

NAKNEK RIVER SUBSISTENCE PROPOSALS

by
Steven R. Behnke

Technical Paper Number 43

Alaska Department of Fish and Game
Division of Subsistence
Dillingham, Alaska
December 1980

NAKNEK RIVER SUBSISTENCE PROPOSALS

Steven Behnke
Subsistence Section
Dillingham, Alaska

December 1980

BACKGROUND

Two proposals dealing with subsistence fishing on the Naknek River have been submitted for consideration by the Board in 1980. Proposal #53 would extend subsistence fishing time during mid-summer (June 23 - July 17) from the current two 24-hour periods per week to three periods. It would also reduce fishing time before and after the mid-summer season from the present unlimited fishing time to three periods per week. This would increase fishing time on the Naknek River during the peak of the sockeye run, while decreasing it during the king and silver runs.

Proposal #55 would restrict subsistence fishing on the Naknek River to residents of the drainage.

Three sets of questions are raised by Proposal #53. First, is there a conservation problem which requires restrictions on early and late summer Naknek salmon harvests? Second, what are the customary and traditional uses which would be affected by the proposal? And third, if restrictions upon customary and traditional uses

are found to be necessary, how can traditional efficiency and the subsistence priority best be protected?

The conservation question is a complicated one and will be left to Division of Commercial Fisheries biologists. In general, however, the king stocks of the Naknek River appear to be healthy.

If it is decided that restrictions upon harvests are necessary for conservation purposes, the second two sets of questions become significant. The remainder of this paper deals with patterns of harvests and utilization of fish in the Naknek drainage, and with possible options for protecting king stocks.

USES

Naknek kings and silvers, the species of most concern to these proposals, are harvested by a wide spectrum of users. This discussion will focus on kings since little information is available on the use of silvers. The Division of Commercial Fisheries is presenting a table showing sport, "subsistence" and commercial harvests for the Naknek River. As this table shows levels of effort and harvests in all three categories have been increasing in recent years, and demands for kings are likely to continue to rise.

The term "subsistence" is placed in quotation marks in this context to indicate that it refers to those users who obtain subsistence

salmon permits from the Department, but does not necessarily imply customary and traditional use.

Since anyone can obtain a permit to take Bristol Bay salmon for domestic use under existing regulations, this distinction is an important one in cases where restrictions on use for conservation purposes are necessary.

People have been fishing for king salmon with gill-nets on the Naknek River for as long as the oldest residents of the area remember. The king is the first salmon to arrive in the spring, and residents of the river have always welcomed it by sharing the first few fish taken in late May widely through the community.

The early arrivals of kings has made them important to residents of the river for several reasons. They are the first fresh salmon available at the end of winter. Cooler, drier weather, and the lack of flies in the spring make it easier to put up dried fish, with less spoilage. The high oil content of kings also contributes to their high storage and eating quality.

The focus of commercial fishing in the Naknek River has always been the sockeye run, in late June and July. Few economic opportunities have been available outside this short commercial fishing season. For this reason many South Naknek and Naknek residents dependent

upon the fluctuating and unpredictable returns from commercial fishing, have attempted to put up salmon for food for family use in early summer before commercial markets are available. This pattern has been important as long as local residents have been involved in cannery work and commercial fishing.

Increasing government investment in the Naknek-King Salmon area over the last 35 years in the military base, in the airfield, in schools, law enforcement, and resource management, have resulted in an increasing population of more transient residents. Professionals and technicians come to the area for a year, or for a few years, and then move on. These people make use of the "subsistence" permit system to take fish for their own use.

In general, they take fewer fish, and spread their harvests over longer periods of time, than do long-term residents dependent upon the commercial fishery. Most have dependable year round incomes and their free time for fishing, (evenings and weekends) is distributed evenly over the summer. These difference in patterns of use are demonstrated in the "subsistence" harvests reports for the Naknek River. South Naknek residents who subsistence fished, for example, probably typify the long-term residents of the river. They took an average of 103 salmon per permit in 1980. Residents of King Salmon, which includes more transients and more recent arrivals, took an average of 66 salmon per permit fished. The permits

showed that most South Naknek people fished from late May to late June, while King Salmon residents fished throughout the summer.

The third major group of people who obtain "subsistence" permits for fishing on the Naknek River has only really become distinct in the past year. These are people from Anchorage and other areas outside Bristol Bay. Although the number of these "outsiders" taking Naknek fish with gill-nets gradually increased during the late 1970's, in 1980 a major jump occurred in their numbers. This year, of the 358 "subsistence" fishing permits issued for the Naknek drainage, 147, or 41%, were issued to people who listed their address as a community outside Bristol Bay. More permits were issued to people who gave a general delivery address in Naknek or King Salmon and were probably summer transients.

The number of "subsistence" permits issued for the Naknek River jumped from 243 permits in 1979 to 358 in 1980, an increase of 47%. This contrasts with the 7% average annual rate of increase from 1974 to 1979. Most of this increase from 1979 to 1980 was due to Anchorage and other Southcentral Alaskan residents obtaining Bristol Bay permits. Forty-one percent of the permits issued for the Naknek River in 1980 went to people who listed addresses outside the Bristol Bay region, mainly from the Anchorage-Kenai areas.

Reasons for this increase appear to include increasing public awareness of the "subsistence" permit system, publicity about huge Bristol Bay

salmon runs in 1979 and 1980, and increased availability of permits. Bristol Bay "subsistence" permits were issued to 160 people from the Anchorage office in 1980, the first time permits had been issued outside Bristol Bay.

This increasing effort is perceived as a threat to the small stocks of Naknek kings and silvers, which are highly valued by sport, subsistence and commercial users. This appears to be the reason Proposal #53 was submitted.

Harvest records show that the "subsistence" harvest is not the most dynamic factor affecting Naknek king populations, however. Sport and commercial harvest have both increased more rapidly than "subsistence" takes and more kings are taken in the Naknek king sport and commercial fisheries than in the subsistence fishery. These records also indicate that the newly developing Anchorage-based "subsistence" fishery may not have as much of an impact upon Naknek kings and silvers as managers fear.

The fishermen from outside the Bristol Bay area does not take nearly as many fish as local residents, and focuses his efforts on the abundant sockeye rather than kings or silvers. Fishermen from outside the region reported taking 1.8 kings/permit, while residents of the river reported 5.8 kings/permit. Many Anchorage permittees did not even fish. Only 14% of the Naknek River

residents who obtained permits did not fish, compared with 36% of the non-Bristol Bay residents who obtained permits, but did not fish.

Fishermen from outside the Bristol Bay region also generally tended to fish later in the summer than long-term residents of the region did.

Conversations with residents of Naknek and South Naknek, and a brief review of the "subsistence" permits returned in 1980, revealed that many people fish continuously from the end of May or early June until the third or fourth week of June in order to put up the kings they want for family use.

The harvest records of 11 South Naknek and Naknek households examined indicated that they fished an average of 16 days during late May and June to take an average of 13 kings, for an average of .8 kings per day per household. These figures are only suggestive, since the most detailed reports were selected, rather than a random sample. South Naknek residents as a whole reported taking 12 kings per permit, while Naknek households reported 5 kings, and King Salmon residents reported 4.5 per permit.

The sample suggests that people's perceptions are correct - it takes a long time to take the kings they want in May and early June. This may have been partly due to the pattern of the Naknek king run in 1980, which was apparently spread over a much longer period of time than usual.

Many residents of the Naknek River and Bristol Bay in general view Proposal #53 as an attempt to allocate king and silver salmon to sport fishermen and growing numbers of Anchorage "subsistence" gill-net fishermen, at the expense of the traditional users of these resources.

MANAGEMENT AND REGULATORY APPROACHES

If it is found necessary to reduce harvests of Naknek kings and silvers for conservation purposes, a number of options for protecting both resources and the subsistence priority are available. Several of these options are summarized below:

1. Reduce gill-net fishing time, as proposed in Proposal #53.

This option would guarantee escapement between fishing periods, would permit efficient enforcement against waste, since Fish and Wild Protection could easily check to see that nets had been pulled out of water and would probably reduce king and silver harvests, at least until numbers of fishermen increased further. As discussed earlier, it would have the disadvantage of reducing efficiency of long-established uses, however, and could increase competition and congestion in the best fishing sites.

2. Impose subsistence bag limits.

This approach would give regulatory strength to present "guideline" harvest limits imposed at the discretion of fishery managers. It could be used to restrict harvest levels. It would be difficult to accommodate the high degree of variability between households in size, economic situation, and use of fish through this approach, however.

3. Reduce sport daily bag limits for king salmon from the existing levels (five per day).

4. Reduce the commercial harvest of kings in the Naknek-Kvichak district, and continue to improve stock separation information.

5. Define the customary and traditional subsistence use of Naknek kings.

Possible components of this definition could include length of time in the Naknek king subsistence fishery, and economic attachment to the fishery. Residency in the area could serve as a surrogate measure of these relationships. One obvious customary and traditional use of kings has been to feed the people who live along the banks of the Naknek River.

One approach would be to define customary and traditional use as one or both of the following:

- a. Use of Naknek kings in three of the last five years - as indicated by "subsistence" permit records. Other years could be used.
- b. Use of Naknek kings by residents of the Naknek drainage (as suggested in Proposal #55).

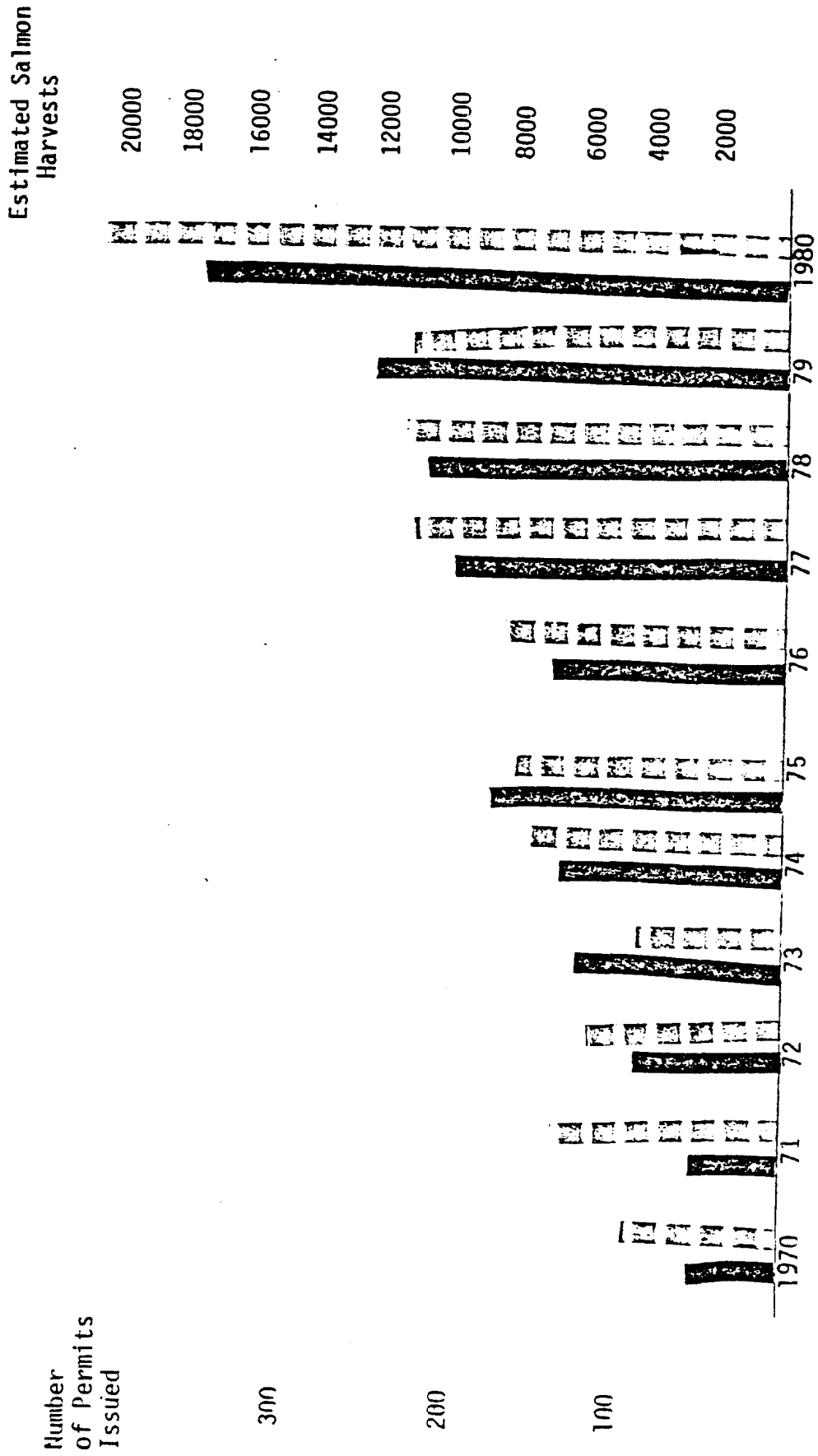
Gill-netting on the Naknek River could then be restricted to these subsistence users from May 1 to June 23.

6. Impose king quotas and close the commercial and subsistence fisheries by emergency order when the quota is reached. This approach is likely to concentrate effort into limited areas and periods of time since people will feel they have to take fish as quickly as possible, or risk missing out. This could have conservation implications if discrete stocks are running at different times. Concentrated effort could over-harvest particular stocks.
7. Any combination of the options listed above.

Growing demands upon Naknek king and silver stocks suggest that management plans for these stocks are becoming increasingly necessary. A planning process would enable the Department and Board to look at these allocation issues comprehensively.

The Subsistence Section plans to continue to monitor trends in Bristol Bay urban "subsistence" fisheries next summer, and will collect more information on the uses and users of Naknek kings and silvers.

Table 1. Number of Subsistence Salmon Permits Issued and Estimated "Subsistence" Salmon Harvests-
Naknek River- 1970-1980.



Number of Subsistence Salmon Permits Issued-

Estimated "Subsistence" Salmon Harvests on Naknek River-

Table 2 "Subsistence" Permit Allocation and Reported Catch by Place of Residence, Naknek River, 1980.

Address	Number of Permits Returned	Number of Permits Reporting Harvest of Fish	Reported Catch in Numbers of Fish-				Total	
			King	Chum	Pink	Coho		
South Naknek	24	20	1411	292	71	147	144	2066
Naknek ⁺	62	53	2857	330	216	560	236	4199
King Salmon ⁺	54	47	2579	188	71	154	124	3166
"Outside" (Anchorage and other addresses outside Bristol Bay*)	112	72	3775	205	202	330	105	4617
Totals	252	192	10,622	1015	560	1191	609	13,998

+ (includes an unknown number of transients reporting addresses in these communities, but spending winters elsewhere)

* (includes those people who listed King Salmon Air Force Station as their address)

