

Columbia Creek
HUC 30502, Zone 2, Kuskokwim River Region

FINAL
INTERIM SUMMARY REPORT

Prepared by Edwin Shoaf, ACC, Historian

Office of History and Archaeology
Department of Natural Resources
State of Alaska

Kuskokwim Assistance Agreement
Phase II-B Submission

July 22, 2010

PREFACE

The research and writing of this study is funded by the U.S. Department of the Interior, Bureau of Land Management (BLM) through the Navigability Assistance Agreement (Cooperative Agreement # LO9AC15466). The State of Alaska (State) and the BLM established an assistance agreement in 2004 to facilitate the preparation of navigability reports that could be used for a variety of purposes, including the process for determining who owns title to the land under inland water bodies. Under the Statehood Compact, land under navigable waterways is reserved to the State. Navigability is based on historic use of water bodies for travel, trade and commerce up to the time of Statehood (1959), or recent use of the water bodies that demonstrates susceptibility to travel, trade and commerce in 1959.

The Navigability Assistance Agreement began as a pilot project focused on researching the history of use of water bodies in the Kuskokwim River region. The scope of work for the Assistance Agreement calls for identifying potentially navigable water bodies where the United States is an upland landowner or has a potential interest in the submerged lands; gathering information from BLM records and a 1985 regional history of the Kuskokwim River region; writing narrative histories of each water body summarizing land status, land conveyance decisions, past navigability determinations, physical character of the water body, and a history of use. These reports are prepared in stages. The first stage (Phase I-A) consists of land status. An interim summary report (Phase II-B) is generally limited to information in the files of the U.S. Department of Interior and a regional history of the Kuskokwim River region written by C. Michael Brown in 1985. A final summary report (Phase IV) incorporates expanded research in the files of other state and federal agency files, the holdings of various libraries and archives in Alaska, and interviews with people who have knowledge of use of the water body.

The present report represents work at the Phase II-B level. The research and writing of this report was conducted by State employees working under the guidance of an Assistance Agreement Management Team composed of representatives of the BLM and the State. The management team sets priorities, reviews the reports on water bodies at various stages, and decides at what point enough research, analyses and writing has been completed on each specific water body. The management team directed the authors of these reports to refrain from drawing conclusions about the water body's navigability or susceptibility to navigability. Rather, the management team directed the authors to provide an overview at the end of the report summarizing the types of evidence of historic and contemporary use and highlighting those areas (such as portions of the water body) where gaps in knowledge remain and additional research might be warranted.

Documents that are key to understanding agency decision making or the point of view of an interested party are indicated as Attachment 1, Attachment 2, etc., which appear after the corresponding endnotes. These documents are listed in the Table of Attachments and can be viewed in their entirety in a separate PDF file that supplements this report. For other completed Navigable Waters Research Reports in this series, see the Alaska Department of Natural Resources website: <http://www.dnr.state.ak.us/mlw/nav/naar/>

Table of Contents

Preface.....	i
Table of Contents	ii
Table of Figures.....	ii
Table of Tables	ii
Attachments.....	ii
I. Introduction	1
II. Land Status.....	2
III. BLM Navigability Determinations	4
IV. Physical Character of Waterway	7
V. Evidence of Use.....	8
<i>Early Native Use of Columbia Creek.....</i>	<i>8</i>
<i>Recent Native Use of the Creek Documented in Native Allotment Files.....</i>	<i>9</i>
<i>Other Natives Traveling on Columbia Creek.....</i>	<i>9</i>
<i>Government Studies and Use of Columbia Creek since 1959.....</i>	<i>10</i>
VI. Summary	10
Endnotes.....	11

Table of Figures

Figure 1. Map showing the location of Columbia Creek within Zone 2 of HUC 30502 in the Kuskokwim River Region.....	1
Figure 2. Map of Columbia Creek showing lands selected by Native corporations and Native allotments.. ..	3
Figure 3. Map of BLM Navigability determinations on Columbia Creek.....	6

Table of Tables

Table 1. Table of BLM Navigability Determinations for Columbia Creek.....	5
--	---

Attachments (in PDF format)

- Attachment 1.** Ann Johnson, Decision to Interim Convey for Lands Selected by Kokarmut Corporation, June 29, 1982, BLM files, FF-14824.
- Attachment 2.** Robert D. Arnold, Interim Conveyance (IC) No. 610 and No. 611, December 29, 1982, BLM files, FF-014824.

- Attachment 3.** Laura Lagstrom, Navigability Report, Columbia Creek in Native Allotment AA-8966-B, January 8, 1998, BLM files, FF-014902-EE.
- Attachment 4.** Gust C. Panos, Memorandum on Navigability Review for Waters in Window 2029 Bethel (Group 284) Part 1, January 13, 1998, BLM files, FF-14824.
- Attachment 5.** Gust C. Panos, Memorandum of Review of the Navigability Determination for Columbia Creek in Window 2029, GS 284, dated January 13, 1998, July 15, 1998, BLM files, 9600 (924).
- Attachment 6.** Laura Lagstrom, Memorandum for Field Trip for Window 2029 Part 1, December 4, 1997, BLM files, FF-014902
- Attachment 7.** Laura Lagstrom, Memorandum of Supplemental Interviews for Columbia Creek – Window 2029, July 15, 1998, BLM files, FF-14883.
- Attachment 8.** Laura Lagstrom, Interviews for Selected Lands Within Window 2029: Part 1, December 8, 1997, BLM files, FF-14824-EE.
- Attachment 9.** Master Title Plats for Tps. 6-8 N., R. 66 W., and T. 6 N., R. 65 W., SM.

Columbia Creek

HUC 30502, Zone 2, Kuskokwim River Region

II-B Interim Summary Report

I. Introduction

Columbia Creek is located in the Yukon-Kuskokwim Delta Region, within Zone 2 of HUC 30502 (Figure 1). Columbia Creek empties into the Kuskokwim River via the Kuskokuak Slough.

Columbia Creek originates at the 500 foot elevation in foothills, about 37 air milesⁱ southeast of Bethel. Columbia Creek flows northwest for about 18 miles to the Kasigluk River through the Yukon Delta Lowlands. The confluence of Columbia Creek and Kasigluk River is located about 27 miles east of Bethel at an elevation of about 50 feet around mile 30 of the Kasigluk River.

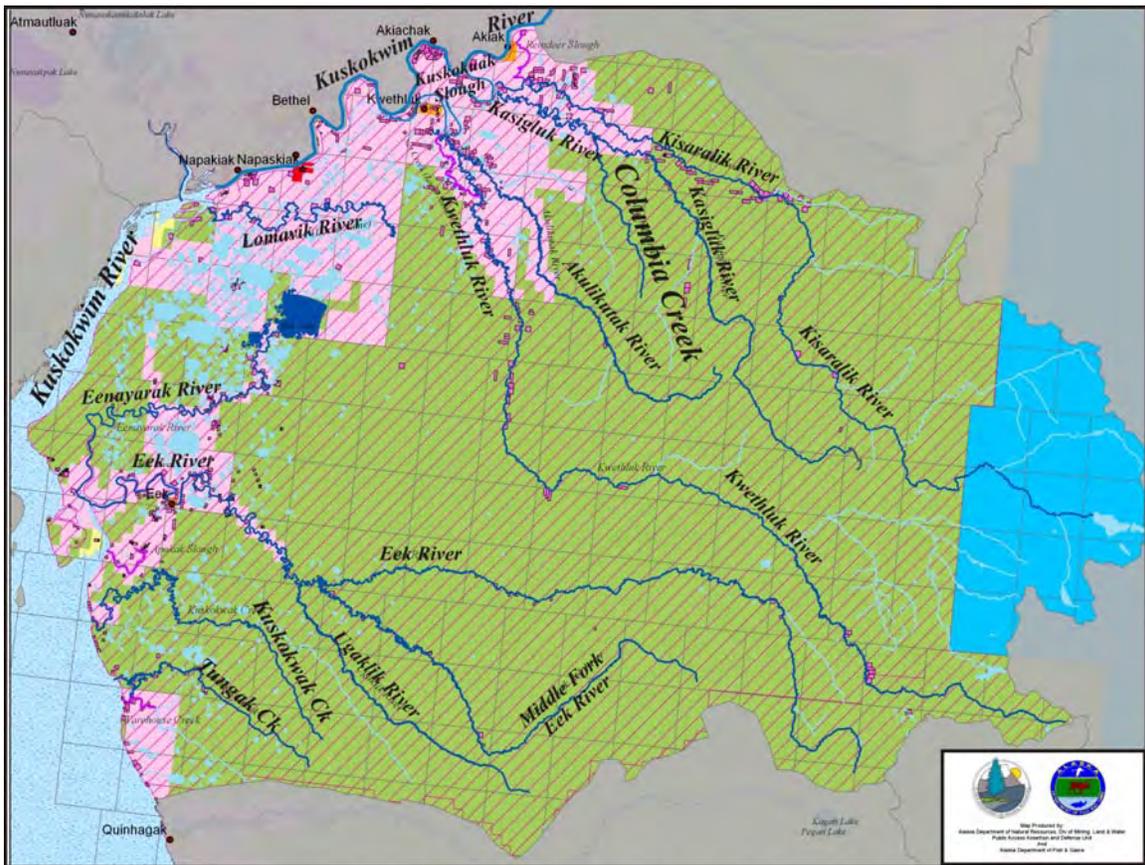


Figure 1. Map showing the location of Columbia Creek within Zone 2 of HUC-30502 of the Kuskokwim River Region.

ⁱ All air mile distances in this report are based on measurements from: <http://sdms.ak.blm.gov/isdms/imf.jsp?site=sdms>

The local name of Columbia Creek was reported in 1955 by J.M. Hoare, United States Geological Survey (USGS).¹ Columbia Creek is one of ten water bodies that drain the Kilbuck Mountains and the south-central portion of the Yukon Delta National Wildlife Refuge (Yukon Delta NWR). The lower part of Columbia Creek is located about 27 miles east of Bethel, about 16 miles east of the Native village of Kwethluk and about 12 miles southeast of the Native village of Akiak. Bethel is the nearest regional hub. The only overland access to Columbia Creek area is the Akiak-Crooked Creek Trail (RST-21), which starts at Akiak, runs south to the confluence of the Kwethluk River and Crooked Creek in Township (T.) 2 N., Range (R.) 63 W., Seward Meridian (SM), Alaska.

Columbia Creek comprises four townships:

T. 6 N., R. 65 W., SM T. 7 N., R. 66 W., SM
T. 6 N., R. 66 W., SM T. 8 N., R. 66 W., SM

II. Land Status

Columbia Creek is bounded by federal, Native village and Native allotment lands (Figure 2). The upper and middle portions of Columbia Creek flow through the Yukon Delta NWR and the lower portion of the river is bounded by Native lands and the Yukon Delta NWR. There are two Native allotments on the federal and Native lands.

The Kokarmiut Corporation, the village corporation for Akiak, selected lands abutting the lower portion of Columbia Creek (Figure 2) in the 1970s under Alaska Native Claims Settlement Act (ANCSA) of 1971. BLM conveyed those lands to the Kokarmiut Corporation by Interim Conveyance (IC) No. 610 in 1982. Calista Corporation, the regional corporation for the area, received the subsurface estate in IC No. 611.

A total of two Native allotments are located along Columbia Creek. The Native allotments occur along the lower portion of Columbia Creek as inholdings within the lands conveyed to Kokarmiut, Corporation for the village of Akiak (Figure 2). Both of these allotments were certificated (one in 2000 and one in 2001). No Native allotments are located along the middle and upper middle portions of Columbia Creek within the Yukon Delta NWR.

The middle and upper most portions of Columbia Creek are located within the Yukon Delta NWR (Figure 2). This portion of the Yukon Delta NWR was withdrawn from unreserved public lands managed by the BLM in 1972 (Public Land Order 5184, March 9, 1972) and transferred to the federal refuge system under the Alaska National Interest Lands Conservation Act (ANILCA, PL 96-487) of 1980. Title to federal refuge lands in Alaska is held by the United States and the U.S. Fish and Wildlife Service (USF&WS) is the manager of the Yukon Delta NWR.

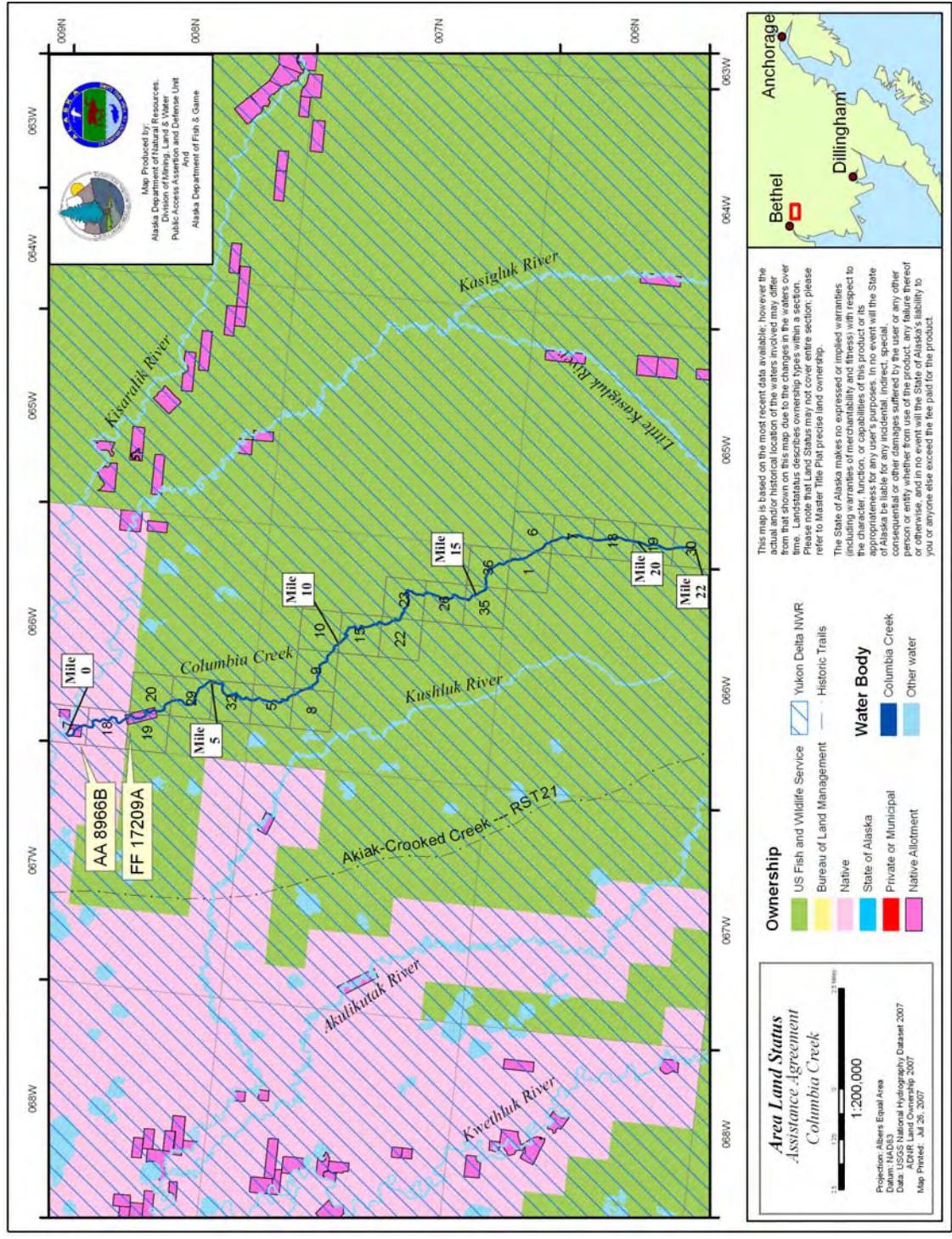


Figure 2. Land Status on Columbia Creek.

III. BLM Navigability Determinations

After Congress passed ANCSA in 1971, Kokarmit Corporation of Akiak selected land along lower Columbia Creek. Approximately three miles of lower Columbia Creek is bounded by these village lands that were conveyed to the village of Akiak. The BLM began actively seeking information on navigable waters on Columbia Creek in the 1970s as part of its adjudication of Native land selections.

In the Decision to Interim Convey (DIC) for Kokarmit Corporation of Akiak and the Calista Corporation dated June 29, 1982, the submerged land of Columbia Creek was not excluded from selected lands in Secs. 7 and 18, T. 8 N., R. 66 W., SM.² (Attachment 1) Maps attached to this DIC did not indicate Columbia Creek as navigable or tidal.

On December 28, 1982, the BLM issued IC Nos. 610 and 611, conveying the submerged lands of lower Columbia Creek to Kokarmit Corporation and Calista Corporation. On the maps attached to the ICs Columbia Creek was not shown as navigable or tidal. The Kasigluk River, of which Columbia Creek is a tributary, was determined by the same maps to be tidally influenced through the mouth of Columbia Creek and upstream on the Kasigluk River for another approximately eight miles.³ (Attachment 2)

On January 8, 1998, a BLM Navigable Waters Specialist issued a navigable waters memorandum on Columbia Creek. The memorandum stated that BLM Cartographer Rhonda Reynolds reviewed aerial photos of Columbia Creek where it crossed the two Native allotments. Reynolds stated that “Columbia Creek is open, unobstructed and has water through the Native allotment located at the mouth.”⁴ Lagstrom concluded that Columbia Creek was non-navigable through Native allotment AA-8966-B at the mouth of the creek because, “The allottee’s grandson... and several Kwethluk residents are able to boat Columbia Creek for a limited time only, two weeks at the most.” Lagstrom also stated that Columbia Creek appeared to be shallow and two-thirds blocked by vegetation during the previous field examination.⁵ (Attachment 3)

When the BLM reviewed waters in Group 284 Window 2029 on January 13, 1998, the agency determined that no navigable waters were present in Tps. 5-8 N., R. 66 W., SM. These townships contain the mouth and the first several miles of Columbia Creek.⁶ (Attachment 4)

In a navigability review memorandum for Columbia Creek dated July 15, 1998, the BLM Chief of the Branch of Mapping Sciences reiterated the BLM’s position on the non-navigability of Columbia Creek. The review specified that the determination was based upon “NASA aerial photographs, USGS maps, case-file and historical records, interviews..., heirs, relatives, local residents, government officials..., and a field examination by air September 15, 1997.”⁷ (Attachment 5)

Summary of Navigability Determinations: Navigability determinations for Columbia Creek are summarized below in Table 1 and shown in Figure 7. In 1982, the BLM determined Columbia Creek non-navigable. In multiple reports issued in 1998, a BLM navigable waters specialist concluded that Columbia Creek was not navigable within the Native allotment AA-8966-B at the mouth of Columbia Creek. No mention was made of the Native allotment (FF-17209-A) further upstream. There have been no subsequent navigability determinations issued on Columbia Creek since 1998.

Table 1. Summary of BLM Navigability Determinations

Dates	River Section	Type Decision and Substance	Navigability Criteria
6//29/82 Attachment 1	Lower	DIC: Lands under Columbia Creek not excluded from the village selection.	Travel, trade and commerce
12/29/82 Attachment 2	Lower	IC Nos. 610 and 611: Columbia Creek not shown on map as tidal or navigable.	Travel, trade and commerce
1/8/98 Attachment 3	Lower	Navigability Report: Columbia Creek found non-navigable within Allotment AA-8966B at the mouth of the creek.	Travel, trade, and commerce.
1/13/98 Attachment 4	Lower-Middle	Navigability Review: Township and Range which the Columbia Creek passed through was specifically mentioned as containing no navigable waters.	Travel, trade, and commerce. Boat with 1,000 pound load.
7/15/98 Attachment 5	Entire river	Review of Navigability Determinations: Columbia Creek determined non-navigable.	Boat capable of carrying 1,000 pounds for travel, trade, and commerce.

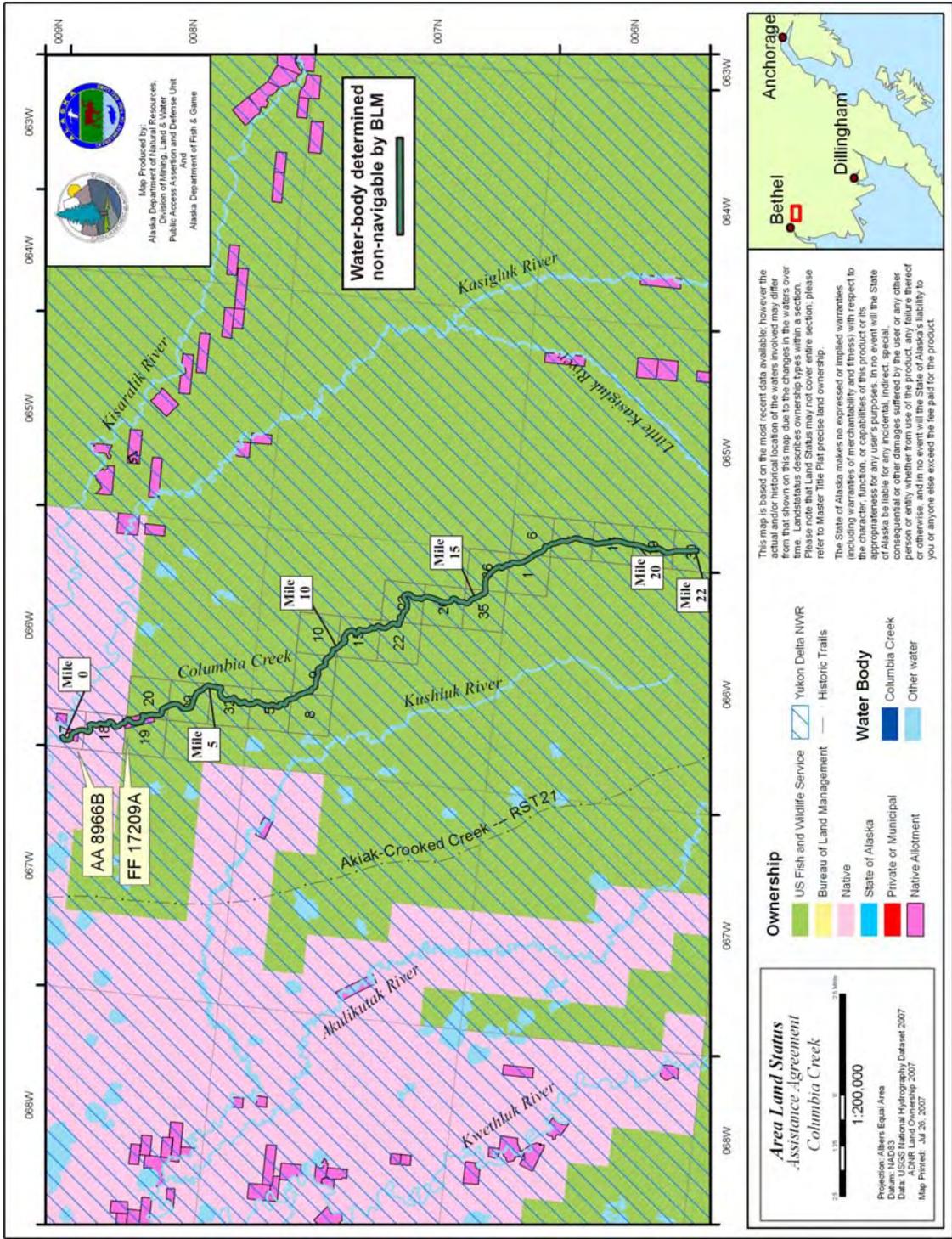


Figure 3. BLM Navigability determinations on Columbia Creek.

IV. Physical Character of the Waterway

Columbia Creek is a meandering river 22 miles longⁱⁱ and drains an area of approximately 69 square miles. The river heads in foothills at Sec. 30, T. 6 N., R. 65 W., SM, approximately 500 feet above sea level. There are no lakes or glaciers that head Columbia Creek. The creek flows generally northwest for 22 miles into the Kasigluk River in Sec. 7, T. 8 N., R. 66 W., SM, 27 miles east of Bethel. The gradient of Columbia Creek is approximately 19 feet per mile. Columbia Creek has no major tributaries, and vegetation along the creek was reported as being spruce, willow and grass along the banks.⁸

No detailed information is available regarding the upper, middle and lower-middle portions of Columbia Creek. The lower portion of Columbia Creek (Figure 2) extends from river mile 3 to the mouth at river mile 0. The width of the river in this section is approximately six feet at the mouth, widening to approximately 10 feet at river mile 2. The depth was reported as approximately one foot between June and July and up to approximately three feet during short periods of high water in the spring and fall.⁹

No reports issued by the BLM have addressed tidal influence with regard to Columbia Creek. The Kasigluk River, of which Columbia Creek is a tributary, was determined tidal well upstream of the mouth of Columbia Creek.¹⁰

Columbia Creek is within the transitional climate zone, which is between the maritime and continental climatic zones. This transition zone in the Yukon-Kuskokwim Delta area extends 100 to 150 miles inland.¹¹ No weather-gathering stations are located along or near Columbia Creek. The nearest station is at Bethel, about 27 miles from the river. The average annual precipitation at the Bethel weather station is around 16 inches.¹²

There is no detailed hydrologic information present with regard to Columbia Creek. No information is available indicating that the course of Columbia Creek has changed over time. Obstacles to travel on the river have been reported from time to time. On December 4, 1997, the BLM conducted a field trip to lands selected under ANCSA near Bethel. BLM staff flew above Columbia Creek and observed that “The mouth of Columbia Creek was 2/3 blocked with vegetation jutting out from the right bank and a small island of vegetation. A short distance upstream a beaver dam was visible.”¹³ (Attachment 6)

On January 8, 1998, a BLM navigability report summarized information provided by BLM employee Rhonda Reynolds, who reviewed aerial photos of Columbia Creek where it crossed the two Native allotments. According to the summary of information provided by Reynolds, “Columbia Creek is open, unobstructed and has water through the Native allotment located at the mouth.”¹⁴ (Attachment 3)

ⁱⁱ Different sources estimate the length of the river at 60 to 111.5 miles. The length the Kwethluk River and the river miles used in this report are based on GIS calculations using the National Hydrography Data Set derived from U.S. Geological Survey quadrangle maps.

In a July 15, 1998 supplementary interview memorandum, people interviewed by a BLM employee stated that Columbia Creek was one foot or less in depth and that its higher water periods lasted only a few weeks each year. The river was reported as being very narrow at the mouth, making maneuvering difficult.¹⁵ (Attachment 7)

V. Evidence of Use of the Waterway

Early Native Use of Columbia Creek

Human occupation of the Kuskokwim area goes back 11,000 years to nomadic hunters of Pleistocene animals. These hunters were supplanted about 1,900 B.C., when Eskimos from the north moved into the lower Kuskokwim drainage, bringing with them the so-called Arctic Small Tool tradition.¹⁶ Permanent occupation of the interior Kuskokwim Delta with chronological continuity began about AD 600.¹⁷ Their descendents, the *Kusquqvagmiut* (also known as Yup'ik Eskimos or mainland southwest Alaskan Eskimos), have inhabited the Kuskokwim River and its tributaries down to the present as far inland as the village of Aniak. By 1880, their population was estimated at 3,100.¹⁸

The *Kusquqvagmiut* have lived a traditional subsistence lifestyle that spans many centuries. Subsistence is a form of production and consumption in which hunting, fishing and collecting plants are the primary sources of food and other necessities of life. Traditional Alaska Native subsistence practices involve harvesting, distributing and consuming resources. These activities include important social and religious components, one of the most important of which is the distribution and exchange of subsistence products within families, between families and bands, and with Native groups outside their territory. Each Native culture in Alaska has its own set of customs and values governing the transfer of subsistence goods, falling into categories such as ceremonial, sharing, partnership, trade and commercial exchange. The values which promote ceremonial feasting and distribution of subsistence resource goods have persisted in all Alaska groups.¹⁹

The *Kusquqvagmiut* traveled by water craft to access, harvest, and transport subsistence resources to their village sites, and to distribute the harvested resources.²⁰ As contact with Russian fur traders and American missionaries, traders and miners increased in the nineteenth and twentieth centuries, the Native subsistence system of distribution and exchange gradually changed. While the *Kusquqvagmiut* continued to sustain themselves through their hunting, fishing, and gathering efforts, their involvement in the fur trade brought about significant changes.²¹ Contact with American traders increased the interaction between subsistence production and commercial exchange, including the sharing and trading of commercial and subsistence goods.²²

Eskimos have used boats and rafts on the rivers, creeks and sloughs of the lower Kuskokwim Region for hundreds of years to harvest resources for subsistence including hunting, fishing and berry picking.

Recent Native Use of Columbia Creek Documented in Native Allotment Files

The BLM began collecting information in the 1970s to adjudicate Native allotment applications filed by local Natives that have fished, hunted and picked berries along Columbia Creek. The Natives accessed favorite spots along the river for hunting, trapping, fishing and berry picking. These favorite spots, through custom, developed into exclusive use areas. The federal government recognized this exclusive use and through the Native allotment Act of 1906 transferred title of the allotment sites to the applicants. Two individuals filed Native allotment applications for two parcels on the portion of Columbia Creek between river mile 0 and river mile 4.

The two Native allotments are located along Columbia Creek at river mile 0 and along a right bank tributary of Columbia Creek. Native allotment files for these two parcels indicate one was used in the winter, and one was used year round.

Albert Olick Sr. (deceased) of Kwethluk filed an application on April 5, 1974 for a Native allotment (AA-8966) split into two parcels. The parcel on Columbia Creek (AA-8966-B) is 39.97 acres. Parcel B lies in Sec. 7, T. 8 N., R. 66 W., SM, straddling Columbia Creek near its confluence with the Kasigluk River, near river mile 30 of that river. Albert Olick claimed use and occupancy of the land since September of 1950 for spring camping, fall hunting and winter trapping.²³ There was no mention in the Native allotment file of how Olick accessed his allotment.²⁴ This allotment was surveyed as United States Survey (USS) 11740 and certificated as 50-2001-0175.

David F. Fisher (deceased) of Kwethluk filed an application on March 30, 1972 for a Native allotment (FF-17209) split into two parcels. The parcel on Columbia Creek (FF-17209-A) is 119.98-acres. The parcel lies in Secs. 18, 19, and 20, T. 8 N., R. 66 W., SM, and is straddling Columbia Creek around two miles upstream from its mouth. Fisher claimed use and occupancy of the parcel during the winter for the use of hunting and trapping since February 1930.²⁵ There was no mention in the Native allotment file of how Fisher accessed the parcel.²⁶ This allotment was surveyed as USS 11741 and certificated as 50-2000-86.

Other Natives Traveling on Columbia Creek

The BLM files contain interviews with other Natives from Kwethluk who have traveled Columbia Creek and its tributaries since 1959. Some of those interviewed do not have Native allotments along Columbia Creek. They are related to or are friends of allotment holders along the creek and have used Columbia Creek for subsistence purposes over the years.

In an interview conducted in 1997, Yako Fisher Sr. stated that he uses Columbia Creek in the spring during March to look for caribou by snow machine.²⁷ (Attachment 8)

Joseph Guy used Columbia Creek to pick cranberries in the fall of 1995. He went less than 0.5 miles up the creek using a 16 to 18-foot Lund aluminum boat with a 30 to 40-horsepower propeller motor. He believed “that one could use a boat, canoe or raft on the creek carrying about 1,000 pounds for travel, trade and commerce for about $\frac{3}{4}$ of a mile or less from the mouth.”²⁸ (Attachment 8)

Frank Alfred used an 18-foot Lund boat with a 40-horsepower propeller motor to go hunting less than two miles up Columbia Creek in September of 1996. His load included three people and camping gear for three days. Alfred stated that between late September and the beginning of winter, Columbia Creek is completely unusable due to low-water conditions.²⁹ (Attachment 8)

John Owen stated that he used an 18-foot Lund with a 45-horsepower propeller motor to go upstream about $\frac{3}{4}$ of a mile for moose and caribou hunting in the fall of 1996. His load included two people and 12 gallons of gas.³⁰ (Attachment 8)

Government Studies and Use of Columbia Creek since 1959

State and federal employees began gathering data in the mid-1970s on Columbia Creek. This creek was not mentioned in the BLM’s 1985 Kuskokwim Regional Report.³¹ No other reports have been found indicating that state or federal government employees have travelled on Columbia Creek.

VI. Summary

In 1982 and 1998, BLM officials determined Columbia Creek to be non-navigable based on interviews and aerial observation. The BLM has not addressed tidal influence even though the Kasigluk River, of which Columbia Creek is a tributary, has been determined tidal eight miles above its confluence with Columbia Creek.

There is evidence of use of lower Columbia Creek in the years prior to and after statehood for a couple weeks out of each year during periods of high water, usually in the spring. While the creek was fairly accessible during these high water periods, it was too shallow and narrow for travel past one mile during other times when the creek was not frozen. Two Native allottees claimed use and occupancy of their allotments along Columbia Creek prior to statehood, but neither specified how they accessed their respective parcels. One used his parcel only in the winter, making it unlikely that he accessed it by boat. The other allottee made use of his parcel in the spring and fall, making it possible that he accessed it by boat. Three local Natives have taken Lund 16 to 18-foot boats less than two miles up portions of the lower Columbia Creek while engaged in subsistence activities in the 1990s. They used Columbia Creek for subsistence activities and indicated that they could travel up the river during periods of high water a few weeks of the year.

The issue of tidal influence needs to be addressed further. Columbia Creek is a tributary of the Kasigluk River, which was determined tidal eight miles above its confluence with Columbia Creek. Since both water bodies flow through similar terrain in the area of Columbia Creek, the lower portion of Columbia Creek may be tidally influenced.

Endnotes

- ¹ Donald J. Orth, *Dictionary of Alaska Place Names*, Geological Survey Professional Paper 506, United States Geological Survey, Washington, D.C.: U.S. Government Printing Office, 1971, p. 231.
- ² Ann Johnson, Decision: Section 12(b) Application Rejected in Part; Lands Proper for Village Selection; Approved for Interim Conveyance or Patent for Kokarmiut Corporation of Akiak and Calista Corporation, June 29, 1982, BLM files, FF-14824.
- ³ Robert D. Arnold, Interim Conveyances (IC) No. 610 and No. 611, December 29, 1982, BLM files, FF-014824.
- ⁴ Rhonda Reynolds statement in Laura Lagstrom, Navigable Waters Specialist, BLM, Navigability Report, Columbia Creek in Native Allotment AA-8966B, January 8, 1998, BLM Files, FF-014902-EE.
- ⁵ Laura Lagstrom, Navigability Report, Columbia Creek in Native Allotment AA-8966-B, January 8, 1998, BLM files, FF-014902-EE.
- ⁶ Gust C. Panos, Memorandum on Navigability Review for Waters in Window 2029 Bethel (Group 284) Part 1, January 13, 1998, BLM files, FF-14824.
- ⁷ Gust Panos, Memorandum of Review of the Navigability Determination for Columbia Creek in Window 2029, GS 284, dated January 13, 1998, July 15, 1998, BLM files, 9600 (924).
- ⁸ Roger Clay, *A Compilation of Hydrologic Data on the Kuskokwim Region*, Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys, Water Resources Section, Navigability Project, Anchorage, December 1983, pp. 193; Kenneth T. Alt, *Inventory and Cataloging Western Alaska Waters*, Alaska Department of Fish and Game, Sport Fish Division, Juneau, 1977, pp. 31.
- ⁹ Lagstrom, Navigability Report, Columbia Creek in Native Allotment AA-8966-B, January 8, 1998, BLM files, FF-014902-EE.
- ¹⁰ Robert D. Arnold, Interim Conveyance No. 610, December 29, 1982, BLM files, FF-014824.
- ¹¹ Harza Engineering Company, *Bethel Area Power Plan Feasibility Assessment*, Appendix B, December 1982.
- ¹² <http://www.citytowninfo.com/places/alaska/bethel>
- ¹³ Laura Lagstrom, Memorandum for Field Trip for Window 2029 Part 1, December 4, 1997, BLM Files, FF-014902.
- ¹⁴ Rhonda Reynolds statement in Lagstrom, Navigability Report, Columbia Creek in Native Allotment AA-8966-B, January 8, 1998, BLM files, FF-014902-EE.
- ¹⁵ Laura Lagstrom, Memorandum of Supplemental Interviews for Columbia Creek – Window 2029, July 15, 1998, BLM files, FF-14824-EE.
- ¹⁶ James W. Vanstone, “Mainland Southwest Alaska Eskimo,” in *Handbook of North American Indians, Volume V, Arctic*, David Damas, editor, Smithsonian Institute, Washington, D.C., 1984, pp. 227-229.
- ¹⁷ Robert D. Shaw, *Cultural Resources Survey Preceding Construction of a Water and Sewer System in Kwethluk, Alaska*, a report done under contract to the Alaska Native Tribal Health Consortium, Anchorage, 2002, p. 10.
- ¹⁸ Vanstone, “Mainland Southwest Alaska Eskimo,” pp. 227-229.
- ¹⁹ Steve Langdon and Rosita Worl, *Distribution and Exchange of Subsistence Resources in Alaska*. Alaska Department of Fish and Game Technical Paper Number 55, Arctic Environmental Information and Data Center, University of Alaska, Anchorage, 1981, pp. ii, 1.
- ²⁰ Vanstone “Mainland Southwest Alaska Eskimo,” p. 299.
- ²¹ *Ibid.*
- ²² Langdon and Worl, *Distribution and Exchange of Subsistence Resources in Alaska*. pp. 28 and 96.
- ²³ Albert Olick Sr., Native Allotment Application and Evidence of Occupancy, April 5, 1974, BLM files, National Archives and Records Administration (NARA), Anchorage, AA-8966.

²⁴ Donald T. McWilliams, Native Allotment Field Report for the Native Allotment Application of Albert Olick Sr., December 10, 1976, BLM files, NARA, Anchorage, AA-8966.

²⁵ David Fisher, Native Allotment Application and Evidence of Occupancy, March 30, 1972, BLM files, NARA, Anchorage, FF-17209.

²⁶ Jen Labay, Native Allotment Field Report for the Native Allotment Application of David Fisher, February 14, 1975, BLM files, NARA, Anchorage, FF-17209.

²⁷ Interview with Yako Fisher Sr., in Laura Lagstrom, Interviews for Selected Lands within Window 2029: Part 1, December 8, 1997, BLM files, FF-14824-EE

²⁸ Interview with Joseph Guy, in Lagstrom, Interviews for Selected Lands within Window 2029: Part 1, December 8, 1997, BLM files, FF-14824-EE

²⁹ Interview with Frank Alfred, in Lagstrom, Interviews for Selected Lands within Window 2029: Part 1, December 8, 1997, BLM files, FF-14824-EE

³⁰ Interview with John Owen in Lagstrom, Interviews for Selected Lands within Window 2029: Part 1, December 8, 1997, BLM files, FF-14824-EE.

³¹ C. Michael Brown, *Alaska's Kuskokwim River Region: A History*, Bureau of Land Management, Alaska State Office, Anchorage, 1986.