



Alaska Department of Fish and Game

Board of Fisheries

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ALASKA BOARD OF FISHERIES

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ALASKA BOARD OF FISHERIES
Findings on February 2004 Amendments to
South Unimak and Shumagin Islands June Salmon Management Plan
(5 AAC 09.365)
2004 – 229 - FB

I. Introduction.

The Alaska Board of Fisheries took action on the South Unimak and Shumagin Islands June fisheries during its regularly scheduled Alaska Peninsula/Aleutian Islands (Area M) Finfish meeting that took place between February 15-26, 2004.

The Alaska Department of Fish and Game (department) staff presented a series of written area management reports, technical reports, and scientific analyses as well as a number of oral reports. They provided the board with comprehensive information relating to the historical and current commercial and subsistence fisheries, stock composition of the respective fisheries, and the status of salmon stocks in the Alaska Peninsula/Aleutian Islands area. Also presented were the most recent scientific information and analysis of that information by the staff.

The board took testimony from over 100 members of the public and advisory committee representatives. The board then broke into committee meetings on the numerous issues before it, including a meeting considering the proposals addressing the South Peninsula June fishery. Those members of the board received further information and discussion from public panel advisors and department staff.

The purpose of the committee meeting was to receive any new information that had not been handed out during staff reports and public testimony, and to allow public panel members and staff to interact with each other in front of the board committee in a "New England Town Hall" style setting. This allowed staff information and public panel member's recommendations to be discussed in more detail, to provide more information for the board to use during deliberations.

On February 25, the board began deliberations of the June fishery. Members of the board subcommittee provided both a written and oral summary to the full board. Deliberations on the pertinent proposals then began. Proposal 207 was brought to the record. An amendment was offered to replace proposal 207 with language from RC126, a proposed South Unimak and Shumagin Island June Salmon Management Plan.

This amendment resulted in several hours of deliberation and debate on the core issues surrounding the June fishery in Area M. Several attempts were made to amend the new management plan. All failed either by a 3-4 or a 2-5 vote. The plan contained in RC126 finally passed 4-3 (except for the language regarding area of the fishery in paragraph b, which had previously been dealt with under proposal 206), with members Dersham, Andrews, Morris and Jensen voting in favor, and members R. Nelson, A. Nelson, and Bouse opposed.

II. Background on the South Peninsula June Fishery.

The South Peninsula June fishery takes place in two primary locations: south of Unimak Island, where the majority of the harvest occurs, and in portions of the Shumagin Islands. The

South Unimak and Shumagin Island June fisheries harvest both sockeye salmon and chum salmon in a mixed stock fishery. The sockeye salmon are predominately of Bristol Bay and Alaska Peninsula origin. The chum salmon are bound for a number of areas, including Japan, Russia, the Arctic-Yukon-Kuskokwim (AYK), Bristol Bay, the Alaska Peninsula and southcentral Alaska. The salmon stocks have historically been harvested along the south Alaska Peninsula during the month of June. There is not a paucity of information about this fishery. The 1987 tagging study and the genetic stock identification (GSI) studies of the 1990s provide valuable data for analysis. Combined, they show that the June fishery is a low impact fishery with very low harvest rates (in the low and mid single-digit range, percentage-wise) on the separate stocks involved.

A. Sockeye Salmon in the June Fishery.

Several small tagging studies have taken place at South Unimak and in the Shumagins, from 1925 through the 1960s, but the largest, most recent, and most comprehensive was a study conducted by the department and contractors in both locations during the 1987 season.

For that study, 5,442 sockeye salmon were tagged at South Unimak and 1,545 were tagged in the Shumagin Islands during June and very early July. Almost all tag recoveries occurred in the Bristol Bay, North Alaska Peninsula, South Alaska Peninsula, and Chignik areas. There were high rates of tag return reporting and good assessments of terminal runs (catch and escapement) for stocks where tags were recovered. Based upon reasonable estimates and assumptions of tag loss, fish mortality, and tag reporting, the study estimated the stock composition of sockeye salmon harvested in the two fishing areas: 84 percent of the sockeye salmon harvested at South Unimak sockeye were bound for various systems in Bristol Bay, while 54 percent of those caught in the Shumagin Islands were destined for Bristol Bay.

These estimates of stock composition compare the number of fish harvested in a fishery that originate from any specific stock to the total number of fish harvested in that fishery. A related, but distinct and more important parameter is the harvest rate (or exploitation rate) of a fishery, which compares the same number of fish harvested in the fishery that are from a specific stock, but in this case, to the total number of fish in that stock (the total sum of catches and escapement).

Because the total sockeye salmon run into Bristol Bay (tens of millions) is so much larger than the total catch of sockeye in the South Peninsula June fishery (hundreds of thousands to low millions), the harvest rate of the June fishery on the Bristol Bay sockeye salmon run will necessarily be much lower than the stock composition of Bristol Bay sockeye in the June fishery harvest. Estimates from the 1987 tagging study bore this out: harvests of Bristol Bay-bound sockeye at South Unimak represented a little over 2 percent of the entire Bristol Bay sockeye run that year, while harvests of Bristol Bay-bound sockeye in the Shumagin Islands was less than 0.5 percent of the Bristol Bay run that year (c.f., RC 9).

Thus, the proportion of Bristol Bay sockeye in the June fishery sockeye catch (i.e., stock composition) is quite high, but the impact of these catches on the total Bristol Bay sockeye run (i.e., harvest rate) is very low. While these parameters may fluctuate somewhat from year to year, it is estimated that the South Peninsula June fishery annually exerts well less than a 5 percent harvest rate on Bristol Bay sockeye runs, thus 95 percent or more are available each year for commercial, sport, and subsistence harvests in Bristol Bay itself.

The sockeye salmon harvested in the June fishery are very high quality, and the timing of the harvest is early. These factors contribute to a high market price potential.

B. Chum Salmon in the June Fishery.

The 1987 study also tagged 3,495 chum salmon at South Unimak and 2,828 in the Shumagin Islands. Tags were recovered from locations all across the North Pacific, from British Columbia and southeast Alaska, through central and western Alaska, to Russia and Japan. Tag reporting and assessment of total run size for these chum salmon stocks were not nearly as reliable as for the sockeye salmon stocks. Moreover, complications regarding the extended travel time and potential for additional tag loss and mortality for fish bound particularly for Asia required that a number of assumptions and alternative scenarios for mortality be considered. Initially, a single set of stock composition estimates was published (RC 10), but in revisions to the study three "cases" were proposed (RC 12): Case 1 using assumptions that favored higher stock composition estimates for individual AYK chum stocks; Case 2 being the estimates originally published and considered intermediate; and Case 3 which incorporated assumptions favoring stock composition estimates for Asian stocks of chums.

Since the results of this tagging study were published and revised, a comprehensive GSI study was conducted (RC 13), comparing catches sampled from the South Peninsula June fisheries for 1993-1996 against a North Pacific-wide baseline of allozyme signatures for individual chum stocks. The GSI work could not distinguish as well among individual Alaskan stocks as the 1987 tagging study. But it did provide reliable, and repeatable, estimates of the proportion of the June fishery harvest composed of a grouping called the NW Alaska summer chum group comprising Bristol Bay, Kuskokwim, Yukon summer, and Norton Sound chum salmon stocks combined. Finally, the GSI studies confirmed that the Asian contribution to the South Peninsula June fishery harvests was quite high, suggesting that the Case 2 to 3 estimates of the revisions to the 1987 tagging study were more appropriate than Case 1.

The GSI work estimated that NW Alaska summer chum stocks composed between 40 and 65 percent of the South Unimak June chum salmon harvests (1993-1996). Similarly, the NW Alaska summer chum stock composition estimate for the Shumagin Island June fishery (1994-1996) was 36 to 52 percent. A weighted mean of these estimates indicates that about 53% percent of the June fishery chum harvest is composed of NW Alaska summer chum salmon. However, from results of the 1987 tagging study, and from comparisons of respective total run sizes, it is apparent that Bristol Bay chum salmon constitute about 40 percent of the June fishery catch of NW Alaska summer chum in any particular year. Thus, it can be expected that AYK summer chum stocks compose about one-third of the South Peninsula June chum catch.

While stock composition estimates for AYK summer chum in the June fishery harvests may range around 33%, the harvest rate of the June fishery on the millions of fish annually returning to AYK summer chum runs would be much lower.

Based upon an evaluation of the stock-specific "cases" derived from the 1987 tagging study, and information from the GSI work confirming high Asian contributions to the June fishery catches, plus an acknowledgment that most estimates of total returns to AYK systems are low due to relatively poor escapement monitoring, it is apparent that the combined South Peninsula June fishery, prior to 2001, exerted a harvest rate of perhaps 4 to 7% on any particular

AYK summer chum stock. This would mean that roughly 95% of each run was subsequently available to commercial, sport, and subsistence harvests in more terminal locations.

The GSI studies were able to distinguish Yukon fall chum salmon from the other chum salmon stocks in the June fishery catches. Estimates of stock composition ranged from 0 to 6 percent of portions of the June fishery harvests between 1993 and 1996; the resulting estimates of harvest rate on annual Yukon fall chum returns are negligible.

In summary, the chum salmon involved migrate across a broad area. Only a relatively small portion of any run passes through Area M, and of these, only a portion are caught in the June fishery. About one-third of the chums harvested in the June fishery are summer chums bound for AYK river systems; the rest are headed somewhere else. The June fishery harvest rate on this aggregation is only a few percent of the AYK summer chum run. The chums that are present in the June fishery are highly mixed and spread out over the month. There does not appear to be any serious risk that a single chum stock could be significantly impacted by the June fishery. Nor is it possible to manage the June fishery for improvement to specific AYK chum stocks of concern.

This board agrees with prior boards which have found that the impact of the June fishery on specific stocks of AYK chum salmon is negligible and that reducing the chum harvest in the fishery would not produce detectable results or measurable benefits to AYK chum runs. (c.f., board finding # 96-164-FB).

III. Problems with Current Plan.

In 2001, the board removed a longstanding sockeye salmon guideline harvest level (GHL) for the June fishery which equaled 8.3 percent of the total projected harvest of Bristol Bay sockeye each year; 6.5 percent was applied to the South Unimak fishery and 1.5 percent to the Shumagin Islands. The board also eliminated a chum cap that had been imposed on the June fishery, at various levels, since 1986. In place of the sockeye GHL and chum cap, the board established nine 16-hour open fishing periods (144 total hours), between June 10 and June 30 along with some other incidental prescriptions. The effect of this new management plan was a substantial reduction in sockeye salmon catches but not much reduction in chum salmon catches; the exact opposite of the long-standing June fishery management objectives of harvesting the historical percentage of sockeye while minimizing chum harvest.

The 2001 June fishery management plan was a significant break with prior plans. Now that it has been in place for three years, its problems are evident. The main problem is that it severely limits the time the fleets have on the water. This denies the fleets the flexibility needed to avoid chum salmon. The fleets do not have the ability to move away from a concentration of chum salmon, as they have demonstrated in the past. The 2001 plan is not very effective for conserving chum salmon and was unduly restrictive on the fishery's opportunity to harvest sockeye salmon.

IV. The New 2004 Plan Amendments.

The plan amendments in RC 126 replaced the 2001 plan with a schedule providing for a maximum of 416 hours of fishing over a span of 19 days, between June 7 and June 29. Essentially this establishes 88-hour open periods, followed by 32-hour closures (windows); the

final open period is only 64 hours long. This plan will increase allowable fishing time in hours during June by a factor of 2.89 compared with the 2001 regulation. It will increase the number of days available for fishing by a factor of 2.11. A significant amount of the added time will come during nighttime hours, when harvests are expected to be significantly lower than during daytime hours. Depending upon the efficacy of nighttime fishing and other changes in behavior of fishermen, it is anticipated that harvests in the June fishery may double compared to those since 2001, depending upon the annual abundance of sockeye and chum salmon returns. The new 2004 regulations bring the allowable fishing time in the June fishery back to levels experienced prior to 2001 but, with reductions in fleet size and other changes since the late 1990s, it is unlikely that catches will exceed, or even return to, levels experienced prior to 2001.

The board has given weighty consideration to concerns expressed about potential impacts of the plan amendments on Bristol Bay sockeye and western Alaska chums. While the exact net effect that these regulatory changes may have on the South Peninsula June fishery catches is unknown, subsequent harvest rates on Bristol Bay sockeye and AYK chums are not expected to increase beyond the levels experienced in the 1980s and 1990s. Thus, the impact of the June fishery on those stocks, and subsistence fisheries on those stocks, is expected to be minimal. Over the past 20 years or so, the board has experimented with different management approaches for the June fishery, making significant changes every time it has met on the area's fisheries. The 2004 amendments represent another approach in response to the perceived failures of the 2001 measures. If after another three years the 2004 measures result in unexpected consequences, the board will be able to make adjustments accordingly. Based on the information before the board now, no significant harmful impacts are expected on AYK salmon stocks from the 2004 changes.

V. The 2004 Regulatory Amendments are Consistent with Sustained Yield and all other Statutory and Regulatory Standards.

The 2004 June Fishery Management Plan is consistent with sustained yield principles, the subsistence statute (AS 16.05.258), the Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222) and the Policy for the Management of Mixed Stock Salmon Fisheries (5 AAC 39.220). The board considered the allocation criteria applicable to the fisheries as set out in AS 16.05.251(e) and 5 AAC 39.205.

The board considered the best scientific data available in making its decisions about the June fishery (5 AAC 39.222(d)(2)(A)). As noted above, there is a substantial amount of data on the June fishery and the fishery resources harvested there. Indeed, the board is often faced with tough decisions for other fisheries where there is much less scientific information available to consider than is available for the June fishery. The board believes the decision it has made here is based on sound science and consideration of all the appropriate data and factors. The board considered all the department reports, the advisory committee reports and comments, and the public testimony and written comments. In addition to the information presented at the February 2004 meeting, the board had also recently held a meeting on AYK fishery issues in January 2004 and Bristol Bay issues in December 2003 and there received extensive reports, written comments and testimony concerning western Alaska salmon stocks. The board relied on all this information in reaching its decisions on the June fishery.

A. Sustained Yield.

The board understands that sustained yield means “conscious application insofar as practicable of principles of management intended to sustain the yield of the resource being managed.” The board has consciously applied principles of management to the June fishery. It has limited the amount of gear that can be used. It has limited the amount of time that may be fished. The board reviewed the plan in light of the conservation standards contained in the sustainable salmon and mixed stock salmon policies. The best available information shows that the 2004 changes to the June fishery management plan will not cause sustained yield concerns on western Alaska salmon stocks. The plan this board adopted is still a “windows” plan that is consistent with the direction of the sustainable fisheries policy. Department staff stated during final deliberations that they believed sockeye and chum harvest numbers under this plan will fall within the historical range of harvests of the last ten years or so in the June fishery.

Although the revisions to the management plan authorize more fishing time than the plan adopted in 2001, the increased opportunity is not inconsistent with principles of management for a mixed stock fishery that has minimal impacts on AYK chum runs. Principles of management do not suggest that the board should impose substantial restrictions on fishing in Area M during June if the benefits, in terms of improvements to chum stocks of concern, are negligible or not even detectable. In addition, allowing more fishing time in Area M is consistent with the sustained yield of sockeye.

Another important point is that the effort in the June fishery has been significantly reduced because of curtailed harvest opportunity, and in part due to low prices being paid for salmon. So while fishing hours have been increased by the 2004 amendments, the expected increase in harvest will likely to continue to be below that of earlier years because of reduced participation. While the 2004 changes may encourage some level of increase in participation, it is not expected to quickly return to the levels of the 1980s or 1990s.

A large sockeye run is projected to return to Bristol Bay in 2004. Processing capacity in the Bay has declined, and may not be able to handle the catch. Harvesting a portion of these fish in Area M, while they are in prime condition, helps assure that more of the harvestable surplus is taken. The sockeye harvested in the June fishery are high quality and bring considerable value to Alaska Peninsula fishermen and communities and to the state.

B. Sharing the Burden of Conservation.

The sustainable salmon fisheries policy states that salmon management objectives should be appropriate to the scale and intensity of uses (5 AAC 39.222(c)(3)(A)). The policy also provides that the burden of conservation should be shared among all fisheries in close proportion to their respective use (5 AAC 39.222(b)(4)(D) and (f)(4)). This idea of proportional burden sharing is also found in the mixed stock policy, which likewise provides that the burden of conservation should be shared among all fisheries in close proportion to their respective harvest on the stock of concern (5 AAC 39.220(b)).

Since the June fishery has relatively low impact on any chum stocks (i.e., low harvest rate), including AYK chum, it is not necessarily appropriate to impose substantial restrictions on the June fishery in an effort to conserve specific chum salmon stocks. The management measures adopted in 2001 imposed more conservation burden on the June fishery than was appropriate in view of its low impact on AYK chum stocks of concern.

C. The Precautionary Approach in the Face of Uncertainty.

The 2004 amendments are consistent with the precautionary approach to management urged in the sustainable fisheries policy. Several provisions of the policy indicate that salmon management objectives should be related to measurable risks and benefits; 5 AAC 39.222(c)(5) recommends a precautionary approach in the face of uncertainty; subsection (A)(iv) states that “where the impact of resource use is uncertain, but likely presents a measurable risk to sustained yield, priority should be given to conserving the productive capacity of the resource.” The precautionary approach does not require imposition of significant conservation restrictions where the potential impact of a use is likely so minimal as not to be measurable.

In section 5 AAC 39.222(d), the policy states that management plans should contain goals and measurable and implementable objectives. The policy does not support the idea of imposing management measure whose benefits are not detectable. The sustainable salmon policy does not suggest that the board avoid restoring some amount of fishing time in the June fishery.

A variety of scientific studies have provided a good idea of the stock composition of the fishery and its low impact on migrating chum runs. There is not a great deal of uncertainty concerning the overall effect of the chum harvest in the June fishery. Some suggest that the board should not act without precise knowledge of which AYK chums are being harvested at any given time during the June fishery. This implies a degree of certainty that will likely never exist. The board is acting reasonably based on the information before it.

D. The 2004 Amendments are Consistent with the Subsistence Statute.

The board is well aware of yield and management concerns for chum stocks in northern Norton Sound, particularly in the Nome Subdistrict. The board has taken the steps necessary to provide a preference for subsistence uses in the Nome Subdistrict, including adoption of a Tier II permit system. The board intends to continue monitoring subsistence uses in northern Norton Sound and will take the actions it believes are necessary and appropriate under the sustained yield principle and to provide for reasonable subsistence uses.

Salmon in Norton Sound, and in particular chum salmon in the Nome Subdistrict, are not manageable as a unit with salmon harvested in the Area M June fishery. Previous board findings on this point have been recognized as valid by the Supreme Court of Alaska in its opinion in the case of *Native Village of Elim v. State*, 990 P.2d 1, 12-13 (Alaska 1999). While about one-third of the chum salmon harvested in the June fishery may be AYK chums, the impact of the fishery on any particular chum run is likely very low if measurable at all. The board and the department cannot manage the June fishery in connection with the subsistence fishery for chums in the Nome Subdistrict. Even if some number of chums bound for the Nome Subdistrict is present in the June fishery, the fisheries are very distant from each other, and there are many potential sources of mortality to those chums between Area M and northern Norton Sound. Even a complete closure of the June fishery would not likely produce measurable improvements to subsistence fishing in the Nome Subdistrict or other subsistence fisheries in western Alaska.

E. Allocation Issues.

The board recognizes that its 2004 amendments could have some allocative impacts different from the 2001 plan. In general, these impacts will be insignificant to any one stock. One purpose of the 2004 amendments is to restore some of the historical sockeye allocation to the June fishery. It is not expected that the changes will result in a June fishery harvest that exceeds the long-term historical averages for sockeye harvest. The board reviewed the allocation criteria under AS 16.05.251 and 5 AAC 39.2005 as follows:

1) The history or each personal use, sport, guided sport, and commercial fishery: The history of the fisheries was considered and discussed. There is no developing or existing sport fishery on Area M sockeyes or chums on the South Peninsula. The commercial fisheries have existed since the early 1900s and some subsistence fishing has occurred for thousands of years. Other than Bristol Bay, which is also a long-standing commercial fishery, most commercial fisheries in western Alaska are of more recent origin and are smaller scale fisheries. The subsistence fisheries in the both the Alaska Peninsula and western Alaska predate recorded history. The 2001 amendments resulted in June fishery sockeye catches well below historical averages. The 2004 amendments are intended to return the harvests closer to historical levels.

2) The characteristics and numbers of participants in the fisheries: The number of participants in the June fishery has changed in recent years with fewer than half of the gillnetters and one-fourth of the seiners still fishing as compared to the years of peak fishing activity. The majority of the participants in the June fishery are Alaska residents. The number of participants in some of the western Alaska chum fisheries has also been reduced by closures of commercial salmon fisheries.

3) The importance of each fishery for personal and family consumption: Salmon fishing in both the June fishery and throughout western Alaska are very important for providing residents the opportunity to obtain fish for personal or family consumption. The June fishery itself may not be critical to personal and family consumption; however, it is noted that a subsistence fishery does exist and some salmon are also likely retained from June fishery commercial catches for family use.

4) The availability of alternative fishery resources: Other resources are available to some of the June fishery seiners, who can fish jigs and pots for cod and trawl for some other species of bottomfish if they have made the investment. The driftnetters might be able to jig for cod and rockfish; however, being primarily winter fisheries, opportunity is likely limited. Setnetters mainly fish out of skiffs and likely have few other resources available. In western Alaska, north of Bristol Bay, alternative commercial fishery resources are also limited.

5) Importance to the economy of the state: This is especially critical in that the fish taken in the Alaska Peninsula fisheries are some of the freshest and, therefore, most valuable in the entire state. The value to the fishermen and the state is enhanced since higher prices mean more fish tax dollars. Providing fishing time and the opportunity to catch sockeyes, greatly improves the value of the fishery to all participants. The Bristol Bay sockeye fishery is very important to the economy of the state. The western Alaska fisheries outside of Bristol Bay, while important, are probably not as important to the economy of the state. However, the 2004 changes are not expected to impact those fisheries one way or the other.

6) Importance to the economy of the region and local area: The economy of the Alaska Peninsula area is greatly enhanced with the increased value of the salmon and therefore the

fishery in total. Successful commercial fisheries would be greatly beneficial to the regional and local economies in western Alaska. However, the 2004 changes are not expected to impact those fisheries one way or the other.

7) Importance of recreational fisheries: Recreational opportunities are not a factor in the June fishery. These are primarily chum and sockeye fisheries. Recreational fisheries on Bristol Bay sockeye are important, but rely upon relatively small proportions of any stock's total return.

VI. Summary

The board finds that the 2004 amendments to the South Peninsula June salmon management plan (5 AAC 09.365) are based upon the best available information and are consistent with the statutory and regulatory criteria for board decisions. Upon adoption of these findings, the Board incorporates by reference all prior findings relative to the Area M June fishery, to the extent the prior findings are unmodified by this finding.

Approved: April 22, 2004

Vote: 4 – 3



Ed Dersham, Chair

Members votes as follows:

Andrews: Yes

Bouse: No

Dersham: Yes

Jensen: Yes

Morris: Yes

A. Nelson: No

R. Nelson: No

96-165-FB

(Previously)
Finding # 96-09-FB

ALASKA BOARD OF FISHERIES

FINDINGS

CONCERNING NORTH ALASKA PENINSULA FISHERIES

The Board of Fisheries (board), in its January 16 through 29, 1996 meeting, considered proposals pertaining to fisheries in the Northern District of the Alaska Peninsula area. These findings are intended to summarize the board's actions on these proposals so that the public and future boards will understand the reasons for these actions.

Background

The board held its regularly scheduled meeting on proposals for changes to regulations in the Alaska Peninsula area during February-March, 1995. However, the board was unable to complete its work on all the proposals during that meeting, including proposals relating to the Northern District. The board publicly noticed another meeting to begin on January 16, 1996, to consider the proposals left over from the prior meeting.

Most of the proposals presented to the board requested that the board restrict the fisheries in the Northern District, particularly the drift gillnet fishery. These proposals took many forms. Some sought to restructure the fishery by creating small terminal areas around the mouths of rivers, by moving section boundaries west, or by limiting the distance from shore that drift gillnetters would be allowed to fish. Other proposals asked for delays in the season or opening dates of sections within the Northern District. Still other proposals urged the board to reduce the size or amount of gear that drift gillnetters would be allowed to use in the Northern District. There were also proposals to impose limits on the harvest of fish in the Northern District. The premise underlying all these proposals was that the fisheries in the Northern District, and particularly in the Three Hills and Ilnik Sections, intercept an excessive amount of sockeye bound for Bristol Bay.

The question of whether and to what extent the Northern District fisheries intercept Bristol Bay salmon was the subject of several staff reports, both written and oral. This issue was also addressed during public testimony and in written comments from the public; over 150 people testified and/or submitted written comments during this meeting, and a substantial portion of this public input pertained to the North Peninsula.

Staff Comments

The Alaska Department of Fish and Game (department) presented a number of reasons why previous studies estimating substantial interception at certain times and in some areas, based on scale pattern analysis, were no longer reliable and should not be used to draw conclusions about the stock composition of the fishery. The department assumes that there is some harvest of Bristol Bay bound sockeye at some times and in some areas of the Northern District, but is unable to quantify the amount of that interception or determine when and where it might occur. The department also acknowledged the likelihood that North Peninsula bound sockeye are intercepted in the east-side fishing districts of Bristol Bay.

The department presented additional information indicating that North Peninsula sockeye spawning systems have the potential to produce an amount of sockeye salmon that is more than sufficient to support recent harvest levels.

The department also described the development of the management regime in the Northern District, based on the nature of the coastline and duration of the salmon runs returning to local river systems. In general, by dispersing the fleet along the coast, management is able to obtain a steady stream of escapement from all portions of the runs and promote an orderly fishery that harvests and delivers fish in a predictable manner. While maintaining its neutrality on the allocative implications of the proposals, the department expressed concerns that restructuring the management system which it has evolved in the Northern District could lead to management errors and problems meeting or exceeding escapement objectives, could decrease the managers flexibility, could create problems for the fleet during bad weather, and may disrupt the current orderly harvest.

The board also received information on the current status of Bristol Bay sockeye runs. There are currently no conservation concerns for Bristol Bay sockeye systems and harvests are at record levels.

Public Comments

Scientific and anecdotal testimony and written comments from persons opposed to changing management in the Northern District significantly disputed that there is any substantial level of interception of Bristol Bay sockeye along the North Peninsula. This included information on the probable sockeye salmon migratory patterns as determined from exploratory fishing and oceanography studies and the Port Moller test fishery; travel times from tagging on the South Peninsula; age composition comparisons between North Peninsula catches and catches in the test fishery and in Bristol Bay; and fisherman's behavior, all indicating that the sockeye within three miles of the coast both in the eastern portion of Bristol Bay and along the North Peninsula are largely moving southward out of the bay, not northward, to find their natal streams. These persons also provided considerable information on the advantages of dispersed management. Supporters of the proposals to restrict the North Peninsula fishery argued that, even if the board was unable

96-165-FB
previously
(96-09-FB)

to quantify the magnitude of any intercept of Bristol Bay fish in the Northern District, run timing and other information suggested that Bristol Bay stocks were harvested there. The board also received testimony concerning the growth in effort and harvest levels in various North Peninsula fishing districts and in fishing districts in the east side of Bristol Bay. Recent increases in sockeye catches in both areas appear to have resulted from increased abundance of sockeye returning to both the North Peninsula and Bristol Bay, respectively.

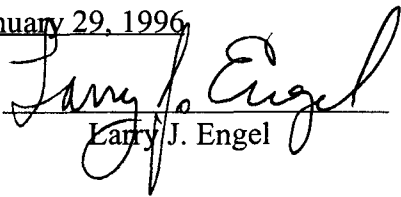
Summary of Board Action

Like past boards that have rejected proposals to restructure the North Peninsula fisheries, the board found no reason to reduce fishing districts, seasons, or harvests in the Northern District. The board recognizes that there may be some amount of interception of Bristol Bay fish in the Northern District. The board further finds that the Northern District Fishery is not an expanding fishery, and does not warrant action under the board's mixed stock policy.

The board did make two changes to North Peninsula regulations. The board amended 5 AAC 09.310 (a)(1)(3) to make the line at Unangashak Bluffs in the Ilnik Section a longitude line rather than a loran line. This change brings this management line into conformity with other boundary lines in the area, all of which are based on longitude rather than Loran lines, and is intended to provide for an orderly fishery. The board also adopted a regulation to clarify that management of Northern District fisheries is based upon established fishing periods, unless superseded by emergency orders. This change simply codified existing practice by the board.

Approved: January 29, 1996

Board Chair:


Larry J. Engel

Vote: 4- 3 (yes - no)

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ALASKA BOARD OF FISHERIES

Findings

South Peninsula June Fishery

April 15, 1996

BACKGROUND

The Alaska Board of Fisheries took action on the South Unimak and Shumagin Islands June Fisheries (combined known as the South Peninsula June fishery) at a special meeting held on April 13, 14, & 15, 1996 in Anchorage. The special meeting was preceded by a meeting in Anchorage which started on March 10, 1996. On March 16, 1996, the Board took staff reports and Advisory Committee oral reports which continued through March 19, 1996. In addition, written comments from the public were received through April 14, 1996.

The Alaska Department of Fish and Game (ADF&G) staff presented a series of written area management reports, technical reports, and scientific analyses as well as a number of oral reports. These provided the Board with comprehensive information relating to the historical and current commercial and subsistence fisheries, stock composition of the respective fisheries, the status of salmon stocks not only in the Alaska Peninsula/Aleutian Islands area, but also in Bristol Bay, the Kuskokwim, Yukon, Norton Sound and Kotzebue areas and, finally, the most recent scientific information and analysis of that information by the staff. After receiving, reviewing and questioning this wealth of information, deliberations began on this matter on April 13, 1996.

These meetings were publicly noticed as required by AS 44.62.190-210. This meeting, as other recent and historic meetings on the same topic, drew considerable public attendance and written and oral testimony. Because of the volume of previous information, oral testimony was taken from the Advisory Committee representatives and written comments were received from the public. Nevertheless, the volume of materials presented to the Board was very considerable.

The Board's deliberations were delayed from the initial meeting, not only to conform to the notice requirements of the Administrative Procedures Act, but also to permit members of the public to provide additional written materials to the Board, to permit the two (2) new Board members to review and digest the

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volumes of information relative to this matter and to permit the staff of the Department to respond in a comprehensive manner to requests by various Board members for information on this matter.

ADOPTION OF GUIDING PRINCIPLES

Initially, in an effort to develop a consistent set of guiding principles, the Board reviewed and discussed the adoption of the Guiding Principles from the Upper Cook Inlet Salmon Management Plan. These principles were modified for application to this fishery and were unanimously adopted by the Board as part of the Management Plan. The Board was cautioned that these principles cannot be applied at this meeting as if they were already in regulation, but that individual Board members may use these principles to guide their decision-making process. The principles are stated as follows:

The Board will, to the extent practicable, consider the following guiding principles when taking actions associated with the adoption of regulations regarding the South Unimak and Shumagin Islands June Salmon Management Plan:

1. The conservation and sustained yield of healthy salmon resources and maintenance of the habitat and ecosystem which salmon and allied species depend for survival throughout their life-cycle.
2. The maintenance of viable and diverse fish species and stocks.
3. The maintenance of the genetic diversity of fish species and stocks.
4. The best available information presented to the Board.
5. The capability of being implemented and evaluated, including factors such as flexible and adaptive management, conflict with other law, and mixed stock management.
6. The capability of providing tangible benefits to user groups, or conservation, with the least risk to existing fishers and to conservation.
7. The stability and viability of subsistence, recreational, commercial and personal use fisheries.

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ORDER OF ASPECTS OF REVIEW

The Board next discussed how it would review this fishery. Judge Erlich's decision was examined and discussed. The Board then established seven (7) critical aspects of his decision to be used to guide its deliberations as follows:

1. The history of the South Peninsula and the Norton Sound fisheries.
2. The scientific/rational data available for the concerned fisheries.
3. Principles of sustained yield.
4. Mixed stock policy.
5. Subsistence.
6. Sockeye to Chum Salmon Ratios.
7. The Allocative Issues.

HISTORY

Following establishment of this format, the Board began its deliberations with a discussion of the history of each fishery. Both fisheries have been the subject of state regulatory actions commencing in 1962 and continuing through the present day. These actions were taken to regulate both the commercial and subsistence harvest as well as to address conservation issues (see RC 19, colored tab 2 and colored tab 6).

The Aleut and Eskimo people of both areas have a cultural and traditional history of utilization of chum salmon which predates recorded history. The commercial exploitation of chum salmon in the June fishery is at least as old as 1908 when the first recorded catches were made. The commercial fishery for export in Norton Sound, is of much more recent development, beginning in the 1960's (see RC 27), although the Nome commercial fishery for barter and trade existed at least as early as the 1890's.

This historical data demonstrates that the greater the abundance of the chum salmon, the greater the number of salmon which are harvested in both fisheries. In the commercial fishery, this abundance/harvest factor is also affected by market demand for the salmon. In the subsistence fishery, the abundance/harvest factor is also affected by subsistence needs.

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SCIENTIFIC AND FACTUAL DATA

The Board next reviewed and discussed the scientific and factual data. This data consisted of the 1987 tagging studies as revised and analyzed by staff (RC 19, colored tab 3), the Genetic Stock Identification studies (RC 19, colored tab 3 and white tab 7), the reported commercial and subsistence harvest data, the spawning escapement surveys and the subsistence harvest assessment in Norton Sound (RC 2). Run timing data was also presented and considered by the Board. Because of staff concerns about total return estimates and measurements of accuracy and precision of the Harvest Rate Analysis Report previously provided to the Board, the Department advised that it was not prepared to present the Harvest Rate Analysis Report to the Board (RC 19, colored tab 5).

The GSI study clearly demonstrated that approximately 60% of the chum salmon harvest in the South Unimak June fishery in Area M in 1993 and 1994 originated from spawning streams in an area called "Northwest Alaska" which includes Norton Sound, the Yukon River (summer chum), the Kuskokwim area, Bristol Bay and populations of the North Peninsula extending as far west as the Meshik River. Thus, the GSI study was not, by itself, sufficiently area or origin specific enough to enable the Board to decide issues relative to Norton Sound and the June fishery. This GSI study, while helpful in the aggregate, does not permit the Board to discriminate as to individual stocks or as to stocks which have been identified as having a conservation concern.

The tagging study is helpful to the Board's decision-making process because it provides evidence relative to the stock composition of chum salmon in the June Area M fishery, a mixed stock fishery. This study provided the earliest data to the staff and the Board. The tagging study assumed that, in a mixed stock fishery, the relative rate of harvest in the fishery is directly related to the size of the stock in the fishery. The data, the number of tags recovered from various areas, supported this assumption. With the subsequent review and analysis by the staff and the Board, this data has been refined and qualified to the point where it can, when coupled with the other data available to the Board, be reasonably relied upon to make rational decisions relative to these fisheries. The 1987 tagging study demonstrated that some chum salmon are caught in Area M which are bound for spawning streams in Norton Sound.

From all of the scientific data and related data, the Board concludes that the composition of chum salmon in the Area M June fishery contains a relatively small number of Norton Sound chum salmon.

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SUSTAINED YIELD

The Sustained Yield discussion by the Board began with a discussion of the Alaska Constitution. Reference was made to the proceedings of the Constitutional Convention and the glossary of terms found in the Convention Papers, folder 210. This definition is as follows:

When so used it [sustained yield] denotes conscious application insofar as practicable of principles of management intended to sustain the yield of the resource being managed. That broad meaning is the meaning of the term as used in the Article.

It was also noted by the Board that in the Convention proceedings that, as to fisheries, the term sustained yield principle was not intended to apply in the strict sense in which it is applied to forestry practices. The drafters realized, full well, that it would be impossible to determine the exact sustained yield in the fisheries and that sustained yield would be left to the state legislature and probably, by the legislature, to the fisheries agency.

The general conclusion reached by the Board is that the Constitution contemplates very wide discretion in the Board of Fisheries in making sustained yield determinations.

With regard to the Norton Sound area, there are some rivers in Nome and Moses Point subdistricts (RC 19, colored tab 6, page 98) for which the department has conservation concerns. The Fish River was removed from this classification after the 1995 season. The escapements for four (4) of the remaining rivers have been met in the last two (2) years. The escapements for the other four (4) rivers have not been met based upon the aerial surveys; however, the escapements, even as measured by the aerial surveys, have improved each of the last two years.

The other staff reports and data demonstrate that all other Norton Sound chum salmon stocks are in good abundance. Based on these improvements and its prior conclusions as to the Norton Sound component of the June area M fishery, the Board concludes that further reductions in the June Area M fishery would not alleviate the remaining conservation concerns for these rivers.

MIXED STOCK POLICY

The Board next discussed the Mixed Stock Policy. The Board recognized that the Area M June fishery has, under the existing Management Plan, already shouldered a substantial burden

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related to the conservation concerns for Western Alaska Chum salmon stock. These measures include a delayed opening date, the chum cap, the reduction in gear size, the pre-season closures of various areas, the in-season closures of "hot spots," the sockeye to chum salmon ratios and the July 1 to July 19th closure of the South Peninsula fishery (5 AAC 09.366). These measures have all resulted in substantial burdens of conservation being imposed on the Area M fishery by removing the opportunity of these fishers to harvest hundreds of thousands of sockeye salmon. Further, the way in which the Department has implemented the Management Plan has resulted in an additional savings of chum salmon substantially below the cap (see RC 19, colored tab 1 and white tab 1).

The Board recognized that a burden of conservation has also been imposed on the Nome and Moses Point/Elim subdistricts. The commercial chum salmon fisheries in the Nome and Moses Point/Elim subdistricts has been closed for a number of years. The subsistence chum salmon fishery in the Moses Point/Elim subdistrict was closed for one year (1994). The chum salmon subsistence fishery has been reduced, restricted, or closed in the Nome subdistrict for over a decade.

Based on the foregoing and its prior conclusions based upon the information set forth above, the Board concludes that both areas have had a burden of conservation imposed upon them which is fair and proportional to their respective harvest of the chum salmon stock.

SUBSISTENCE

Dealing with subsistence, the Board assumed, for the purpose of this special meeting and this actions on the June M fishery, that the Norton Sound chum salmon is a separate fish stock under the subsistence law. In its earlier finding of "customary and traditional" uses of salmon in Norton Sound, the Board determined that a total of 85,300 salmon (all species) were necessary to provide a reasonable opportunity for subsistence uses of salmon in Norton Sound. The chum salmon component of the 85,300 determination was 22,491 chum salmon. At this meeting, the Board discussed and found that 22,491 chum salmon would be necessary to provide a reasonable opportunity for subsistence use of chum salmon in Norton Sound.

Information presented to the Board demonstrated that in 1994, 24,776 chum salmon were harvested in Norton Sound subsistence fisheries. For 1995, the data showed that 43,015 chum salmon were harvested in the Norton Sound subsistence fisheries. The harvest in both years exceeded the 22,491 level necessary to provide a reasonable opportunity for subsistence use (RC 2).

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Testimony from the staff relative to the 1996 anticipated return was that an average return for Norton Sound chum salmon was expected with abundance levels similar to 1995. There was no testimony before the Board that the 1996 run would not provide at least 22,491 chum salmon for subsistence harvest. While certain restrictions, including restrictions which change the fishery practices from the traditional in-river fishery, have been imposed on the subsistence fishery in the Nome subdistrict of Norton Sound, it appears that, in recent years and for 1996, a reasonable opportunity for chum salmon has been and will be provided under the existing regulatory scheme. In this regard, it should be noted that a subsistence fishery was allowed for chum salmon in the Nome subdistrict on three of the rivers for which the department has expressed conservation concerns (Eldorado, Flambeau and Bonanza).

In accordance with the Superior Court's summary judgment order, the Board will, after proper legal notice, address the status of chum salmon as a separate subsistence stock at a future meeting.

RATIOS

The Board next considered the question of the ratios. The department gave an extensive explanation of its use of sockeye to chum ratios in opening the fishery, managing the fishery and closure of the fishery. The department has regularly and consistently delayed the start of the June fishery beyond June 10 to achieve a satisfactory sockeye to chum ratio that would best meet the twin goals of the Management Plan. Those goals are to catch sockeye salmon to the guideline harvest level while, at the same time, minimizing the incidental catch of chum salmon.

The opening ratio is determined annually by the department based upon the projected Bristol Bay forecast and the 8.3% harvest allocation. The department stated that fixing a set ratio or a definite, inflexible opening date which would always apply to the fishery would interfere with its ability to best meet the plan's two goals.

The Department explained that the June 24th 2:1 sockeye to chum ratio is based on the run timing considerations of both sockeye and chum, historic ratios of chum and sockeye during late June, concern for chum salmon conservation in locations outside of Area M and to prevent an accelerated "catch up" action in the later part of the season to harvest up to the full amount of the chum cap.

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ALLOCATION ISSUES

The Board then reviewed and discussed the allocation criteria found in 5 AAC 39.205. Each of the seven (7) criteria was considered. The history of both fisheries was reviewed and discussed in great detail early in the deliberations as were the characteristic and the participants in the fisheries. The Board acknowledged that personal and family consumption of fish was more important to the subsistence fishers in Norton Sound than to the commercial fishers in Area M. From a commercial fishery point of view, the alternative fisheries resources available to both fishers are limited. From a subsistence point of view, the reduction in opportunity relative to chum salmon can be substituted with other salmon species. The Board found that both fisheries are important to the economy of their respective regions, but that, due to its size and composition, the dollar value of the Area M fishery is more important to the economy of the state. The issue of recreational for residents and non-residents was not viewed as a relevant consideration.

BOARD ACTIONS

Next, the Board considered amendments to the existing Management Plan 5 AAC 09.365. Board Member Umphenour moved to reduce gear size. After discussion, this motion failed, two in favor and four opposed.

Board Member White then moved to reduce the chum cap from 700,000 to 500,000 with a float of 50,000 depending upon the conservation concerns or the lack thereof relative to river systems in Western Alaska including Bristol Bay. The intent of the motion was to reduce the cap by ten percent if more than 15 AYK-Bristol Bay summer chum stocks had conservation concerns (as delineated by the Department of Fish and Game in its Run Outlook definitions). Likewise, if AYK-Bristol Bay summer chum stocks experience a two-year 20 percent increase in run abundances, the cap would be adjusted upwards by ten percent to 550,000 fish. After discussion, this motion failed, two in favor and four opposed.

Board Member Umphenour moved to require the retention and recording on fish tickets of all salmon caught in the June fishery. After discussion, the motion passed, seven in favor and none opposed. It should be noted that Board Member Angansan was declared not to have a conflict relative to this issue and participated in the vote.

Finally, White moved to adopt the sustained yield principles contained in RC 9 and RC 12 into the June Management Plan. After discussion, the motion failed, one in favor and six

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opposed. Again, Board Member Angansan was declared to have no conflict and participated in the vote.

This and other issues best described as principles to be applied to mixed stock fishery decisions were then scheduled for the October work session by unanimous vote.

Upon the adoption of these findings, the Board incorporates by reference all prior findings relative to the Area M June fishery, to the extent that these prior findings are unmodified by this Finding.


Larry Engel, Chairman
Board of Fisheries

Approved: Carried (5/1/1) (Yes/No/Abstain)
Date: April 15, 1996
Location: Anchorage, Alaska

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**Alaska Board of Fisheries
Findings
Chum Salmon Conservation Measures For The
Arctic-Yukon-Kuskokwim and South Unimak/Shumagin Islands June
Fisheries**

A. Background:

By legal notice dated February 1, 1994, the Alaska Board of Fisheries (board) announced its intention to consider chum salmon conservation measures throughout the Arctic-Yukon-Kuskokwim (AYK) and in the South Unimak/Shumagin Islands June fishery at its regularly scheduled board meeting in March 1994. The board meeting drew considerable public attendance and testimony. The board heard testimony from approximately 175 members of the public and 10 advisory committees. The board also reviewed a considerable volume of written comments submitted by the public prior to and during the meeting. The Alaska Department of Fish and Game (ADF&G, department) presented a comprehensive review of the information available for the AYK chum salmon stocks and fisheries and for the South Unimak/Shumagin Islands June fishery.

The board has examined the Alaska Peninsula June fisheries and their relationship to the AYK chum salmon stocks and fisheries numerous times. See board findings FB-1-92 and FB-06-92.

During the summer of 1993, it became apparent that AYK and other Alaska chum salmon returns were well below expectations, due primarily to the lack of four year old spawners.

Consequently, when the board met in October 1993 to review agenda change requests and petitions, the board considered requests to revisit the chum salmon cap in the South Unimak/Shumagin Islands June fishery. The board found that these requests did not meet the criteria set out in 5 AAC 39.999 for taking the matter out of cycle. Additionally, ADF&G indicated there was no new information regarding chum salmon stock identification in the South Unimak/Shumagin Islands June fishery. Nor was there any indication from ADF&G that the estimated 2.5 million missing AYK chum salmon were related to the June fishery.

Immediately after the board adjourned its October 1993 meeting, the commissioner of ADF&G called a special meeting of the board for December 1993 to consider any and all actions to address the chum salmon conservation problems in the AYK fisheries.

The special informational meeting was convened on December 1 - 4, 1993 in Anchorage so that the board could consider scheduling matters for a regulatory meeting aimed at addressing the various AYK chum salmon problems. At the December meeting, the board heard three days of public comment from 80 members of the public and 9 advisory committees, and numerous staff reports

concerning chum salmon stocks from the Alaska Peninsula through nearly the northern extent of their range in the Kotzebue area. The meeting was not noticed for regulatory action, but the board agreed to review a number of department options addressing conservation concerns throughout the suspected range of AYK chum salmon stocks. The board eliminated a specific 300,000 fish reduction in South Unimak/Shumagin Islands chum cap, but did agree to re-examine that cap at the March 1994 meeting.

The department-generated proposals were initially published with the February 1, 1994 public notice, with revised set of proposals published in early March for public review and comment and scheduled for board consideration at the March 1994 meeting.

At the March board meeting, the board considered six proposals submitted by the department. The proposals provided generally for an AYK region wide rebuilding plan that would allow chum salmon saved in a fishery to pass through to the spawning grounds, provide the department with greater flexibility for inseason management to conserve chum salmon during fisheries for other salmon, and where possible, provided additional opportunities for subsistence fisheries while protecting chum salmon stocks. The actions taken by the board for the AYK fisheries and for the South Unimak/Shumagin Islands June fishery are generally as set out in Section B of these findings.

B. Summary of Regulatory Changes Adopted by the board:

The board took action to conserve AYK chum salmon stocks and to allocate the burden of conservation consistent with the "Policy for the Management of Mixed Stock Salmon Fisheries" [5 AAC 39.220]. With respect to the AYK fisheries, these measures are intended to minimize, if necessary, the taking of chum salmon while allowing subsistence fishing of other salmon species. These measures also provide for the commercial and sport harvests of other salmon species where escapement is met and subsistence is provided for and there is additional harvestable fish.

With respect to the South Unimak/Shumagin Islands June fishery, these measures provide the department with additional flexibility to further minimize the possibility of large chum salmon harvests by maximizing fishing opportunity during periods of high sockeye to chum salmon ratios.

Proposal No. 1: The board adopted an overall Arctic-Yukon-Kuskokwim Region Chum Salmon Rebuilding Management Plan with the guiding principle that the savings of chum salmon resulting from regulatory actions in a fishery to reduce chum salmon interceptions should be allowed to pass through subsequent fisheries to the spawning areas as needed to maintain sustained yield. This plan applies to all AYK chum salmon stocks and fisheries and to the South Unimak/Shumagin Islands June fishery.

Proposal No. 2: The board took action to make the harvestable surplus of chum salmon at the Sikusuiqa Springs Hatchery available to Kotzebue area

commercial fishers using set gillnets through emergency orders issued by the department. This action will maximize harvest on excess hatchery stocks returning to the Sikusuilaq hatchery, while intercepting wild chum salmon stocks as little as possible.

Proposal No. 3: In the Norton Sound-Port Clarence area, the board provided the department with authority to target commercial fishing on Chinook salmon by using larger mesh gillnet gear that would only minimally impact chum salmon, provided authority to allow only beach seine gear to be used for subsistence fishing, and to require that chum salmon taken with beach seine gear must be returned to the water alive. The board also provided authority to the department to close set gillnet gear separately from other gear by emergency order if necessary for the conservation of chum salmon.

Proposal No. 4: In the Yukon area, the board established a new coastal fishing district to allow flexibility in management actions if necessary to protect chum salmon during subsistence fisheries. The board also provided the department with authority to limit commercial fishing gear to large size Chinook salmon gillnet gear, to continue to provide for commercial fishing of Chinook salmon while minimizing interceptions of chum salmon. The regulations were amended to provide the department with authority to limit the size of gillnet gear for subsistence fishing to less than four inches or greater than eight inches to allow subsistence fishing while minimizing the impact on chum salmon and to require that fish wheels be equipped with live boxes and that chum salmon be returned to the water alive. The board provided authority for the department to conduct a test fishery in the Anvik River to determine the feasibility of harvesting surplus summer chum salmon without stressing Chinook stocks. The markers at the mouth of the Andrafsky River were moved to provide greater management flexibility. Additionally, the board created a time separation between commercial and subsistence fishing periods to lessen the opportunity for subsistence fish to be illegally sold, while still providing a reasonable opportunity for subsistence when there is a harvestable portion.

The Yukon River chum salmon stocks were also addressed through the Yukon River drainage Fall Chum Salmon Management Plan, which was adopted at this meeting. The purpose of this management plan is to assure adequate escapement of fall chum salmon into the tributaries of the Yukon River and to provide management guidelines to the department. The board applied the mixed stock policy (5 AAC 39.220) to the Yukon River fisheries and determined the policy has been met by the Yukon River Drainage Fall Chum Salmon Management Plan and the other management plans and regulations the board has in place in the Yukon River.

Proposal No. 5: In the Kuskokwim area, the board provided the department with authority to allow subsistence fishing for Chinook salmon with large mesh gillnet gear to minimize chum salmon interceptions, and limit the size of gillnet gear for subsistence fishing to less than four inches or greater than seven and one-half inches, and to require that fish wheels be equipped with live boxes and chum

salmon taken with a fish wheel or beach seine gear must be returned to the water alive.

Seven members participated in the vote on proposals 1-5 and the vote on each was 7-0.

Proposal no. 6: In the south Unimak/Shumagin Islands June fishery, the board amended the South Unimak/Shumagin Islands June Fishery Management Plan by deleting the fixed opening date, and eliminating the fixed sockeye quota periods. These actions give the department greater flexibility to harvest sockeye while the sockeye to chum salmon ratios are high.

Previously the management plan required the fisheries to be opened no earlier than June 13 and openings were conducted within specified periods with sockeye quotas, and closed when the sockeye quota of a certain period had been met. These amendments give the department the tools that they requested to reduce chum salmon catches in the June fishery by allowing fishing to continue when the sockeye to chum ratio is high. The Board adopted proposal six by a vote of 5-0. Two members did not participate or vote due to a determination by the Chair that they had a conflict of interest with regard to proposal six.

C. Findings--General:

1. The Board incorporates by reference its previous findings on the South Unimak/Shumagin Islands June fisheries, FB-1-92 and FB-06-92, and on Norton Sound chum salmon, 92-5-FB, and on Toklat fall chum salmon, 92-3-FB.

2. The Board incorporates by reference the public testimony, staff reports and Board discussion that occurred at the December 1 through 4 1993 informational meeting and at the March 1994 meeting.

D. Findings--AYK Management Measures:

The Board finds that stocks of chum salmon in Northern Norton Sound, the Aniak portion of the Kuskokwim drainage, and some of the Yukon River systems, particularly fall chums in the Toklat drainage, continue to fall below the catches and estimated escapements of the 1980's, and that the 1993 failure of a 4 year old spawners exacerbated existing problems in those systems.

The Board noted in amending Proposal 1, that managing for the high commercial catches in the AYK during the 1980's may or may not be a realistic goal. The Board believes that there is significant difference between managing for sustained yield and managing for high commercial catches and encourages state expenditures that will insure realistic management goals for these important systems.

From a conservation standpoint, it is difficult, if not impossible, to pin down a single regulatory solution to the chum salmon abundance problems being

experienced in some AYK systems. The extreme variability in stock conditions, unknown ocean survival, unknown effects of delayed maturity displayed by some west coast chum stocks, and imprecise harvest and escapement data for AYK chums all contribute to the difficulty of setting up effective regulatory and management regimes.

The problems occurring in some systems are even more baffling considering that other AYK chum stocks appear to be quite healthy. The Anvik River (a tributary to the Yukon River), generally considered to be the largest single chum salmon producing system in North America, continues to experience generally healthy runs and escapements. This is also the case for 75% of the chum stocks in Norton Sound, specifically those returning to the Southern Norton Sound Districts of Shaktoolik and Unalakleet. These districts continue to support healthy mixed stock chum salmon fisheries.

The Board also noted that in 1993 chum salmon abundance was far below average in all areas of Alaska north of Sitka. ADF&G staff reports during the December meeting indicated that the depressed chum returns may be linked to massive releases of chum salmon from Asian hatcheries. These releases may also be responsible for the delayed maturity of North American chums.

To further complicate the picture, the Board received informational reports from the staff and public that trawl bycatch of chum salmon during the 1993 Bering Sea pollock fishery was at an all time high. It remains unknown whether this bycatch indicates a high abundance of immature chum salmon rearing in the Bering Sea, or an elevated interception of already depressed stocks.

In taking the actions on Proposals 2-5, the Board sought ways to protect know chum salmon spawning stocks in troubled systems while providing maximum opportunities for subsistence, commercial, and sport fishing on healthy chum and other salmon populations. The Board established regulations which give the commissioner maximum flexibility to respond to inseason situations so that harvest opportunities can be maximized for all users.

E. Findings--South Unimak/Shumagin Islands June Fishery:

The board rejected an amendment to lower the South Unimak/Shumagin Island June Fishery Management Plan to lower the chum cap to 300,000 from 700,000 fish. (Two members found to have a conflict on interest on proposal six did not vote. Two members voted in favor of the amendment. Three voted in opposition.) The Board examined, in detail, the department's revised analysis of the 1987 tagging report which assigned stock-of-origin to the 1987 catch and extrapolated that stock identification to various chum caps for any year. The Board reviewed all information in its decision, and found the department's report to lead to the same conclusion that previous Boards came to in applying the 1987 tagging information.

In applying the department's revised analysis board members voting in opposition found that a 300,000 chum cap in the South Unimak/Shumagin Islands June fishery could be expected to provide only 4-5,000 chum salmon to Northern Norton Sound systems even assuming a zero mortality on these fish between the June fishery and Norton Sound. Only 27,000 to 43,000 chums could be delivered to the Yukon River under the department's revised analysis. These members found that these numbers of fish would be almost undetectable in areas as large as Northern Norton Sound or the Yukon River. In reaching this determination, they noted that it had arrived at exactly the same conclusion as previous Boards had using similar analyses. They also noted that the South Unimak/Shumagin Island June fishery catch of AYK bound chum salmon was relatively minor in comparison to the totality of AYK chum salmon abundance. These members also found that the conservation problems in the AYK fisheries could not be largely accounted for by the South Unimak/Shumagin Islands June fishery, nor would even a total closure of the June fishery be expected to bring about significant restoration of troubled AYK systems.

The Board applied the Mixed Stock Policy to the South Unimak/Shumagin Islands June fishery and found that the existing regulatory framework, and the new flexible additions to the regulations meets the policy. The management plan and the restrictive regulations adopted for this fishery over the past several years constitute appropriate assignment of conservation burden required by the policy even though the prevailing member of this Board and previous Boards have not found a significant cause and effect link between the South Unimak/Shumagin Islands June fishery and AYK fisheries.

Management actions in reducing fishing time and moving fleet pressure from waters where high concentrations of chums exist have kept the chum salmon harvest relatively stable over the last eight years. Chum caps established by previous Boards since 1986 have been exceeded only once; in 1991. Chum catches seem to be dependent upon the relative abundance of both chum and sockeye salmon. In other words, in years like 1993 when sockeye abundance is high and chum salmon abundance is low, the South Unimak/Shumagin Islands fishery is able to harvest its sockeye allocation without approaching the cap. Since the 1994 forecasts for Bristol Bay sockeye is at a record high, it is reasonable to expect that if sockeye abundance is high and chum abundance is low that the 700,000 chum salmon cap will not be reached unless chum abundance is also high, in which case that need to take severe measures in the June fishery are not required.


This fact, the new flexibility the department has, the fleet's commitment to work with the department to identify inseason areas that should be closed, and the voluntary "chum pool," provide protection to traveling chum salmon stocks that is consistent with the mixed stock policy and with sustained yield management.

Department calculations using a mathematical model based on past years' fishery performances indicated that a chum cap of 300,000 would mean a potential loss of 2,269,000 sockeye salmon to Area M fishers. This model projects average conditions and does not specifically account for either low or high chum abundance.

With a record sockeye run projected for Bristol Bay in 1994, this reduction of the cap could, however, according to the model, create a significant burden on Area M fishers and their families with the actual contribution of such a reduction insignificant in the conservation of AYK chum stocks.

F. Summary:

The actions taken at this meeting go far toward developing regulations to address the conservation concerns, foster sustained yield management, and rebuild Arctic-Yukon-Kuskokwim Region chum salmon stocks. Conservation concerns for several Arctic-Yukon-Kuskokwim Region chum salmon stocks that have been depressed in recent years have been identified and action taken to ensure sustained yield for these stocks. The Board also noted that the majority of this frustration in addressing the issue of resurrecting depleted AYK chum systems has less to do enacting more regulations than it has to do with acquiring more information. The Board discussed that the status of fisheries data in most of the AYK is extremely deficient, and continuing to deliberate regulatory solutions in the absence of basic biological data on AYK systems is counterproductive and a misdirection of time and resources. In addition, the Board of Fisheries and the Department of Fish and Game will work toward reducing the bycatch of western Alaskan origin chum salmon in ocean trawl fisheries.


Larry Engel, Chair
Alaska Board of Fisheries

APPROVED: 10/21/94 @ 8:27pm
Location: Fairbanks, AK

Action on AYK Portion of Findings:

(6/0/1: Yes/No/Abstain) Abstain: Virgil Umphenour

Action on South Unimak/Shumagin Islands June Fishery Portion of Findings:

(3/1/3: Yes/No/Abstain) Abstain: Virgil Umphenour;
Trefon Angasan, Jr.; and
Dick Jacobsen

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.

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Mike Martin
Chair
Alaska Board of Fisheries

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

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DATE: _____

Mike Martin
Chairman, Alaska Board of Fisheries

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DATE 5/13/92

T. M. Elias
THOMAS M. ELIAS
VICE-CHAIRMAN, AK. BOARD OF FISHERIES

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

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.

DATE: 5-14-92

Michael L. Martin
Mike Martin
Chairman, Alaska Board of Fisheries

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ALASKA BOARD OF FISHERIES
South Unimak and Shumagin Islands
June Salmon Management Plan
(5AAC 09.365)
Finding

History and Background

At its regularly scheduled Alaska Peninsula/Aleutian Islands Areas meeting in Anchorage, which began November 13, 1991, the Board of Fisheries took action on the South Unimak and Shumagin Islands June fishery.

The meeting was publicly noticed as required by AS 44.62.190-210. The meeting drew considerable public attendance and testimony. The board heard testimony from 126 members of the public and nine western Alaska Advisory Committees. The board also reviewed a considerable volume of written comments submitted by the public.

The Alaska Department of Fish and Game staff presented 23 different oral reports that provided the board with a comprehensive review of the information available for the peninsula fisheries. The staff reports were not restricted to the Alaska Peninsula commercial fisheries. Because most of the salmon going through the South Unimak and Shumagin Islands June Fishery spawn in other areas, the board had the department provide reports on the status of all western Alaska chum salmon stocks, as well as the commercial and subsistence fisheries on these stocks. Specifically, these reports included the Alaska Peninsula, Aleutian Islands, Bristol Bay, Kuskokwim River, Yukon River, Kotzebue and Norton Sound areas.

Since 1975, the Alaska Peninsula Area M South Unimak and the Shumagin Islands June fishery has been managed under a board regulatory plan. The plan specifies a sockeye salmon catch allocation in the South Unimak and Shumagin Islands June fishery of 8.3 percent of the projected Bristol Bay sockeye salmon harvest. Initially, under this plan, other salmon species harvested incidentally to the sockeye were not limited.

Following large incidental harvests of chum salmon in 1982 and 1983, the board, over a period of several years, adopted various regulations intended to limit the incidental harvest of chum salmon. Among the actions taken was a board imposed cap on the number of chum salmon (chum cap) allowed to be taken in the South Unimak and Shumagin Islands June Fishery. The chum cap was initially set at 400,000 in 1986, was removed in 1987, was reimposed at 500,000 in 1988, and then raised to 600,000 fish in 1990 and 1991. In 1990, the board also adopted significant gear depth restrictions and closed the fishery for the first two weeks in June. These changes to the chum cap and the management plan

reflect ongoing efforts by the board to strike a balance between two goals: attainment of the sockeye quota and control of the incidental chum harvest.

Adult salmon tagging studies conducted by the Alaska Department of Fish and Game in 1987 indicated that chum salmon tagged and released during the South Unimak and Shumagin Islands June fishery were recovered from a wide variety of areas, including large numbers from Japanese hatcheries. Of the western Alaska stock component, the largest contributors were chum salmon bound for Bristol Bay and Kuskokwim River spawning areas. Relatively minor components of the chum salmon were from stocks returning to Kotzebue, Norton Sound, and Yukon River areas.

At the November meeting, the board considered and rejected proposals to close the South Unimak and Shumagin Islands June fishery; they also rejected proposals to eliminate the cap on the number of chum salmon incidentally harvested.

Board Opinion

The board voted to retain a limit on the chum salmon catch but changed the way in which it is determined. Under the new revision to the South Unimak and Shumagin Islands June fishery, the chum salmon cap for a given year will be equal to 40 percent of the projected Bristol Bay sockeye salmon harvest for that year, with the added stipulation that in no year will the chum salmon harvest exceed 900,000 fish regardless of the Bristol Bay sockeye salmon allocation.

The board examined the catch limits over the past ten years and found that, on an average, at 40 percent of the preseason projected Bristol Bay sockeye salmon harvest the chum salmon catch limit would have been very close to the previous 600,000 chum salmon limit. An incidental chum catch limit of 40 percent would not result in a significant change to the South Unimak and Shumagin Islands June fishery chum cap (Attachment No. 1). The board found the changes made to the South Unimak and Shumagin Islands June fishery to be consistent with the South Unimak and Shumagin Islands June Salmon Management Plan (5 AAC 09.365, including specifically the policy embodied in the regulation). The board anticipated that due to large sockeye salmon returns projected for the next few years, the chum harvest could be expected to be above the 600,000 fish level for these years (See Attachment No. 1). In years of lower sockeye salmon returns, however, the chum harvest would be considerably below 600,000 fish.

The board was aware of conservation concerns for certain western Alaska chum salmon runs, particularly in portions of northern Norton Sound and for certain upper Yukon River fall chum salmon runs. The board was also aware that subsistence fishing on these

discrete runs is being managed conservatively, as part of an ongoing rebuilding effort. This was expressed in staff reports and public testimony. Based on available information from histories of the fisheries and the 1987 tagging study, the board determined that the impact of the South Unimak and Shumagin Islands June fishery on returns to these subareas was so minimal, if detectable at all, as to be insignificant.

The board determined that the potential increase in the chum harvest limit in years with large sockeye returns would not impact conservation of western Alaska chum salmon populations and would not interfere with the reasonable opportunity for subsistence harvest of these salmon, which the board previously determined were customarily and traditionally used for subsistence. At the same time, basing the chum cap on a ratio of 40 percent of the projected Bristol Bay sockeye harvest would provide an opportunity in most years for the Alaska Peninsula fishermen to harvest their historical sockeye salmon catch allocation.

Approved: (Yes/No/Absent/Abstain) (6 / 1 / 0 / 0)
Location: Anchorage ADF&G Office
Date/Time: 03/02/92 @ 12:10 p.m.

Michael B. Martin
Mike Martin, Chairman
Alaska Board of Fisheries

Enclosure

1/10/95

Year	8.3% of BB Forecast	Actual Sockeye	Actual Sockeye/Chum	Actual Chum Catch	.3 of the GHL -- Number of Chum Salmon --	.4 of GHL	.5 of GHL
1982	2258	2121	1.94	1094	677	903	1129
1983	1793	1961	2.50	784	538	717	897
1984	1356	1389	4.12	337	407	542	678
1985	1685	1862	3.89	479	506	674	843
1986	1107	470	1.34	351	332	443	554
1987	775	793	1.79	443	233	310	388
1988	1542	756	1.43	527	463	617	771
1989	1463	1745	3.83	456	439	585	732
1990	1327	1347	2.60	519	398	531	664
1991	1920	1549	2.01	771	576	768	960
1992	2300				690	920	1150
1993	1800				540	720	900
1994	2300				690	920	1150
1995	2100				630	840	1050

BOARD OF FISHERIES FINDING

POST-JUNE SALMON MANAGEMENT PLAN
FOR THE ALASKA PENINSULA/ALEUTIAN ISLANDS

Mixed stocks of salmon bound for other systems have historically been harvested in significant numbers along the Alaska Peninsula. To insure that none of these runs are over harvested and to address the allocative concerns of adjacent areas relative to the increasing efforts on sockeye and coho stocks bound for their areas, the Board of Fisheries developed the Post-June Salmon Management Plan for the Alaska Peninsula/Aleutian Islands.

This plan recognizes that the Department manages a directed fishery for local pink and chum salmon stocks in these districts during the Post-June fisheries.

After careful consideration of available run timing data the Board chose to open the fisheries in the following districts on July 20.

The Shumagin Islands Section of the Southeastern District, excluding all waters south of a line extending from the eastern shore of Zachary Bay at $54^{\circ} 22' 39''$ N. Latitude, $160^{\circ} 35' 03''$ W longitude to a point on the western shore of Zachary Bay at $54^{\circ} 22' 39''$ N latitude, $160^{\circ} 38' 18''$ W longitude;

The Southcentral District, excluding all waters north of a line extending from the eastern shore of Pavlof Bay at $55^{\circ} 24' 34''$ N latitude, $161^{\circ} 29' 24''$ W longitude, to a point on the western shore of Pavlof Bay at $55^{\circ} 24' 34''$ N latitude, $161^{\circ} 41' 06''$ W longitude (Black Point) and the Canoe Bay Section;

The Southwestern District, excluding the Cold Bay, Thin Point and Morzhovoi Bay sections, and the Unimak District.

The board considered delaying the opening of the South Peninsula fishery until July 15 and July 25 before adopting the July 20 date. The board found that this date would provide the maximum utilization of the pink and chum stocks. This fishery is also anticipated to harvest sockeye and coho as incidental catch.

The following areas shall open July 6.

In the Shumagin Islands Section of the Southeastern District, all waters south of a line extending from the eastern shore of Zachary Bay at $54^{\circ} 22' 39''$ N latitude, $160^{\circ} 35' 03''$ W longitude, to a point on the western shore of Zachary Bay at $54^{\circ} 22' 39''$ N latitude, $160^{\circ} 38' 18''$ W longitude;

In the Pavlof Bay Section of the Southcentral District, all waters north of a line extending from the eastern shore of Pavlof Bay at $55^{\circ} 24' 34''$ N latitude, $161^{\circ} 29' 24''$ W longitude, to a point on the western shore of Pavlof Bay at $55^{\circ} 24' 34''$ N latitude, $161^{\circ} 41' 06''$ W longitude (Black Point), and the Canoe Bay Section;

In the Southwestern District, the Cold Bay, Thin Point and Morzhovoi Bay Sections.

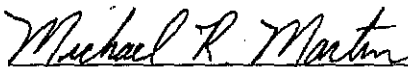
These terminal and near shore fisheries allow early access to arriving pink salmon while they are at their best quality. The inner and near shore areas will also fully utilize local stocks.

The choice of July 20 effectively maximized the full utilization of local pink and chum salmon stocks, stabilized the interception of sockeye salmon stocks, and minimized the interception of coho salmon stocks.

Adopted: November 23, 1991

Vote: (Yes/No/Abstain/Absent) (5/0/0/2) [Absent: Robin Samuelson, Tom Elias]

Location: Anchorage International Airport Inn



Mike Martin, Chairman
Alaska Board of Fisheries