

Article

Understanding the Current Complexities of Indigenous Land Tenure and Toponymy: The Importance of Historical Indigenous Cartography with Indigenous Contributions to Euro/American/Canadian Cartography

Daniel G. Cole¹ and E. Richard Hart²

¹ Smithsonian Institution; coled@si.edu

² Hart West and Associates; e.richard.hart@gmail.com

* Correspondence: coled@si.edu;

Abstract: In recent years, many libraries and archives have started digitizing their collections thus making maps by Indigenous peoples more easily available for scholars to study. While a number of these maps were discussed by G. Malcolm Lewis in the History of Cartography series (volume 2, book 3, Chapter 4: 1984), more have since been found and disseminated. These maps are critical in understanding the historic and current land tenure of Indigenous groups. Further, Indigenous claims to land can be seen in their connections via toponymy. European concepts of territory and political boundaries did not coincide with First Nation/American Indian views resulting in the mistaken view that Natives did not have formal concepts of their territories. Further, Tribes/First Nations with cross-border territory have special jurisdictional problems. This paper will illustrate how many Native residents were very spatially cognizant of their own lands, as well as neighboring nations' lands, overlaps between groups, hunting territories, populations, and trade networks. Currently, the Sinixt First Nation provides a perfect example of how an Aboriginal people are inputting and using a GIS representation of their territory with proper toponymy and use areas.

Keywords: Indigenous; toponymy; land tenure; cartography

1. Introduction

While Native Americans/American Indians/First Nations did not originally have access to paper for their map creation, nonetheless, many of them had excellent cognitive cartography concerning their environment, settlements, populations, territories, trails and trade routes; and were often able to communicate this spatial knowledge to Euro-Americans mapping about said lands. Additionally, many Euro-American explorers would get lost without Indigenous help while traversing the North American landscape. Alternatively, sometimes Native guides intentionally led Europeans astray. Before continuing, it must be noted that in historical cartography, G. Malcolm Lewis is the standard bearer for scholarship in this arena.¹

2. Colonial Period

From the start, European mapmakers relied on Native informants, as can be seen in Samuel de Champlain's map of New France (1612) and John Smith's map (1624) of the Virginia and Chesapeake region that have spatial data beyond their explorations. Hermann and Pearce (2008) mapped out Champlain's travels from the Gulf of St Lawrence to Georgian Bay with notes from Champlain, imagined notes from Native voices, and the cartographers' notes. The title, "They Would Not Take Me There," is indicative of Champlain's desire to find a route to James Bay. On Smith's map, crosses are placed to indicate

the limits of his travels, and beyond those crosses were named Indian territories and towns provided by his Native informants.²

One of the earliest surviving Native maps in North America was in the Southeast on the Catawba Deerskin Map (ca. 1720), which abstractly encompassed the social and trade network of the Catawba along with their Native and English neighbors.³ In the Plains, as noted by Cole (2021), “in 1752, Philippe Buache compiled two maps on one sheet including a possible water route from the Lake Superior to the Pacific from Ochagach (Cree) and a second map of the northern Plains from two unpublished maps by French fur traders. These two maps illustrated territories of the Assiniboils (Assiniboiné), Cristinaux or Cristinots (Cree), the Monsoni (Ojibwe) and the Sioux. This map is the first printed record from the Plains of an Indigenous map.”⁴

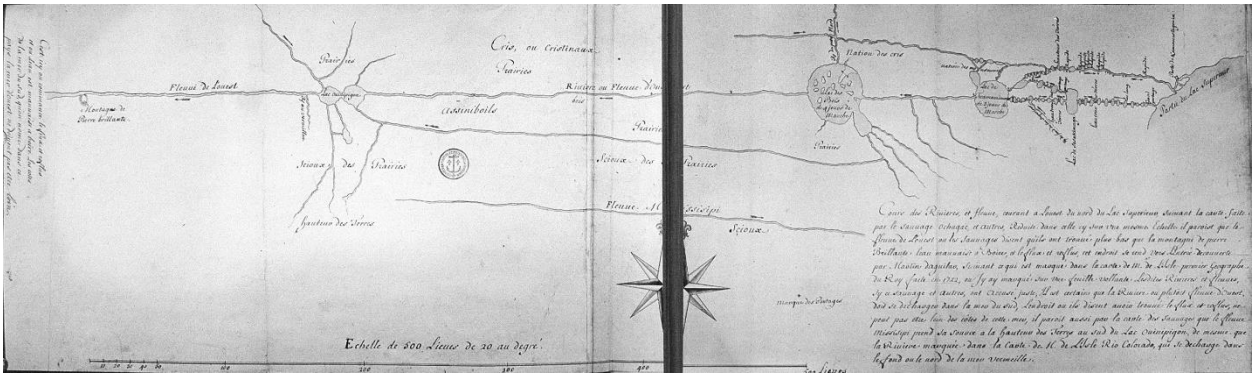


Figure 1. Map by Ochagach (Cree) and traced by Philipp Bauche of a water bound route between Lake Superior and the unknown distant west. Downloaded and cropped from the Research Laboratories of Archaeology at the University of North Carolina.

Chegeree (unknown tribe) drafted a map of the Ohio River valley of his travels from Lake Erie to the Mississippi River (ca. 1755) that was created for the British as intelligence information at the start of the French and Indian War with locations of a French fort (Fort Duquesne), Indian settlements and distances. During the same war, an unidentified Indian scout provided help to John Montrésor when he created a sketch map of the battlefield at the Monongahela. And Red Head (Onondaga), created a sketch map in 1759 of Lake Ontario to Montreal.⁵ As Lewis (2004: 15) notes, the map provided “valuable intelligence not the least for its relatively detailed representation of Chaumont and Black River Bays at the eastern extremity of Lake Ontario and possible routes from there to La Galette (Oswegatchie on the “draft”) that avoided the treacherous Thousands Islands reach of the main river.” The strategic intelligence on the map included the locations of Indian settlements, French forts, carrying places (portages) around rapids, and Indian footpaths.

Most Euro-American maps seem to either ignore the presence of Indigenous peoples or treated them as an addendum. One particular exception was by John Gerar William De Brahm who in 1766 mapped the Indian Nations of the Southern Department. While the underlying base map is more of a sketch than many of its contemporaries, this map has a wealth of information on the Native toponymy of Indian towns and territories, although the latter has the anglicized versions of the tribal names.⁶

In 1767, two Native cartographers, Matonabee and Idotlyazee (Chipewyan or Denesuline) mapped a very large area in Canada for the Hudson’s Bay Company (HBC) from the Churchill River north to Coronation Gulf, and from Hudson Bay to the Great Slave Lake. June Helm spatially analyzed this map, taking note of the extensive distortion (east-west distances are greatly shortened) on the map. Nonetheless, she marvelled at how knowledgeable the two men were of their extensive travels across the landscape, encompassing hydrology and other physical markers.⁷

An unknown Comanche drafted a large scale map illustrating, “an engagement in the Spanish frontier province of New Mexico between the Comanche and their traditional enemy, the Mescalero Apache. According to an accompanying document signed by then

3. 19th – Early 20th Centuries

[illegible]

Christopher Steinke found a map made by Too-Né, an Arikara chief, while pursuing his doctoral research in the French National Library. Steinke notes that it “captures some of the Arikara history that William Clark left unrecorded. Drawn sometime in 1805 or early 1806, it shows the course of the Missouri River, Lewis and Clark in council at the Arikara and Mandan villages, the locations of more than thirty different Indian groups, and significant places in the history of the Arikara people.”¹⁰

The Lewis and Clark expedition produced two notable maps in 1805 and 1814 from their exploration. Both maps had extensive demographic data related to Native settlements, a large portion of which was far from the expedition's outbound and return routes. The earlier map merely identified the numbers of warriors or men, but on the latter map, were noted the numbers of souls, which probably included women and children. Neither the locations of the settlements nor the numbers of inhabitants could have been shown without the input of Indigenous informants.¹¹ Gribb and Cole (2014) spatially analyzed these data sets and found that

"The positional accuracy of the Lewis and Clark maps was measured using the RMSE method and providing a standard for the maps of 276.3 km. The error increases as the tribal groups have less contact with Lewis and Clark along their route, thus the speculative nature of their placement identifies the problems they encountered by using secondary source information...The population counts listed for the different tribal groups, either on the maps or in the table, have some of the same shortcomings, however, with this attribute were two sources upon which to compare and analyze the population values -- the Mooney values of 1928 and the *Handbook* values from a number of historical demographers/ethnographers. In the four comparisons, between the Lewis and Clark statistics for the Great Plains and the Pacific Northwest to Mooney and the *Handbooks*, we found that statistically there is no difference. Overall, the Lewis and Clark population values are a reliable source of population statistics for 1804–1806."¹²

In 1822, William Edward Parry together with two Inuit, Iligliuk and Ewerat, mapped Inuit place names around Melville Peninsula in the Canadian Arctic. On one map, settlements included notations on Ookotook's Country, an 'Inhabited' area and Eskimaux (Inuit) Huts with notes from Iligliuk, e.g., "The Ships seen from here by Ookotook". The other map had Indigenous place names acknowledging Ewerat, including a note about the limits of Ewerat's geographic knowledge. Additionally, Lewis noted that "Parry was explicit in his opinion that better-quality maps could be obtained from the Inuit by providing a chart of land already known and asking for it to be extended," and presented a map drawn by Illigliak (an Inuit woman) and Parry of the northern Melville Peninsula and nearby portions of Baffin Island.¹³

Two significant Indigenous maps were discussed by Lewis (1984): in 1825, Gero-Schunu-Wy-Ha (Oto) drafted a map that "traces the route of an Oto war party that attacked the Arapahos in the area between the upper Arkansas and upper Cimarron rivers. The events are depicted in typical Indian pictographic style against a network of rivers. The gross distortion of the network reflects the constraints imposed on the Indian by the rectangular sheet of paper. Even so, it is a remarkable map, covering about a third of a million square miles of the northern and Central American plains." (pp. 98-100) And Non-Chi-Ning-Ga (Iowa) created a map in 1837 of tribal migrations in the Upper Mississippi and Missouri river basins. For both maps, Lewis redrew the maps and manually geo-referenced them against modern maps of the same areas showing how well the two Native cartographers fared in their depiction of rather large drainage networks.¹⁴

Joseph Nicollet published a hydrological map in 1843 of the Upper Mississippi drainage basin as part of the Fremont expedition of the War Department in the 1830s. What is important with this map is that, in addition to identifying more than a dozen Indian nations occupying the landscape, plus notations on their hunting and fishing grounds, he included both Indigenous and English names for many of the rivers, lakes, and buttes. While these Indigenous names did not appear out Nicollet's imagination, the source(s) of the place names is not given.¹⁵

From the 1830s – 1850s, Father Pierre-Jean De Smet drafted numerous maps dealing with the Native peoples of Canada and the U.S. from the Great Plains and Rocky Mountains west to the coasts of Oregon and British Columbia. A number of these maps incorporated help from Indigenous informants and cartographers. His most well-known map illustrates Native territories across the Plains to the Columbian Plateau and was drafted for the U.S. government in 1851. Other maps of his include numerous watersheds extending east and west of the Rockies, Native villages, and mission activities. On two of his

maps, Station (sub-mission) St Pierre des Lacs along the upper Columbia River and Ft. Colville are cited which both served the Sinixt. And two Indigenous-made maps in the Pierre-Jean De Smet Map Collection at the Jesuit Archives and Research Center include: one titled, "Indian Map of the two Coeur d'Alene upper forks", was by an unknown person; and the other is by Victor, chief of the Salish Indians. Both of which were likely used by De Smet when he compiled the spatial data for his maps.¹⁶

Another example of the good spatial cognition held by Native Americans is on a map drawn by an anonymous Assiniboin warrior in 1853 of the northern Missouri River from North Dakota to north central Montana. On the map are notations by Edwin Denig that read: "Map of the north side of the Missouri river from Fort Union, mouth of the Yellow Stone, to Fort Benton, mouth of the Maria, drawn by an Assiniboin warrior at Fort Union Dec. 27.1853. The artist was not acquainted with the country on the south side of the Mo. The dotted line is their usual war path to the Blackfeet. Names of rivers & c. written under his direction and explanation." Warhus (1997) added "that the Assiniboin's map was not made to give a western oriented picture of the landscape; like much of the Plains picture writing it was made to record the warpath of the anonymous brave making a raid on the Blackfeet in Montana."¹⁷

The Smithsonian's National Anthropological Archives has a collection of maps by Inuit cartographers with annotations by Franz Boas of the Baffin Island area created in 1883. As noted by the Archives, "Most of the maps are not identified as to the precise area they represent except by Eskimo [Inuit] place names. Other notes on the maps include a short text in Eskimo and some notes in German and English; most of these notes are illegible, because Boas used a shorthand system of his own in writing many of them, and his handwriting is very difficult to read even when not abbreviated."¹⁸ Nonetheless, given time, a cartographic researcher could probably match up a number of these maps by researching the Boas journal and by overlaying the maps on current high resolution imagery or maps of Baffin Island.

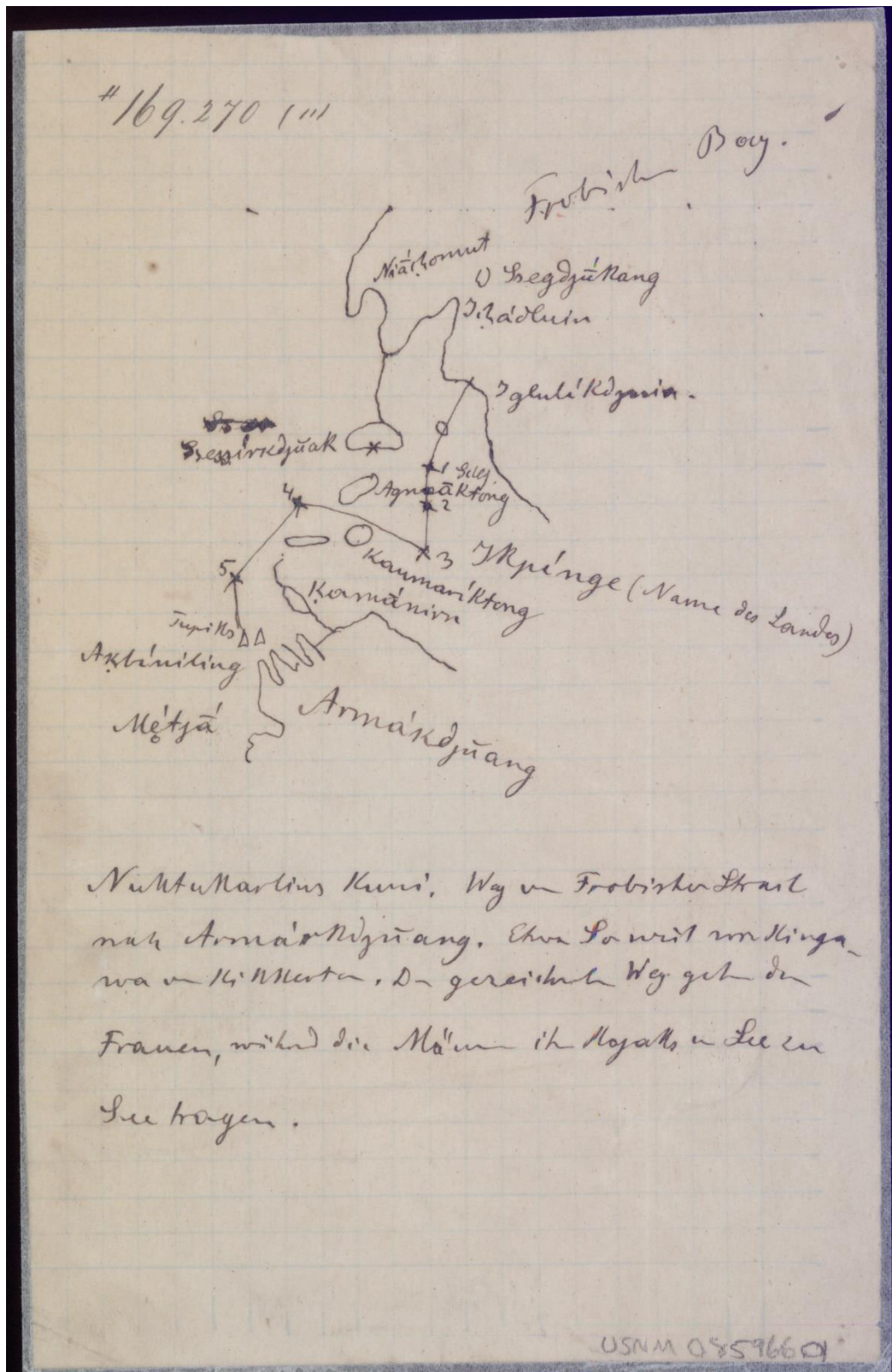


Figure 3. Map by anonymous Inuit and annotations by Franz Boas. Downloaded from the National Anthropological Archives of NMNH.

At the end of the 19th century and beginning of the 20th century, three Indigenous cartographers, Crazy Mule (Cheyenne), Black Goose (Kiowa) and Amos Black Heart Bull (Oglala Lakota) drafted pictographic maps of events between their peoples, the U.S. government and other tribes.¹⁹ These maps did not deal with toponymy, per se; rather, they

used name-glyphs to identify Indian and White settlements, military forts, battles, rivers, mountains, and other physical features; and they portrayed multiple events occurring within individual spatial frames.

An unsuccessful proposition to create the State of Sequoyah was mapped by D.W. Bolich (Muskogee) in 1905. His cartographic effort was part of an attempt by the Five Civilized Tribes (Choctaw, Chickasaw, Muskogee, Cherokee, and Seminole) to prevent being admitted to the United States as a part of a joint state made of both the Indian and Oklahoma Territories. Had it been successful, the name Sequoyah as chosen was in homage to the compiler of the Cherokee syllabary.²⁰

Lewis (1984: 118) points out that during 1914, Ishi, who was said by Kroeber to be the last of the Yahis, "was a member of an expedition to his people's former territory between Mill Creek and Deer Creek. The expedition "led by Ishi . . . covered a large part of Yahi ancestral territory, mapped it in detail, with village sites, trails, hidden brush shelters, and the smoke-lined caves ... exactly located and named. On the maps were more than two hundred native place names" (Theodora Kroeber, *Ishi in Two Worlds: A Biography of the Last Wild Indian in North America*, University of California Press: Berkeley, CA, 1961, pp. 215-16. The precise nature of Ishi's mapping input is unknown. The field maps have apparently not survived. Either they or a smaller map by Ishi seem to have been the basis for the map shown here. From A. L. Kroeber, *Handbook of the Indians of California*, Bureau of American Ethnology Bulletin 78, United States Government Printing Office: Washington, D.C.: 1925, p. 344 (fig. 32)."

4. Late 20th – Early 21st Centuries

In recent decades, many Native American tribes and nations have taken up the use of Geographic Information Systems (GIS) and mapping tools to re-establish their connections to traditional lands and waters. Esri has published four editions of the *Tribal GIS* book with a number of 1-2 page case studies on indigenous spatial activities. The Bureau of Indian Affairs, Branch of Geospatial Support provides GIS software and training to the Native nations and tribes, with additional help provided by TribalGIS.com.²¹ As a result, many Tribes/First Nations today have their own GIS offices, employing tribal members trained in GIS.

An interactive map by Village Earth made allotments openly accessible to Pine Ridge Reservation residents. According to the Village Earth website, the Pine Ridge Land Information System "makes it possible for members of the Oglala Sioux tribe to: Search for individually allotted and Tribal owned trust lands using the Tract ID; View, print and share a web link for the boundaries of specific land tracts."²²

For Canada, an interactive Story Map (Naonaiyaotit Traditional Knowledge Project Atlas) was cooperatively created by Kitikmeot Inuit Association, Dalhousie University, Dominion Diamond Mines and Esri Canada. This website has maps of First Nation territories, Indigenous place names, heritage, travel routes and gathering places, water quality, and numerous mammals, birds and fish ranges and migrations in the Nunavut and Northwest Territories of Canada. An interactive bilingual (Inuit and English) map by Indigenous and Northern Affairs Canada delineates the four Inuit regions (Inuvialuit, Nunavut, Nunavik, and Nunatsiavut) with all of the First Nation settlements in those regions, but nothing more. Hopefully, the website will contain more spatial information in the future. The Gwich'in Place Names and Story Atlas allows users to interactively select towns, trails, mountains, and rivers with pop-up text discussing the stories related to each feature. In addition, the Firelight Group has done some very good work with helping Indigenous communities map out the locations they and their families rely on for hunting, trapping, fishing and other important activities using traditional knowledge and use (TUS) studies, Indigenous planning, and ecology studies.²³

A poster map titled *Coming Home: Indigenous Place Names of Canada* by Margaret Wickens Pearce (2017) depicting place names from First Nations, Métis, and Inuit communities. Indigenous toponymy, whether in Canada or in the United States, have always

been part of the cognitive cartography of Native peoples. As Pearce notes in the website: "The map does not depict all of the Indigenous place names of Canada, nor are all Indigenous Nations and communities represented. Beyond the map's names are thousands upon thousands more, an ever growing and expanding atlas of intimate, geographical knowledge and experience."²⁴

5. The Sinixt

The Sinixt people today are struggling with Native toponymy issues related to the Canadian government's declaration in 1956 that they were extinct. The problems of the Sinixt are compounded by the fact that their traditional aboriginal territory includes land in both Canada and the United States. In the United States, the Indian Claims Commission legally defined Aboriginal territory of tribes, relying largely on testimony of non-Indian anthropologists and other witnesses. In Canada different definitions and legal rulings mean there are special problems for Aboriginal peoples who have traditional lands on both sides of the international boundary.

Hydro-power was an important subject in British Columbia in 1956. In that year, the British Columbia Natural Resources Conference published an atlas titled *British Columbia Atlas of Resources*.²⁵ The British Columbia Natural Resources Conference reported that "after ten years examination and evaluation of British Columbia's natural resources...", and with the work of more than one hundred professionals, including top people in the government and industry,²⁶ they were able to publish over forty maps covering geographical characteristics of the province and resource use in the province (contemporary and future). One of those maps showed the location of both developed and potential hydro-power, including at least eight developed sites and a number of additional sites that were not yet developed just north of the international boundary.²⁷ Narrative in the accompanying textual volume pointed out that British Columbia was at the time "almost wholly dependent on hydro-power" and that in the next twenty years the full potential of the Fraser and the Columbia Rivers would be necessary to meet demands for expected power use in the province.²⁸

For over a century, it had been well-known that the portion of the Columbia River which crossed the international boundary was territory of the Native people known as the Sinixt (Lakes or Arrow Lakes) Tribe. Indeed, the same 1956 British Columbia atlas included a map that showed Sinixt territory.

It thus may be surprising that the federal Canadian government declared the Sinixt extinct during the same year, 1956.²⁹ Late in the 19th century, Canada restricted Sinixt hunting. Between that time and 1956 the Sinixt were forced to relocate four different times, each time losing potential access to traditional lands and subsistence practices. While it was profoundly hurtful to the people when Canada restricted their rights to hunt, declaring them extinct was not just insulting, but left a permanent scar on the communal psyche of the people. Since that time, many thousands of living Sinixt people have felt the effects of this action and over a period of many decades members of the Sinixt community have sought to have an audience in Canadian courts to demonstrate that they are not extinct and still have rights to their aboriginal homeland in today's British Columbia.

In 2010, Sinixt tribal member Richard Lee Desautel was cited for killing an elk in British Columbia without proper documentation. Desautel's defense was that he was hunting in his people's age-old aboriginal territory, and that as such, he was entitled to hunt there. The trial was finally held in 2016, and in 2017 the judge who presided over that trial issued a decision, ruling not only that the Sinixt were not extinct, but that Mr. Desautel did, indeed, have a right to hunt within his people's aboriginal territory.³⁰ Since 2017 two Canadian appellate courts have confirmed the lower court's decision and the ruling is now before the Canadian Supreme Court.

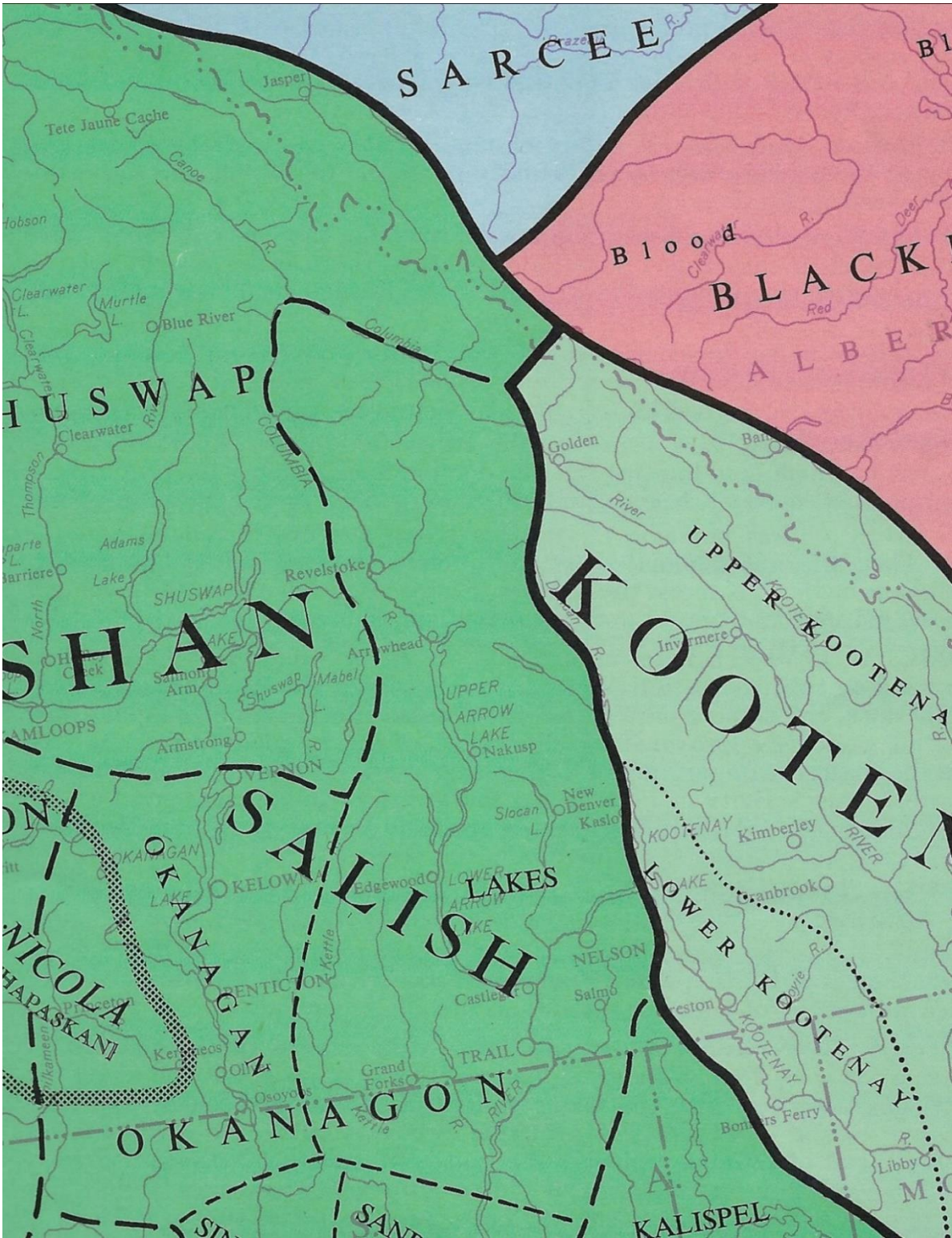


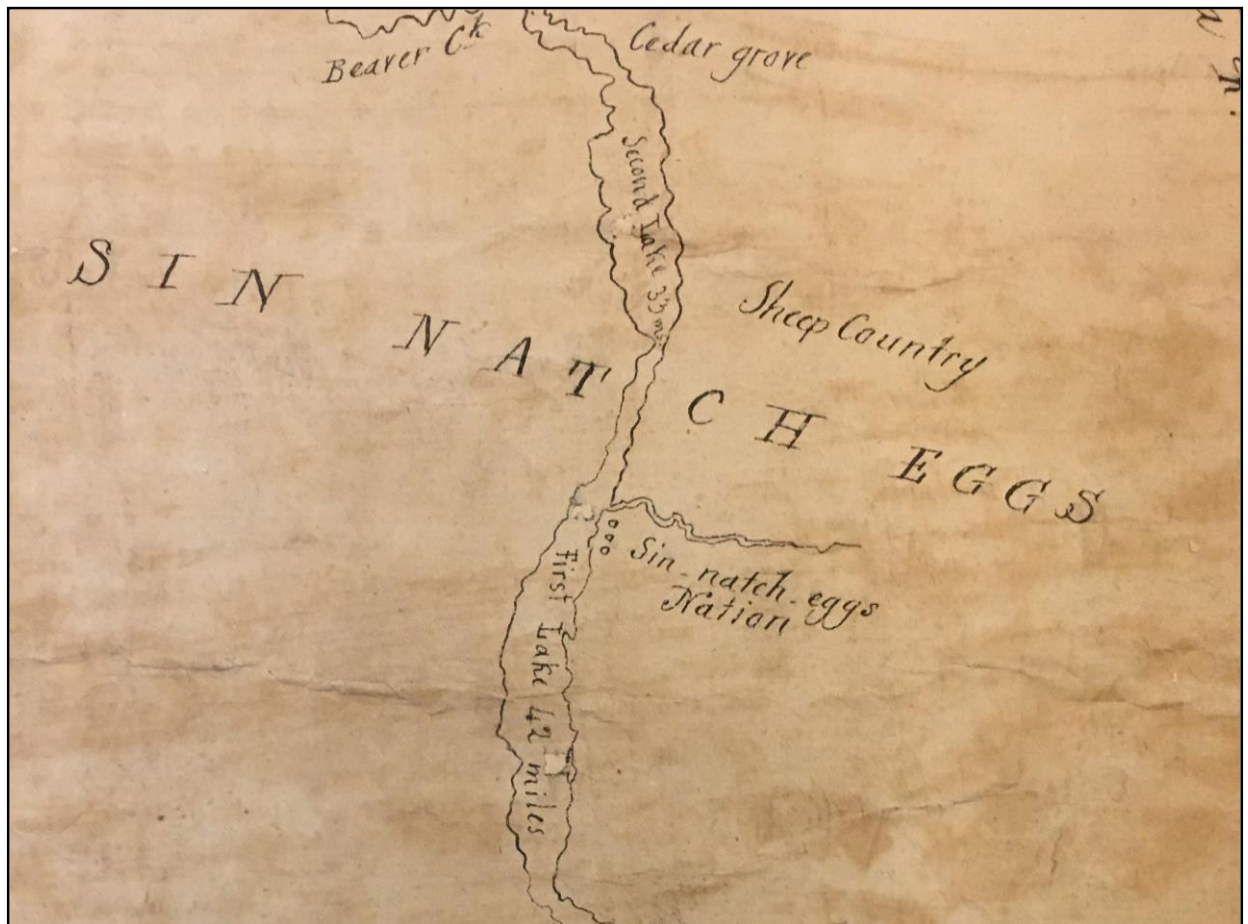
Figure 4. Sinixt (Lakes) as shown in Map 12 on pages 25-26, of the 1956 atlas created by the British Columbia Natural Resources Conference. The caption notes the territory of the Lakes (Sinixt) is mapped as it existed in 1850.

Under Canadian law, determination of territorial rights for aboriginal people focuses on evidence from between the time of the people’s first contact with Europeans to the time that the national sovereign power (in the case of the Sinixt, Great Britain) expressed sovereignty over that aboriginal territory. So in the case of the Sinixt, the key dates are 1811,

the date David Thompson first encountered Sinixt, and 1846, the date of the Treaty of Oregon (between Great Britain and the United States).

The history of the earliest European maps of the region is very clear. The Sinixt occupied the aboriginal territory exclusively during that period.³¹ A very good example of the type of cartographic evidence from the period is the map of Alexander Ross dated 1821.

Figure 5. (detail from Ross, 1821). "Sin Natch Eggs" was Ross' spelling for "Sinixt." He placed the "Sin-natch-eggs Nation" on the Columbia River in the area of what are called today Upper and Lower Arrow Lakes.



The Sinixt are a perfect example of why the study of First Nation toponymy is so important. Colonial domination of First Nations included requiring tribal members to wear European-style clothing, to live in European-style homes, and to eat European-style food. Native spirituality was to be replaced by organized Christian religion and punishment was dealt out to any child that even used one word of Native language. Traditional place names were not accepted in aboriginal territory of the people and there was systematic renaming of those places in European languages. In the case of the Sinixt, what has been termed as "cultural genocide" included declaring the people extinct, wiping them completely off the map.

Now that the Canadian courts, to date, have acknowledged that the Sinixt are not extinct, it is especially important for the people to record and make prominently public their traditional environmental knowledge of the landscape (TEK) and the original names for places in their territory in their own language. The attached Sinixt place name map represents the first stage of the Sinixt attempt to reclaim a portion of their ancient homeland, and heritage.

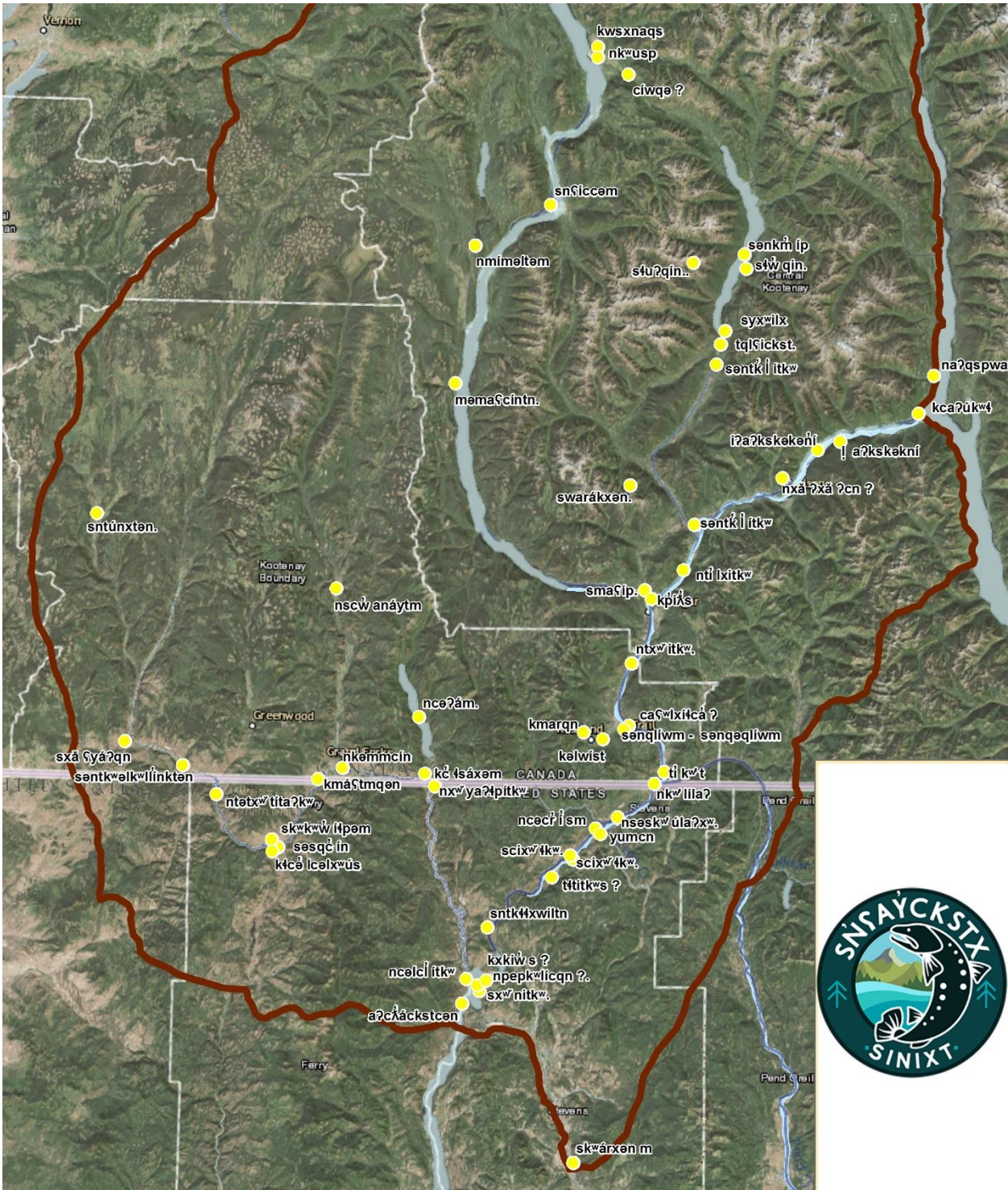


Figure 6. Detail from the Sn7ayckstx (Sinixt) place names map currently under construction by the Tribe in collaboration with the Colville Confederated Tribes. This detail shows the Tribe’s territory and selected place names from today’s Nakusp north into British Columbia, and south to Kettle Falls in Washington State.³²

6. Discussion

Regardless of whether one looks at historical maps from nearly anyplace in North America or at present-day mapping and GIS activities, Native Americans and First Nations have shown considerable geographic intelligence of the cultural and physical landscapes that they and their neighbors occupy. Very often, their cognitive cartographic abilities enabled them to navigate these landscapes competently, and the descriptive place

names that they assign to localities demonstrate a working knowledge that has served them well.

Today, the Sinixt are applying traditional pictographic knowledge and place names to a map that uses modern GIS technology to address toponymy in the region of their aboriginal territory. While this project cannot undo Colonial damage to the tribal people, it is a first step to reconciling the Sinixt with their Aboriginal territory in British Columbia.

References

1. Lewis, G. Malcolm. "Maps, Mapmaking, and Map Use by Native North Americans," In the *History of Cartography*, University of Chicago Press: Chicago, IL, 1984; Chapter 4, Book 3, Volume 2, pp. 51-182. This chapter is online at https://press.uchicago.edu/books/HOC/HOC_V2_B3/HOC_VOL-UME2_Book3_chapter4.pdf. See also the Library of Congress (LOC) guide that includes much of Lewis' work at <https://guides.loc.gov/native-american-spaces/cartographic-resources/indian-maps-mapping>. See also Lewis, G. Malcolm. "First Nations Mapmaking in the Great Lakes Region in Intercultural Contexts: A Historical Review," *Michigan Historical Review*, 2004, 30, 2, pp. 1-34. It's online at JSTOR https://www.jstor.org/stable/20174080?seq=1#metadata_info_tab_contents. And see Lewis, G. Malcolm. "Indian Maps: Their Place In The History Of Plains Cartography". *Great Plains Quarterly*, 1984a, 4, 2, pp. 91-108. And it's online at JSTOR https://www.jstor.org/stable/23531157?seq=1#metadata_info_tab_contents. More broadly, see the Library of Congress, Geography and Map Division's website on Native American maps and mapping at <https://guides.loc.gov/native-american-spaces/cartographic-resources>. Of special note at this site, related to this paper, see the web pages: Indian Maps, Mapping, and Geographic Knowledge and Indian Lands; and Village Sites, Tribal Range, Place Names, and Communication Routes.
2. Champlain's map is from the Leventhal Map Library at <https://collections.leventhal-map.org/search/commonwealth:q524n3851>. Hermann & Pearce's map poster is available from <https://umaine.edu/canam/publications/champlain-mapthey-would-not-take-me-there/> and Smith's map is from the LOC at <https://www.loc.gov/item/99446115/>
3. This Catawba Deerskin map is downloadable from the Library of Congress at <https://www.loc.gov/item/2005625337/>.
4. The sheet of two maps (*Carte physique des terrains les plus eleves de la partie occidentale du Canada*) by Ochagach and Buache is from the David Rumsey Map Collection (DRMC) at https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~306194~90076573:Carte-physique-des-terreins-les-plu?sort=Pub_List_No_InitialSort&qvq=w4s:/who%2FBuache%25252C%2BPhilippe%25252C%2B1700-1773;sort:Pub_List_No_InitialSort;lc:RUMSEY~8~1&mi=13&trs=45. The original map by Ochagach is from The University of North Carolina Chapel Hill at <http://rla.unc.edu/Mapfiles/BSH3/BSH%20B%204044-84.HMC.3.jpg>. See also Cole, Daniel G. "A Cartographic History and Analyses of Indian-White Relations in the Great Plains." In Hess, Janet Berry, ed., *Digital Mapping and Indigenous America*, Routledge: New York, 2021, Chapter 6.
5. The Cheregee map is available from the LOC at <https://www.loc.gov/item/74695023>; the Monongahela battle sketch map is at <https://www.loc.gov/item/gm71002314/>; and Red Head's map is at <https://collections.leventhalmap.org/search/commonwealth:hx11z0861>, which had annotations and cartouches added by Guy Johnson.

6. The Southern Indian Department map by John Gerar William De Brahm is available from the Digital Library of Georgia at https://dlg.usg.edu/record/guan_hmap_hmap1766d4#item
7. See Helm. "Matonabee's Map," *Arctic Anthropology*, 1989, 26, 2, pp. 28-47, available at <https://www.jstor.org/stable/i40013073>
8. The Comanche map is from LoC at <https://www.loc.gov/resource/g4322s.ct006428/> and the quote is from Viola, Herman J. "Smithsonian Expert Discusses Comanche Map," *Friends of the Geography and Map Division*, 2014, 12, 4: p. 3.
9. A copy of the first map (*An Indian map of the Upper-Missouri, 1801*) with accompanying notes is from the LoC at <https://www.loc.gov/resource/g4127m.ct000579/>. Both maps, and three others, are discussed in Beattie, Judith Hudson. "Indian Maps in the Hudson Bay Company Archives: A Comparison of Five Area Maps Recorded by Peter Fidler, 1801-1802," *Archivaria*, 1985, 21, pp. 166-175. The second map covered a smaller area of north-central Montana and southern Alberta and Saskatchewan. The other maps were by an unknown Fall (Gros Ventre) Indian, Ki oo cus (Blackfoot), and by Ak ko wee ak (Blackfoot).
10. Steinke, Christopher. "Here is my country": Too Né's Map of Lewis and Clark in the Great Plains, *William and Mary Quarterly*, 2014, 71, 4, p. 589. Supposedly, Jefferson gave this map to the French.
11. The 1804 map (*A map of part of the continent of North America: between the 35th and 51st degrees of north latitude, and extending from 89° degrees of west longitude to the Pacific Ocean*) with accompanying notes is from the LoC at <https://www.loc.gov/resource/g3300.ct000586/>. The 1814 map (*A map of Lewis and Clark's track, across the western portion of North America from the Mississippi to the Pacific Ocean: by order of the executive of the United States in 1804, 5 & 6*) is from the LoC at <https://www.loc.gov/resource/g4126s.ct000028/>.
12. Gribb, William J., and Daniel G. Cole. "The Use of GIS to Analyze the Native American Tribal Information from the Lewis and Clark Corps of Discovery," chapter 8 in Cole, Daniel G., and Imre Sutton, eds., *Mapping Native America: Cartographic Interactions between Indigenous Peoples, Government, and Academia; Volume I, Cartography and the Government*, CreateSpace Pub.: Charleston, SC, 2014, pp. 175-176. For population corroboration, see also Mooney, James. "The Aboriginal Population of America North of Mexico," *Smithsonian Miscellaneous Collections*, Smithsonian Institution: Washington, DC, 1928, 80, No. 1, Publication 2955. It should be noted that in the late 18th century epidemics and pandemics led to depopulation of the Sinixt and other Columbia Plateau tribes of up to 95%. See Boyd, Robert T. "Demographic History Until 1990" in Walker, Deward E., ed., *Plateau, Vol. 12, Handbook of North American Indians*, Smithsonian Institution: Washington, DC, 1998, pp. 467-483.
13. The two examples of the maps are found in the John Carter Brown map collection at <https://jcb.lunaimaging.com/luna/servlet/workspace/handleMediaPlayer?qvq=w4s%253A%252Fwhat%252FArctic%2bregions--Maps&trs=12&mi=1&lunaMediaId=JCB~1~1~4058~6400004> and <https://jcb.lunaimaging.com/luna/servlet/workspace/handleMediaPlayer?qvq=w4s%253A%252Fwhat%252FArctic%2bregions--Maps&trs=12&mi=4&lunaMediaId=JCB~1~1~4129~6410001>
See also Lewis (1984: 159-160).

14. Lewis discusses these maps on pp. 94-95 and 98-100 in the *Great Plains Quarterly* paper cited above. Gero-Schunu-Wy-Ha's map is in the Cartographic and Architectural Branch, Record Group 75, Map 931, National Archives, College Park, MD.
Non-Chi-Ning-Ga's map is in the Cartographic and Architectural Branch, Record Group 75, Map 821, National Archives, College Park, MD.
15. Nicollet's map (*Hydrographical Basin of the Upper Mississippi River from Astronomical and Barometrical Observations, Surveys, and Information*) is from the LoC at <https://www.loc.gov/re-source/g4042m.ct001419/>. See the discussion of this map and related matters by Bernstein, David. *How the West Was Drawn: Mapping, Indians, and the Construction of the Trans-Mississippi West*, Lincoln: University of Nebraska Press, 2018; pp. 172-193. Another example of an American relying on an Indigenous informant was in 1844, when Joshua Gregg published a book that included a map he drafted of Indian nation lands, reservations, hunting grounds, villages, pueblos, along with trade routes, migratory trails, military expeditions, forts and trading posts, missions, hydrology and topography. As Bernstein notes (pp. 9-10), Gregg heavily relied on Comanche Chief Tabbiquenna (Big Eagle), who drew him a map (that likely was not saved) which accurately portrayed all of the major rivers from Missouri to Santa Fe along with a number of Mexican settlements. Gregg's map (*A Map of the Indian Territory: Northern Texas and New Mexico, Showing the Great Western Prairies*) is from the DRMC at https://www.davidrumsey.com/luna/servlet/detail/RUM-SEY~8~1~261609~5523519:A-map-of-the-Indian-territory---Nor?sort=Pub_List_No_InitialSort&qvq=w4s:/who%2FGregg%25252C%2BJosiah;sort:Pub_List_No_InitialSort;lc:RUM-SEY~8~1&mi=0&trs=10.
16. The Pierre-Jean de Smet map collection is at the Jesuit Archives and Research Center: <https://jesuitarchives.omeka.net/items/browse?collection=5&page=1> and the well-known map that he made for the U.S. government is in the LoC at <https://www.loc.gov/item/2005630226/>
17. The Assiniboine map is from the National Anthropological Archives (NAA) at http://collections.si.edu/search/detail/ead_component:sova-naa-ms2600b1-ref19?q=map+of+the+north+side+of+teh+missouri+river&rec-ord=2&hlterm=map%2Bof%2Bthe%2Bnorth%2Bside%2Bof%2Bteh%2Bmissouri%2Briver&inline=true. For this and other Native American maps, see Warhus, Mark, *Another America: Native American Maps and the History of Our Land*, St. Martin's Press: New York, 1997.
18. Inuit maps of portions of Baffin Island are available in the Franz Boas collection at <https://sova.si.edu/details/NAA.MS169270>
19. Crazy Mule's maps are extensively discussed in Fredlund, Glen, Linea Sundstrom, and Rebecca Armstrong. "Crazy Mule's Maps of the Upper Missouri, 1877-1880," *Plains Anthropologist*, 1996, 41, 155, pp. 5-27. Crazy Mule's maps covered areas including: the upper Missouri, Yellowstone and Milk River watersheds, and western Dakota. Black Goose's map is from the NAA at <http://collections.si.edu/search/results.htm?q=%23E233091>. To see a comprehensive analysis of this map, consult Meadows, William C. " 'We want our land as it is': Black Goose's Map as an Example of Kiowa Political Cartography" In Cole, D.G. and I. Sutton, eds., *Mapping Native America: Cartographic Interactions between Indigenous Peoples, Government, and Academia; Volume III, Cartography and Indigenous Autonomy*, CreateSpace: Charleston, SC, 2014, pp. 35-67. Amos Bad Heart Bull's work is well covered in Blish, Helen H. *A Pictographic History of the Oglala Sioux, 50th Anniversary ed.*, University of Nebraska Press: Lincoln, 2017. Maps of the battle of the Little Big Horn

- are seen on pp. 215 and 256; battle of the Rosebud on p. 188; fights with the Crow on pp. 185 -186, and 396; of the Black Hills region on pp. 287-288; and a fight with the Cheyenne on p. 391.
20. D.W. Bolich's map of the proposed *State of Sequoyah* is available from the LoC at <https://www.loc.gov/resource/g4021g.ct011168/>.
 21. Sappington, N., with D. Gadsden, A. Taylor, and C. Thomas, eds. *Tribal GIS: Supporting Native American Policies with GIS*, Esri Press: Redlands, CA, USA, 2008; Taylor, A, D. Gadsden, J. Kerski, and H. Warren, eds. *Tribal GIS: Supporting Native American Decision Making*, Esri Press: Redlands, CA, USA, 2012; Taylor, A, with H. Guglielmo, and C. Thomas, eds. *Tribal GIS: Supporting Native American Policies with GIS*, Esri Press: Redlands, CA, USA, 2013; Taylor, A, D. Gadsden, J. Kerski, and H. Guglielmo, eds.. *Tribal GIS: Supporting Native American Decision Making*, Esri Press: Redlands, CA, USA, 2017. The BIA's Branch of Geospatial Support is at <https://www.bia.gov/gis>.
 22. Village Earth's website (<http://www.lakotalands.net/>) connects to the interactive map of Pine Ridge IR at <https://villageearth.maps.arcgis.com/apps/MapTools/index.html?appid=bdfebb55407447f1b6d3705c3fe7e0bf>.
 23. The Story Map is found at <https://www.ntkp.ca/> and the bilingual government map is at <https://www.aadnc-aandc.gc.ca/Map/irs/mp/index-en.html>. The Gwich'in Place Names Atlas is at <https://atlas.gwichin.ca/index.html>. The Firelight Group is headed by Steve DeRoy which is found at <https://firelight.ca/mapping-and-gis/> and the Indigenous Mapping Workshops is at <https://www.indigenousmaps.com/>.
 24. The description of Pearce's poster map, with access to download a PDF copy, is at <https://umaine.edu/canam/publications/coming-home-map/>.
 25. Chapman, J. D and D. B. Turner. *British Columbia Atlas of Resources*. British Columbia Natural Resources Conference: Vancouver, B. C., 1956. The atlas was accompanied by another volume of text. See also *Transactions of the Ninth British Columbia Natural Resources Conference*. British Columbia Natural Resources Conference: Victoria, B.C.; 1956.
 26. The Editors were J. D. Chapman of the Division of Geography at the University of British Columbia and D. B. Turner, Director of the Conservation Department of British Columbia Lands and Forests. The Cartographic Editors were A. L. Farley of the Geographic Division, Department of Lands, British Columbia, and R. I. Ruggles, Division of Geography, University of British Columbia. The atlas was published in preparation for the 1958 centenary of British Columbia. The atlas celebrates the provinces' "endowment, as it was one hundred years ago and as it is today."
 27. Chapman, J. D and D. B. Turner. *British Columbia Atlas of Resources*. British Columbia Natural Resources Conference: Vancouver, B. C., 1956, Map 30, pp. 61-62.
 28. British Columbia Natural Resources Conference. *Transactions of the Ninth British Columbia Natural Resources Conference*: Victoria, B.C.; 1956, p. 519.
 29. For instance, see: Indian Affairs Branch. "Indians of Arrow Lake," Digest Extract from Annual Reports, Mrozinski, Judge L. "Reasons for the Judgment of the Honourable Judge L. Mrozinski," *Regina v. Richard Lee Desautel*, 2017 BCPC 84, File No. 23646, Registry Nelson, Date 20170327, pp. 7 and 15.
 30. Mrozinski, Judge L. "Reasons for the Judgment of the Honourable Judge L. Mrozinski," *Regina v. Richard Lee Desautel*, 2017 BCPC 84, File No. 23646, Registry Nelson, Date 20170327.

31. Hart, E. Richard. "Maps Showing Sinixt Territory, 1811-1845," *Cartographica: The International Journal for Geographic Information and Geovisualization*, Volume 55, Number 4 (Winter, 2020), pp. 219-240. The original map by Ross is in the British Museum; see: Ross, Alexander. Untitled Map of the Columbia River Basin. September, 1821. British Museum, Additional Manuscripts 31,358 B. (Ross, 1821)
32. The full Sinixt territory and place names poster is available at https://drive.google.com/file/d/1cgg-WDHMb2x_4cIezpdEW7BARjMbIIF84/view?usp=sharing

Bibliography of Sources Cited

Beattie, Judith Hudson. "Indian Maps in the Hudson Bay Company Archives: A Comparison of Five Area Maps Recorded by Peter Fidler, 1801-1802," *Archivaria*, 1985, 21, pp. 166-175.

Bernstein, David. *How the West Was Drawn: Mapping, Indians, and the Construction of the Trans-Mississippi West*, Lincoln: University of Nebraska Press, 2018.

Blish, Helen H. *A Pictographic History of the Oglala Sioux, 50th Anniversary ed.*, University of Nebraska Press: Lincoln, 2017.

Boyd, Robert T. "Demographic History Until 1990" in Walker, Deward E., ed., *Plateau, Vol. 12, Handbook of North American Indians*, Smithsonian Institution: Washington, DC, 1998, pp. 467-483.

British Columbia Natural Resources Conference. *Transactions of the Ninth British Columbia Natural Resources Conference*. British Columbia Natural Resources Conference: Victoria, B.C.; 1956.

Chapman, J. D and D. B. Turner. *British Columbia Atlas of Resources*. British Columbia Natural Resources Conference: Vancouver, B. C., 1956. The atlas was accompanied by another volume of text.

Cole, Daniel G. "A Cartographic History and Analyses of Indian-White Relations in the Great Plains." In Hess, Janet Berry, ed., *Digital Mapping and Indigenous America*, Routledge: New York, 2021, Chapter 6.

Fredlund, Glen, Linea Sundstrom, and Rebecca Armstrong. "Crazy Mule's Maps of the Upper Missouri, 1877-1880," *Plains Anthropologist*, 1996, 41, 155, pp. 5-27.

Gribb, William J., and Daniel G. Cole. "The Use of GIS to Analyze the Native American Tribal Information from the Lewis and Clark Corps of Discovery," chapter 8 in Cole, Daniel G., and Imre Sutton, eds., *Mapping Native America: Cartographic Interactions between Indigenous Peoples, Government, and Academia; Volume I, Cartography and the Government*, CreateSpace Pub.: Charleston, SC, 2014, pp. 142-176

Hart, E. Richard. "Maps Showing Sinixt Territory, 1811-1845," *Cartographica: The International Journal for Geographic Information and Geovisualization*, Volume 55, Number 4 (Winter, 2020), pp. 219-240.

Helm, June. "Matonabee's Map," *Arctic Anthropology*, 1989, 26, 2, pp. 28-47

Indian Affairs Branch. "Indians of Arrow Lake," Digest Extract from Annual Reports, N.D.

Lewis, G. Malcolm. "Maps, Mapmaking, and Map Use by Native North Americans," In the *History of Cartography*, University of Chicago Press: Chicago, IL, 1984; Chapter 4, Book 3, Volume 2, pp. 51-182.

Lewis, G. Malcolm. "First Nations Mapmaking in the Great Lakes Region in Intercultural Contexts: A Historical Review," *Michigan Historical Review*, 2004, 30, 2, pp. 1-34.

Lewis, G. Malcolm. "Indian Maps: Their Place In The History Of Plains Cartography". *Great Plains Quarterly*, 1984a, 4, 2, pp. 91-108.

Meadows, William C. " 'We want our land as it is': Black Goose's Map as an Example of Kiowa Political Cartography" In Cole, D.G. and I. Sutton, eds., *Mapping Native America: Cartographic Interactions between Indigenous Peoples, Government, and Academia; Volume III, Cartography and Indigenous Autonomy*, CreateSpace: Charleston, SC, 2014, pp. 35-67.

Mooney, James. "The Aboriginal Population of America North of Mexico," *Smithsonian Miscellaneous Collections*, Smithsonian Institution: Washington, DC, 1928, 80, No. 1, Publication 2955.

Mrozinski, Judge L. "Reasons for the Judgment of the Honourable Judge L. Mrozinski," *Regina v. Richard Lee Desautel*, 2017 BCPC 84, File No. 23646, Registry Nelson, Date 20170327, pp. 7 and 15.

Ross, Alexander. Untitled Map of the Columbia River Basin. September, 1821. British Museum, Additional Manuscripts 31,358 B.

Sappington, N., with D. Gadsden, A. Taylor, and C. Thomas, eds. *Tribal GIS: Supporting Native American Policies with GIS*, Esri Press: Redlands, CA, USA, 2008.

Steinke, Christopher. "Here is my country": Too Né's Map of Lewis and Clark in the Great Plains, *William and Mary Quarterly*, 2014, 71, 4, p. 589.

Taylor, A, D. Gadsden, J. Kerski, and H. Warren, eds. *Tribal GIS: Supporting Native American Decision Making*, Esri Press: Redlands, CA, USA, 2012.

Taylor, A, with H. Guglielmo, and C. Thomas, eds. *Tribal GIS: Supporting Native American Policies with GIS*, Esri Press: Redlands, CA, USA, 2013.

Taylor, A, D. Gadsden, J. Kerski, and H. Guglielmo, eds.. *Tribal GIS: Supporting Native American Decision Making*, Esri Press: Redlands, CA, USA, 2017

Viola, Herman J. "Smithsonian Expert Discusses Comanche Map," *Friends of the Geography and Map Division*, 2014, 12, 4: p. 3.

Warhus, Mark, *Another America: Native American Maps and the History of Our Land*, St. Martin's Press: New York, 1997.