

SUBSISTENCE RESOURCE UTILIZATION: NIKOLAI  
AND TELIDA - INTERIM REPORT

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### Abstract

The Subsistence Section of the Alaska Department of Fish and Game conducted initial research in the Upper Kuskokwim region this past summer. The primary focus of research was the subsistence resource utilization of the two Athabaskan communities of Nikolai and Telida. The two villages exist in an area of low biological carrying capacity and are facing some chronic resource problems. Because of limited field work, the only detailed data compiled were on fishing and hunting efforts for 1980. The fishing season was examined in relation to changes in effort and effort locations since the 1960's and some of the possible reasons behind those changes. The hunting season for this September proved to be a poor one for the villagers in that it fell during an unseasonably warm period. The consequences of regulation inflexibility is examined and some preliminary recommendations are made.

## INTERIM REPORT

### SUBSISTENCE RESOURCE UTILIZATION: NIKOLAI AND TELIDA

#### PROBLEM

This is the first year of subsistence research in the Upper Kuskokwim River area by the State Subsistence Section. The focus of attention was the two small Athabaskan communities of Nikolai and Telida. (Medfra was not included at this time because it is a small settlement, not really a village). The Upper Kuskokwim area has been one of the most remote in the State and the local population has traditionally been oriented toward subsistence resource utilization. Consistent with trends throughout Alaska, improved modes of transportation and communication have made Nikolai and Telida more accessible in recent years. This has made some aspects of life easier for the villagers, but it has created some problems. The proximity of this region to the municipalities of Anchorage and Fairbanks has created a situation in which the game resources, especially moose have been subject to competition from urban hunters as well as boat hunters from downriver Kuskokwim communities. Outside hunting combined with annual village take, marginal moose habitat and a high wolf population have all acted to keep moose at a low density in this area. Moose is the most important food item in the local diet, so the increased competition for this resource has alarmed and angered the villagers. Moreover, the alternative subsistence resources present in the area (notably salmon, whitefish and caribou) have not always been available to the villagers at appropriate times or in adequate numbers to be dependable buffers for inadequate moose harvests. The increased competition for a limited resource has prompted the McGrath local Fish and Game Advisory Committee this past year to request the Board of Game to implement a controlled use zone around these two villages. Because the Board would not consider requests for controlled use zone at their March 1980 meeting, the Department of Fish and Game made the request to restrict the September hunting season in upper Game Management Unit (hereafter GMU) 19D to 10 days and repeal the November season. This short season was an attempt to relieve hunting pressure on the local herd as well as discouraging non-local hunting efforts. However, a short season poses problems for the local user and may not conform to

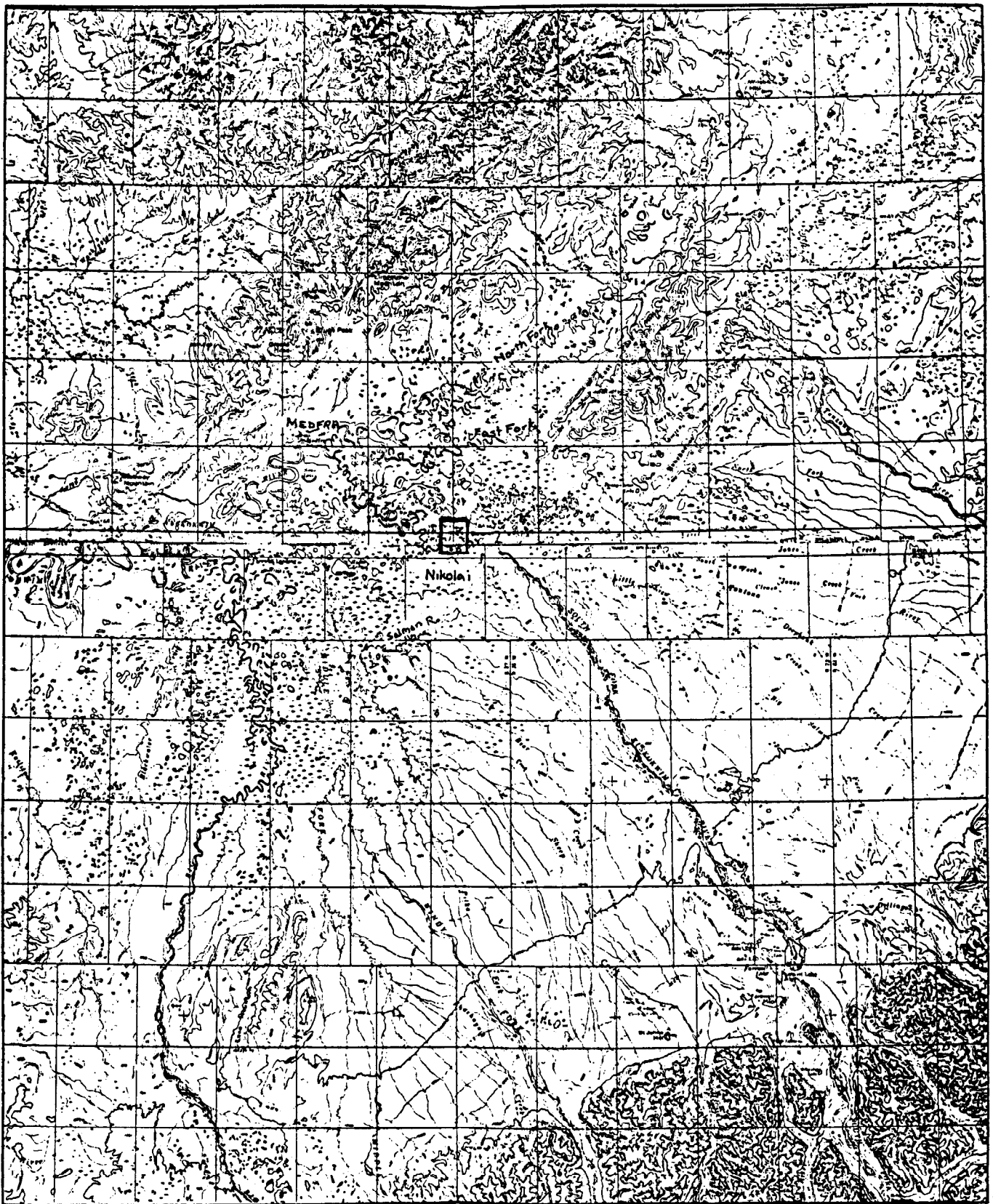
village reality. Proposals for subsistence hunting areas and controlled use zones will be able to be considered at the 1981 Spring Game Board Meeting.

#### PURPOSE

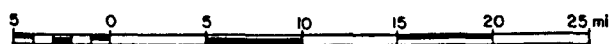
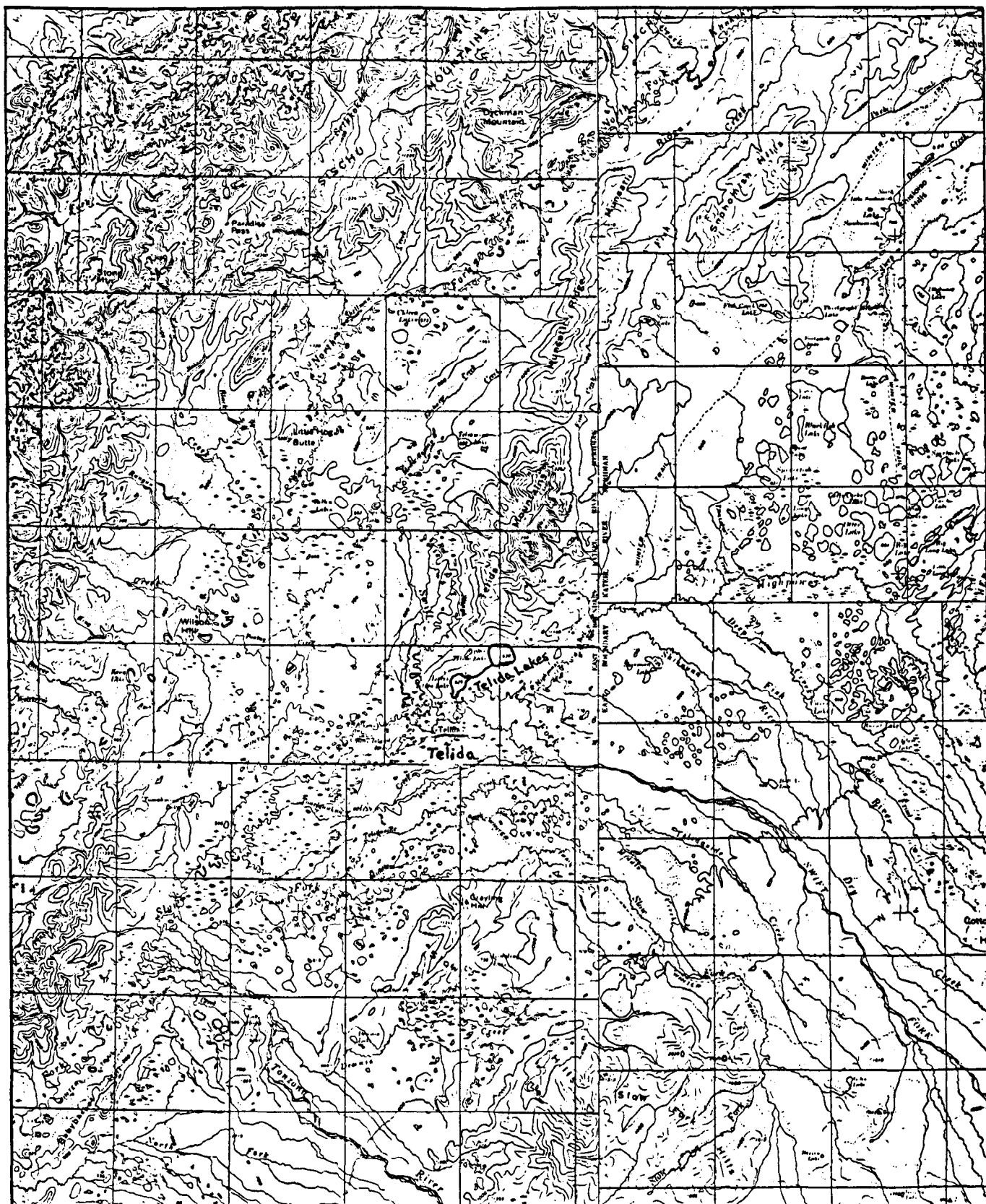
Research in the Upper Kuskokwim area was initiated by the Subsistence Section because of the many critical resource problems confronting this area and the dearth of previous research available. The intent of research is to gather extensive subsistence data throughout the Upper Kuskokwim including socioeconomic, cultural, and ecological considerations. The extensive amount of data required to develop a holistic picture of subsistence resource utilization in the Upper Kuskokwim will take a few years to accumulate; however, the initial phase of this research effort has already begun. A short visit was made by the Subsistence Section during the summer of 1979, but extended contact and initial data gathering in Nikolai and Telida did not actually begin before May, 1980. Research effort for this summer consisted mainly of village contact and interviews with at least one individual from each family group in each community. Maps of important resource areas were mapped, fishing areas were visited and an attempt was made to assess the substance of village life and concerns. Knowledgeable people in McGrath and Bethel were also contacted for their insights into the villages and/or resource situations. Nikolai was also visited during and after the September moose season for hunting information and a village representative of Telida was contacted for the same purpose. The following report is only an interim summary of these preliminary research efforts in the Upper Kuskokwim.

#### BACKGROUND

Nikolai and Telida are two small, predominantly Athabaskan communities located northeast of McGrath on the South Fork and the Swift (McKinley) fork of the Kuskokwim River, respectively (see Maps I & II). Both communities have traditionally been highly dependent on that local natural resources for their subsistence. Historically, the Upper Kuskokwim has been an area of low biological carrying capacity and the early Athabaskans of this area adapted to this constraint by pursuing a lifestyle of small roving family bands. These family groups seasonally followed the local



MAP 1: Nikolai



MAP 2: Telida

natural resources and aggregated into large groupings only at those times during the year when the available resources could support such gatherings.

Despite the low carrying capacity of the area, it was sufficient to support the earliest site of the communities of Nikolai and Telida in the early 1900's. These settlements were the result of white influence (trading posts, priests) and were small at their creation, but later attracted related family bands throughout the Upper Kuskokwim area. These communities had to change their location in the early years in response to environmental and resource conditions, but the introduction of schools, the growth of McGrath and other factors have all acted to cement the communities where they are now and to effectively reduce the land base on which they can support themselves. The communities themselves have increased in population, although the increase in Telida has only been within the last 15 years. Due to the contribution of many factors, the communities are now facing some chronic resource problems which affect the subsistence that is still the mainstay of these villages.

#### COMMUNITY PROFILES

Nikolai: Nikolai has a population over 90, with 20+ households. Its present location is on the South Fork of the Kuskokwim River, over 30 miles southeast of Medfra and downstream from its earlier location.

Nikolai has a store, small gravel airstrip, Russian Orthodox Church, community hall, village steambath, town office, small sawmill and school with gym (pre-school through 10th grade). Wage opportunities are limited and most are seasonal in nature. Jobs include some village organization employment (council, administration, etc.) guiding, trapping, work at the school, post office and sawmill including an occasional construction project. The village has had electricity for two years, but only the school and store have running water. All food is flown in from McGrath and only fuel and lumber are brought on the occasional barge that comes up from McGrath. Prior to three years ago there was no store within the village and food purchases were made primarily from Medfra and McGrath directly. What little cash is available to the community is supplemented by government aide, but village residents are still heavily dependent on subsistence.

Telida: Telida is a small village of 7 families with a population of 31. It is situated on the west bank of the Swift (McKinley) fork of the Kuskokwim River, 17 miles upstream from the confluence with the North Fork and 5 miles downstream from the outlet of Telida Lake. The village has a grade school, small dirt airstrip, Russian Orthodox Church, village steam bath, town office and community hall that is being converted over to a health clinic and housing for the teacher. There is no store and all food and fuel must be shipped by air from McGrath. There is no barge service. The village has a generator which basically powers the school but is turned off during the summer months to curb expenses. Because of the village's small size, it is not always certain the school will be opened by the Iditarod REAA. When it does not, the school children must go to Nikolai in order to attend school. The few job opportunities include school and airstrip maintenance, a health aide position and an occasional small scale construction project. Although this scarcity of available cash is supplemented by government aide, the village remains heavily dependent on subsistence in order to survive. Telida is also situated near the new Denali Monument extension. Inadequate communication from the National Park Service about the village inclusion in the monument's resident subsistence zone has served to confuse those who have been utilizing the area. Telida is situated in a poor resource area and existence in the community is tenuous.

Both communities have been involved in a pilot garden project fostered by the Tanana Chiefs conference and Koyukon Development Corporation. This project seeks to improve the self-sufficiency of the villages by broadening the amount of fresh food available in the diet. This project seems to be going well despite the weather difficulties during the summer.

#### SUBSISTENCE RESOURCE UTILIZATION

Preliminary information on village resource utilization was gathered this summer. Because of the limited field time involved, only moose hunting and salmon fishing information were gathered in any detail. Appendix A contains maps of general areas of resource utilization for the villages. It should be noted that the information used to compile



these maps came from sample households and should not be construed to be the full extent of resource utilization, nor should the boundaries represented on these maps be considered rigid in time and space. As resources migrate or change in magnitude or as environmental conditions change, subsistence users must adjust their efforts and the locality of such efforts correspondingly. Appendix B contains a general listing of potentially utilizable wildlife resources present in this area. The listing gives no indication of the magnitude of use for each species or the season of use. These data remains to be developed. The list is only included here to give non-local readers some idea of the wildlife components of the Upper Kuskokwim subsistence picture and is probably not complete.

The following is a general presentation of the subsistence activities encountered during the initial period of research.

#### Fishing

Fishing patterns in the Upper Kuskokwim have changed radically since the ethnographic work of Hosley in the 1960's. At that time, many families from Nikolai moved to Medfra (35 miles downstream) in the summer in order to fish and to be available for firefighting jobs (then one of the very few jobs available).

There are now additional social and economic factors which have impacted fishing efforts and success for residents of Nikolai. While Nikolai still offers few wage earning opportunities, there are now a greater number of primarily summer seasonal jobs available within the village. As the use of snowmachines commenced in the late 1960's and increased throughout the early and middle 1970's, there was a corresponding decline in dog teams. The decline in the use of dogs in addition to the perceived need for more cash precipitated a reduction in the fishing effort and need for fish by most village residents. Therefore relative to the 1960's, fewer families today spend lengthy periods of time in fish camps during the summer months. In addition most people fish nearer the community in order to have access to potential employment and to cut down on gas expenses (at \$2.00 - 2.76/gal). However, Nikolai is not an

area to fish as Medfra and in a poor fish year, the harvest at Nikolai is extremely limited. It should be noted too, that dog teams are very recently on the increase in Nikolai due to the inflation of snowmachine and fuel costs, the increased popularity of "mushing", a recognition on the part of some people of snowmachine unreliability, and importantly, an increased valuation of dog team utilization as traditional.

In order to harvest king salmon, specifically, villagers must travel in early July to the Salmon River off the Middle Fork of the Kuskokwim which is a day's boat trip away (See Map 1). This is one of the few king salmon spawning areas in the Upper Kuskokwim. The chief of Nikolai has his native allotment at the confluence of this stream and his extended family is the primary user group in this area. Typical gear used for kings include rod and reel. Although fish traps were traditionally used, they are not allowed by regulation. The stream is too clear for gillnets and too shallow for fishwheels. Last year only the chief and his family fished at Salmon River, but this year at least 5 families fished there. Three of the additional families were related to the chief and 2 of the 5 have dog teams which provided partial motivation behind their king salmon fishing efforts. One person reported catching at least 30 king salmon while at the Salmon River, and most of the participants felt that they had been able to catch as many kings as they wanted and needed for drying. This year provided, however, a relatively good king salmon run on the Kuskokwim River.

By the middle of July most villagers who expended a fishing effort had returned to Nikolai except for the few who were still at fish camps located at Medfra and Little Tonzona Creek (15 miles upstream from Nikolai). The 2 village households maintaining fish camps at Medfra have dogteams, which, as previously explained, require a greater fish harvest. Both of those have access to a modest cash income during the school year. The researcher had no data this year on the families fishing at Little Tonzona Creek.

The chum run on the Upper Kuskokwim, as elsewhere on the Kuskokwim, was better than the previous year. Those families who could expend the

effort were able to put up enough fish for at least personal use and a few may also have gotten enough for dog use. Those villagers with dog teams noted the problem of maintaining a summer job and still having the time available to harvest and put up the number of fish needed to feed their dogs through the winter.

Fishing gear used at Medfra included chum salmon nets. At Nikolai 2 fishwheels were in operation in addition to gillnets. The fishwheels were put in by specific families but were used cooperatively within the village. Those who wanted to cut fish for their dogs asked permission of the owners to use the wheel; those wanting fish for personal use were able to get what they needed from whomever was running the wheel. Gillnets were often a cooperative enterprise between relatives (i.e. extended family members). The capital investment in nets, outboards and gas was high in relation to the level of cash available in the village, fostering the pooling of resources and labor among some families.

Fishing in Telida was also tempered by cash economic concerns. With few jobs available and the necessity for shipping all supplies by air, most resource utilization occurs within the near vicinity of the village to maximize use of available cash. The Swift Fork offers relatively limited spawning opportunities for salmon and the potential fishing areas on the North Fork require a higher expenditure of gas (c.\$5.00/gal) than the poor return in salmon warrants. The traditional fish resource in Telida has been whitefish, but even this resource has been reported to have declined in recent years. The villagers usually set whitefish nets in Lower Telida Lake approximately five miles upstream. In late July, however, only 1 household was setting a net there and the return was 22 fish for the 2 days the researcher was present in the village, a marginal catch for the effort. September has traditionally been the best time to harvest whitefish, but the villagers reported that the whitefish runs had declined to the point of being inadequate for village needs.

#### Hunting

At the request of Department staff (with concurrence by the McGrath Fish and Game Advisory Committee), it moose hunting season in GMU 19D upstream.

from the Big River was reduced to 10 days (September 10-20, 1980). The moose population in this area is low and the season was shortened to relieve pressure on the herd as well as to discourage non-local hunters. The November season this year was also closed for this area. In the past few years the villagers have felt they had undue competition from non-local hunters utilizing floatplanes. The area game biologist in McGrath does not feel that the level of this competition is the factor keeping the moose population low; but rather he feels the major limiting factors on that particular moose population are: 1) generally poor moose habitat; 2) a high wolf population; and 3) annual village take (P. Shepherd, personal communication, June 1980). An attempt was made this year to assess the actual level of competition for a scarce resource between local and non-local hunters, but other environmental conditions made this question of secondary importance for this particular season. The 10-day season proved to be temporarily inappropriate for the village needs because it fell in an unseasonably warm period. Moose is the mainstay of both villages, and in Nikolai the villagers are willing to travel great distances and expend considerable amount of gas to get meat for their families. The North Fork is the Primary place to hunt for Nikolai, although some Nikolai villagers will also travel to Big River and the East Fork (See Map 1). Telida residents hunt on the North and Swift Forks and around Red Slough. Because this fall's season fell during a warm period, bull moose were still up in the foothills and most had not moved down to the river. It did not start to snow until the day after the season closed. Villagers said they were seeing mostly cows, a fact confirmed by a Department observer on the river. One villager from Nikolai spent all 10 days hunting, finally getting a bull on the last day of the season after expending over 100 gallons of gas. Because he was hunting in partnership with two other relatives, the moose he shot had to be split 3 ways. When the Department observer left the river on the 17th of September, only 4 bulls had been taken by the village. A visit to Nikolai after hunting season closed, in all of GMU 19D confirmed that the 10-day season had been a poor one for the village due to the weather conditions. Because of the inappropriateness of the regulations to village reality, the regulations compel people to hunt outside of the permitted system.

Because moose is the most important item in the village diet the villagers will tolerate an expenditure of their limited cash resources to subsidize their hunting venture. This is not a luxury to them, but rather a necessity they don't question. Without a moose they must fall back on the store's expensive commodities without the sufficient cash base to provide a sufficient protein (non-customary protein) diet. Due to supply problems the store can not always be relied on to provide a nutritious adequate diet even if the cash were available. The villagers hunt for meat for the winter and they will not return empty handed if possible even if their prey does not conform the State's regulations.

Telida fared poorly during this hunting season as well. After the season was over the village had only 4 moose, which is not enough to provide adequate protein for 31 people. Because of the great distance involved in getting to the Big River, Telida villagers could not afford to continue their hunt in the McGrath area. They are aware that they will not have a November season this year.

Due to the hard existence and the fact that they have no other stable adequate resource to fall back on, Telida must depend on moose. The village, like most of Nikolai, has no freezers, so any moose taken is shared among the villagers in part to prevent preservation failure. The supply of available moose meat doesn't last as long this way, but the sharing is important to ensure the entire village's survival irregardless of individual hunters' success. In this case this is another example of the regulations imposed by the State having apparently little bearing on what the village of Telida faces as a reality. The villagers will ensure their own survival even if the regulations compel them to operate outside the permitted system. By necessity, they will take meat when it is available and they need meat.

Because of the awkward position the villagers find themselves in, there is very little communication between the villagers and the managing agency, Alaska Department of Fish and Game. If the Department feels that the taking of cows is keeping the moose population low, then the Department needs to institute an extensive information and education

(I&E) program in both villages to explain the status of the local moose population and what role the villagers can play in its improvement/deterioration. This requires an improvement in the level of communication between the villages and the local representatives of the ADF&G and in the degree of sensitivity displayed by these representatives towards village needs.

#### Other Resource Use

Both Nikolai and Telida utilize a wide range of resources as they are seasonally available. Villagers from Nikolai will fish for whitefish in the fall until freeze-up and some winter fishing occurs for grayling and pike.

Some villagers hunt bear if they see them during moose season, although a special trip will not be made for bear. Caribou can also be taken in the Big River area during the winter but are not abundant. These Athabaskans used to include sheep hunting on their annual migrations, but this pursuit now requires a special trip which is only occasionally undertaken.

Most households have family traplines that extend in a wide area away from the villages. Marten is the chief fur bearer harvested, with beaver and otter also taken. Some villagers do get some lynx and wolverine but usually coincidentally with marten. Hare and ptarmigan are taken when needed in the winter; muskrat, after breakup, and some porcupines are taken in the summer when available. Waterfowl are also utilized, being readily available in the near vicinity of the village. Berry picking areas and woodcutting areas are also in the villages' proximity.

Appendix A contains the maps of important resource areas for the villages. As noted before these areas were put together from information from sample households and should in no way be construed to be the full extent of resource utilization for the study villages. The boundaries of use areas are only approximations based on sample information. These are not fixed in time or space but will shift given the growth of the villages, changes in resource location and patterns, and other critical variables. For example, a major fire occurred in the Bear Creek area

near Nikolai seven years ago. This fire displaced at least 2 households' trapping area. While much of that area is not used at present, it was extensively used in the past and the villagers hope to use it again in the future.

### Conclusion

The Upper Kuskokwim villages of Nikolai and Telida are facing several resource problems that are related to many factors described above. Low biological carrying capacity of the land, growing human population in the area and increased competition between local and non-local users are just some of the factors involved. There is no one culprit to blame and the situation will not lend itself to easy resolution.

Present regulatory schemes are fixed far in advance of actual natural seasons. Even though most seasons are set to coincide with resource availability, the system as it exists now is not flexible enough to respond to unpredictable atypical conditions (i.e. climatic changes, etc). A season that would normally fall during a period of resource availability can, under changed conditions, become inappropriate in terms of the resources available to the villages. This forces the villages to take action outside of the permitted system established by regulation.

There is not enough data at this point to make firm recommendations for resolution of this situation. If the moose population in the upper portion of GMU 19D is low enough to warrant a 10-day season and does not meet village needs, then other competitive uses of this resource should be restricted. The regulations themselves should be made more sensitive to village needs and more flexible in order to encourage the villagers to operate within the system. If certain aspects of the unpermitted hunting is harming the resource, then the Department, most notably the Game Division, should expend some energy in an I&E effort to keep the villagers informed of the role they can play in maintaining the resource.

The Department should also make a biological determination of what is needed to enhance the local moose population. This might require the

improvement of habitat or wolf reduction measures. An attempt should also be made to improve communication with the villages so that they and the Department don't always feel they are at cross-purposes.

The situation facing the Upper Kuskokwim area demands intensive research efforts. The Section will have a Fish and Game Technician's position in the McGrath area starting July 1981 to provide extensive research time in this region that cannot be provided by the Resource Specialist's position in Bethel due to other project constraints. The technician's position will be filled by someone who has had long experience in the area and has an understanding of the issues and problems facing local populations.

The research effort that was started this summer will continue for the next few years. Sample households within each community will be selected to be data sources. They will be asked for their cooperation in developing seasonal subsistence information. The Section will continue to make informal visits by season gathering data by observation and interviews and potentially by more directed methods such as a dietary survey. Community profiles will be developed using all available public sources and Section information. Relevant trends in the Upper Kuskokwim will also be assessed for their impact on or response to changes in resource use. Time is needed to gain a full understanding of the problems present in the Upper Kuskokwim and how to achieve potential resolution.



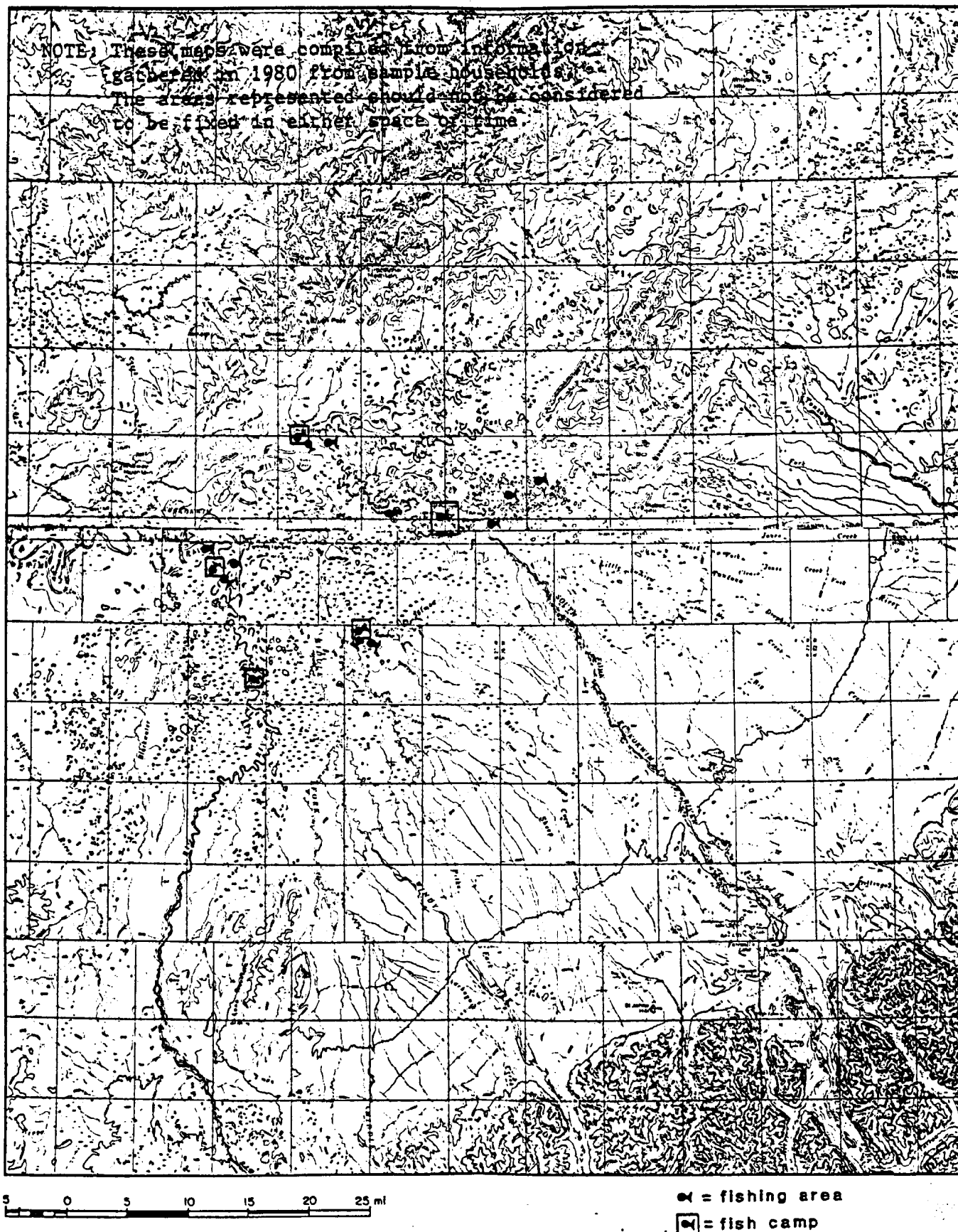


Figure 1. General fishing areas: Nikolai.

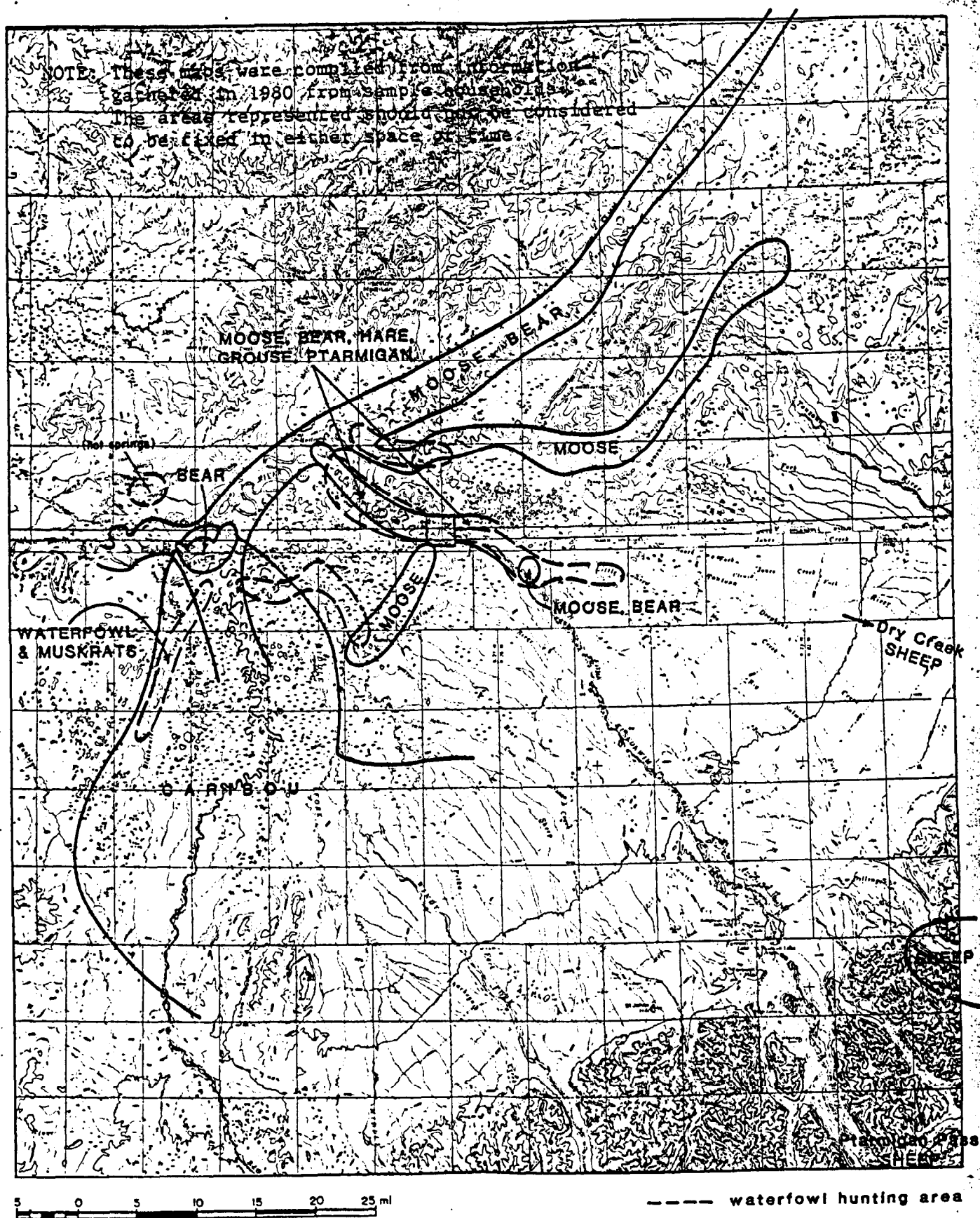


Figure 2. General hunting areas: Nikolai.



Figure 3. General trapping area: Nikolai.

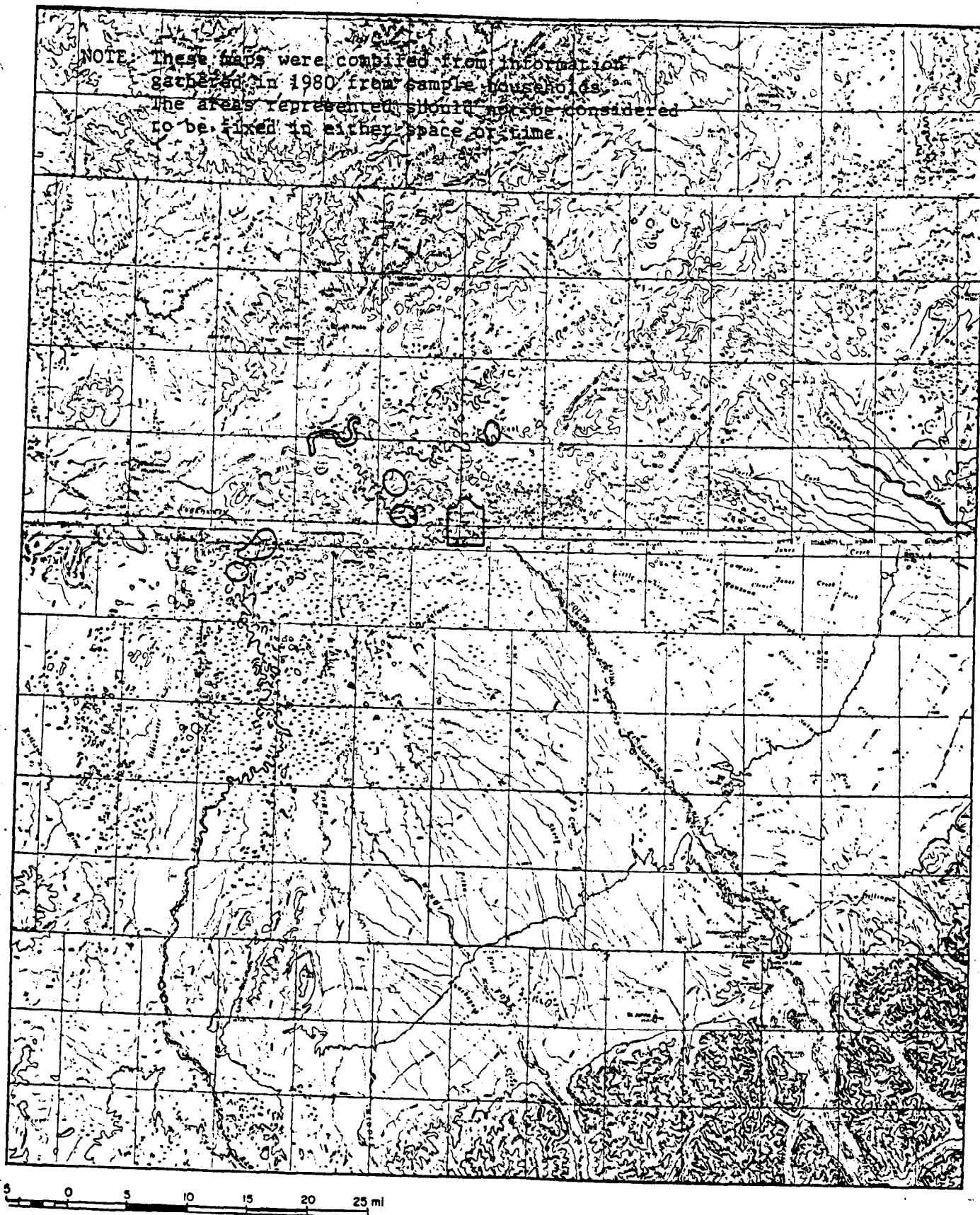


Figure 4. General berry areas: Nikolai.

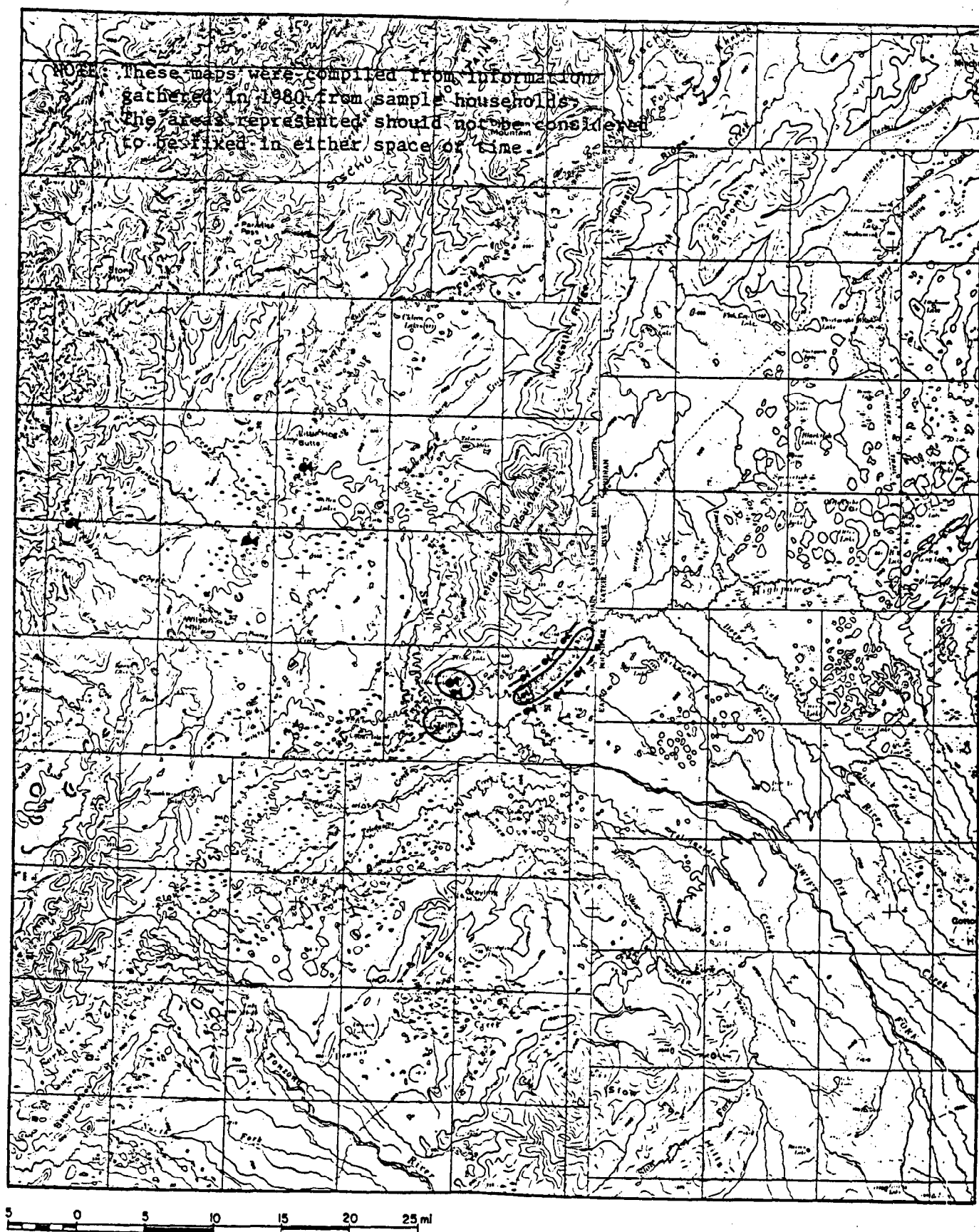


Figure 5. General fishing and berry areas: Tellda.



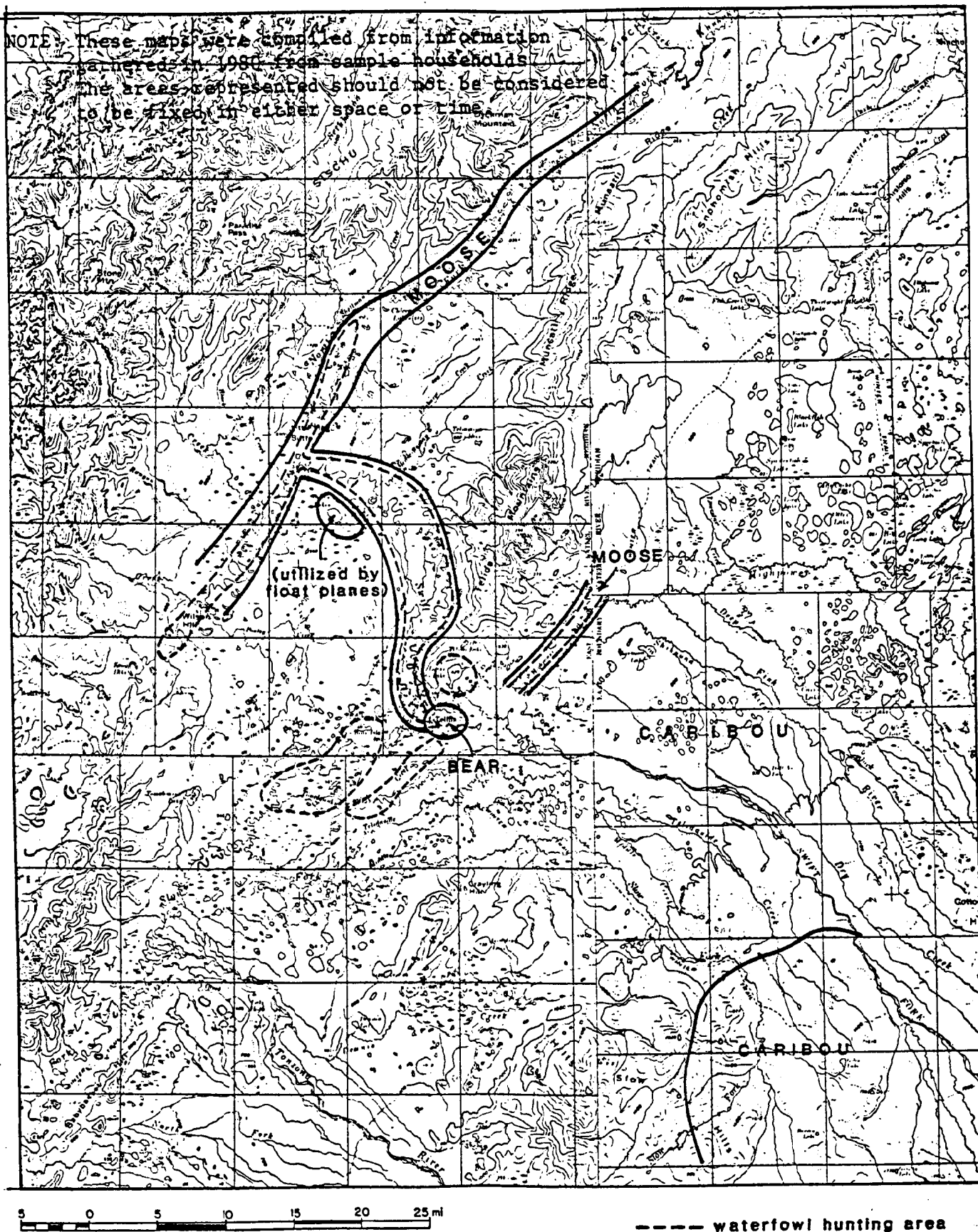


Figure 6. General hunting areas: Telida.

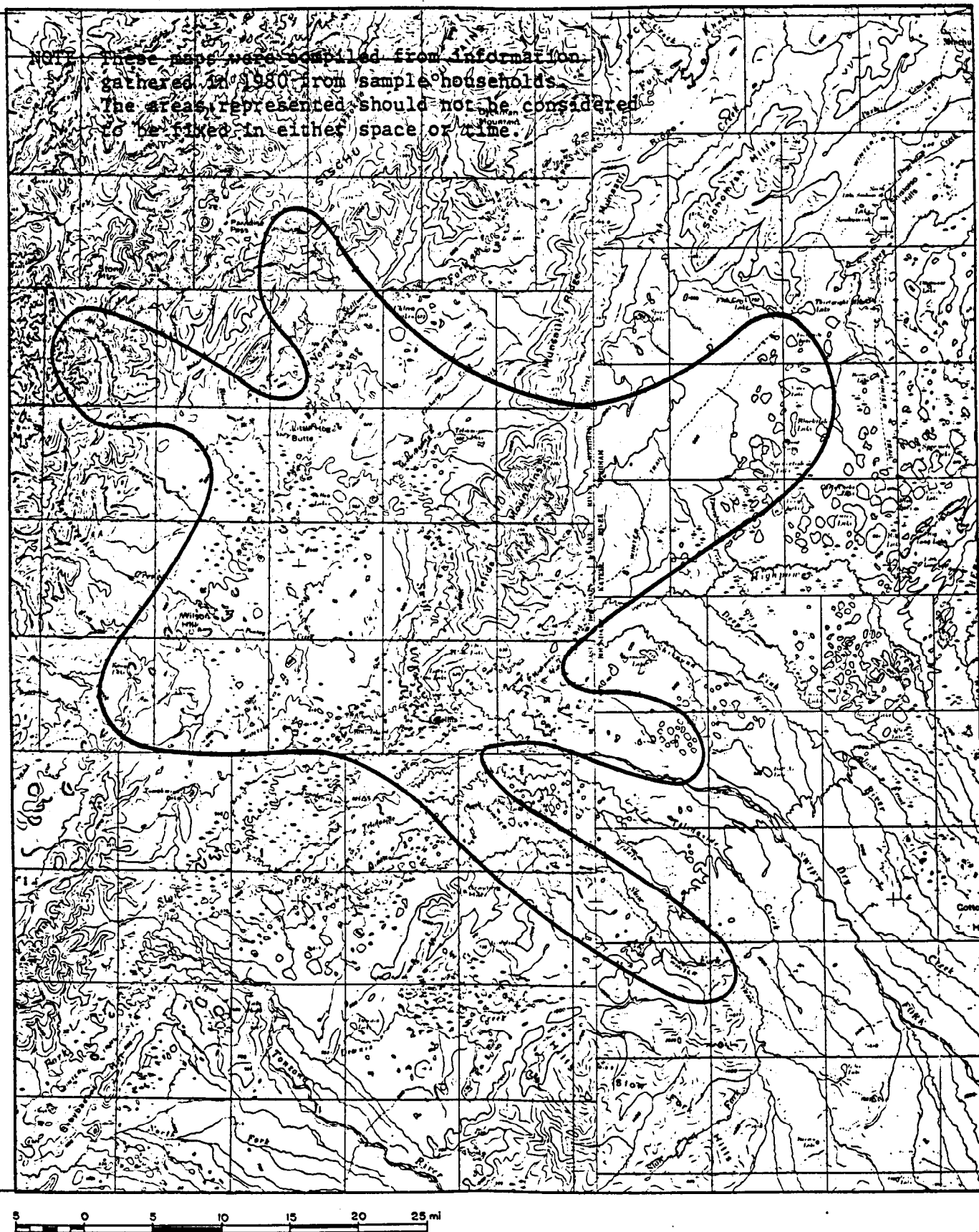


Figure 7. General trapping area: Telida.

## APPENDIX B

### POTENTIALLY UTILIZABLE WILDLIFE RESOURCES

king salmon

chum salmon

red salmon

whitefish

grayling

char

pike

moose

caribou

black bear

brown bear

dall sheep

marten

mink

wolf

wolverine

red fox

beaver

muskrat

river otter

snowshoe hare

porcupine

ptarmigan spp.

waterfowl spp.