in November, which attempted to account for the differences in the release timing of chum salmon during the tagging operations. The revised estimates identified clear differences in stock composition between the early and late releases, indicating that the time period that the tagged fish were released influenced the location where those fish were eventually recovered. The relative contribution of Norton Sound, Yukon, and Kuskokwim stocks was greater in the early releases while the relative contribution of the Bristol Bay, Northern Peninsula, South Peninsula, and Central Alaska stocks was greater in the late releases. The board noted, however, that in 1990 the South Peninsula June management plan was revised to close the South June fishery in early June.

3. The board also again examined information on the status of chum salmon runs in each A-Y-K area, including data on escapements; on subsistence, commercial, and sport harvests; and on exploitation rates. The board also heard additional testimony and information about concerns over the health of chum runs returning to specific rivers, particularly in northern Norton Sound. Asked if management changes in the South Peninsula June fishery could impact these specific runs, ADF&G indicated that the impact, under Case 1 (representing maximum A-Y-K stocks) was at the margin of ADF&G's ability to detect; in some years for some subdistricts it might be detectable and in some years for some subdistricts it might not be detectable; it was not really clear; assuming the Case 3 scenario (for maximum Asian stock composition), changes would not be detectable.

4. The board also examined information regarding the possibility that the contribution of Asian chum salmon stocks to the South Peninsula June fishery had increased significantly in recent years, since the 1987 tagging study. The board heard testimony that Japanese hatchery production has risen from about

7.9 million chum in 1972 to about 68.2 million chums in 1992. The board heard testimony that the average size of chum salmon harvested in the June fishery has decreased in recent years, suggesting an increasing harvest of Asian hatchery fish. The board also heard testimony that the chum-to-sockeye ratio experienced in the June fishery was considerably higher than the overall western Alaska chum-to-sockeye ratio, again suggesting a high harvest of Asian hatchery chum salmon.

5. Based upon all the information before it, the board found that chum salmon from, for example, Norton Sound, cannot be segregated from other chum salmon in the South Peninsula June fishery and therefore chums in their entire range are not "manageable as a unit" (AS 16.05.940(15)). With respect to the A-Y-K "stocks" of chum salmon, the board has previously adopted regulations to address subsistence needs and to provide these a priority. See Norton Sound Findings, No. 92-05-FB. The board heard and considered testimony regarding decreased returns of chum salmon to certain districts in the Norton Sound area, particularly in the Nome subdistrict. The board found however, that the data presented were insufficient to establish a direct and biologically significant cause and effect relationship between chum harvests in the June fishery and depressed returns in Norton Sound, in that reductions in the June fishery would not be likely to produce detectable increased in chums in the depressed Norton Sound areas.

6. The board considered the allocation criteria at AS 16.05.251(e) and 5 AAC 39.205, which included the following considerations: history of the June fishery and that of fisheries in A-Y-K; number of residents and non-residents who participate; importance of the resource for personal and family consumption; and the importance of the fishery. In balance, these allocation criteria did not weigh more favorably for one commercial fishery over the other (June fishery versus A-Y-K fisheries).

C. Board Action.

The board concluded that in making allocations between the June fishery and fisheries in the A-Y-K area it should consider that: (1) there are certain depressed stocks in Norton Sound; (2) the 1987 tagging study and the 1992 Revised Analysis indicate that some fish from these stocks are susceptible to being harvested in the June fishery and that timing of Norton Sound bound chum runs in Area M in 1987 tended to correlate with timing of the June fishery; and (3) that commercial, sport, and subsistence harvests have been restricted in some of the Northern Norton Sound subdistrict. Therefore, it would be best to take a conservative approach to allocations between the fisheries. The board voted to amend the chum cap it adopted in November 1991. Instead of a variable cap set at 40 percent of the sockeye guideline harvest level, the board decided to fix the cap at 700,000 fish and to close the June fishery when the chum harvest reaches that amount. In addition, when the chum harvest reaches 400,000 fish, ADF&G will be required to take appropriate in-season management actions to reduce the

remaining chum harvest rates, while attempting to allow full harvest of the guideline harvest level for sockeye. These management tools may include time and area closures; more timely returns of fish to processors; and closure of areas with a high chum-to-sockeye ratio.

Under the revised cap, the maximum number of chum salmon that can be harvested in the June fishery will be lower than provided in November. The requirement for in-season management to slow the chum salmon harvest rate should also prevent the cap from being exceeded. At the same time, the revised cap is slightly higher than the existing cap, and should allow participants in the June fishery a better opportunity to harvest their target sockeye salmon allocation.

151  
Mike Martin  
Chair  
Alaska Board of Fisheries

(92-06-FB)  
Signature page 1 of 2

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Mike Martin  
Chairman, Alaska Board of  
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VICE-CHAIRMAN, AK. BOARD  
OF FISHERIES

(92-06-FB)  
Signature page 2 of 2

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DATE: 5-14-92

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