

LAKE MINCHUMINA NAVIGABILITY DETERMINATION

Name	Author	Year	Navigability Determination
Lake Minchumina	BLM	December 13, 1982	BLM Navigability Report recommed Lake Minchumina is navigable. T 11s R 24w FM, T 12s R 23w FM, T 12s R 24w T 12s R 25w FM summary of Navigability determinations.
	BLM	December 28, 1982	BLM Memorandum Final Navigability Determination for State Selections in the Lake Minchumina Drainage Area, Document confirmed the Navigability Report dated on December 13, 1982.

FF 9461 1



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Alaska State Office
701 C Street, Box 13
Anchorage, Alaska 99513Mt. McKinley-SS-FY83-1
F-028722 (2620)
(962)

DEC 28 1982

Memorandum

To: Chief, Division of ANCSA and State Conveyances (960)

From: Assistant to the State Director for Conveyance Management (913)

Subject: Final Navigability Determination for State Selections in the Lake Minchumina Drainage Area

Following is the final navigability determination for water bodies within lands selected by the State of Alaska in the Lake Minchumina drainage area. The townships encompassing these selections and this navigability determination are listed on the Navigability Report Title Page of the attached report Mt. McKinley-SS-FY83-1.

The report was written based on a review of available maps, interviews, and a review of AEIDC contract material. There was no field investigation.

Based on this report and existing information, the Muddy River (including interconnecting sloughs), Deep Creek (including interconnecting sloughs), Lake Minchumina and Jim Lake are administratively determined navigable. All other named and unnamed water bodies are administratively determined nonnavigable.

Wm S. D. Arnold

RF 9461 1

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NAVIGABILITY REPORT TITLE PAGE

State Alaska	District Anchorage	
Quadrangle Name and FY Mt. McKinley, FY83	Organization Code 013 962	Report Number #1
Type of Action Navigability Report		Format
Applicant's Name State Selections	Address (include zip code)	

Remarks:

LANDS INVOLVED

Township (est.)	Range	Meridian	Serial Number	Watershed	Acres
. 11 S.	R. 23 W.	Fairbanks Meridian	F-028722	Muddy River	23,000
. 11 S.	R. 24 W.	Fairbanks Meridian	F-028722	Muddy River	23,000
. 12 S.	R. 23 W.	Fairbanks Meridian	F-028722	Muddy River	23,000
. 12 S.	R. 24 W.	Fairbanks Meridian	F-028722	Muddy River	23,000
. 12 S.	R. 25 W.	Fairbanks Meridian	F-028722	Muddy River	23,000
					<u>115,000</u>

Purpose of report

C. M. Wheeler Hydrologist December 13, 1982

Prepared by Title Date of

FF 94611

1. Location, Development and Accessibility.

The five townships within this report area (see title page) are near the geographic center of Alaska. The area is located about 60 miles north-west of Mt. McKinley (see attached map - enclosure #1)

Development within the area is concentrated around the settlement and airstrip of Lake Minchumina and to a lesser extent around the shores of the lake and larger streams. According to the MTP's, three Native allotments are located on Lake Minchumina (see attached map). The MTP's contain no other information relevant to a navigability recommendation. Given the date of the USGS Quadrangles used in preparing this report, additional development has almost certainly occurred.

Access to the area is by aircraft, by watercraft or by winter trail. The only road in the area is local and is confined to the settlement of Lake Minchumina. Aircraft could land at the designated airstrip or on floats on some of the larger lakes. Watercraft entrance into the report area could be via the Yukon, Tanana, Kantishna and Muddy Rivers or via the North Fork Kuskokwim and then by portage to Lake Minchumina.

2. The following USGS Quadrangles were used in preparing this report:

<u>Quadrangle Name</u>	<u>Scale</u>	<u>Date</u>
Mt. McKinley	1:250,000	1958-Minor revisions 1969
Mt. McKinley D-4	1:63,360	1953-Minor revisions 1968
Mt. McKinley D-5	1:63,360	1953-Minor revisions 1964
Mt. McKinley D-6	1:63,360	1958

The MTP's were also reviewed in preparing this report. Maps contained within a report entitled "Ethnohistory of Four Interior Alaskan Water Bodies" by Dianne Gudgel-Holmes of the Department of Natural Resources, Alaska were reviewed and found helpful in preparing this report.

3. Previous Bureau of Land Management Determinations - The Forty Mile Resource Area staff of the Fairbanks District Office of Alaska. The Bureau of Land Management (BLM) has previously prepared reports (Navigability Determinations for the Tanana River Drainage - Volume 1, March 1981) on water bodies within 6 townships (T. 13 S., R. 24, 25, and 26 W.; and T. 14 S., R. 24, 25, and 26 W., Fairbanks Meridian) that are immediately south and upstream of this report area. (See previous report area outlined in red on attached map.) In all cases, water bodies within these townships were found nonnavigable. An example of the Examiner's Recommendation and Rationale for one township is provided below:

Foraker River Drainage

c. Township 13 South, Range 25 West, Fairbanks Meridian A-21231

(1) Examiner's Recommendation

It is recommended that Deep Creek and Donchelok Creek, within the subject township, be administratively considered nonnavigable. All remaining unnamed streams, lakes, sloughs, swamps, and marshes are recommended to be considered nonnavigable.

(2) Rationale

The record shows no history of use of Deep Creek and Donchelok Creek for travel, trade, or commerce within the subject township. The recommendations were based on the physical characteristics of the water bodies: size, location, gradient, and surrounding terrain, as well as lack of historical data indicative of navigability within the subject township.

The Alaska BLM State Office has previously found the Kuskokwim River and the North Fork Kuskokwim River navigable to the Lake Minchumina portage trail.

Maps located in the Navigability Section at the BLM Alaska State Office indicate that previous Bureau of Land Management reports have found the Yukon, Tanana, Kantishna and Muddy River (to East boundary T. 11 S., R. 23 W., Fairbanks Meridian) to be navigable.

4. Topography.

The topography of the area is mixed with generally the southern and eastern portions being somewhat flat and swampy; and the northern and western portions being hilly and mountainous. Elevations within the area range from less than 642 feet up to 1812 feet. The area appears mostly forested with large flood plains adjacent to the Muddy and Foraker Rivers.

5. The only glacially influenced water bodies within the report area are the Foraker River and to lesser extents Lake Minchumina and Muddy River. Except for portions of the Foraker and Muddy Rivers that appear braided, most of the streams within the report area are confined to single channels. The report area straddles a divide between the Kuskokwim and Yukon drainage systems with most of the water bodies in this case flowing ultimately into the Yukon River. Typical of Interior Alaska, precipitation at Lake Minchumina is low averaging about 13 inches per year (including 50 inches snow).

As can be seen from the following list, gradients of streams within the report area are quite low and widths according to USGS Quadrangles vary from less than 80 to over 320 feet.

FF 9461 1

Named Waterbodies

<u>Streams</u>	<u>Width (ft)</u>	<u>Gradient (ft/mile)</u>
Muddy River	Plus 320	Less than 2
Spence Creek	Less than 80 to plus 320	Less than 2
Foraker River	Plus 320	Less than 3
Old Woman Creek	Less than 80	Less than 5
Deep Creek	Less than 80	Less than 5
Donchelok Creek	Less than 80	Less than 5
Parker Creek	Less than 80	Less than 20 to plus 40

<u>Lakes</u>	<u>Elevation (ft)</u> Mean Sea Level (MSL)	<u>(Maximum length)</u>
Lake Minchumina	642	9 miles
Williams Lake	810	4000 ft.
Jim Lake	692	1.6 miles
Slim Lake	Between 642 to 650	3000 ft.
Holek Lake	Between 642 to 650	2500 ft.

Large flood plains appear around the Foraker River as it flows into Lake Minchumina and around Muddy River as it flows from the lake. Numerous small unnamed lakes many of which appear to have no external drainage are located in the southern and southeastern part of the report area.

Some of these lakes, especially those in the Foraker and Muddy River flood plains probably resulted from stream movement. Most of these lakes appear surrounded by marshy terrain.

5. Use information.

The AEIDC contract material contained 29 references to Lake Minchumina and 4 references to Muddy River. The information contained in AEIDC was confirmed and supplemented by Dianne Gudgel-Holmes (Department of Natural Resources - Alaska) "Ethnohistory of Four Interior Alaska Waterbodies". To summarize, the aforementioned sources, Lake Minchumina and Muddy River were an integral part of an early Native water route for trade and travel between the Tanana (Yukon) and Kuskokwim drainages. An established portage trail between Lake Minchumina, Jim Lake and the North Fork Kuskokwim connected the two drainages. This route of travel was later used by non-Native trappers, miners and explorers.

As can be seen from newspaper articles contained in Inclosure 2, on several occasions between 1913 and 1941 gasoline-powered and other types of watercraft have transported cargo and people to and from the lake. Notably, the waterways along with aircraft and winter trails were utilized in constructing and maintaining the C.A.A. Lake Minchumina station in the 1940's and 1950's. In 1956, the FAA discovered that the fuel could be flown in cheaper than it could be barged, thereafter until closing the station in 1969 planes were used to bring fuel to Minchumina. Barges, however, were used from 1961 to 1964 to bring fuel to the local utility. More recently activities on the lake and river have been basically confined to those of a recreational or commercial recreational nature.

FF 9461 1

Jim Lake, located near or on the portage trail between Lake Minchumina and North Fork Kuskokwim River has one reference as to its use. This reference was extracted from "In the Alaska Wilderness" (New York, 1978), by Walter L. Gordon. The author of this report reviewed portions (including maps) of this interesting book that deal with their journey up to the Kantishna and Muddy Rivers to Lake Minchumina and then their portage via Jim Lake to the North Fork Kuskokwim in 1907. Following a sketch map prepared under the direction of Chief Henry, and guided by Natives who lived on Minchumina Lake, the Gordon brothers portaged their gear and canoe overland from Lake Minchumina to Jim Lake. They camped at the Lake and the next day they loaded their canoe crossed Jim Lake and continued overland on a well recognized trail to the North Fork Kuskokwim. (See Inclosures 3, 4, and 5.) It appears from the maps that Jim Lake was an integral part of a Native transportation route from the Yukon to the Kuskokwim basins. The author of this report is uncertain as to whether later explorers used Jim Lake or an overland trail about a mile to the west designated winter trail on the USGS Quadrangles. While at Lake Minchumina, the Gordons talked to a few Natives camped on the lake and learned that most of the Natives were at a summer camp near the mountains. How the Natives moved to and from the hunting camps was not specified, however, one must assume given the other transportation alternatives that boatable water bodies were used to whatever extend possible. Finally, they learned that in earlier years Natives within the Minchumina area were much more numerous and that there were several camps and villages around Lake Minchumina as well as along Foraker River (Kwalana River).

According to Tom and Mary Flood, 25-year residents, who were interviewed in Dianne Gudsel-Holmes' "Ethnohistory of Four Interior Alaskan Waterbodies", they have boated (type not specified) on the Foraker River but to a very limited extent due to its low and silty water. According to several people interviewed in her report, boats have gone about 15 miles up Deep Creek for cabin logs, hunting and berry picking. Apparently logs suitable for house construction are scarce in the Lake Minchumina area and therefore residents have taken advantage of the Deep Creek timber resource and the relatively easy means of moving them downriver and across the lake either in boats or towed by boats to the settlement of Lake Minchumina. According to Jens and Helen Forshaug in an interview with Mrs. Holmes, in 1975, twenty-five trips were made up Deep Creek to cut logs for cabin building.

Bob Stoud, who as an employee of the Alaska Fire Service has been stationed seasonally (summer) at Lake Minchumina, was contacted by telephone for additional information. He said that he has boated (recreation - 14 ft. prop.) on Deep Creek and confirmed that cleared area's are evident at several locations along the creek. In addition, he said he has recreationally boated on several of the other tributaries to Lake Minchumina. Unfortunately, he did not have maps available during our conversation so that upper limits of his use could be established. He said that he would review the maps and get back to me with his information. Apparently he could not contact me and my efforts to contact him again have been futile.

FF 9461 1

6. Conclusions - Navigable.

Suffice it to say that the Muddy River and Lake Minchumina are clearly navigable.

Before statehood they were an integral part of a route of travel and presumably trade between the Tanana and Kuskokwim Natives. This same route was later used by American explorers, miners and probably trappers. Supplies and fuel to build and maintain the C.A.A. station at Lake Minchumina were hauled in by watercraft. In the earlier 60's fuel for the private utility was hauled in by watercraft. More recently, activities on the lake have been confined somewhat to those of a recreational or commercial recreational nature. The past and present use is evidence of the Muddy River and Lake Minchumina's navigability and as this is still a roadless area, these water bodies are capable of being used commercially again, if the need arises.

Deep Creek has been used by private citizens as a highway on which they have transported house logs downstream and across Lake Minchumina to the village. The boats used on Deep Creek are the same type of boats that are used on Muddy River and Lake Minchumina and they are large enough to carry commercial-type loads (per Nation - Kandik decision). It seems appropriate at this time to quote portions from page 3 of the Regional Solicitors' letter dated February 25, 1980, Subject: Kandik, Nation Decision on Navigability.

"The use of boats for "private" noncommercial purposes such as trapping, hunting, recreation and subsistence does not necessarily establish navigability. Such use may, however, clearly establish that the waterbody is susceptible of being used as a highway for commerce, i.e., is navigable."

If "commercial vessels" have been used on a waterbody for such "private" purposes, this indicates that the waterbody is "susceptible" to use as a highway for commerce, i.e., navigable.

It is safe to conclude that conditions in the Middle Yukon area are similar to those throughout much of Alaska. Accordingly, until the guidelines are further revised, flat bottomed boats capable of carrying 1,000 lbs. of freight should be considered the lower limit of commercial river crafts."

In the author's judgement many, if not all, of the boats used in transporting the logs could carry in excess of 1000 lbs. Deep Creek is therefore susceptible to use as a highway of commerce, i.e., navigable. Deep Creek appears navigable through this report area and the upper limit may be as much as fifteen miles upstream of Lake Minchumina.

Jim Lake seems unique and is frankly somewhat confusing. It appears from maps used by the Gordon brothers that Jim Lake was an integral link in an early route of trade and travel between Tanana and Kuskokwim Natives. It is the author's understanding that if a water body has been used as a highway of commerce and even if that use stops prior to or long before the date of statehood that the water body does not lose its navi-

FF 9461 1

gable status. The historic use is evidence as to its susceptibility and as this is still a roadless area, it could be used as a highway of commerce in the future if the need arose.

Nonnavigable - AEIDC and other information on the Foraker River indicated that it is swift, glacial and difficult to cross. No use by watercraft on the river is mentioned in the AEIDC material. The author is perplexed by one account that mentions numerous campsites on Foraker Creek (River). Since no information is available regarding how people got to these campsites and given the difficult physical characteristics of the river, the author can only assume that travel was overland or over ice. Additionally, the "Ethnohistory of Four Interior Alaskan Waterbodies" contained an oral account with Tom and Mary Flood who have lived in the area for twenty-five years. They said that they have boated on the Foraker River but to a very limited extent due to its low and silty water. Based on this information, the author feels that the Foraker River is nonnavigable. The lack or absence of use information coupled with physical characteristics leads the author to believe that all other named and unnamed streams are nonnavigable. None of the remaining lakes within the report area are connected to a navigable water body via a navigable waterbody so in essence they appear landlocked. Many are located in what appears to be marshy and undevelopable terrain. The absence of use information coupled with their size and location leads the author to believe that they are nonnavigable. Certainly floatplanes could land on many of the larger lakes but this type of use by itself does not lead under existing departmental criteria to a determination of navigability.

7. Recommendations:

Based on this report and existing information, I recommend that Muddy River (including interconnecting sloughs), Deep Creek (including interconnecting sloughs), Lake Minchumina and Jim Lake be administratively determined navigable. I further recommend that all other named and unnamed water bodies be administratively nonnavigable.

Summary of Navigability determinations - Mt. McKinley-SS-FY83-#1

<u>Legal Description</u>	<u>Serial Number</u>	<u>Report</u>	<u>Area</u>
<u>Township-Range-Meridian</u>	<u>State Selection-ANCSA</u>	<u>Name-FY-Month</u>	<u>Acres-(Est.)</u>
11 S., 23 W., FM	F-028722 (SS)	MKI-83-Dec.	23,000

Determination - Muddy River is navigable. All other waterbodies are nonnavigable.

<u>Legal Description</u>	<u>Serial Number</u>	<u>Report</u>	<u>Area</u>
<u>Township-Range-Meridian</u>	<u>State Selection-ANCSA</u>	<u>Name-FY-Month</u>	<u>Acres-(Est.)</u>
11 S., 24 W., FM	F-028722 (SS)	MKI-83-Dec.	23,000

Determination - Lake Minchumina and Jim Lake are navigable. All other waterbodies are nonnavigable.

<u>Legal Description</u>	<u>Serial Number</u>	<u>Report</u>	<u>Area</u>
<u>Township-Range-Meridian</u>	<u>State Selection-ANCSA</u>	<u>Name-FY-Month</u>	<u>Acres-(Est.)</u>
12 S., 23 W., FM	F-028722 (SS)	MKI-83-Dec.	23,000

Determination - Muddy River and Lake Minchumina are navigable. All other waterbodies are nonnavigable.

<u>Legal Description</u>	<u>Serial Number</u>	<u>Report</u>	<u>Area</u>
<u>Township-Range-Meridian</u>	<u>State Selection-ANCSA</u>	<u>Name-FY-Month</u>	<u>Acres-(Est.)</u>
12 S., 24 W., FM	F-028722 (SS)	MKI-83-Dec.	23,000

Determination - Lake Minchumina and Deep Creek are navigable. All other waterbodies are nonnavigable.

<u>Legal Description</u>	<u>Serial Number</u>	<u>Report</u>	<u>Area</u>
<u>Township-Range-Meridian</u>	<u>State Selection-ANCSA</u>	<u>Name-FY-Month</u>	<u>Acres-(Est.)</u>
12 S., 25 W., FM	F-028722 (SS)	MKI-83-Dec.	23,000

Determination - Lake Minchumina and Deep Creek are navigable. All other waterbodies are nonnavigable.

Prepared by C. M. Wheeler 16 DEC 82
C. M. Wheeler Date

Reviewed by Sherm Berg 12/16/82
Sherm Berg Date

Gary Seitz 12/16/82
Gary Seitz Date

ENCLOSURE 2

Source: Ethnohistory of Four Interior Alaskan Waterbodies - by: Dianne Gudge - Holmes Department of Natural Resources Alaska. PAGES 105 to 109

* Indicates use on Muddy River and Lake Minchumina KANTISHNA RIVER TRAFFIC TAKEN FROM NEWS ARTICLES

Newspaper*	Date	Boat/Captain	Passengers/Cargo	Destination	Comments
FVN	Aug. 9, 1905	White Seal	P/C	Fr: Bearpaw To: Fairbanks	Took people/cargo to diggings
FEN	Aug. 24, 1905	Florence S.	P		Purser sent telegram to office reporting passengers could not be landed at McKinley River & that next time to bill people to Bearpaw R.
NSWN	Oct. 28, 1905		Fred Noyes	Fr: Bearpaw R.	Is setting up a sawmill
FDT	Jly. 23, 1913	Henderson's launch	W. Taylor/C	To: Diamond	5 tons cargo to be taken to mines
FDT	Aug. 28, 1913	Idler		To: Lake Minchumina	Was seen on the 21st at Bearpaw mouth
FDT	Jly. 17, 1914	Henderson's launch	C	Fr: Fairbanks To: Lk Minchumina	4 tons of cargo
FDT	Aug. 11, 1914	Doman/ L. Heacock	P	To: Toklat R. Fr: Fairbanks	Karstens to guide 3 hunters to mountains
NN	Spt. 28, 1918	Elmer G/ VanOrsdel	C	Fr: Diamond To: Nenana	10 tons cargo delivered to Diamond
		Blue Jay & barge	C		Followed in wake of Elmer G.

* FDT=Fairbanks Daily Times
FEN=Fairbanks Evening News
FVN=Fairbanks Weekly News
NSWN=Nome Semi Weekly Nugget
NN=Nenana News

FF 94611

Newspaper*	Date	Boat/Captain	Passengers/Cargo	Destination	Comments
NN	Spt. 22, 1919	Unnamed launch	C	To: Roosevelt	Supplies for Moose Creek
NN	Oct. 13, 1919	J. Moore & G. Moody			Due to ice, they had to leave their boats at Bearpaw R; returned overland
NN	Jly. 12, 1921	G. Moody's boat	P/C/Mail	Fr: Nenana To: Diamond/Roosevelt	
NN	Aug. 6, 1921	G. Moody's launch		Fr: Nenana To: Kantishna	
★ NN	Aug. 13, 1921	Idler/ F. Noyes	P	Fr: Nenana To: Lk Minchumina	Pleasure trip; barge accompanies boat
★ KT	Aug. 16, 1921	Pioneer/ G. Black	P/Horses	Fr: Nenana To: Lk Minchumina	Headed for No. Fk. Kuskokwim-prospctng
NN	Aug. 23, 1921	A. Morris' launch	Davis Party	Fr: Kantishna To: Nenana	Came from McKinley Pk; drifted down Kantishna to Morris'
NN	Aug. 27, 1921	Pioneer/ G. Black & Galatea			Steamers on the Kantishna run
★ KT	Spt. 7, 1921		Gotwals	To: Lk Minchumina	By boat to lake & on to McGrath via portage
NN	Spt. 22, 1921	VanOrsdel's launch		Fr: Nenana To: Kantishna	

* KT=Kusko Times NN=Nenana News

FF 94611

Newspaper*	Date	Boat/Captain	Passengers/Cargo	Destination	Comments
NN	Spt-Oct, 1922			Numerous unidentified boat arrivals from the Kantishna	
NN	Oct. 3, 1922	Moody boat		Fr: Kantishna	Last trip of season
NN	May 19, 1923	Mutt/ C. Neuser		Fr: Roosevelt To: Nenana	Side wheel boat to be operated by Kantishna Transportation Co.
NN	May 24, 1923	Moody launch	P	To: Kantishna	
NN	May 26, 1923	Pioneer/	P	Fr: Nenana To: Diamond	Mt. McKinley Gold Placers personnel
NN	May 31, 1923	Moody launch	F. de la Vergne, G. Erwin	To: Kantishna To: Lk Minchumina	Ak Road Commission personnel To investigate H. Bock's death
NN	Jun. 12, 1923	Pioneer/ G. Black	P		
NN		Mutt	C/Mail	Fr: Roosevelt/ Diamond	To be making twice-monthly mail runs
NN	Jun. 26, 1923	Mutt	P/C/Mail	Fr: Kantishna	
NN	Jly. 5, 1923	Pioneer	C	Fr: Kantishna	With 9 tons galena ore

* NN=Nenana News

FF 9461 1

Newspaper*	Date	Boat/Captain	Passengers/Cargo	Destination	Comments
NN	Jly. 14, 1923	Mutt/ Neuser	C	Fr: Lt Minchumina	To unload trapping freight; "The run up the river from Roosevelt [to the lake] was made without trouble of any kind."
NN	Aug. 7, 1923	Mutt		Fr: upper Kantishna R.	
KT	Nov. 29, 1924	Kammisgaard's gas boat	Higgins' party	Fr: Lk Minchumina	Party taken from portage to Nenana, Oct. 10th
KT	Jan. 24, 1925	Kammisgaard's boat			Kammisgaard reports he can make a round trip frm Nenana to the lake in 11 days; trip is 375 miles one way; has a 25-horse-power stern wheeler "that can make the trip even at low water."
FDNN	Aug. 27, 1941	Idler/ G. Black	C	Fr: Fairbanks To: Lk Minchumina	135 tons cargo for new CAA station

* NN=Nenana News
FDNN=Fairbanks Daily News-Miner
KT=Kusko Times

FF 94611

LAKE MINCHUMINA BIBLIOGRAPHY REFERENCE

Name	Author	Year	Reference	Report Name
Lake Minchumina	Brown, Mike BLM	1983	Alaska Kuskokwim River Region. Bureau of Land Management, Anchorage, Alaska. pp. 303-320	
	Bureau of Land Management	1980	Navigable and Non-navigable Waters in the Upper Kuskokwim River Basin. pp. 62-64, 67-69, 86, 87	
	Bureau Land Management	1981	Navigability Determination for the Tanana River Drainage Vol 1 pp 00085	
	Byron Gordon, George	1917	In the Alaskan Wilderness. pp. 17-19, 24-25, 69, 80-81	
	Dianne Gudget-Holmes	August, 1979	Ethnohistory of Four Interior Alaskan Waterbodies. Department of Natural Resources-Alaska pp. 27, 92-95, 105-108, 114-117	
	Grumman Ecosystems Corporation	April, 1975	Report on Navigability of Streams Tributary to the Tanana River, Alaska. Prepared for US Army Engineer District, Alaska pp. 3-22 Copy No. 6, Vol I	
	United State Department of Interior	1984	Land Use in the North Additions of Denali National Park and Preserve: An Historical Perspective pp. 18, 24, 25, 27, 57, 58, 60	
	National Park Service, Alaska Region			
	US Depart. of Interior. BLM	July, 1979	Fairbanks Daily and Sunday Times. May 20, 1916- September 30, 1916.	
	Navigability Bibliography			
	US Depart. of Interior. BLM	July, 1979	Nenana News. September 24, 1916- August 2, 1923.	
	Navigability Bibliography			
	US Depart. of Interior. BLM	July, 1979	Fairbanks Daily News-Miner, 1903-January 1945.	
	Navigability Bibliography			
	US Depart. of Interior. BLM	July, 1979	Gordon Bryon, George. In the Alaska Wilderness. Philadelphia: John C. Winstom Co. 1917	
	Navigability Bibliography			
	US Depart. of Interior. BLM	July, 1979	Eakin, H. M. The Cosna-Nowitna Region, Alaska. USGS Bulletin 667. Washington:SPO 1918.	
	Navigability Bibliography			
	US Depart. of Interior. BLM	July, 1979	Capps, S. R. The Kantishna Region. USGS Bulletin 692-A Washington 1919.	
	Navigability Bibliography			
	US Depart. of Interior. BLM	July, 1979	Pearson, Grant H. The Tammimg, Denali, Now Mount McKinley, Los Altos, California. 1957.	
	Navigability Bibliography			
	US Depart. of Interior. BLM	July, 1979	Hosley, Edward H. "The McGraph Ingalik" Anthropological papers of the University of Alaska (May 1961).	
	Navigability Bibliography			