REPORT ON THE SURVEY OF PERMIT HOLDERS IN THE COPPER RIVER SUBSISTENCE FISHERY, 1979

by

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Abstract:

A survey was conducted by the Subsistence Section of the Alaska Department of Fish and Game of all 1979 permit holders of the Copper River Subsistence fishery. The goal was to identify criteria on which temporary restrictions could be imposed given a critical resource situation. Many variables were considered in an attempt to differentiate between users and relate their activities to the subsistence criteria outlined in Sec. 4 AS 16.05.251. Most of these variables were discarded as inappropriate. Residency appeared to be the most suitable criterion on which to base temporary permit allocations. Local residents in general proved to be the most dependent user group, not only on the Copper River fishery, but on the wild resources of the Copper Basin itself.

Purpose of Study

For the past several years, the Copper River subsistence fishery has been subject to controversy. Growing numbers of users have increased the demand on the salmon resources of the river, in addition to the commercial fishery harvest at the mouth of the Copper River Delta. Increased human consumption, coupled with poor escapement related to low runs in recent years, have resulted in a temporary critical resource situation. The situation necessitates resource allocation among the user groups and some mechanism to restrict exploitation during critical years.

Subsistence use was defined by SLA 151 as a "priority use of Alaska's fish and game resources"; because of increased competition for a temporarily
limited salmon resource, it has become necessary to differentiate, if possible, differing levels of needs within the human populations using the subsistence fishery. Past attempts to differentiate have been based on gear type and income. Gear type appears to be a useful mechanism for differentiating among users, but not necessarily differentiating among subsistence users since:

1. It is not considered within the existing regulations
2. Subsistence use appears to be use of the resource, not a gear type
3. Gear types can be switched, unless limits are set prohibiting the growth of one gear type at the regulated decline or restriction of another gear type.

Gear type, however, has the benefit of relative ease of enforcement by gear type. Income, while one of several variables useful in establishing dependency, does not appear to be a sufficient measure of dependency. The Board of Fisheries assigned to the Subsistence Section the task of developing an appropriate mechanism to prioritize among the users. The section is concerned with choosing the mechanism that best deals with the reality of temporary, but possibly recurring restrictions and their impacts. The intent is to insure that in any temporary restriction situation, those people who best fit the criteria of subsistence regulations and are the most dependent on the resource, are the last ones to be restricted.

There are several components to be considered in any subsistence issue. First, the resource itself, and the impact attributed to the
subsistence activity both historically and currently. This has been well documented by Ken Roberson, Commercial Fisheries Biologist in Glennallen and will not be repeated here. Another component is the regional system of which the resource is a part; the capacity of its natural environment and the economic spheres to absorb increased demand by varied user groups and still provide the traditional basic necessities for its residents. The other vital component to be considered is the users themselves and their socio-economic situation. Claims for subsistence rights can be considered using the criterion defined in Sec. 15 AS 16.04.940 (26), i.e., "Customary and traditional use in Alaska of wild renewable resources ..." When further restrictions become necessary, Sec. 4 AS 16.65.251 provides three additional criteria:

(1) Customary and direct dependence upon the resource as the mainstay of one's livelihood;

(2) Local residency; and

(3) Availability of alternative resources.

The Subsistence Section was responsible for obtaining information on each of these criteria. The method selected was the survey, because it was a flexible tool. Mailed questionnaires could reach even the most distant permit holders and enable them to have a chance to participate in providing information to the Department and the Board on their use of and dependency on the resource. Also, with the short time available, it was the most efficient means to systematically gather information on the three criteria.
Methods

Prior to the survey, two visits were made to the study area. During the first, Ken Roberson was consulted, and support and information were solicited from the advisory board of the Copper River Native Association (CRNA). The second visit established the groundwork for a draft questionnaire during consultations with a local game biologist, native officials, and local residents who participate in the fishery. The ideas and concerns derived from these visits helped develop the draft questionnaire which in turn was sent to various recipients for a two week review and comment period. These recipients represented a sampling of both public and private agencies and committees, local and non-local, with concerns about the fishery, the region or subsistence research in general.

The initial questionnaire attempted to solicit information on the three criteria while also providing socio-economic profiles about the various human populations participating in the Copper River subsistence fishery.

The comments that were received were used to extensively modify the questionnaire, both in content and length. The revised version was then sent to the printers. The intent was to allow all subsistence permit holders a chance to participate in the survey. Individual interviews were not possible for all permittees due to their numbers and wide geographic dispersal. Different approaches were used, depending on the user group. Dipnet permittees are the largest group and the most geographically wide spread. Mailing the questionnaires was the most expedient method to reach this group. Announcements were made through the media including radio and newspapers in strategic areas explaining the purpose
and nature of the survey. The mailed questionnaires were self-addressed with prepaid return postage. The questionnaires were uncoded, permitting the responses to be completely anonymous, unless the respondents chose otherwise. The accompanying cover letter also informed the permittees about the purpose and confidentiality of the questionnaires.

People holding subsistence fishwheel permits are fewer in number and the majority are located within the Copper Basin area. For those who lived outside the Copper Basin area, an attempt was made to randomly sample for personal interviews in the Anchorage and Fairbanks area with the balance being mailed. Five households, representing a 11% sample were interviewed in Anchorage and two permittees, representing 5% of the total, agreed to phone interviews in Fairbanks.

The response period was scheduled originally to be two weeks long, but was shortened by logistic delays in printing and mailing the questionnaires.

The fishwheel permits located in the Copper Basin were fewer in number and a more personal approach was planned, due in part, to the anticipated difficulty with the language and formality of the questionnaire. CRNA lent support and personnel to conduct interviews among the Ahtna people. The health aides of various villages and a paralegal trainee canvassed those Ahtna who had received permits by the beginning of August 1979. These canvassers were instructed in proper survey methodology to minimize their direction of the respondent's answers. The researcher also went along at times to observe that the survey was being conducted properly. However, far more non-Natives from the Copper Basin held fishwheel permits than did Natives. These were more than one
researcher could interview in a two week period. Two public meetings were scheduled in an attempt to inform the local residents of the survey and it's purpose.

Despite the announcements made on the local Glennallen radio station, neither the Copper Center nor the Glennallen meeting was attended. This could be attributed to the short-notice given the meetings and to some anti-government sentiments and apathy towards public meetings purported to be prevalent in the area. A telephone approach was tried in Glennallen, with much more success. Permittees with telephones were contacted, informed about the survey, and the questionnaires being mailed to them. Their response was then solicited.

While the researcher was in the Copper Basin, additional information was sought. Visits were made to the community of Chitina, a Christian settlement in the Kenny Lake area and to the mission in Glennallen to find out about their role and involvement with the fishery. Because of earlier time limitations, these groups had no opportunity to contribute to the questionnaire format. However, it was important to get their input at this later time. Health aides with CRNA and the state contributed information about the local health problems; the Glennallen Job Service representative described the economic and employment situation of the region.

In the final phase of the survey, the data was coded and subjected to computer analysis. Many different tests were run, and the results were chosen for the degree of information they gave and their pertinence to the situation. The return questionnaires were coded by location and the analyses considered under 3 separate groupings; (1) "Local" communities
within the Copper Basin area; (2) "Non-local" communities, including Anchorage and Fairbanks; (3) the total population of respondents.

Major problems related to the survey were logistic delays and the short amount of time available to conduct research. Due to the newness of the Subsistence Section, preliminary survey work was not possible until July. Consequently, the time remaining before the scheduled report date was extremely short and was further hampered by printing and mailing delays. Complaints about the ill-timing and brevity of the response period were well founded. However, many people submitted completed questionnaires after the requested due date. Most of their data was included in the computer analysis. Because of previous consultations with Commercial Fisheries Division personnel, the Section originally intended to see how feasible a mechanism geartype was for differentiating among the various user groups of the Copper River fishery. However, after extensive interviews with participants of the fisheries and others, and computer analysis of the survey results, geartype no longer seemed the most appropriate measure. The results were also analyzed plotting the four following components against household size, employment, income, and residency, which were chosen as possible criteria for differentiation and prioritization among the users.

1. Years involved in the fishery (customary and traditional use)
2. Income, employment, household size, harvest volume, time and financial investment in the fishery (customary and traditional dependency).
3. Local vs. nonlocal effort (residency).
(4) Income, employment, alternative activities and locations (alternative resources).

After looking at all the analyses, those tests that plotted the response variables against residency, seemed to offer the most appropriate mechanism on which to differentiate among users.

Results and Discussion

General Survey Results: The responses were analyzed according to four components: (1) income, employment, household size, harvest volume, money and time invested in the fishery, etc. (customary and traditional dependency); (2) years involved in the fishery, preparation and use of fish (customary and traditional use); (3) local vs. non-local effort (residency); (4) employment, income, alternative activities and locations (alternate resources). In addition, several people volunteered comments that were considered separately.

The sample population of coded responses totalled 704 cases. There are an additional 18 questionnaires that were not analyzed, due to their late return. Moreover, of the 3025 questionnaires sent out, 336 (roughly 11% of the total) were undeliverable as addressed [these undeliverables were part of the non-local user group]. This finding is significant for several reasons. It indicates that the present permit system has major enforcement problems when users cannot be found at the address given. The amount of forwarding and the distance that some of the questionnaires went also indicate that a large portion of the non-local user group are transient. Transiency cannot meet criteria for customary and traditional
The intent of the survey was to analyze the responses of the total sample population, but also to assess the differences between local and non-local effort, as noted earlier. The following communities were chosen to represent the Copper Basin cases (n = 105):

Richardson Highway communities from Paxson to Tonsina
Edgerton Highway communities from Kenny Lake to McCarthy
Glenn Highway communities from Eureka to Glennallen,
Tok cut-off communities from Glennallen to Mentasta Lake,
including the Nabesna Road communities.

These communities were selected as local because of their close proximity to and association with the Copper River and its tributaries, and from local input (Craig, Roberson, pers. comm. 1979). The non-local cases (n = 599) came from widespread localities ranging from Seward on the Kenai Peninsula to Haines in southeast Alaska. The bulk was from the Fairbanks area. The local and non-local cases were analyzed separately, but certain response variables were tested together for significance. The results of the survey analysis follow.

1. Customary and traditional dependency (household profiles)

<table>
<thead>
<tr>
<th></th>
<th>Length of Residency (mean # yrs.)</th>
<th>Household Size (mean)</th>
<th># of Household members ≤ 55 yrs. (% having 1-3)</th>
<th># of Household members 10 ≤ x &lt; 55 yrs. (% having 1-6)</th>
<th># of Household members 18 yrs. (% having)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Basin</td>
<td>15.6</td>
<td>3.0</td>
<td>33</td>
<td>84</td>
<td>51</td>
</tr>
<tr>
<td>Non-locals</td>
<td>10.4</td>
<td>3.4</td>
<td>15</td>
<td>90</td>
<td>62</td>
</tr>
<tr>
<td>Total Sample</td>
<td>11.2</td>
<td>3.3</td>
<td>18</td>
<td>99</td>
<td>60</td>
</tr>
</tbody>
</table>
Several conclusions can be drawn from the above table. Copper Basin residents have a longer average residency than to the non-local cases. The household size was smaller among the local respondents, but tended to have more members over the age of 55, and fewer members within the more productive period (18 ≤ x ≤ 55 years). While age does not necessarily mean dependency, usually the number of older people within a community indicates the possible level of dependency for that community. The number of possible dependents takes on a greater significance when assessed with income and employment factors.

<table>
<thead>
<tr>
<th></th>
<th>Total Employment</th>
<th>Full-time</th>
<th>Part-time</th>
<th>Retired</th>
<th>Unemployed</th>
<th>Income Median</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(mean # of mem-</td>
<td>(% of household</td>
<td>(% of household</td>
<td>(% no members</td>
<td>(% no members</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bers/household)</td>
<td>w/no members)</td>
<td>w/no members</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper Basin</td>
<td>2.8</td>
<td>49</td>
<td>63</td>
<td>80</td>
<td>35</td>
<td>$6-10,000</td>
</tr>
<tr>
<td>Non-locals</td>
<td>3.2</td>
<td>28</td>
<td>65</td>
<td>87</td>
<td>30</td>
<td>$15-20,000</td>
</tr>
<tr>
<td>Total Sample</td>
<td>3.2</td>
<td>31</td>
<td>65</td>
<td>86</td>
<td>31</td>
<td>$15-20,000</td>
</tr>
</tbody>
</table>

Copper Basin households had a lower average number of people employed, and a greater number of cases had no members employed full-time than was found among the non-locals. There were also more local households with at least one retired member.

Also significant was the differing amounts and types of aid contributing to household economy. Local households received more aid from the following sources than did non-local households: social security, disability, aid to families with dependent children, foodstamps, and
public or Native health benefits. More non-local households received retirement benefits, housing support (military, commune, etc.) and military privileges, which can be attributed to the active participation of military personnel in the Copper River fishery. The percent of cases claiming unemployment insurance was similar for both groups. Twenty-nine percent of the local respondents felt they did not have enough money to cover their basic needs, as opposed to 16% of the non-local cases.

A summation of survey results to this point would indicate different profiles for the two groups. The Copper Basin households had more dependents, especially elders, a poorer employment picture and less income. They showed a higher reliance on aid and public services to offset household expenses.

Non-locals, on the other hand, had fewer older dependents and more members of working age with greater full-time employment and income. More households received military aid and retirement benefits and of the total non-local user group, many are transient.

2. Fisheries Involvement: Geartype, time and financial investment, etc.

<table>
<thead>
<tr>
<th>Gear Type/years fished (R)</th>
<th>Catch/years fished (mean)</th>
<th>If didn't catch enough fish this year, went elsewhere</th>
<th>If couldn't legally subsist fish in the Copper River, next year would go elsewhere</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipnet Rod &amp; Reel Fishwheel</td>
<td>Copper Basin: 1.2 6.3 1.9 46.1 40%</td>
<td>67% Nonlocal: 4.0 .8 .3 22.9 76%</td>
<td>88%</td>
</tr>
</tbody>
</table>

-11-
(Harvest, success rate by permit type, allocation and residence and other catch information has been extensively covered by Roberson (1979) and will not be repeated here. Any differences that might occur are related to different sample sizes and sample response pattern).

The survey's intent was to gather information on long-term participation in the Copper River subsistence fishery, the amount of investment required and the use of the resource. The results were to be synthesized with the household profiles to derive a clearer picture of use and dependency. As noted in Roberson’s reports (1976, 1979) fishwheels are the preferred gear in the Copper Basin, whereas most nonlocal participants use dip nets. From the survey, local fishwheel users averaged a longer period of participation than nonlocal dipnetters, but Copper Basin residents also exploited the river to a greater degree with the other types of gear.

Local households averaged a higher catch/years fishing which is probably a function of gear efficiency, longer periods of time invested (Roberson, 1979), and the amount of low-income permit allocations held by Copper Basin residents. Non-local households had a lower average catch with most common reported harvest (11%) being 0 fish. This signifies that many nonlocals were unsuccessful (29% from Roberson’s data, 1979) in their efforts and could not place as much dependence on Copper River salmon. Twelve percent of local households said that salmon from the Copper River provided all of their family’s annual protein supply; 7% had most provided. The comparable figures for the non-locals was 4% and 2% respectively. Twenty-two percent of the non-locals said none of their meat supply came from this source, compared to 5% of the locals. The local households indicate a greater dependence on
Copper River salmon for their meat supply, and are willing to invest more time and effort into fishing to insure that they meet part of their need. A greater number of non-locals had sportsfishing licenses (89%; 68% among the locals), although their sports effort was not expended in the Copper Basin. Also, the non-local respondents were more likely to go elsewhere if either: (1) they hadn't caught enough fish this year (76%) and (2) they could not legally subsistence fish there next year (88%). [The high figure (69%) for local response in this latter category resulted from two responses ("hunt and trap more", "go elsewhere") being coded together before computer analysis. Most local residents personally interviewed said they would have to hunt and trap more to make ends meet, but they would not go elsewhere]. Local respondents indicated a far greater dependency on the river, due to greater accessibility.

Another important consideration is what happens to the fish after they are caught. The survey was not so interested in preparation, as deriving who benefits from the fish.

<table>
<thead>
<tr>
<th></th>
<th>Share Catch (%)</th>
<th>Use Head, Tails, Flies</th>
<th>Use fish in potlatches this year went hungry</th>
<th>If didn't catch enough fish this year</th>
<th>If couldn't legally subsistence fish next year in C.R.</th>
<th>go hungry/other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Household</td>
<td>Relatives</td>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper Basin</td>
<td>78</td>
<td>50</td>
<td>59</td>
<td>49</td>
<td>20</td>
<td>32</td>
</tr>
<tr>
<td>Non-locals</td>
<td>80</td>
<td>44</td>
<td>49</td>
<td>35</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>Total Sample</td>
<td>79</td>
<td>45</td>
<td>51</td>
<td>37</td>
<td>14</td>
<td>23</td>
</tr>
</tbody>
</table>

The Copper Basin households indicated a greater tendency to share outside of the immediate household with relatives and others and to use fish for potlatching. Use of the heads, tails and fins was also more
prevalent among the local households. Such total utilization of fish parts would indicate a higher degree of dependence within the Copper Basin respondents. Because the local households averaged a higher catch, it can be assumed that there is a larger volume of fish protein being shared within the local communities, and among extended families. More local households felt that without a sufficient harvest this year or next, they would go hungry. Many felt that they would have to fish illegally in order to meet their needs. Non-local households, on the other hand, indicated a greater tendency to protest a total closure, but few felt that they would go hungry. Monetary investment in the fishery is another consideration.

<table>
<thead>
<tr>
<th></th>
<th>Cost of Effort (%)</th>
<th>Vehicle Used (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$100</td>
<td>$100-299</td>
</tr>
<tr>
<td>Copper Basin</td>
<td>69.0</td>
<td>22</td>
</tr>
<tr>
<td>Non-locals</td>
<td>64.0</td>
<td>32</td>
</tr>
<tr>
<td>Total Sample</td>
<td>65.0</td>
<td>31</td>
</tr>
</tbody>
</table>

More non-local households spent between $100-299 for their fishing effort than local households. This is probably attributed to transportation costs, since the distances between most non-local communities and Chitina are extremely long. The perceived costs for local households ranging from $100-1000+ is probably attributable to gear (fishwheel) construction and maintenance. Transportation costs are negligible since most local respondents could fish in or nearby their community. The willingness of the local households to invest their money into gear indicates that they are expecting a return on their monetary investment. Many local residents interviewed stated that with a 30-fish allocation,
it was not financially feasible to own an individual fishwheel, but they usually shared and helped maintain someone else's fishwheel. Fifty-eight percent of the local respondents owned fishwheel (probably shared ownership), and the average number of users was 5. Survey profiles of the two user groups to this point indicate the following: (1) The local households had more dependents to support on poorer employment and less income. They invest more time into their fishing effort and money into gear and average a higher harvest volume. The fish harvested is more important to meeting their annual protein needs and the households are more reliant on the river itself. A large volume of fish is also shared, possibly within the local communities, and among dispersed extended families, providing a portion of others' meat supply beyond the immediate household itself. The reported sharing within the community and reaffirming of ties is also indicated by the degree of sharing of gear; (2) Non-local households had fewer dependents, a better employment picture and more income to meet their needs. They invest more money into getting to the Copper River, but because of traveling time, their time investment in continued fishing periods is less (Roberson, 1979). They average a lower harvest with 11-29% being unsuccessful, and there is a lesser degree of reliance on the Copper River itself. The non-local fish harvest being smaller, is more likely to be consumed within the immediate household.
3. Additional Participation and involvement in the Copper Basin.

<table>
<thead>
<tr>
<th># of Additional Activities in the Copper Basin (%) (hunting, trapping, berry-picking, etc.)</th>
<th>Contribution of Copper River game to annual meat supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2-5+ % &gt;1/2 some</td>
<td></td>
</tr>
<tr>
<td>Copper Basin 7 14 80 25 34</td>
<td></td>
</tr>
<tr>
<td>Non-local 71 17 13 4 4</td>
<td></td>
</tr>
<tr>
<td>Total Samples 61 16 23.0 7 9</td>
<td></td>
</tr>
</tbody>
</table>

Copper Basin households exploited the wild resources of their area much more extensively than did the non-local respondents. For 25% of the local respondents, Copper Basin game provided more than half of their annual meat supply, as compared to 4% of the non-locals. By contrast, 44% of the non-local households derived at least a portion of their meat supply from hunting and trapping outside the Copper Basin and 24% from subsistence fishing outside the Basin.

Seventy-three percent of the Copper Basin respondents felt they spent at least a portion of their year in subsistence activities, and 28% indicated that they spent none of their year in wage employment. For the non-local respondents, the corresponding figures were 59% and 11% respectively. The non-locals were more oriented towards a wage economy while the locals exhibited a greater commitment to exploit the natural resources of their area and maintain a subsistence economy alongside whatever wage economy is present.
DISCUSSION

Results of the survey corresponded directly to the impressions gained during the intense three weeks of direct investigation spent in the Copper Basin and from findings contained in previous research done in the area. Relating the survey results to the four components under consideration, the use of such criteria as household size, income or gear type for differentiation among users appeared to be inappropriate. Assessing the components of customary and traditional use and dependency and the availability of alternative resources by residency appeared to fit this resource situation better. A quick summation of the Section's observations of the survey results after this kind of analysis did indicate a differing degree of dependence on the Copper River subsistence fishery and the Basin as a whole, between the local and non-local respondents. Local households, as noted before had poorer employment, less income, and more dependents. They showed a greater long-term involvement with and reliance on the fishery, as well as longer annual periods of participation due to easier access. They are more apt to exploit the fishery using a variety of gear, but fishwheels are the preferred gear, being the most efficient, but also the most expensive. Local households, which could not harvest enough fish to justify the cost of owning a fishwheel, would share and help maintain that of others. The Copper Basin households also exhibited a greater tie to the region itself: exploiting the wild resources much more extensively, deriving much of their food supply from these sources, and supplementing a reportedly poor wage employment situation with active participation in a subsistence economy.
Non-local households did not indicate the same degree of dependence on either the Copper River subsistence fishery or the Copper Basin as a whole, much of which is due to distance and access. They were more apt to be full time employed and had a higher income on which to support their dependents. Their longterm participation was shorter, many were unsuccessful in their efforts and were more likely to fish elsewhere if the Copper River did not meet their expectations. They were less likely to exploit the other wild resources of the Copper Basin to fulfill their household needs. Although some of the households expressed a great interest in and dependence on the Copper River subsistence fishery, the majority indicated less customary and traditional use and dependence on the fishery, and the greater availability of alternative resources to meet their household needs.

The Copper River is a focal point for the Copper Basin both physically and for the resources it contributes. Among the Ahtna (14% of the local respondents), deep ties with river were expressed, both for the food it provides and for the longterm spiritual relationship which the people felt. Many of the local non-natives also felt dependent on the river for at least part of their food supply.

The Copper Basin has historically been an area of predominantly seasonal employment, with few short term boom periods. The major employers in the area have tended to be government, construction, and travel/service oriented industries with the Native corporations growing in opportunities (ISER, 1978). Because most activities take place in the summer, most work tends to be seasonal in nature. This has been corroborated in two regional profiles (Ahtna, 1973; ISER 1978) and in a community profile
related to pipeline impact (Reckord, 1979). Much of the work is unskilled in nature and seasonal salaries are usually not enough to meet the high cost of living in the area.

Food costs in Glennallen, according to the July 1979 Market Basket Survey (Coop. Ext. Service, 1979) were 10% greater than those in Anchorage and 51% greater than the national average. The economy is not diversified and it has been typical of the region to combine a wage economy with subsistence activities to make ends meet. The official unemployment rate is between 14-15% for the area, but the local Job Service representative estimated the reality was closer to 25-30% (Lee, pers. comm. 1979). It is almost impossible to get a specific regional employment breakdown for the Copper Basin (Dauel, pers. comm. Oct. 1979). This area is usually considered with Valdez, which because of its size and different economy, biases the figures. The most specific data is gathered for unemployment insurance, but even this data lumps several communities together.

The region has several health problems that relate indirectly to subsistence and changes in subsistence lifestyles. Dental health, obesity, and anemia are prevalent problems (Charley and Jackson, Popperwell, pers. comm. 1979). As local residents move away from a totally subsistence based diet, they have become more dependent upon the store for food, but with predominantly seasonal work, and low cash flows in the community, starches ("fillers"), are taking the place of traditionally wild protein based diets. This leads to obesity, which is also aided by the change to a less rigorous lifestyle. The decrease of proteins in the diet has also led to a rise in anemia and the increase of sugar items and softdrinks
has led to dental problems and further nutritional imbalances. A total subsistence lifestyle means either returning to an arduous way of life or having enough cash flow to afford the types of equipment that facilitate many different subsistence activities and improve the chances of success. Many of the Copper Basin residents are not in the financial position to fit into the latter category and most are not willing to revert to the former way of life. Therefore, most must lead an existence where a wage and subsistence economy are combined - each supplementing the other to make household ends meet.

The Copper River subsistence fishery falls into this mixed economic system. For most of the elderly Ahtna interviewed, a life of increasing resource regulation is reported to be bewildering and frustrating. Salmon, which is the traditional staple in their diet, has become the subject of controversy through increased user demand and competition, and the resulting regulations.

The other natural resources are also more regulated or access restricted than in the past. Caribou are taken only by lottery. Moose, while presently at a higher population level now than in the early decades of this century, are also facing increased demand, and greater exploitation by both urban and rural residents. Even berry picking and trapping are reportedly being limited to a greater degree as more land is being claimed by private landholders, state, and native agencies and boundaries are established (Charley, pers. comm. 1979). Improved road access to the Copper Basin and the greater mobility of the urban residents has brought greater demands for resource exploitation in the Copper
Basin, especially the salmon resource, necessitating allocation procedures to serve all interest groups while protecting the resource itself (Roberson, 1976).

The non-local dipnet portion of the subsistence fishery has an economic role in the region. The economy of the community of Chitina has become dependent upon the annual summer influx of dipnet fishermen. It is reported that the store, bar/cafe, and gas stations would not survive if they were dependent solely on the residents (pop. 27) themselves (Hatch, pers. comm. Sept. 1979). The non-local permit holders also have a personal and economic investment in the fishery. Many of the non-local permittees regard the contribution made to their food supply by their Copper River salmon as substantial. Despite the costs of a trip to Chitina, they feel that they would have to spend more for food, if they couldn't catch their salmon.

Both they and the resource managers must be concerned about "effort displacement." If any users of a particular river system are restricted, where will they go to pursue their activities, and what will the impact be? Will users from Fairbanks permanently or temporarily relocate their efforts on the Tanana River, if temporarily closed out of the Copper River? What are the capabilities of the alternate system (Tanana River, Cook Inlet) to absorb the effort relocation? Will effort be displaced or reduced? These questions are important ones to consider in any resource allocation plan.

Most of the non-local respondents to the survey did not have the same attachment to the Copper Basin in general or the fishery in particular as did the local residents. The non-locals personally interviewed
indicated that while they enjoyed fishing on the Copper River, they went more for the experience and not out of necessity. Many others commented on their questionnaires that although the resource and the experience was important to them, they could not truly call themselves "subsistence" users and doubted the status of other users of the fishery. Other people, however defied agency definition and limitation of "subsistence" rights, feeling that all Alaskans should be considered subsistence users and all of Alaska should be one subsistence zone.

As noted in the introduction of this report, what is involved here is a temporary, but potentially reoccurring resource situation.

Gear type and income may not be the most appropriate criteria to use in this situation. Based on survey results and other data residency appears to be a more appropriate criterion. The following appendix presents a potential management option based on this criterion, an option the Board of Fisheries might want to consider for further study and/or action.
REFERENCES


Charley, E. 1979. Personal communication. CRNA. Copper Center, Alaska.


Craig, T. 1979. Personal communication, CRNA. Copper Center, Alaska.


Jackson, B. 1979. Personal communication. CRNA. Copper Center, Alaska.


APPENDIX A. Management Option

Results of the Copper River subsistence survey indicate distinctions may be drawn regarding location; dependency, traditional and customary use. In keeping with the Boards of Fisheries and Game procedures and policy statement and State law (SLA 151), the following is offered for consideration.

This option outlined in Table 8 is a basic framework which draws no distinction based on geartype or income as over-riding criteria. It also results in no change to the existing permitting procedures. It is suggested that distinctions among subsistence users will be drawn when necessary based on their residency in communities similarly situated, i.e., communities demonstrating similar socio-economic features and their traditional and customary use of and dependency on the wild resources of the Copper River Basin. Under this option, allocation of Copper River salmon would assume that all dipnetters and fishwheel operators may be subsistence fishermen to be distinguished only among the forestated criteria.

Consistent of annual follow-up surveys conducted by the Section and with in-season monitoring and management by Commercial Fisheries Division, will be the ability to detect changes in established patterns of participation and to make responsive adjustment in management of this fishery.

Of management concern is the latitude of response to expand community participation relative to harvestable surplus as well as reduced community participation without drawing distinction regarding geartype. This option poses a flexible temporary solution to a temporary, but potentially recurring problem.
| TABLE A. COMPARISON OF MANAGEMENT OPTIONS (Predicated on a very poor estimated harvest) |
|------------------------------------|------------------------------------|
| DIP NET SPLIT                      | COMMUNITY SPLIT                    |
| IMPLICATIONS:                      | IMPLICATIONS:                      |
| Requires definition of dipnet      | Requires harvest quotas and fixed  |
| as recreational gear               | projections                         |
| (If redefinition does not take     | Permits entire communities         |
| place, requires justification for  |                                    |
| discriminating on basis of gear    |                                    |
| type)                              |                                    |
| Requires containment of fishwheel  | Starts with limited number of      |
| numbers                            | communities                        |
| Requires in season management      |                                    |
| Discriminates among users based    | If decisions shift to subcommunity  |
| on gear type                       | level, will tend not to qualify    |
|                                   | more urbanites as disqualify       |
|                                   | ruralites.                         |
| Workable if quotas set             | If individual rather than community |
|                                   | criteria is used, will require     |
|                                   | extensive scoring process          |
| Easy to monitor                    | Will not affect existing permits,  |
|                                   | gears, or limits                   |
| Permanent solution to temporary    | Flexible solution to temporary and  |
| problem                            | recurrent problem                  |


Table B. Schematic outline of management option for Copper River subsistence fishery.

<table>
<thead>
<tr>
<th>PROJECTED ESCAPEMENT</th>
<th>ALLOWABLE HARVEST</th>
<th>PERMITTEES 1/</th>
<th>LEVEL OF PARTICIPATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;150,000</td>
<td>3-5,000</td>
<td>Special Permit 2/</td>
<td>7 days/week</td>
</tr>
</tbody>
</table>
| 150-200,000          | 8-10,000          | Special Permit  
  * Copper Basin residents  
  * Petitioners           | 7 days/week  
  2 days/week            |
| 200-250,000          | 13-15,000         | Special Permit  
  * All other Participants | 7 days/week  
  2 days/week            |
| 250-300,000          | 18-20,000         | Special Permit  
  * All other Participants | 7 days/week  
  3 days/week            |
| 300-350,000          | 23-25,000         | Special Permit  
  * All other Participants | 7 days/week  
  5 days/week            |
| 350,000              | Unrestricted      |               |                        |

1/ No distinction is drawn to gear type.
2/ Special permits = 25-30 permits
* Low income permits reduced to 100 fish for individuals and 300 per family.
APPENDIX B.

This appendix presents additional information on the Copper River Subsistence Survey than was presented in the 1979 report to the Board of Fisheries. In order to facilitate others' efforts and future surveys, more detail on methods, personal contacts and the pitfalls to be avoided will be summarized below.

I. Pre-Survey Visits

As noted in the report, two pre-survey visits were made to the Copper Basin. The duration of each and people contacted will be listed below.

(A) 1-1/2 days. Met with Ken Roberson, Commercial Fisheries Biologist in Glennallen to be informed on the situation. Also met with the Copper River Native Association (CRNA) Advisory Committee to explain the purpose of our survey and enlist their support.

(B) 5 days. July 16-20, 1979

Contacts:

Sterling Eide, Game Biologist, ADF&G, Glennallen
Harry Johns, Sr., CRNA Paralegal Aid, Copper Center
Trip No. 2 was supposed to gather information to generate questions for a draft questionnaire. An attempt was made to contact people who were knowledgeable about the subsistence situation as it exists in the Copper Basin, especially the salmon fishery. This pre-survey visit would have been better rounded if more non-natives, such as Dean Wilson of Kenny Lake, were contacted.

While the draft questionnaire was sent out on its review period, a list of permitholders names was separated into those with fishwheel permits and those with dipnet permits. The dipnet permit holders were all mailed the final version of the questionnaire. Fishwheel permitholders, the smaller group, were further separated by community of residence and then grouped in three categories.

1. Anchorage area including Eagle River, Chugiak, Palmer, Wasilla.

2. Fairbanks area including the North Pole and Eielson AFB.

3. Copper Basin including the communities w/in the highway zones listed in the report.
Groups (1) and (2) were handled with a mixed approach. In Anchorage a random sampling of permitholders were contacted by phone and personal interviews were contacted by phone and personal interviews set up. Nine people were contacted. 5 permitted interviews, 3 were willing, but were heading out to go moose hunting and 1 didn't feel our interview was necessary because he had not gone fishing. In the future, interviews should be conducted on the basis that the person holds a permit, not on whether he fished or not. This is necessary to be able to derive a fuller picture of who applies for subsistence permits on the Copper River. An attempt was made to contact people in the Palmer-Wasilla area with unsatisfactory results. Most of the fishwheel permitholders from these two communities either have no phones or they did not give accurate addresses. The people in groups 1 and 2 who were not personally interviewed were mailed the questionnaire.

In the Fairbanks area, a random sampling of fishwheel permitholders were mailed a request for either a personal or phone interview. The dates requested were scheduled to coincide with the Subsistence Section's staff meeting to be held in Fairbanks. To encourage and facilitate a response, a prepaid, self-addressed postcard was included in the request letter. Of the nine letters sent out, 2 were undeliverable as addressed, 2 were accepted and respondents permitted phone interviews, and the rest were never answered.

For the Copper Basin group, the intent was to have as personal approach as possible. Tom Craig of CRMA offered his own personnel and time to facilitate contact with the Aniwa permitholders. He envisioned the
health aids of the Ahtna villages conducting the surveys, and loaned the use of Dale Snell, a paralegal trainee to help organize the effort. Dale helped identify the Ahtna holding permits, contacted the individual health aids and conducted interviews himself (with supervision) in Gulkana and Copper Center. Lillian Boston of Chistochina also completed 2 days of contract services, surveying the community of Chistochina. Except for the efforts of these 2 individuals, Tom Craig's enthusiasm was not shared by the lower echelons, and the results were not as good as they might have been. Another difficulty is that it appears that many Ahtna fish unpermitted which has been confirmed by a reliable source within CRNA. Future survey efforts among the Ahtna would be better served by a total community/household approach, and not on the basis of permits. With the hiring of a subsistence research coordinator by CRNA, more effort in this area should be possible in the future.

Most of the names on the Copper Basin fishwheel permit list were non-natives, and with the time allocated, were too numerous for one person to personally interview, given the distances involved. It was decided that most of the questionnaires were going to be mailed, but as much personal contact as possible was desired. Two public meetings were called and announced over the local radio station, KCAM. The first was to be held in Copper Center and the second in Glennallen. Arrangements were made with Bacille Jackson to use the Copper Center Community Hall and with the Glennallen High School to use the gym. Despite all the arrangements the meetings were not attended for the reasons noted in the main report. A better approach to use in the Copper Basin if personal interviews are infeasible is a telephone approach. A 2-hour effort in
Glennallen provided contact with over 40% of the people on the fishwheel permit list. This kind of personal contact permitted the people to ask questions when informed about the survey, and gave them greater understanding of why their input was needed. Although this is still not as good as a personal interview, it is a useful technique when faced with time limitations. The return from the Glennallen questionnaires was about the best in the Copper Basin. When mailing out the Copper Basin questionnaires a new cover letter was also attached, stressing the importance of local input and extending the deadline for returns.

While in the Copper Basin, further information was sought about other aspects of life related to and affected by changes a subsistence economy/lifestyle. Health officials contacted were:

- Edna Charley Copper Center CRNA Health Aid
- Beth Jackson Copper Center CRNA Health Aid
- Karen Popperwell Glennallen State Pub. Health

A possible future contact would be Dr. Pineo of Faith Hospital in Glennallen.

For information on the economic situation (employment) in the Copper Basin, Helen Lee of the Glennallen Job Service was contacted.
To get some input on community input and group involvement, an afternoon was spent in Chitina and both the Central and Alaska Missions (Glennallen) and the Living Word Ministry (Kenny Lake) were visited. The key contact in Chitina was Rita Hatch, proprietor of the Chitina Bar/Cafe and instigator of the suit over the 1979 dipnet closure. Feelings against ADF&G (Commercial Fisheries Division especially) were high. The desire of the Section to listen to all complaints and to encourage local input was appreciated. Rita felt our efforts deserved Chitina's support and she convinced others to participate. Rita held the questionnaires to distribute to Chitina residents who live in remote areas, but come to the cafe occasionally. Chitina is the community that stands to suffer most if the dipnet fishery is closed or excluded from the Copper River. The economy of the town has developed in relation to this fishery and the prevailing sentiment is that all the dipnet fishermen who come to Chitina qualify as subsistence fishermen.

The Mission and the Ministry are interesting groups participating in the fishery. The mission, based in Glennallen offers missionary services, a Bible college and hospital. The mission is made up by people sent from lower '48 churches and the mission is supported by their donations. All single mission residents would qualify as low income because their income is apportioned at that level by the mission administrators. However, many of their expenses are partially subsidized and income in this case is a poor indicator of standard of living and need. Some Mission permit holders also occasionally give some their canned Copper River salmon to their supportive lower '48 parishes as a token of
appreciation. The mission residents usually participate as individuals both within the mission and within the fishery.

The Living Word Ministry in Kenny Lake on the other hand is a Christian settlement, though they prefer not to be known as a "commune." All food and meals are shared, everyone contributes to running the farm and a strong attempt is made to be self-sufficient. If any member needs money for his own purposes, he is free to work outside the settlement for as long as he wants. The settlement is not interested in proselytizing their neighbors, but in living a Christian life. Those members that fish share their catch with the whole community. These people also qualify for low income permits, but here again, income appears to be a poor indicator of standard of living and need. The leaders pointed out that the community was not supported by outside funding, but were evasive and touchy when asked where the money came from to pay farm taxes, etc. They also requested that we not interview their permitholders since they prefer to function as a group and not as individuals. Further research should look at the participation of religious groups more carefully to better assess impact on the fishery and their future need.

Another group contacted was the Chitina Dipnetters Association, based in Fairbanks. At the invitation of Gene Carlson, President and Bill Haley, Secretary/Treasurer, I attended a meeting on October 8, 1979. Also present were Ken Roberson, 5-State representatives from the Fairbanks/Delta
Junction area, and members of the Tanana Valley Sportsmen Association. The meeting was not well attended (29 participants, including guests). The Section's presence at the meeting was basically a diplomatic gesture, since the group was mainly interested in Ken Roberson's account of the 1979 fishing season and the status of the resource. People did have a few questions about the survey and most were not favorable towards it.

Notes on all interviews and meetings are on file in the Anchorage office.

ANALYSIS

The Copper River Survey was the first test of the Subsistence Section's computer system. As would be expected, there were several bugs that needed to be worked out, and several errors were made.

(1) Communities were misidentified as to proximity to the Copper River (Chugiak was originally coded as being a Copper Basin Community).

(2) Communities should be given their own special code instead of a zip code. In areas like the Copper Basin this means many separate communities are lumped together.

(3) There should be only as many questions for computer analysis, as there are coding spaces. This will obviate the need to code some answers together which renders them essentially useless.
(4) Beware including concepts that mean nothing to the actual subsistence practitioner (i.e., "subsistence employment" was a very confusing concept to most people). The answers that result are too variable.

(5) For fishing effort, it is better to use simple averages of the total years than to arrive at both the total years fished and the number of consecutive years prior to the survey.

(6) The personal comments on the back of the questionnaires should be noted and some method of categorizing them might be potentially devised.
APPENDIX C.

The following are letters that were received along with return questionnaires. While the originals are on file in the Anchorage office, they are included here for their representation of the diverse views about the Copper River Fishery and the Subsistence Section.
Dear Alice Stickney

A nabor and I drove to the copper river and fished with dip net June 8, 9, & 10. My take was 21 reds, his was 16. My fish averaged just under 5 lbs apiece when cleaned for freezing. So comparing it to the $30.00 it cost me in gas they came out to $30 a pound. During the 3 days I fished I spent about 40 hrs fishing which is not easy. I cannot afford to buy samoan in the stores in Fairbanks. Infact I don't buy meat of any kind which is priced over that of ground beef. I was unsicesful in my atempt to take a moose last year but was given some game meat by friends. I don't beleive that your questionair is proticulery pointed twoard people with a cash income but who also suplament with game meat like me. And I can't see how my 21 fish are signefegent when compared to the Toneage Taken by the caneary. Nor can I understand the reason why a caneary should be allowed to operate and inderigales denied the privilege to provide themselvs with a good food sorce. I am a proud indevigal and do not beleive in wellfair foodstamps and unemployment, but I also suport fully the resherch and regulations of fish and game. When making your report please take into considerition people like myself. Alaska is my home even if I don't seem to stay in aney one part of it for long. I beleive it is the only state that still allows a person self determination and pride don't take that away from us.

Yours truly

Arther E. Manning

PS please send me a copy of your report

Arther E. Manning
S.R. Box 50762
Fairbanks, AK 99701
Letter:

I feel that presently subsistence fishing regulations are not fair.
I feel that if salmon is required as food the fishing gear should not reduce household limits.
Under present rules fishwheel earners who make under $6,000 are allowed 200 for individual and 500 for family dipnetters who make less than $6,000 are allowed 15 for individual or 30 for family.

I feel the regulation should read:

Subsistence fishermen who make less than $6,000 if single using fishwheels or dipnets are allowed 200 fish. and subsistence fishermen with dependents are allowed 500 salmon caught by fishwheels or dipnets with incomes less than $6,000.

From: Eduard Langley
SR Box 61086
Fairbanks, AK 99701
Please note the following comments:

(1) As an Alaskan family of some 40+ years we have hunted and fished for food each year and are very much appreciative of the subsistence program.

(2) We were forced out of the Knik Arm subsistence salmon fishery in about 1967 or 8 because of poor silver runs in that area. We moved to the Copper at that time.

(3) We strongly feel that any Alaskan has the right to fish regardless of sex, religion, race, place of living, or whether or not he or she chooses to work for money. In other words, we are very much against any sort of discrimination for any reason. The fish and game belong to all citizens of this state.

(4) At this time the price of fish is extremely high this fact should give more support to a well managed subsistence fishery without discrimination.

(5) Thank you for reading this. will try to see you in your office some time.

(6) Would like a copy of the results of survey.

No address
September 18, 1979

Alaska Department of Fish & Game
333 Raspberry Road
Anchorage, Alaska 99502

Dear Ms. Stickney:

I don't believe that people on food stamps or under a certain dollar amount should be allowed 500 fish. Most of the fish in such cases goes for dog food and that is against state law.

Subsistence should never be determined by a dollar amount. A millionaire gets just as hungry as a poverty person.

Besides, the natives couldn't subsistence fish because they are the richest people in Alaska.

I want the results of the survey. Thank you. In order to find work, I must travel away from home for periods of time; therefore my form is late.

Yours truly,

Kenneth Rowland
Star Route D Box 9194
Palmer, Alaska 99645
Dear Sirs:

On your survey you asked the question, "What would you do if the legislature prohibited subsistent fishing in Chitna? If the legislature did prohibit fishing at Chitna, there should also be legislation prohibiting commercial fishing.

Eight to ten years ago sports fishing was cut in half and during this time the license fee has doubled, also, subsistent fishing has gradually been cut back. The Fish and Game Department claims that they have done this to improve subsistent and sports fishing. I have yet to see any improvement. Over the last seven or eight years reports have come out stating that commercial fishing has improved seven to fifteen percent each year, as compared to the year before. I feel that all three types of fishing benefit from the fish and this should be kept in mind.

I can go along with the adjustments that have been made, but if you are going to eliminate one or the other, you should eliminate all three styles of fishing.

Fishing means more to the commercial fisherman because that is his livelihood, and he makes more money at that than I could working all year long.

I have paid my license in Alaska since 1964, not including other states that I have been in. I have also paid my taxes, but I have not always found the time, that I would like, to go fishing, but that time is just around the corner for me.

Now you are talking about eliminating subsistent fishing. Please be fair in the judgement you will make.

Please send me a copy of the report when it is completed.

Thank you for listening,

Tom Byrnes
511 Glacier
Fairbanks, Alaska 99701
To Who It May Concerned,

1979 was the first time I had ever fished the Copper River. It was a fine experience even though I feel I make enough money plus sport fish enough so that this type of fishing is not needed for persons such as myself. There is just my wife and myself. I think there should be a wage limit and anything over that would not be allowed to fish. If you make 'X' number of dollars or under per family unit coupled with 'X' number of dependents should determine if you are to recieve a permit. The weekend I fished I saw approx 60 to 70% people there who were GI's. As a former GI (I was discharged 2 years ago) I know that many if not all of these people do not need to subsistence fish. I feel this is the underlying problem facing management. Not always GI's but people who do not need the extra help with generous limits offered by subsistence fishing. I personally enjoyed the experience however would never get such a permit again without actually needing one to help me get by. Thank you very much.

Sincerely,

A Concerned Alaskan

No Address
September 20, 1979

This survey sounds like some more crap to create welfare people! Why in hell can't the federal and state gov'ts keep their noses out of peoples affairs and give these stumble bumbs a chance to stand on their own two feet?

I don't know anyone that is not capable of doing something to earn a living! Everytime a pen is laid on paper a bunch more dependents are created and, people being what they are (lazy asses!) they are happy to sit back and let big brother take care of them.

I am sick at the way the state has cow-towed to the federal gov't regarding this subsistance business. I just hope these few crumby ner-do-wells, with the help of your new "subsistence section" don't screw up the Copper River fishery so us folks that use it and enjoy harvesting fish can no longer do so.

Sadly, my bet would have to be that it will be screwed up!

Dennis Lattery
P.O. Box 775
Eagle River, AK. 99577
September 14, 1979

Alice Stickney

My concern for the "significant fishery" at Chitna is to talk irrespective of Fish and Game Dept. definitions; i.e. subsistence, sport, recreational etc. The real issue here should be one of unique opportunity. There aren't too many places anywhere in the nation where dip netting salmon is a way of life. I would like this opportunity to partake in dip netting preserved. Otherwise, Alaska is slowly but inexhorably heading towards a "look but don't touch" state.

The moose, sheep & wolf are political animals. Decisions are made in concession to power, money and special interest groups and not in concession to game Biologists. Alas, I suspect this is the pressure being brought to bear on the dip netters by the commercial concerns. Be this as it may with the passing of the dip netting fishery into history (a foregone conclusion?) the State of Alaska dies a little further.

I feel distinct efforts should be made to preserve these uniques Alaskan opportunities. We keep complaining that the Fed. go't is strangling Alaska, but Alaska is doing a pretty good job of killing itself from within.

Sincerely

David Parker
Box 382
Tok, Alaska 99780
Dear Alice:

I'm not answer your questions I'd like to suggest that the Subsistance Section just stop messing with the fishery and let us continue utilizing fish as in the past.

I've been a resident for 33 years and use every fish I catch. I resent some 90 day wonder controlling things just because he has a degree that says he is an expert of some kind.

The fish takin in the river by my family are all eaten for food by ourselves, not dog feed, not wasted. I'm retired on a small annuity and the fish are a big help to us. Jimmy Carter has messed up enough of Alaska, why make it worse?

From Fairbanks.
Anchorage

While I’ve not been successful at chitina myself, I’ll keep going back. Others fish with share their catch and this is my single largest source of salmon (although small). I can’t help believe that subs. catch is minute to commercial & Copper River important - as food source for some, tradition for others.
September 12, 1979

Alice Stickney  
Resource Specialist  
Subsistence Section  

As with other people to whom this questionnaire is being sent, we do not actually fit the subsistence category as with public definition. We work for a living and always have so salmon can hardly be a tradition. The whole subsistence issue with total respect to the Native Alaskans is a unique problem in my view. My point being that subsistence uses in regard to culture and capital income is a good system regarding local natives but those of us migrating to and from Alaska should not be cut off from the sport of dip netting or the uniqueness of building a fish-wheel. I do feel we should be placed in sport fishing category tho. I recommend keeping a slightly higher daily and possession limit than with hook and line as the rules are now.

Your questionnaire looks quite good, I feel it does not apply to me and my situation.

The sport is my main concern and I would much rather see possession limits lowered than to see you close dip-netting. It can be fun but is a lot of work in most cases. I strongly urge that you reclassify us in non-subsistence lifestyles to a sport fishing permit to dip-net.

Please send me a copy of your report based on these finding.

Thank you for asking for opinions.

Sincerely,

Raymond R. Lyons Jr.  
Box 337  
Collbran, Colorado  
81624
Anchorage trucker 3 years.

Alice

This is a pretty stupid survey since you obviously know that half the people who go dip-netting on Copper River arrive in their plush motor homes and campers, spend a weekend or two scooping up a few salmon, and go home and throw 'em in the freezer. All of which has nothing whatever to do with "subsistence." Most of these people will simply toss these sheets in the waste basket - making the validity of your survey subject to question as to its value in future policy decisions concerning the fishery. These who do complete the questionnaire, being basically selfish like the rest of us, will lie to make it appear that they will starve to death if the Copper R. is closed down.

So, instead of wasting tax payers $$ on excess government regulations of the Copper R., printing up ridiculous surveys & making everyone mad, why not close the damn River down until you have proof of adequate escapement & then open it up as a normal sport fishery & forget this insanity and utopian idealism under the label of Subsistence whereby state bureaucrats such as yourself assume the responsibility of determining the difference between the needy and the greedy?! Why should one man be given an advantage because he's too lazy to go out and work while another is penalized for making too much? It just doesn't seem fair!!!

Sincerely,

George R. Bliss
September 8, 1979

Comments:

The general feeling I heard expressed this summer while fishing was that there would be efforts made to close down the Copper River subsistence fishery due to control by the commercial fisherman. I find it hard to believe that the number of fish taken by subsistence fishing is significant when compared to the number salmon taken by just one commercial boat.

I would urge that the subsistence fishery in the Copper River remain open in the coming years for the following reasons:

(1) The salmon in Alaska belong to everyone - not just the commercial fishermen.
(2) The fish I catch also has an impact on my livelihood. It is part of my family's diet and I could not afford to purchase said salmon at today's prices.
(3) Sport fishing regulations have become so restrictive that it is nearly impossible to get a year's supply of fish unless you spend literally every weekend fishing - and please - there are other things to be done.
(4) I can save natural energy. In one trip I can generally get my years supply of salmon. If I can not subsistence fish - then I will have to expend more gas in making more sport fishing trips, which I prefer not to do unless more bureaucratic regulations force me to.

As an Alaskan of a few years, I ask please do not take our subsistence fishery away.

Please send me a copy of your report.

Lynn Bartz
5030 Wesleyan
Anchorage, Alaska 99504
Dear Alice,

It seems that every year I as a dip netter am put upon by either Fish & Game or the Commercial fishing group to try to halt or change the Copper River dipnetting. From my point of view this is dam disgusting & maddening. Now days with my present income I could get by without the dipnetting but if you are in the same income bracket as I am maybe you can realize that it surely does ease a very large yearly food bill. This year salmon steaks here were selling for around $3.00 a pound. at those prices we can't buy much salmon. Can you?

Also, relatively speaking, just how "substantial" this dipnetting is as compared to the commercial catch is a point of strong contention from my view. In several instances I have heard commercial fishermen speak of the salmon as "our fish". Bull roar!! This year when the "Holy Board" meets, may they take a strong look at the dipnetters & finally and forever stay the hell off our backs. After all Alice, I don't own a $100,000 fishing boat and nets and never have I had a $75,000 year such as the Bristol Bay bunch has had recently.

Good day to you Alice.

Sincerely,

Dennis Timm
Ms. Alice Stickney Subsistence Section  
Department of Fish and Game  
333 Raspberry Road  
Anchorage, Alaska 99502  

September 13, 1979

Dear Ms. Stickney,

In reviewing your subsistence questionnaire, I felt a need to make additional comments with regard to some of the questions and on the subsistence topic in general.

First like yourself I'm a state employee; and while I probably don't need to make any additional comments about our socio-economic posture, I will. In striving to maintain a traditional type family status with myself being the only source of income, austerity seems to describe the situation adequately. Further with a second child due in October we find that the subsistence fishery has a definite impact on our food budget in addition to providing a more diverse diet.

Addressing several questions of your survey directly:

21. The heads of our king salmon were given to a neighbor, hence they were utilized, but not by ourselves.
22. The majority of our subsistence catch is utilized by ourselves, but some is shared with my brother, here in Anchorage and some of the canned and canned smoked portion of the catch is shared with parents and other relatives in the lower 48.
30. One of my dip nets was utilized by my brother in his dip netting effort.
35. In 1978 with a reduced catch on the Copper River, we expended more effort in sport fishing the Russian River and Susitna River drainages. Further we received fish and game from my brother.
36. If our subsistence privilege were terminated we would sport fish the Kenai Peninsula and Susitna River drainages; areas already under intense pressure. Also we would be more dependant upon my brother for sharing (berries, game and fish) foodstuffs.

We found the regulatory action taken by your department (segregation of dip netting and fish wheels) favorable. Further the consideration shown by Fish and Game personnal to the economically impoverished (as witnessed when applying for a dip net permit) was excellent. From observation I believe that the impact that the subsistence fishery has on the Copper River drainages not extreme in consideration of sport fishing and especially commercial fishing. I can see that every group involved (sport, subsistence and commercial) must make concessions in years of poor fish return, and in general for the wise use and preservation of our fishery resource. However, those concessions must be equitable to all, with no group receiving special consideration.

Thank you for your consideration and please feel free to contact me again.

John C. Tibor
To whom it may concern:

Although I, myself, am military, I strongly feel military people should not participate in subsistence fishing. Taking into consideration the amount of people, on the five military installations in Alaska, using subsistence fishing areas, you'll see it takes fish away from the true residents of Alaska. I believe subsistence fishing should be denied to the military.

Dennis Alexander  
4207 #6 600th St.  
Ft. Wainwright, Ak 99703
February 4, 1980

Alice Stickney
Resource Specialist
State of Alaska
Department of Fish and Game
Division of Commercial Fisheries
333 Raspberry Road
Anchorage, AK 99502

Dear Alice,

Thank you for sending me a copy of the report on the survey of "Permitholders in the Copper River Subsistence Fishery."

I have just finished reading the publication, and will sympathize with anyone having to deal with the problems of eliminating either a group of people or restricting the take to a group of people.

Looks to me like you did a real fine job of compiling info and looking at things realistically.

I've a thought or two I'd like to convey, so here goes;
1) I noticed you mentioned in the report, use for military personnel. I was a military personnel myself for 7 years, but I can see no reason for military people to have a subsistence permit of any kind. Sport yes, but when it comes to having to eliminate someone, they should be first. In talking with military people at Chitina, I'd say a lot were trading salmon taken for canned salmon at a rate of 2 to 1 or 3 to 1. Also, most single military people were planning on having a fish fry for what ever unit or barracks they were attached with.
2) Salmon like Caribou, Moose, rabbits or berries is a resource belonging to the people of this state. Anytime that resource suffers it is the Commercial endeavor that should be cut back, not the individual people

It is the population that is the State not just a privileged few with the money of industry. Especially when a good deal of the controlling interest in "our" fishing industry is outside of Alaska.

Well, shoot, guess I'll climb down off my soap box.

Thanks for listening to me rave.

Sincerely,

Arthur E. Manning
SR Box 50762
Fairbanks, AK 99701

cc: Governor Jay Hammond
Dept. of Fish & Game, Fairbanks
I. INTRODUCTION: The purpose of this plan is to insure an adequate escapement of salmon into the Copper River system and to provide management guidelines for equitable allocation of the harvestable resource.

II. COPPER RIVER SALMON RUN

A. This policy governs only those salmon which pass the department sonar counters located at the Million Dollar Bridge.

B. The Commercial Fisheries Division shall manage the Copper River commercial fishery to attain a total escapement into the Copper River of 350,000 salmon to insure that adequate escapement reach the spawning grounds and provide for a sport and subsistence harvest. The desired weekly escapements are shown in Table 1.

C. The Commercial Fisheries Division shall manage the subsistence fishery on the Copper River consistent with AS 16.05.251(b) and to insure adequate escapement by restricting the subsistence harvest to the following levels (Table 2) based on escapement as determined by sonar evaluations and any other appropriate means.

D. The department shall prepare application forms to obtain information necessary to determine what persons are qualified to receive subsistence permits described in Section III.

III. PERMITTING

A. Subsistence Permits: Permits may be issued to persons who show the greatest level of need for subsistence salmon on the basis of:

--- Customary and direct dependence upon the resource as the mainstay of one's livelihood,
--- Local residency, and
--- Availability of alternative resources.

1. Class A Permit: A Class A Permit may be issued to any person who satisfies all of the following criteria:

   a. Dependency

      i. 55 years of age or older

      ii. Annual income of no more than the amount identified in 5 AAC 01.630(b) (2) (3) and as
the income criteria regulation may be from time to time amended.

iii. Use of a fishwheel to catch fish in the Copper River in ten of the last twelve years.

b. Residency

1. Proximity to the resource as determined by Copper River residency as follows:

A Copper River Basin resident is an Alaska resident (as defined in Title 16) who for the preceding twelve consecutive months has maintained his place of residence and voting residence (if applicable) in the area described below and who does not maintain a permanent residence or voting residence elsewhere. The area includes Game Management Units 11, 13-A, 13-B, 13-C, 13-D as described in 5 AAC 90.010 and the Jacksina River drainage to its confluence with the Nubesna River.

2. Class B Permit: A Class B Permit may be issued to any person who is a Copper River Basin resident as defined above.

3. Class C Permit: A Class C Permit may be issued to any state resident who applies to and is determined by the Commissioner of Fish and Game or his delegate as a person who satisfies all of the following criteria:

a. Household size of three persons or more,

b. Household having one or more persons over 55 years old,

c. No more than one full-time employed person in the household,

d. Participation in the fishery for eight of the last ten years, and

e. Annual household income not to exceed $10,000.

4. Class D Permit: A Class D Permit may be issued to any resident of the State of Alaska as defined in Title 16.

3. Permitting

1. When escapements of less than 300,000 are projected, the face value (number of fish allowed per permit) of permits as described in 5 AAC 01.630 may be reduced to insure that all permittees would be allowed to fish.

2. When escapement projections improve significantly during the season, face values of permits may be increased up to
full value as described in 5 AAC 01.630.

3. Permits must be returned no later than October 31 or a permit for the following year may be denied as provided in 5 AAC 01.015(c).

4. During closed fishing periods, the Chitina permit issuing station may be closed or operated at reduced hours to reduce manpower costs.

C. Delayed Season Opening

When sonar counts prior to June 1 indicate less than 250,000 projected escapement, the subsistence season opening may be delayed up to ten days to allow more accurate assessment of run strength and confirm appropriate allowable harvest allocations.

IV. COPPER RIVER SUBSISTENCE CHINOOK SALMON FISHERY:

When the Copper River dip net subsistence fishery is closed to the taking of sockeye salmon, it may be open to the taking of chinook salmon between June 1 through July 10, up to seven days per week.

V. COPPER RIVER SUBSISTENCE COHO SALMON FISHERY:

If the Copper River subsistence fishery is closed or restricted because of an inadequate escapement of sockeye and chinook salmon, the fishery may be reopened September 1 for the taking of coho salmon, which constitute the majority of the salmon at that time. By September 1, the escapement of sockeye and chinook salmon has essentially passed through the area. Also by this time, the subsistence fishery effort has decreased and constitutes less than five percent of the total effort on the fishery.

VI. UPPER COPPER RIVER SOCKEYE SALMON SPORT FISHERY:

When projected sockeye salmon escapements to the upper Copper River fall below 250,000, sport fishing for sockeye salmon shall be closed.

VII. COPPER RIVER CHINOOK SALMON COMMERCIAL FISHERY:

During years when commercial sockeye salmon fishery closures are in effect, limited chinook salmon harvests may be allowed under the following conditions:

A. The incidental catch of sockeye salmon may not exceed ten percent of chinook salmon weekly harvest quotas when less than 250,000 sockeye salmon escapement is projected. When 250-350,000 sockeye salmon escapement is projected, the incidental catch may not exceed twenty percent.

B. Maximum drift gill net per vessel shall be 150 fathoms of 8½-inch or larger mesh.

C. Fishing periods may not exceed six hours in length and fishing time will be set to avoid periods of maximized catch potential.
There will be two fishing periods per week unless more than 80 percent of the week's quota is taken during the first period.

D. When weekly quotas are not obtained, no more than ten percent of that quota may be taken in the following week.

E. 1. Weekly quotas for 1980 are as follows:

<table>
<thead>
<tr>
<th>Week*</th>
<th>Harvest Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>2,000</td>
</tr>
<tr>
<td>22</td>
<td>4,000</td>
</tr>
<tr>
<td>23</td>
<td>3,000</td>
</tr>
<tr>
<td>24</td>
<td>1,000</td>
</tr>
</tbody>
</table>

2. Adjustments of up to one week may be made in the overall harvest allocation timing to compensate for seasonal variations due to early or late spring breakup or other environmental conditions.

*Statistical weeks are in numerical sequence beginning with week number one (1), which is the week ending with the first Saturday of the calendar year.

ADOPTED: January 11, 1980
Anchorage, Alaska

VOTE: 6/0
Expected upriver escapement by week based on percent of average weekly sockeye salmon catch to produce 350,000 d.b. escapement and 250,000 minimum escapement.**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Week</th>
<th>Average Catch</th>
<th>Percent</th>
<th>Cumulative Percent</th>
<th>Minimum Escapement</th>
<th>Cumulative Escapement</th>
<th>Expected Average Escapement</th>
<th>Cumulative Expected Escapement (Cumulative)</th>
<th>Minimum Expected Sonar Escapement (Cumulative)</th>
<th>Average Expected Sonar Escapement (Cumulative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 14-20</td>
<td>20</td>
<td>32,602</td>
<td>(9)</td>
<td>4.7</td>
<td>4.7</td>
<td>11,750</td>
<td>11,750</td>
<td>16,440</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>102,868</td>
<td>(15)</td>
<td>14.8</td>
<td>19.5</td>
<td>37,000</td>
<td>48,750</td>
<td>51,790</td>
<td>68,230</td>
<td>11,750</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>144,653</td>
<td>(16)</td>
<td>20.9</td>
<td>40.4</td>
<td>52,250</td>
<td>101,000</td>
<td>141,370</td>
<td>40,750</td>
<td></td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>132,503</td>
<td>(18)</td>
<td>19.1</td>
<td>59.5</td>
<td>47,650</td>
<td>148,650</td>
<td>208,210</td>
<td>101,000</td>
<td>141,370</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>76,753</td>
<td>(18)</td>
<td>11.1</td>
<td>70.6</td>
<td>27,750</td>
<td>176,400</td>
<td>247,050</td>
<td>148,650</td>
<td>208,210</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>61,650</td>
<td>(18)</td>
<td>8.9</td>
<td>79.5</td>
<td>22,250</td>
<td>198,650</td>
<td>278,190</td>
<td>176,400</td>
<td>247,050</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>48,838</td>
<td>(17)</td>
<td>7.0</td>
<td>86.5</td>
<td>17,500</td>
<td>216,150</td>
<td>302,680</td>
<td>198,650</td>
<td>278,190</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>33,387</td>
<td>(18)</td>
<td>4.8</td>
<td>91.3</td>
<td>12,000</td>
<td>228,150</td>
<td>319,470</td>
<td>216,150</td>
<td>302,680</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>27,032</td>
<td>(18)</td>
<td>3.9</td>
<td>95.2</td>
<td>9,750</td>
<td>237,900</td>
<td>333,110</td>
<td>228,150</td>
<td>319,470</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>16,415</td>
<td>(18)</td>
<td>2.4</td>
<td>97.6</td>
<td>6,000</td>
<td>243,900</td>
<td>341,500</td>
<td>237,900</td>
<td>333,110</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>10,429</td>
<td>(18)</td>
<td>1.5</td>
<td>99.1</td>
<td>3,750</td>
<td>247,650</td>
<td>346,740</td>
<td>243,900</td>
<td>341,500</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>4,660</td>
<td>(17)</td>
<td>0.7</td>
<td>99.8</td>
<td>1,750</td>
<td>249,400</td>
<td>349,180</td>
<td>247,650</td>
<td>346,740</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>1,476</td>
<td>(17)</td>
<td>0.2</td>
<td>100.0</td>
<td>500</td>
<td>249,900</td>
<td>349,870</td>
<td>249,400</td>
<td>349,180</td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>298</td>
<td>(13)</td>
<td>0.04</td>
<td></td>
<td>100</td>
<td>250,000</td>
<td>350,000</td>
<td>249,900</td>
<td>349,870</td>
</tr>
</tbody>
</table>

| Average | 693,564 | 250,000 | 350,000** | 350,000*** | 350,000*** |

* Escapement upriver.
** 60,000 - 90,000 additional spawners required for Copper River Delta spawning areas.
*** Actual escapement requires subtraction of subsistence and sport fishery take.
<table>
<thead>
<tr>
<th>PROJECTED ESCAPEMENT</th>
<th>ALLOWABLE HARVEST</th>
<th>PERMITTEES 1/</th>
<th>LEVEL OF PARTICIPATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 150,000</td>
<td>3-5,000</td>
<td>Class A 2/</td>
<td>7 days/week</td>
</tr>
<tr>
<td>150-200,000</td>
<td>8-10,000</td>
<td>Class A</td>
<td>7 days/week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class B and C</td>
<td>2 days/week</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Saturday-Sunday)</td>
</tr>
<tr>
<td>200-250,000</td>
<td>13-15,000</td>
<td>Class A</td>
<td>7 days/week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class D</td>
<td>2 days/week</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Saturday-Sunday)</td>
</tr>
<tr>
<td>250-300,000</td>
<td>18-20,000</td>
<td>Class A</td>
<td>7 days/week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class D</td>
<td>3 days/week</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Friday-Sunday)</td>
</tr>
<tr>
<td>300-350,000</td>
<td>23-25,000</td>
<td>Class A</td>
<td>7 days/week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class D</td>
<td>5 days/week</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Thursday-Monday)</td>
</tr>
</tbody>
</table>

1/ No distinction is drawn to gear type.

2/ Special permits are estimated to be 25-30 permits.