

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

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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.

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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

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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

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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.

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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.

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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.

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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

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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
