INDIGENOUS GEOGRAPHIC KNOWLEDGE AND THE LEWIS AND CLARK EXPEDITION

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Matthew Kunkel

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Abstract

This thesis examines the transfer of geographic knowledge from Indigenous peoples to the Lewis and Clark expedition between 1804 and 1806. Throughout the twenty-eight month long expedition, Lewis and Clark consistently relied upon Indigenous knowledge to learn about and navigate unfamiliar territory. On the outbound journey, this inquiry related mostly to pathfinding as the expedition sought the best route from St. Louis to the Pacific Ocean. For key stretches of this journey, Indigenous guides piloted the expedition and advised Lewis and Clark on the location and feasibility of nearby trails. On the return trip, Lewis and Clark expanded their focus and sought out geographic information from Indigenous knowledge keepers about regions well beyond the expedition's route. Much of this information came in the form of Indigenous maps, which Clark, the expedition's cartographer, incorporated into his maps of the region both during and following the expedition. In this way, Indigenous knowledge and guidance facilitated the progress of the Lewis and Clark expedition in its journey across western North America and contributed to the maps that Clark made depicting western regions previously unknown to Euro-Americans.

Acknowledgements

The completion of this thesis is the culmination of substantial efforts from the writer as well as many people who supported me during this Master's program. First and foremost, I want to thank my supervisor, Dr. Benjamin Hoy. I am profoundly appreciative of his support, motivation, and feedback throughout this entire program. Much of this project was conceptualized during our regular walks/meetings.

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Special thanks to my committee members Dr. Geoff Cunfer and Dr. Maurice Labelle for their constructive advice and strong encouragement towards this project. I also want to thank Dr. Mark Meyers and Dr. Robert Englebert for sharing their expertise in historiography and historical writing, respectively.

I want to acknowledge the many different Indigenous communities whose histories helped shape this project. Their role in the Lewis and Clark expedition represents only a fraction of their rich and vibrant pasts. Specifically, I want to call attention to the Chinook Nation of the lower Columbia River who continues to seek federal recognition from the United States' government.

The accessibility of digital archives made the research for this project possible. Thanks to Gary Moulton, editor of the Lewis and Clark Journals, and the University of Nebraska for digitizing the journals. Thanks to the Beinecke Rare Book & Manuscript Library at Yale University for their digitized collection of the Lewis and Clark expedition maps. I also want to thank Mark Dahl, Director of the Aubrey R. Watzek Library at Lewis & Clark College, for sharing HGIS resources and files with me.

Thanks to my friends, both here in Saskatoon and back in Toronto, for their moral support and encouragement. Lastly, I want to thank my parents for their unwavering and continued support throughout this entire process.

Author's Note

The entirety of this project was completed during the Covid-19 pandemic. This necessitated the use of digital archival collections and a reliance on primary sources accessible in published works during a time when visiting archives in person was not an option. It also restricted all opportunity to participate in community-engaged work with the Indigenous communities whose histories play a significant role in this thesis. Oral histories and secondary source material written by Indigenous authors were used to help fill this void and ensure that Indigenous voices remained a prominent feature of the project.

American English spelling was not yet standardized in the early 19th century and the writings of Lewis and Clark contain many spelling error by modern standards. For direct quotations from the Lewis and Clark journals, the original spelling has been maintained and there has been no attempt to correct the numerous spelling variations because word meanings are generally clear.

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Introduction

By candlelight on the evening of April 2 1805, William Clark wrote a letter to his brother-in-law from the banks of the Missouri River in present-day North Dakota. Clark was in his captains' quarters at Fort Mandan, where the Lewis and Clark expedition had spent the winter of 1804-5 with the Mandan-Hidatsa. The expedition planned to leave Fort Mandan in the coming days en route to the Pacific Ocean and this meant a final opportunity for Lewis and Clark to send documents and materials down the Missouri River to St. Louis before entering unfamiliar territory. In the letter, Clark wrote that the "Country and River above this [the Mandan-Hidatsa villages] is but little Known. Our information is altogether from Indians collected at different times and entitled to some credit."[1] Despite Clark's concise and understated description, his note encapsulated the importance of Indigenous geographic knowledge to the expedition. Traveling through unfamiliar regions, Lewis and Clark continually relied on the counsel of Indigenous knowledge keepers for geographic information on surrounding landscapes.

Organized by American President Thomas Jefferson, the Lewis and Clark expedition marked the first exploration of the western interior of North America for the young republic. Jefferson, for his part, had been trying to coordinate a westward expedition since as early as 1783. At that time, Jefferson had asked George Rogers Clark, a revolutionary war hero (and the older brother of William Clark) if he would lead "such a party".[2] Though it came to nothing, as did future attempts by Jefferson over the next two decades to coordinate and secure funding for an expedition, he remained committed to the idea.

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[1] Donald Jackson, *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, 2nd ed. (Urbana: University of Illinois Press, 1978), 230.

[2] "From Thomas Jefferson to George Rogers Clark, 4 December 1783," *Founders Online*, National Archives, https://founders.archives.gov/documents/Jefferson/01-06-02-0289. [Original source: *The Papers of Thomas Jefferson*, vol. 6, 21 May 1781–1 March 1784, ed. Julian P. Boyd. Princeton: Princeton University Press, 1952, p. 371.]

By January of 1803, the prospects for the plan had improved. Jefferson had become president two years earlier and was now in a position to put the issue before congress. Congress readily consented to sponsor an expedition, at last putting Jefferson's plan into motion.[3] Only a few months later, the United States acquired the vast Louisiana Territory from France via the signing of the Louisiana Purchase. This agreement brought an added measure of importance to the expedition as Americans now had a vested interest in much of the land that was to be explored, from St. Louis all the way to present-day western Montana.

On paper, the Louisiana Purchase gave the United States pre-emptive right to the entire Mississippi-Missouri River watershed.[4] In practice, the Purchase did little to disrupt the distribution of power.[5] Indigenous nations controlled the region prior to the Purchase. They remained in control of it for decades after. The Spanish, with settlements and trade networks extending throughout Texas and New Mexico, also challenged American sovereignty to the Louisiana Territory. As historian Elliott West asserts, following the Louisiana Purchase the United States' primary imperial "rival was Spain, not England."[6] Trade was at the heart of this rivalry. Jefferson sought for the United States to disrupt Spanish trade networks by supplanting Spain as the principal trading partner with Indigenous peoples in the region.

In devising this plan, Jefferson conceived of three separate expeditions to penetrate into different portions of the Louisiana Territory. While Lewis and Clark represented one of these expeditions, Thomas Freeman and Peter Custis led the second, and Zebulon Pike led the third. In

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[3] U.S. Congress, *Annals of the 7th-9th Congresses*, vol. XII (Washington, D.C, 1827), 103.
[4] Kent McNeil, "The Louisiana Purchase: Indian and American Sovereignty in the Missouri Watershed," *The Western Historical Quarterly* 50, no. 1 (2019): 41.
[5] Robert Lee, "Accounting for Conquest: The Price of the Louisiana Purchase of Indian Country," *Journal of American History* 103, no. 4 (2017): 921.
[6] Elliott West, "Finding Lewis and Clark by Stepping Away," in *Finding Lewis and Clark: Old Trails, New Directions* (Pierre, SD: South Dakota State Historical Society Press, 2004), 177.

April 1806, the Freeman and Custis expedition ascended the Red River that flows across much of present-day Texas and into Oklahoma, Arkansas, and Louisiana. Freeman and Custis were directed to find the headwaters of the Red River and negotiate a possible alliance with the Pawnees, whom the Spanish had long coveted as trading partners.[7] After only three months in the field, a Spanish patrol intercepted the party in present-day Bowie County, Texas and forced them to retreat.[8] An even worse outcome awaited the Pike expedition.

Tasked with ascending the Arkansas River to its headwaters and negotiating an "anti-Spanish alliance" with the Comanches, Pike travelled through present-day Missouri, Kansas, and Nebraska in the summer and fall of 1806 before getting stuck in the Rockies of present-day Colorado as winter set in.[9] There, Spanish forces captured and arrested Pike in February of 1807. Pike and his men were then led south as prisoners to the Spanish province of Chihuahua until their eventual release several months later. A similar fate could have befallen the Lewis and Clark expedition. The Spanish sent four separate military attachments to intercept Lewis and Clark, all of which were unsuccessful. Spanish efforts to derail all American incursions into the Louisiana Territory indicate that Spain contested both the United States' right to expand their influence and to conduct trade in the region.

The Spanish concern was not unwarranted, as Jefferson's instructions to Lewis and Clark clearly reveal that American trade interests were the focal point of the expedition. Based on Jefferson's instructions, the Lewis and Clark expedition was tasked primarily with finding "the most direct & practicable water communication across this continent [North America] for the

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[7] James P. Ronda, "Exploring the American West in the Age of Jefferson," in *North American Exploration: A Continent Comprehended*, vol. 3 (Lincoln, NE: University of Nebraska Press, 1997), 39.

[8] Dan Flores, "A Very Different Story: Exploring the Southwest from Monticello with the Freeman and Custis Expedition of 1806," *Montana The Magazine of Western History* 50, no. 1 (2000): 14.

[9] Ronda, "Exploring the American West in the Age of Jefferson," 42–43.

purposes of commerce."[10] If the expedition could find such a continuous riverine route, it would facilitate the expansion of American trade both within North America and overseas.[11]

Crossing the continent though meant passing through the homelands of many Indigenous nations. Jefferson knew this and instructed Lewis for the expedition to behave in a "friendly & conciliatory manner" in all their interactions with Indigenous peoples.[12] Establishing good relations with Indigenous peoples was crucial for multiple reasons. First, the expedition would be outnumbered in unfamiliar territory controlled by people with far more local power. For their own well-being, the party could not afford a violent encounter. Second, expanding American trade networks required the patronage and cooperation of Indigenous communities. Third, positive interactions increased the likelihood Indigenous knowledge keepers would disclose valuable geographic information of the trans-Missouri and Pacific Northwest regions. As Jefferson stated in his instructions, the expedition was to "endeavor to inform [themselves], by inquiry of the character and extent of the country" they visited.[13] Fulfilling that meant objective enlisting the expertise of Indigenous peoples.

Jefferson selected Meriwether Lewis, his personal secretary at the time, to lead the expedition. Lewis was well educated for the position. In his youth, Lewis received the enlightenment tutelage of a typical Virginian with schooling in classical literature, mathematics, natural sciences, and English grammar.[14] As Jefferson's secretary, he benefitted from access to the impressive library at Monticello. In preparation for the expedition, he also visited with a

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[10] Donald Jackson, *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, 2nd ed. (Urbana: University of Illinois Press, 1978), 61.
[11] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest,* 14.
[12] Jackson, *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, 64.
[13] Ibid., 63.
[14] Stephen E. Ambrose, *Undaunted Courage: Meriwether Lewis, Thomas Jefferson, and the Opening of the American West* (New York: Simon & Schuster, 1996), 25.

number of leading scientists in Philadelphia through Jefferson's membership with the American Philosophical Society. [15] Equally important to Lewis's education was his experience in the field. From 1794 until his appointment as Jefferson's top aide in 1801, Lewis was an active soldier stationed throughout the Ohio Valley. [16] It was sometime during this period soldiering that Lewis met William Clark. Although little is known of this meeting, the two quickly developed a good rapport. When Jefferson asked Lewis whom he wanted as his co-captain for the expedition, Clark was his first choice. [17]

Like Lewis, Clark was born on a tobacco plantation in Virginia. As a youth, he moved with his family to Kentucky where he experienced life on the frontier before enlisting in the army militia, eventually rising to the rank of captain.[18] Despite receiving less formal schooling than Lewis, Clark had worked as a surveyor and possessed a keen sense of geography.[19] This training proved immensely important, leading to Clark's role as principal cartographer for the expedition.[20]

The expedition itself consisted of thirty-three permanent members, including Lewis and Clark. There were soldiers, frontiersmen, and French engagés all of whom had defined roles within the party. Patrick Gass, one of the three sergeants next in command after Lewis and Clark, was an experienced carpenter who spearheaded the construction of lodgings and canoes during

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[15] In 1803 in Philadelphia Lewis met with astronomer and land surveyor Andrew Ellicott, with mathematician Robert Patterson, with physician Benjamin Rush, with botanist Benjamin Smith Barton, and with anatomist and geologist Caspar Wistar. Paul Russel Cutright, *Lewis and Clark: Pioneering Naturalists* (Lincoln, NE: University of Nebraska Press, 1989), 13-16, 19-29.
[16] Gary E. Moulton, *The Lewis and Clark Expedition Day by Day* (Lincoln: University of Nebraska Press, 2018), xxi.
[17] Ibid., xx.
[18] Ibid., xxi.
[19] Peter J. Kastor, *William Clark's World: Describing America in an Age of Unknowns* (New Haven, CT: Yale University Press, 2011), 56.
[20] Gary E. Moulton, "Lewis and Clark: Pioneering Cartographers on the Columbia River," in *Enlightenment Science in the Pacific Northwest: The Lewis and Clark Expedition: A One-Day Symposium given on February 18, 1984 at Lewis & Clark College, Portland, Oregon* (Portland: Lewis & Clark College, 1984), 19.

the journey.[21] George Drouillard, a French and Shawnee man, was an excellent hunter whose knowledge of Plains sign language was oftentimes relied upon as a means of communication with Indigenous communities in that region.[22] Pierre Cruzatte, a French and Omaha man from Kaskaskia, was well acquainted with river travel and served as the principal boatman for the expedition.[23] During the 1804-5 winter at the Mandan-Hidatsa villages, the now famous Sacagawea (Shoshone), her husband Toussaint Charbonneau (who served as an interpreter), and their baby Jean Baptiste all joined the expedition. Although an eclectic group, the party remained a cohesive and congenial unit throughout the twenty-eight month journey (Figure 1).

This thesis examines the transfer of geographic knowledge from Indigenous peoples to the Lewis and Clark expedition between 1804 and 1806. Lewis and Clark depended on Indigenous knowledge for their navigational decision-making in the field and for their mapmaking. The expedition likely would have been able to follow the course of the Missouri River from St. Louis to the Rocky Mountains on its own, but crossing the mountains and the Columbia Plateau en route to the Pacific Ocean would have been an impossibility without the support of Indigenous guides and geographic informants. The terrain was simply too unfamiliar past the headwaters of the Missouri River. The pre-existing Euro-American geographic knowledge that informed Lewis and Clark prior to the expedition prepared them little for the multi-ridge structure of the Rocky Mountains or the considerable distance between the Missouri and Columbia rivers. While Lewis and Clark benefitted from Indigenous geographic knowledge to aid in navigation throughout the expedition, the area between the Three Forks of the Missouri River and the confluence of the Columbia and Snake rivers is when it was most required.

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[21] Charles G. Clarke, "The Roster of the Expedition of Lewis and Clark," *Oregon Historical Quarterly* 45, no. 4 (December 1944): 292.
[22] Ibid., 294.
[23] Ibid.

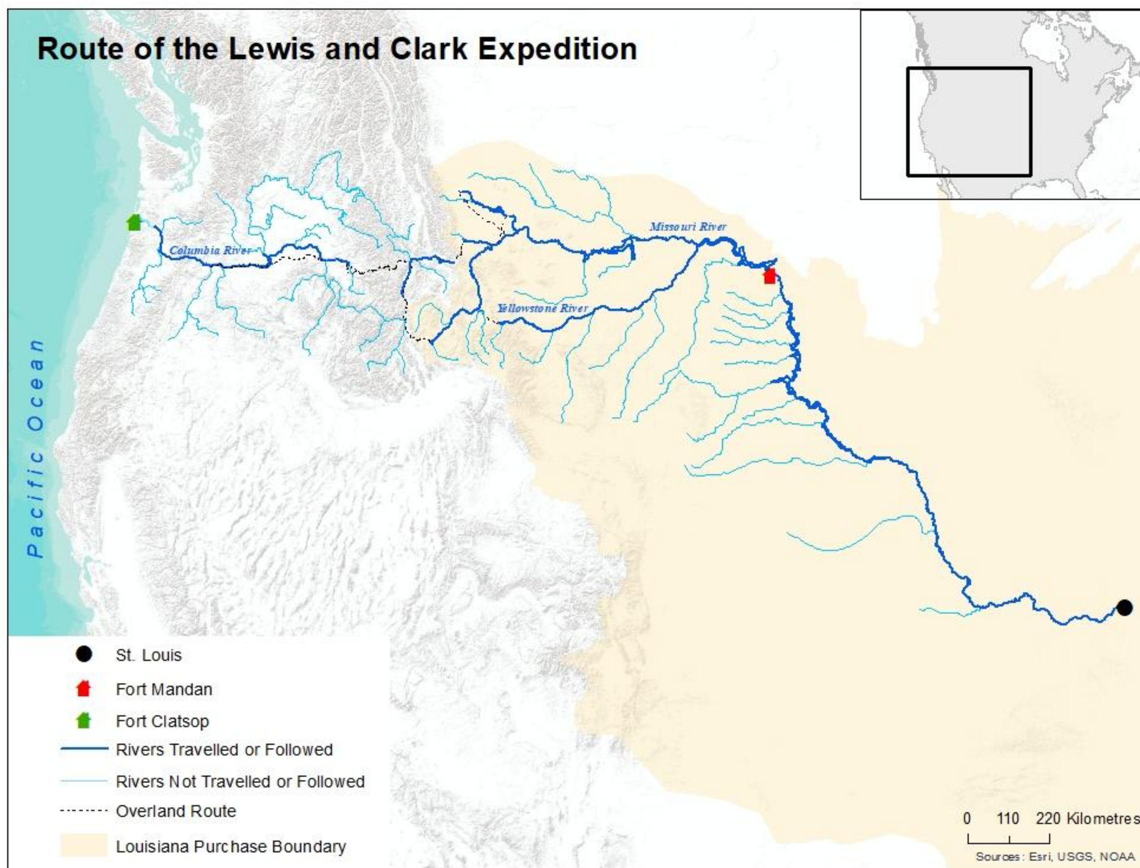

Figure 1 – Route of the Lewis and Clark Expedition from St. Louis to the Pacific Ocean, 1804-1806

Departing St. Louis in May 1804, the expedition travelled north-west along the Missouri River for five months before arriving at the Mandan-Hidatsa villages. Here, the expedition built Fort Mandan and overwintered. In April 1805, the party set out from Fort Mandan west along the Missouri River. By August, they arrived at the Rocky Mountains. After an arduous crossing, they arrived at the Clearwater River in present-day Idaho. From there, the expedition followed the Clearwater-Snake-Columbia Rivers to the Pacific Ocean. The party then spent the winter of 1805-6 on the Pacific Coast before beginning the return journey in March 1806. On the return trip east of the Rocky Mountains, the party split up to explore more territory before reuniting at the confluence of the Missouri and Yellowstone rivers. By September 1806, the expedition arrived safely back in St. Louis. Indigenous geographic knowledge was a key factor in the progress of the expedition every step of the way.

Enmeshed in the geographic information provided by Indigenous peoples were other forms of assistance as well. Indigenous peoples offered logistical support to the expedition in the

form of horses, food, and shelter. Indigenous guides not only piloted the expedition in the navigational sense, but also functioned as ambassadors and interpreters in the process. When Indigenous knowledge keepers instructed Lewis and Clark on geographic matters, they covered both the physical and human geographies of the region. Not only were the locations of rivers, mountains, and valleys important, but so was information on local population groups, alliances, and trade networks. In all of the meetings between the expedition and Indigenous peoples, geographical inquiry took place alongside trade, gift giving, and diplomacy as just another element of these interactions. As the expedition progressed, geographical learning also functioned as a pathway for Lewis and Clark to become more appreciative and receptive of Indigenous lifeways and cultural practices.

Exploration was a shared endeavor that required the active participation of both Euro-American and Indigenous actors.[24] By analyzing the ways in which Indigenous peoples conveyed their geographic knowledge to Lewis and Clark, this thesis highlights an overlooked yet integral aspect of the mutual interactions between Indigenous peoples and the expedition. While in his message to congress proposing the expedition Jefferson described expanding American trade networks as the "principal object" of the expedition, he also alluded to "[advancing] the geographical knowledge of our own continent" as an important secondary goal.[25] During evening campfires, shared meals, and joint hunting excursions the captains consulted with Indigenous leaders on information ranging from trail locations to the courses of rivers to the altitude of mountains seen off in the distance. This study illuminates both the depth

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[24] Albert Furtwangler, *Acts of Discovery: Visions of America in the Lewis and Clark Journals* (Urbana: University of Illinois Press, 1993), 115. James P. Ronda, 'Exploring the Explorers: Great Plains People and the Lewis and Clark Expedition', *Great Plains Quarterly* 13, no. 2 (Spring 1993): 85.
[25] Thomas Jefferson, "Jefferson's Message to Congress," in *Letters of the Lewis and Clark Expedition with Related Documents, 1783-1854*, ed. Donald Jackson, vol. 1 (Urbana: University of Illinois Press, 1978), 13.

and complexity of this process of geographical learning for Lewis and Clark. Long unacknowledged, Indigenous knowledge lies firmly at the heart of that process.

It was never a foregone conclusion however, that Indigenous communities would impart Lewis and Clark with geographic information. The Spanish governed De Soto (1539-1542) and Coronado (1539-1542) expeditions, two of the earliest Euro-American forays into the interior of the present-day United States both encountered Indigenous communities who intentionally misled them. Near present-day Tallahassee, Florida, the Apalachee informed De Soto of a place where purported silver, gold, and pearls could be found. Upon arrival, De Soto found the area to be barren and "so devoid of sustenance."[26] On De Soto's retreat march from that place, an Indigenous leader named Apafalaya intentionally led the expedition through swamp-ridden wetlands.[27] The Pueblo peoples of present-day New Mexico and Arizona similarly undertook a concerted effort to engage in the "denial of knowledge" in their interactions with the Coronado expedition.[28] Pueblo guides and informants purposely kept the locations of key resource sites including turquoise mines, lead deposits, and salt lakes as well as prosperous population centres all hidden from Coronado.[29]

Lewis and Clark received no such willful misinformation or misdirection from Indigenous peoples during their expedition. Instead, cooperation prevailed. Lewis and Clark attempted to avoid conflict, not incite it, and they did not seek to impress Indigenous guides or informants by force as the Spanish expeditions had done. Oftentimes, there was also a genuine

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[26] Robert S. Weddle, "Soto's Problem of Orientation: Maps, Navigation, and Instruments in the Florida Expedition," in *The Hernando De Soto Expedition: History, Historiography, and "Discovery" In the Southeast*, ed. Patricia Kay Galloway (Lincoln, NE: University of Nebraska Press, 2005), 227.
[27] Ibid., 228.
[28] Richard Flint, "The Flipside of Discovery: Planned Pueblo Indian Response to the Approach of the Coronado Expedition," *New Mexico Historical Review* 88, no. 1 (2013): 10.
[29] Ibid., 9-10.

desire on the part of Indigenous communities to extend their hospitality and knowledge in the hope of fostering trade and diplomatic relationships with the United States. Indigenous communities held a great deal of power in the level of assistance they could choose to either offer or withhold during their mutual interactions with Euro-Americans. In the case of Lewis and Clark, the effort by both sides to maintain positive relations meant that there was never an attempt on the part of Indigenous peoples to obstruct the progress of the expedition, as had been the case with De Soto and Coronado.

The Lewis and Clark expedition remains one of the most commemorated events in American history. Academic interest on Lewis and Clark has persisted over the last several decades and the bicentennial in 2004 only brought a renewed focus to the expedition.[30] This study takes inspiration primarily from two Lewis and Clark scholars, John Logan Allen and James P. Ronda. Allen's work focused on the geographic and exploratory aspects of the expedition. He examined how Americans imagined the geography of the West prior to the expedition and then how those perceptions influenced Lewis and Clark while in the field.[31] Ronda's work, by contrast, focused on rebuilding the interactions between Indigenous peoples and the expedition. He recognized that the story of the expedition was incomplete without

[30] A selection of works on the expedition include: Cutright, *Lewis and Clark: Pioneering Naturalists*; Eldon G. Chuinard, M.D., *Only One Man Died: The Medical Aspects of the Lewis and Clark Expedition* (Glendale, California: The Arthur H. Clark Company, 1980); Robert J. Miller, *Native America, Discovered and Conquered: Thomas Jefferson, Lewis and Clark, and Manifest Destiny* (Westport, CT: Praeger, 2006); Donald Jackson, *Thomas Jefferson & the Stony Mountains: Exploring the West from Monticello* (Urbana: University of Illinois Press, 1981); Peter A. Appel, "The Louisiana Purchase and the Lewis and Clark Expedition: A Constitutional Moment?," in *Lewis and Clark: Legacies, Memories, and New Perspectives* (Berkeley: University of California Press, 2004), 87–116; Furtwangler, *Acts of Discovery: Visions of America in the Lewis and Clark Journals*; David L. Nicandri, *River of Promise: Lewis and Clark on the Columbia* (Washburn, ND: The Dakota Institute Press of the Lewis and Clark Fort Mandan Foundation, 2009).
[31] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*; John Logan Allen, "An Analysis of the Exploratory Process: The Lewis and Clark Expedition of 1804-1806," *Geographical Review* 62, no. 1 (1972): 13–39.

Indigenous peoples and saw them as key actors in the story of the expedition. [32] This thesis seeks to bridge the work of Allen and Ronda by highlighting that improvements to Lewis and Clark's geographic knowledge often came from their interactions with Indigenous peoples.

In her book on the history of the Mandan people, Elizabeth Fenn wrote "why do the Mandans appear in the broad history of North America only when Meriwether Lewis and William Clark spent the winter with them in 1804-1805?"[33] This study benefits from the field of ethnohistory that has established itself over the last thirty years in order to situate the expedition within the broader histories of the Indigenous communities that interacted with Lewis and Clark.[34] These works incorporate historical, archaeological, and anthropological approaches to analyze Indigenous pasts beyond what is written in colonial records. This is important in providing context to the mutual-interactions and in accounting for both internal and external factors that may have influenced how specific Indigenous communities responded differently to the arrival of the expedition.

This study adopts what historian Jeffrey Ostler refers to as a "settler colonial framework."[35] This framework accounts for the Lewis and Clark expedition as a contributor to the growing presence of settler colonialism in North America.[36] Scholars in the past have used

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[32] James P. Ronda, *Lewis and Clark among the Indians* (Lincoln: University of Nebraska Press, 1984); Ronda, "Exploring the Explorers: Great Plains People and the Lewis and Clark Expedition."
[33] Elizabeth A. Fenn, *Encounters at the Heart of the World: A History of the Mandan People* (New York: Hill and Wang, 2014), XV.
[34] Colin Calloway, "Snake Frontiers: The Eastern Shoshones in the Eighteenth Century," *Annals of Wyoming* 63, no. 3 (1991): 82–92; Gregory R. Campbell, "The Lemhi Shoshini: Ethnogenesis, Sociological Transformations, and the Construction of a Tribal Nation," *American Indian Quarterly* 25, no. 4 (2001): 539–78; Jon D. Daehnke, *Chinook Resilience: Heritage and Cultrual Revitalization on the Lower Columbia River* (Seattle: University of Washington Press, 2017); Ryan Hall, *Beneath the Backbone of the World: Blackfoot People and the North American Borderlands, 1720-1877* (Chapel Hill: University of North Carolina Press, 2020); Robert T. Boyd, Kenneth M. Ames, and Tony A. Johnson, eds., *Chinookan Peoples of the Lower Columbia* (Seattle: University of Washington Press, 2013).
[35] Jeffrey Ostler, "Locating Settler Colonialism in Early American History," *The William and Mary Quarterly* 76, no. 3 (July 2019): 449.
[36] Walter L. Hixson, *American Settler Colonialism: A History* (New York: Palgrave Macmillan, 2013).

the term settler colonialism to indicate either an event or a structure. The event, on the one hand, refers to the actual settlement of the West, evoking images of wagon trains and the construction of railroads. The structure, on the other hand, refers to both a broader project and longer process that involved dispossessing Indigenous lands and expropriating territory for American settlement. [37] Most scholars now define settler colonialism as a historical structure, an understanding that directly implicates Lewis and Clark in the American settler colonial project.

At the time of the expedition, settler colonialism in the American West existed as an aspect of early modern imperialism.[38] As agents of empire, Lewis and Clark presented themselves to Indigenous communities as paternalistic representatives of the newly expanded United States.[39] This had an overt bearing on the diplomatic efforts of the captains but was also implicit in their pursuits for geographic information. The expedition's maps, largely based from Indigenous knowledge, shaped American perceptions of the West for decades afterwards by inscribing the region with Euro-American place-names and portraying it as open for expansion.

Scholars have long recognized the interconnection between colonialism and cartography. As J.B. Harley and others note, historical maps should be examined not as "mirror[s] of nature" but rather as texts.[40] This means accounting for a map's socio-cultural dimensions and dismissing the notion that maps are objective representations of the physical world. More

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[37] Patrick Wolfe, "Structure and Event: Settler Colonialism, Time, and the Question of Genocide," in *Empire, Colony, Genocide: Conquest, Occupation and Subaltern Resistance in World History*, ed. A. Dirk Moses (New York: Berghahn Books, 2008), 103.

[38] Allan Greer, "Settler Colonialism and Empire in Early America," *The William and Mary Quarterly*, 3, 76, no. 3 (July 2019): 389.

[39] Brian DeLay, "Indian Polities, Empire, and the History of American Foreign Relations," *Diplomatic History* 39, no. 5 (November 2015): 929.

[40] J. B. Harley, "Deconstructing the Map," in *The New Nature of Maps: Essays in the History of Cartography* (Baltimore: The John Hopkins University Press, 2001), 234; Jeremy W. Crampton, "Maps as Social Constructions: Power, Communication and Visualization," *Progress in Human Geography* 25, no. 2 (2001): 235–52; Arthur H. Robinson and Barbara Bartz Petchenik, *The Nature of Maps: Essays toward Understanding Maps and Mapping* (Chicago: University of Chicago Press, 1976).

recently, Cheyenne cartographer Annita Hetoevėhotohke'e Lucchesi has explored the rich cartographic traditions of Indigenous peoples, demonstrating that Indigenous communities had their own unique mapping practices long before the time of the expedition.[41]

The journals of the Lewis and Clark expedition are the central resource for this study. Six members of the expedition, including the captains, kept journals that account for everyday of the journey. While many editions of the journals have been published since the expedition, this study employs the Nebraska edition edited by historian Gary E. Moulton.[42] It is the most recent, comprehensive, and authoritative collection of the expedition journals. The journals represent the best evidence for the daily activities of the expedition. In this study, they are especially useful for understanding how Lewis and Clark sought and valued Indigenous geographic knowledge. Despite that, historian Thomas P. Slaughter has noted the need to be critical of the journals and recognize that they are not always "contemporaneous transcriptions of 'fact.'"[43] This is an important consideration. Not everything recorded in the journals took place precisely on the day it was written and Lewis and Clark's notes on their interactions with Indigenous peoples are slanted by their own inherent prejudices and the biases of the period.

For a fuller picture of these mutual interactions, this study incorporates Indigenous viewpoints using transcribed oral histories in published works. These include oral histories in older volumes compiled by anthropologists and ethnographers as well as newer collections

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[41] Annita Hetoevehotohke'e Lucchesi, "'Indians Don't Make Maps': Indigenous Cartographic Traditions and Innovations," *American Indian Culture and Research Journal* 42, no. 3 (July 2018): 11–26.
[42] Meriwether Lewis, William Clark, et al., The Journals of the Lewis and Clark Expedition, ed. Gary Moulton (Lincoln, NE: University of Nebraska Press / University of Nebraska-Lincoln Libraries-Electronic Text Center, 2005), http://lewisandclarkjournals.unl.edu.
[43] Thomas P. Slaughter, *Exploring Lewis and Clark: Reflections on Men and Wilderness* (New York: Knopf, 2003), 49.

containing the writings of Indigenous historians.[44] These sources have been valuable in filling in gaps that Lewis and Clark either had no way of knowing or chose not to record in their journals. Names of places and individuals, information on cultural practices, and additional perspectives on expedition activities are all relevant contributions that oral histories have provided to this study.

In addition to the written record of the expedition contained in the journals and the verbal record contained in Indigenous oral histories, this study also considers the visual record contained in historical maps. Historical maps help illuminate the significance of Indigenous geographic knowledge for the expedition as they provide a window into how Lewis and Clark compiled, understood, and utilized that knowledge. Analysis of the expedition maps, including the Indigenous maps that Lewis and Clark preserved, is made possible by a digitized collection available through Yale University and a published atlas of the expedition by the University of Nebraska.[45] As J.B. Harley notes, most colonial era Euro-American maps "disguise a hidden stratum of Indian geographical knowledge."[46] In the case of Lewis and Clark, uncovering this hidden stratum becomes easier when analyzing the historical maps of the expedition in tandem with the textual evidence located in the journals.

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[44] For older volumes: Crow's Heart, "Geography of a War Party," in *Mandan-Hidatsa Myths and Ceremonies*, ed. Martha Warren Beckwith (New York: Kraus Reprint Co., 1969), 303–7; Gilbert L. Wilson, *The Horse and the Dog in Hidatsa Culture*, Anthropological Papers of the American Museum of Natural History (New York: American Museum Press, 1924); Alfred W. Bowers, *Mandan Social and Ceremonial Organization* (Chicago: University of Chicago Press, 1950). For newer collections: Allen V. Pinkham and Steven R. Evans, *Lewis and Clark among the Nez Perce: Strangers in the Land of the Nimiipuu* (Washburn, ND: The Dakota Institute Press of the Lewis and Clark Fort Mandan Foundation, 2013); Alvin M. Josephy Jr., ed., *Lewis and Clark Through Indian Eyes* (New York: Knopf, 2006); Frederick E. Hoxie and Jay T. Nelson, eds., *Lewis & Clark and the Indian Country: The Native American Perspective* (Urbana: University of Illinois Press, 2007); Salish-Pend d'Oreille Culture Committee and Elders Cultural Advisory Council Confederated Salish and Kootenai Tribes, *The Salish People and the Lewis and Clark Expedition* (Lincoln, NE: University of Nebraska Press, 2005).

[45] Lewis and Clark Expedition Maps and Receipt. Yale Collection of Western Americana, Beinecke Rare Book and Manuscript Library, Yale University.; Meriwether Lewis, William Clark, and Gary E. Moulton, *Atlas of the Lewis & Clark Expedition* (Lincoln: University of Nebraska Press, 1983).

[46] J. B. Harley, "Rereading the Maps of the Columbian Encounter," *Annals of the Association of American Geographers* 82, no. 3 (September 1992): 526.

Just as Lewis and Clark created maps to represent newly understood landscapes, this project uses digital maps as an original way to explore the transfer of knowledge from Indigenous peoples to the expedition. Historical Geographic Information Systems (HGIS) provides the guiding methodology for this study. HGIS employs digital software to both illustrate and analyze the past.[47] While scholars have raised concerns over the application of HGIS to map Indigenous knowledge systems given the epistemological and ontological differences between western and Indigenous conceptions of space, this does not mean that HGIS is incompatible with Indigenous history.[48] The work of scholars Cheryl Lynn Troupe, John Harley Gow, and Benjamin Hoy have shown that HGIS can work to illuminate Indigenous knowledge systems rather than suppress them.[49] This study employs HGIS to map the many points throughout the expedition where geographic knowledge was transmitted from Indigenous peoples to Lewis and Clark as well as the segments along the expedition's route where the party received Indigenous guidance. These maps highlight the many Indigenous communities involved in these interactions and illustrate the prevalence of Indigenous knowledge throughout the expedition.

This thesis is divided chronologically over three chapters, each accounting for a separate leg of the expedition. Chapter one follows the expedition from their arrival at the Mandan-Hidatsa villages in the fall of 1804 until their arrival at the eastern base of the Rocky Mountains

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[47]Anne Kelly Knowles, "GIS and History," in *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship* (Redlands, California: ESRI Press, 2008), 3,7.

[48] Robert A. Rundstrom, "GIS, Indigenous Peoples, and Epistemological Diversity," *Cartography & Geographic Information Systems* 22, no. 1 (1995): 45–57. Margaret Wickens Pearce and Renee Pualani Louis, "Mapping Indigenous Depth of Place," *American Indian Culture and Research Journal* 32, no. 3 (2008): 107–26.

[49] Cheryl Lynn Troupe, "Mapping Metis Stories: Land Use, Gender, and Kinship in the Qu'Appelle Valley, 1850-1950" (Saskatoon, University of Saskatchewan, 2019); John Harley Gow, "Persistent Mirage: How the 'Great American Desert' Buries Great Plains Indian Environmental History" (Saskatoon, University of Saskatchewan, 2011); Benjamin Hoy, *A Line of Blood and Dirt: Creating the Canada-United States Border across Indigenous Lands* (New York: Oxford University Press, 2021).

in the summer of 1805. The 1804-5 Fort Mandan winter marked a period of immense geographical learning. Mandan-Hidatsa leaders and warriors provided Lewis and Clark with information on the territory to the west, filling in the captains' almost nonexistent prior knowledge of the region. During the journey across the Great Plains in the spring and summer of 1805, Lewis and Clark put that Mandan-Hidatsa knowledge into action and based key navigational decisions in the field on Mandan-Hidatsa advice.

Chapter two tracks the expedition's progress from their trek west through the Rocky Mountains all the way to the spring of 1806 after overwintering on the Pacific Coast. The expedition relied on geographic information and logistical support from a number of Indigenous groups during this period. Shoshone information and support facilitated the expedition's crossing of the Rocky Mountains. Nimiipuu supplies and guidance smoothed over the turbulent waters of the Columbia River for the party en route to the Pacific Ocean. Chinookan assistance and trade carried the expedition through the long and rainy 1805-6 winter spent on the Pacific Coast.

Chapter three covers the entirety of the expedition's return journey in 1806 from the Pacific Ocean back east to St. Louis. On the return trip, Lewis and Clark changed their pattern of geographical inquiry as they widened their focus to include regions beyond the expedition's route. This meant a shift in the type of geographical consultations between the captains and Indigenous peoples, and a stronger interest by Lewis and Clark to procure Indigenous maps. From communities like the Nimiipuu and Walla Walla, Lewis and Clark received more Indigenous maps during this leg of the journey than the rest of the expedition combined. Following much-needed Nimiipuu guidance back through the Rocky Mountains and a planned division of the party to explore more territory, the expedition arrived safely back in St. Louis in the fall of 1806.

This thesis is about pathfinding, but Lewis and Clark are not the pathfinders. When the expedition traversed the continent, they did not blaze new trails nor did they gain information that others had not already long known. Instead, they passed through diverse landscapes controlled by many Indigenous nations all of whom possessed an intimate knowledge of their homelands. It was through their interactions with these peoples that Lewis and Clark got a sense for which rivers and trails to follow, the nature of prominent river systems, and the extent of imposing mountain ranges. The knowledge gained from these interactions, combined with Indigenous guidance, facilitated the progress of the Lewis and Clark expedition in its journey across western North America from 1804 to 1806.

Chapter 1: Outbound Journey - Fort Mandan to the Three Forks of the Missouri

On a blustery day near the end of October in 1804, Lewis and Clark walked along the bank of the Missouri River having traveled over 2,500 km (1,600 mi) upriver since the expedition left St. Louis six months earlier.[1] The expedition had only very recently arrived at a much anticipated destination, the Mandan-Hidatsa villages located near the confluence of the Missouri and Knife Rivers in present-day North Dakota. Black Cat, a Mandan leader of the village Ruptare, and Rene Jusseaume, their newly hired interpreter, joined the two captains on the walk.

Keen to get a lay of the land and a sense of the people with whom they intended to overwinter with, Lewis and Clark sought Black Cat's input on two important matters. First, the captains wanted to learn about the leaders of the five Mandan-Hidatsa villages. A diplomatic council was upcoming and Lewis and Clark wished to be well advised on the individuals who would be attending. Second, the captains sought Black Cat's input to determine a good location for the expedition to establish its winter quarters and to find nearby sources of timber for its construction.[2] Although the journals are silent on the specifics of Black Cat's recommendation, he surely influenced the captains' decision. A few days after the conversation, the expedition began construction on Fort Mandan. They built the fort only a few kilometres south of Black Cat's village Ruptare. This placement put Fort Mandan on the eastern side of the Missouri River with Ruptare, the only Mandan-Hidatsa village located on that side, and almost directly across the river from another Mandan village, Mitutanka. This ensured the Mandan could monitor the

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[1] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 163.

[2] Meriwether Lewis, William Clark, et al., October 28 1804 entry in *The Journals of the Lewis and Clark Expedition*, ed. Gary Moulton (Lincoln, NE: University of Nebraska Press / University of Nebraska-Lincoln Libraries-Electronic Text Center, 2005), https://lewisandclarkjournals.unl.edu/item/lc.jrn.1804-10-28. Hereafter cited as *JLCE*.

expedition and interact with them at their own leisure. The Hidatsa, whose villages were located further upriver, would have to make a trek if they wished to establish similar relations.

While the information that Lewis and Clark sought from Black Cat about winter sites was localized in its geographic scope, it was an early indication of the approach to knowledge gathering that the expedition would pursue over the months to follow. Lewis did not shy away from the value he placed on Black Cat's knowledge and ability. He described him as possessing "more integrety, firmness, inteligence and perspicuety of mind than any Indian I have met with in this quarter."[3] Black Cat's contributions foreshadowed many of the exchanges about geography the two captains would have with Mandan-Hidatsa leaders and warriors throughout the winter of 1804-5. From these exchanges, Lewis and Clark learned about the geography farther to the west and the key landmarks along the expedition's intended route. This was vital knowledge.

In the fall of 1804, Lewis and Clark had only murky suppositions about the geography of the territory beyond the Mandan-Hidatsa villages. By the time the ice melted on the Missouri River in the spring of 1805, they had a clear understanding of the path forward owing to information provided by the Mandan-Hidatsa. Geographic inquiry was "the most important occupation" the expedition engaged in during the winter of 1804-5.[4] Not only would Clark use this information for his mapmaking over the winter, but Mandan-Hidatsa knowledge provided the expedition with a much higher degree of assurance about their planned route. In the months following the expedition's departure from Fort Mandan in 1805, Lewis and Clark relied on the geographic information they had learned from the Mandan-Hidatsa above all else. According to

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[3] *JLCE*, February 8 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-02-08

[4] Bernard DeVoto, *The Course of Empire* (Boston: Houghton Mifflin Co., 1952), 461; Carolyn Gilman, *Lewis and Clark: Across the Divide* (Washington, DC: Smithsonian Books, 2003), 138.

Calvin Grinnell, a current Mandan-Hidatsa-Arikara historian, geographic information about the territory to the west of Fort Mandan was "the major contribution" the Mandan-Hidatsa provided to Lewis and Clark.[5]

The expedition was not entirely in the dark when it came to western geography prior to their arrival at the Mandan-Hidatsa villages. Upon leaving St. Louis in May 1804, Lewis and Clark had a relatively good idea of the route up the Missouri River to the Mandan-Hidatsa villages.[6] Euro-Americans first learned of the Missouri River in 1673 and scholar W. Raymond Wood has identified six "generations" of maps of the Missouri River prior to the expedition.[7] Each generation of maps improved upon the previous one, and like much of the information Lewis and Clark would use to construct their own maps, was underpinned by Indigenous knowledge.

In 1795, Scotsman James Mackay and his assistant John Evans, a Welshman, set off from St. Louis up the Missouri River. Accompanied by a party of thirty-two men occupying four large boats, Mackay and Evans led a trading-exploring party sponsored by the Spanish *Compania de descrubidores del Misuri* ("Company of the Explorers of the Missouri"). [8] The objectives for the Mackay-Evans party were remarkably similar to those of Lewis and Clark. They were directed by the company on behalf of the Spanish crown to travel to the Pacific Ocean for the purposes of exploring what was nominally at the time Spanish territory and opening up commerce with "those distant and Unknown Nations" that lived along the way.[9] . While traveling upriver, Evans

[5] Calvin Grinnell, Meet the Three Affiliated Tribes, n.d., http://www.lewis-clark.org/article/1178.
[6] Jackson, *Thomas Jefferson & the Stony Mountains: Exploring the West from Monticello*, 133.
[7] W. Raymond Wood, "Mapping the Missouri River through the Great Plains, 1673-1895," *Great Plains Quarterly* 4, no. 1 (Winter 1984): 37.
[8] Alan V. Briceland, "British Exploration of the United States Interior," in *North American Exploration: A Continent Defined*, vol. 2 (Lincoln, NE: University of Nebraska Press, 1997), 323.
[9] Ibid., 323.

made a series of maps depicting the course of the Missouri. By the fall of 1796, Evans arrived at the Mandan-Hidatsa villages having been sent ahead with an advance party by Mackay. Evans established Fort Mackay where he spent the winter of 1796-1797, during which he sought information from the Mandan about the geography to the west, just as Lewis and Clark would do eight years later.[10] Evans though never made it past the Mandan-Hidatsa villages. Illness, hunger, and a lack of supplies forced him to return downriver in the spring of 1797.[11]

The Mackay-Evans expedition produced six maps that delineated the course of the Missouri with "extraordinary accuracy" as far as the Mandan-Hidatsa villages. On their own trip upriver, Lewis and Clark consulted these maps heavily.[12] A seventh map attributed to Mackay and Evans, entitled 'Sketch Map of the Missouri river west of the Mandan villages, derived from Indian sources' was, as the title indicates, based on information that Evans had received from the Mandans.[13] This map, accompanied by information in Evans' journals, depicted the locations of the Yellowstone River, the Great Falls of the Missouri, and the multiple-ridge structure of the Rocky Mountains. Just as importantly, Evans also claimed that the Missouri River was navigable to its source.[14] Clark was not altogether convinced by this information however, as he wrote the word "conjectural" on his copy of the portion of the map that depicted the Rocky Mountains and upper reaches of the Missouri River.[15] The winter the expedition spent among the Mandan-Hidatsa allowed Clark to investigate that information for himself.

[10] John Rennie Short, *Cartographic Encounters: Indigenous Peoples and the Exploration of the New World* (London: Reaktion, 2009), 60.
[11] Briceland, "British Exploration of the United States Interior," 325.
[12] Fenn, *Encounters at the Heart of the World: A History of the Mandan People*, 190.
[13] Short, *Cartographic Encounters: Indigenous Peoples and the Exploration of the New World*, 60.
[14] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 43–44; Nicandri, *River of Promise: Lewis and Clark on the Columbia*, 17.
[15] W. Raymond Wood, *An Interpretation of Mandan Culture History*, River Basin Survey Papers 39 (Washington, DC: U.S. Government Printing Office, 1967), 30–32.

Aside from the course of the Missouri River, there were two maps Lewis and Clark had access to prior to the expedition that shaped their understanding of the West. The first of these was a map created by British cartographer Aaron Arrowsmith in 1802. The map displayed a vast area from Lake Winnipeg to the Pacific Ocean (the area west of the Rocky Mountains was notably blank). For Lewis and Clark, the area of most concern was between the Mandan-Hidatsa villages and the Rocky Mountains.[16] Arrowsmith's primary source for this area was Peter Fidler, a Hudson's Bay Company trader, who in turn obtained this information from Ak ko mokki, a Siksika (Blackfoot) leader.[17]

In 1801, Ak ko mokki provided Fidler with a map of a vast area. The map's coverage stretched over 500,000 km^2 (200,000 mi^2), detailing the Missouri River watershed from the Continental Divide to the mouth of the Yellowstone River.[18] Fidler sent a copy of this map to Arrowsmith in London in 1801 and Arrowsmith promptly incorporated it into his map that was published the following year. Without realizing it, Lewis and Clark were already acting in accordance with Indigenous geographic knowledge before the expedition even began.

American cartographer Nicholas King produced the second map (Figure 2) that informed Lewis and Clark's geographic understanding of the West. Specifically commissioned for the expedition in 1803, the King map amalgamated a number of well-known maps at the time into a single representation of the West.

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[16] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 82.
[17] D. W. Moodie and Barry Kaye, "The Ac Ko Mok Ki Map," *The Beaver*, Spring 1977, 5.
[18] Theodore Binnema, "How Does a Map Mean?: Old Swan's Map of 1801 and the Blackfoot World," in *From Rupert's Land to Canada: Essays in Honour of John E. Foster* (Edmonton: University of Alberta Press, 2001), 201; Moodie and Kaye, "The Ac Ko Mok Ki Map," 12; Maria Nieves Zedeno, Kacy Hollenback, and Calvin Grinnell, "From Path to Myth: Journeys and the Naturalization of Territorial Identity along the Missouri River," in *Landscapes of Movement: Trails, Paths, and Roads in Anthropological Perspective* (Philadelphia: University of Pensylvania Press, 2009), 123.

Figure 2 - Nicholas King Map of 1803[19]

Most notably, King utilized the Arrowsmith map for the area between the Mandan-Hidatsa villages and the Rocky Mountains, maps from the explorations of Alexander Mackenzie and George Vancouver for the area towards the Pacific Coast, and a map created by Canadian explorer David Thompson for the Knife-Heart River region where the Mandan-Hidatsa villages were located.[20] Thompson, an employee for the North West Company and a remarkably accurate surveyor, had visited the Mandan-Hidatsa villages in the winter of 1797-1798 and made a map of the village environs.[21] According to historical geographer John Logan Allen, the King map

[19] Nicholas King, *[Lewis and Clark Map, with Annotations in Brown Ink by Meriwether Lewis, Tracing Showing the Mississippi, the Missouri for a Short Distance above Kansas, Lakes Michigan, Superior, and Winnipeg, and the Country Onwards to the Pacific].*, 1803, 1803, Geography and Map Division, Library of Congress, http://hdl.loc.gov/loc.gmd/g4126s.ct000071.
[20] Wood, *An Interpretation of Mandan Culture History*, 40; Jackson, *Thomas Jefferson & the Stony Mountains: Exploring the West from Monticello*, 129.
[21] Briceland, "British Exploration of the United States Interior," 326–27.

portrayed the image of the West that "conditioned the beginning stages of the Lewis and Clark Expedition."[22] This image was rather well-defined up to the Mandan-Hidatsa villages but got progressively less so beyond that. It also contained the two biggest illusions Lewis and Clark held prior to the expedition that would be the hardest for them to dispel: a short portage existed between the Missouri and Columbia rivers, and the Rocky Mountains would be relatively easy to cross.[23]

For most of the upriver journey from St. Louis to the Mandan-Hidatsa villages, geographical inquiry took a backseat to diplomatic matters with Indigenous nations, as well as more day-to-day concerns such as getting accustomed to the daily grind of river travel and each man getting acquainted to their duties. Above St. Louis, the Missouri River was a "busy highway" and the expedition encountered no less than eight groups of traders on the river between St. Louis and the mouth of the Kansas River.[24] The geographic information that Lewis and Clark did acquire during the upriver journey came almost exclusively from French engagés aboard the expedition's vessels and French traders stationed along the Missouri. Much of that information was second-hand though and ultimately derived from Indigenous sources.

Hemmed in by the steep riverbank, river travel made it difficult for Lewis and Clark to get a sense for the surrounding landscape as they ascended the Missouri River. The captains developed a strategy to overcome this geographical deficiency. While one of them stayed with the boats at all times, the other would periodically climb the riverbank to view the expansive

[22] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 76.
[23] Ibid., XXVI & 249–50.
[24] W. Raymond Wood, "Tribal Relations on the Upper Missouri River before Lewis and Clark," in *Finding Lewis and Clark: Old Trails, New Directions* (Pierre, SD: South Dakota State Historical Society Press, 2004), 20; Cutright, *Lewis and Clark: Pioneering Naturalists*, 51.

terrain.[25] As Lewis described on one such occasion, he "ascended to the top of the cutt bluff this morning, from whence [he] had a most delightfull view of the country."[26] The captains employed this strategy throughout the expedition as it provided the only real opportunity for either man to see the land beyond the immediate vicinities the party passed through. These moments of reconnaissance also contributed to the regular (near weekly) charts that Clark made as he mapped the expedition's route.

In early October 1804, the expedition arrived at the Arikara villages located by the mouth of the Grand River in present day South Dakota. Here, the captains had the opportunity to meet Arikara leader and skilled cartographer Pi'a'hiitu (Eagle Feather), who was also known as Too Né.[27] As a diplomat for his people, Pi'a'hiitu joined the expedition for two weeks en route to the Mandan-Hidatsa villages.

While aboard the expedition's keelboat, Pi'a'hiitu pointed out important landmarks and provided the captains with pieces of geographical information, including Arikara names for rivers that they passed. On October 17, Clark walked on shore with Pi'a'hiitu and Joseph Gravelines, a French trader living among the Arikara who acted as an interpreter. Pi'a'hiitu told Clark "maney extroadenary Stories" including Arikara "Treditions about Turtles, Snakes...and the power of a perticiler rock or Cave" that they passed, yet Clark considered these to be not "worth while mentioning."[28] Despite this lapse in cultural understanding, the captains regarded

[25] Cutright, *Lewis and Clark: Pioneering Naturalists*, 49–50.
[26] *JLCE,* April 15 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-04-15
[27] Pi'a'hiitu's name is variously spelled and he is also referred to as "Arketarnashar" and "Aciteaanesaanu." The spellings here are from: Loren Yellow Bird, "Now I Will Speak (Nawah Ti Waako'): A Sahnish Perspective on What the Lewis and Clark Expedition and Others Missed," *Wicazo Sa Review*, American Indian Encounters with Lewis and Clark, 19, no. 1 (Spring 2004): 75.
[28] *JLCE*, October 17 1804, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1804-10-17

Pi'a'hiitu highly. On October 14, they named a creek after him, one of the only times during the entire expedition that Lewis and Clark named a geographic feature after an Indigenous person.[29]

Pi'a'hiitu was an impressive figure. He spoke eleven languages and later travelled to Washington, D.C. as a diplomat representing the Arikara.[30] While in Washington, Pi'a'hiitu presented American officials with a map he had drawn that represented an area stretching from Canada in the north to New Mexico in the south with a focus on the Missouri River and the Arikara homeland.[31] Although Lewis and Clark never got to see this map, during the time they spent together Pi'a'hiitu provided the captains with an indication of his breadth of geographical knowledge and a glimpse into Indigenous geographical understanding. This meant depicting a landscape that possessed not a quantifiable area but cultural, spiritual, and historical meaning.[32]

Overall, the expedition's trip up the Missouri from St. Louis to the Mandan-Hidatsa villages was, as historian James P. Ronda notes, a "journey through the known."[33] This initial phase of the expedition provided Lewis and Clark with an opportunity to acquire some geographical information. More importantly, it allowed expedition members to settle into their defined roles. When the expedition arrived at the Mandan-Hidatsa villages, Lewis and Clark knew that it was the final outpost between them and the unknown. A long winter awaited them and they needed to learn as much about the geography to the west as possible if they wished to accomplish their goal of reaching the Pacific Ocean. This process of geographical learning

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[29] Clark reports that they named the creek "Piaheto," it is now known as Baldhead Creek. *JLCE*, April October 14 1804, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-10-14

[30] Kevin O'Briant, "Too Ne's World: The Arikara Map and Native American Cartography," *We Proceeded On* 44, no. 2 (2018): 6–7.

[31] Christopher Steinke, "'Here Is My Country': Too Né's Map of Lewis and Clark in the Great Plains," *The William and Mary Quarterly* 71, no. 4 (October 2014): 589. Steinke provides an excellent overview and analysis of Pi'a'hiitu's map.

[32] Ibid., 591-592.

[33] Ronda, "Exploring the American West in the Age of Jefferson," 24–25.

became intertwined with cultural learning. The captains began to understand that for the Mandan-Hidatsa people, their knowledge of the physical environment was inextricably linked to their cultural practices and lifeways as a community.[34]

As an agricultural hub, trading locus, and permanent settlement, the Mandan-Hidatsa villages represented the northernmost "agricardo" on the Great Plains.[35] Located at the intersection of three far-reaching trade routes, the Mandan-Hidatsa villages were a key site of political and economic power along the Missouri River. From the north, the Cree and Assiniboine brought subarctic goods to trade. From the west, the Apsaalooke (Crow) brought horses and goods they acquired from the Shoshone and the Nimiipuu (Nez Perce). And from the southwest, the Sioux, Cheyenne, and Arapaho brought horses and goods from the plains and from Spanish settlements.[36] Although distinct, the Mandan and Hidatsa had a close relationship and a cultural affiliation strengthened by their role as intermediaries in this vast trade network.

In addition to Indigenous traders, there was a constant presence of Canadian traders at the Mandan-Hidatsa villages. In the intervening years between John Evans' journey in 1797 and the arrival of Lewis and Clark in 1804, at least thirty-nine parties of traders from Canada's Assiniboine River region had visited the Mandan-Hidatsa villages.[37] These men worked for the Hudson's Bay Company, the North West Company, or as independents. Some of them remained among the Mandan-Hidatsa for many years, participated in cultural events with the community,

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[34] Zedeno, Hollenback, and Grinnell, "From Path to Myth: Journeys and the Naturalization of Territorial Identity along the Missouri River," 114.

[35] Gow, "Persistent Mirage: How the 'Great American Desert' Buries Great Plains Indian Environmental History," 9.

[36] This paragraph up to here is based on information from: Gilman, *Lewis and Clark: Across the Divide*, 116–17.

[37] Fenn, *Encounters at the Heart of the World: A History of the Mandan People*, 180.

and married Indigenous women. Lewis and Clark hired two of these men, Rene Jusseaume and Toussaint Charbonneau, to function as interpreters during their stay.[38]

Once the expedition erected Fort Mandan, the party found themselves enmeshed, albeit temporarily, in the social fabric of Mandan-Hidatsa life.[39] Due to the close proximity of the Mandan villages, Mandan villagers visited the fort regularly. Perhaps the most frequent among them was Black Cat. Exploration was not a one-sided activity and Black Cat was as interested in the Americans as Lewis and Clark were in the Mandans.[40] On November 18, two days before the captains' quarters were completed at the fort, Black Cat came for a visit and according to Clark "made Great inquiries respecting our fashions" (meaning customs).[41] Ten days later, once the captains had time to set up their lodgings, Black Cat returned and this time Lewis and Clark were able to show him some of the "Curiossities" the expedition had with them.[42] These could have been any number of objects including telescopes, compasses, or a chronometer.[43] As is customary in the journals, the captains are brief when describing Indigenous points of view, only mentioning that Black Cat was "much pleased" as he departed from his visit.[44] This friendly visiting, along with gift-giving and trade, established positive relations between the Mandans and the expedition, providing a good foundation for Lewis and Clark to seek out Mandan geographic knowledge.

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[38] M.O. Skarsten, *George Drouillard: Hunter and Interpreter for Lewis and Clark and Fur Trader, 1807-1810* (Spokane, Washington: The Arthur H. Clark Company, 1964), 83.
[39] James P. Ronda, "'A Most Perfect Harmony': The Lewis and Clark Expedition as an Exploration Community," in *Voyages of Discovery: Essays on the Lewis and Clark Expedition* (Helena, MT: Montana Historical Society Press, 1998), 86.
[40] Ronda, "Exploring the Explorers: Great Plains People and the Lewis and Clark Expedition," 85.
[41] *JLCE*, November 18 1804), https://lewisandclarkjournals.unl.edu/item/lc.jrn.1804-11-18
[42] *JLCE,* November 28 1804, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1804-11-28
[43] Ronda, *Exploring the Explorers,* 83.
[44] *JLCE,* November 28 1804, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1804-11-28

Shehek-Shote (White Coyote), known to Euro-Americans as Big White due to his large size, established himself as the most important Mandan geographic informant for Lewis and Clark. Born around 1766, Shehek-Shote was a leader from the village Mitutanka, located just across the Missouri River from Fort Mandan.[45] On January 7 1805, following an evening meal with the captains, Shehek-Shote gave Clark a "Scetch of the Countrey as far as the high mountains, & on the South Side of the River Rejone [Yellowstone River]."[46] Clark made a copy of this sketch, known as Big White's Map of 1805 (Figure 3).

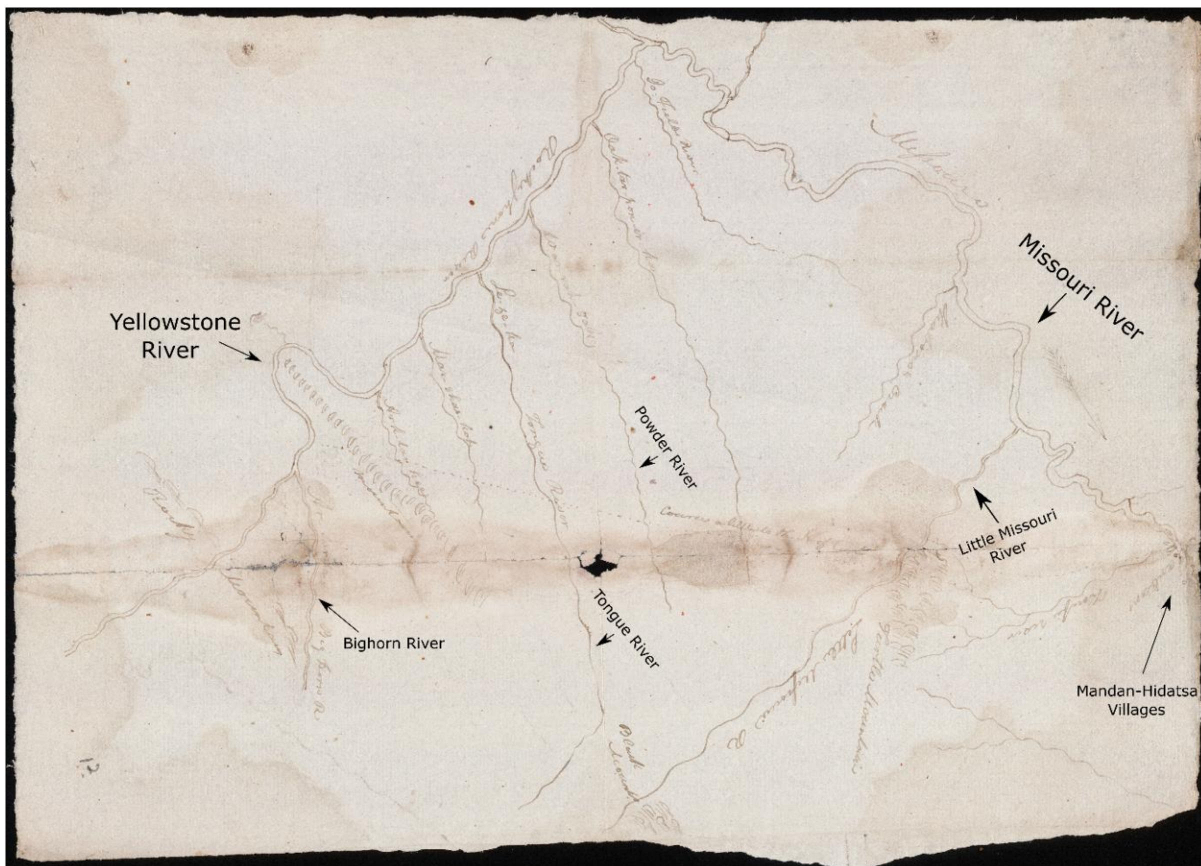

Figure 3 - Copy of Big White's Map of 1805 by Clark (with labels added by author)[47]

[45] Fenn, *Encounters at the Heart of the World: A History of the Mandan People*, 157–58.
[46] *JLCE*, January 7 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-01-07
[47] William Clark, *Big White's Map of 1805 by Clark*, 1805, Box 1 Folder 10v, Beinecke Rare Book & Manuscript Library, https://collections.library.yale.edu/catalog/2002451.

Shehek-Shote also provided valuable contextual information about the Yellowstone watershed's flora and fauna. Along the Yellowstone River, Shehek-Shote noted that six small rivers branched off of "the S. Side, & that the Countrey is verry hilley and the greater part Covered with timber [and] Great numbers of beaver."[48] Given that the expedition rarely strayed from waterways, Shehek-Shote's information helped expand Lewis and Clark's findings deeper into the interior of the country.

Shehek-Shote's representation of the river system displayed in his map was highly characteristic of Indigenous cartography.[49] This is especially apparent in how Shehek-Shote delineated the tributaries of the Yellowstone River. Shehek-Shote represented the courses of the tributaries as approximately symmetrical and the mouths of these rivers along the Yellowstone as almost evenly spaced out, whereas in nature river systems are always asymmetrical in pattern.[50] For Shehek-Shote and other Indigenous cartographers, however, representing river systems as they appeared in nature was not the objective because the twists and turns in rivers were not relevant to a traveller in a canoe or bullboat.[51] Similarly, showing the exact space between tributaries of a river was unimportant because for a traveller all that mattered was keeping count of how many rivers they had passed before turning.[52] In this way, Indigenous maps not only provided Lewis and Clark with much-needed geographic information, but also with glimpses into a different way of picturing the natural world.

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[48] Ibid.

[49] Barbara Belyea, "Inland Journeys, Native Maps," *Cartographica* 33, no. 2 (Summer 1996): 5.

[50] Malcolm G. Lewis, "Indicators of Unacknowledged Assimilations from Amerindian 'Maps' on Euro-American Maps of North America: Some General Principles Arising from a Study of La Verendrye's Composite Map, 1728-29," *Imago Mundi* 38 (1986): 23.

[51] Gilman, *Lewis and Clark: Across the Divide*, 142–46.

[52] Ibid.

The focus of Shehek-Shote's map is interesting. Although not indicated in the journals, Clark presumably asked the Mandan leader if he could sketch a map of the region between the Mandan villages and the Rocky Mountains. Shehek-Shote did just that, but instead of focusing on the course of the Missouri River (the river the expedition planned to follow west to the mountains), Shehek-Shote focused on the course of the Yellowstone River. Shehek-Shote made this cartographical decision likely because he was most familiar with the Yellowstone River valley south of the Missouri River.

While the Mandans were renowned for their horticultural practices, they did engage in long-range bison hunts like other Plains peoples. The main hunt occurred in summer and the Mandan hunting grounds were located west of the villages towards the Little Missouri River in present-day western North Dakota.[53] There must have been times however when the location of bison herds forced hunters farther afield across the Little Missouri River and into the Yellowstone River valley, precisely the area where Shehek-Shote anchored his map. Unlike in Euro-American cartography, it was not common practice for Indigenous cartographers to make maps of regions for which they had no firsthand knowledge. As Mandan elder Crow's Heart said in the 1930s, "a person who tells the stories without seeing the places...will be laughed at."[54] This principle for storytelling applied to mapmaking as well and the intimate knowledge Shehek-Shote had of the area he mapped is exemplified in the map's close conformity to the region it displayed.

On January 16 1805, a Hidatsa warrior further augmented Lewis and Clark's geographical understanding of the West when he paid a visit to Fort Mandan. The Hidatsas

[53] Fenn, *Encounters at the Heart of the World: A History of the Mandan People*, 65–66; Wood, *An Interpretation of Mandan Culture History*, 19–21.
[54] Crow's Heart, "Geography of a War Party," 303.

visited Fort Mandan less frequently than the Mandans. The captains did not even meet with the "Grand Chief of the Minetarres [Hidatsa]" until March 9, almost six months after they had arrived in the area.[55] Nevertheless, on January 16 a twenty-six year old Hidatsa man described by Clark as "one of the 1st War Chiefs" of the Hidatsas paid a visit to Fort Mandan, along with his wife and an attendant.[56] At some point during this visit, the Hidatsa warrior drew for Clark a "Chart in his way of the Missourie."[57] It is unclear exactly what Clark meant by "in his way" but this does indicate that the chart was not composed using pen and paper. Presumably, the chart was drawn either in the dirt or with charcoal on a piece of hide.[58] Either way, it was a crucial addition to the store of geographical knowledge that Lewis and Clark were amassing from the Mandan-Hidatsa. Instead of depicting the course of the Yellowstone River as Shehek-Shote had done, the Hidatsa warrior delineated the course of the Missouri – the more important river for the expedition –based on first-hand knowledge.

Out of the Indigenous groups that Lewis and Clark had the opportunity to discuss geography with to that point in the expedition, the Hidatsa had the most knowledge of the West. Hidatsa warriors launched periodic long-distance raids against communities that lived near the Rocky Mountains such as the Shoshone and Bitterroot Salish.[59] These raids served multiple purposes including acquiring horses, taking slaves, and attaining prestige.[60] Hidatsa aggression underwrote the expedition's geographic understanding in three important ways. First, the raids gave Hidatsa warriors' intimate knowledge of western lands and river systems, which they

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[55] This man was called Le Borgne or One Eye; *JLCE,* March 9 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-03-09
[56] *JLCE*, January 16 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-01-16
[57] Ibid.
[58] James P. Ronda, "'A Chart in His Way': Indian Cartography and the Lewis and Clark Expedition," *Great Plains Quarterly* 4, no. 1 (Winter 1984): 44.
[59] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 211.
[60] Zedeno, Hollenback, and Grinnell, "From Path to Myth: Journeys and the Naturalization of Territorial Identity along the Missouri River," 122.

passed onto the expedition through maps, sketches, and conversations. Second, the Hidatsa informed Lewis and Clark about the Shoshone and Bitterroot Salish who possessed an abundance of horses that the captains expected they would need to trade for in their crossing of the Rocky Mountains. Third, one particular Hidatsa raid resulted in the capture of Sacagawea (around 1801) from her Shoshone family near the Three Forks of the Missouri in present-day western Montana.[61] Her capture, marriage to Charbonneau, and accompaniment on the expedition provided Lewis and Clark with an important guide and interpreter in and around the Shoshone homelands.

Geographic instruction was an essential prerequisite to a successful raid. With some variation, Indigenous communities throughout the Plains engaged in similar practices of instructing warriors-in-training. In the 1820s, a Mexican man named Pedro Espinosa and a captive of the Comanche witnessed a lesson in which in preparation for a raid:

> [I]t was customary for the older men to assemble the boys [younger warriors] for instruction...All being seated in a circle, a bundle of sticks was produced, marked with notches to represent the days. Commencing with the stick with one notch, an old man drew on the ground with his finger, a rude map illustrating the journey of the first day. The rivers, streams, hills, valleys, ravines, hidden water-holes, were all indicated with reference to prominent and carefully described landmarks. When this was thoroughly understood, the stick representing the next day's march was illustrated in the same way, and so to the end.[62]

Instruction similar to this, along with the knowledge gained from the raid itself, caused Hidatsa warriors to become well versed in western geography.

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[61] Expedition journalists indicate in 1805 that Sacagawea's capture was four years ago but Ronda gives the year as five years before 1805; *JLCE*, July 30 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-07-30; Ronda, *Lewis and Clark among the Indians*, 137.

[62] Colonel Richard Irving Dodge, *Our Wild Indians: Thirty-Three Years' Personal Experience among the Red Men of the Great West* (Hartford, Conn: A. D. Worthington and Company, 1883), 486.

Throughout the winter, Clark worked on a map of the West that he sent to Jefferson in the spring of 1805 when the expedition set off from Fort Mandan and the keelboat returned to St. Louis. Clark compiled his route maps from St. Louis to the Mandan-Hidatsa villages, and the information he had learned on the expedition up to and including the winter of 1804-5. The result (Figure 4) was an updated version of the Nicholas King map of 1803.

Figure 4 - Clark's Map of 1805 (with inset rectangle of the Missouri-Yellowstone River region added by author)[63]

The major improvement Clark made to the King map was charting the course of the Missouri River and its tributaries in more detail. For those rivers below the Mandan-Hidatsa villages, Clark relied on his own surveying as well as information received mostly from traders. For the region beyond the Mandan-Hidatsa villages, Indigenous knowledge informed this tract

[63] William Clark, *A Map of Part of the Continent of North America: Between the 35th and 51st Degrees of North Latitude, and Extending from 89⁰ Degrees of West Longitude to the Pacific Ocean*, 1805, 1805, Geography and Map Division, Library of Congress, http://hdl.loc.gov/loc.gmd/g3300.ct000586.

(Figure 5). Clark plainly transplanted Shehek-Shote's representation of the Yellowstone River system onto his map. Although not explicitly stated, it is evident that Clark also used information received from the Hidatsa warrior for the course of the Missouri River to the Rocky Mountains. Clark marked a dotted line on his map to indicate the route that the Hidatsa followed when going on their westerly raids. Despite the improvements Clark made to the King map, his own map still highlighted the optimism of the expedition. The Rocky Mountains appeared as a minimal barrier and the close distance between the headwaters of the Missouri and Columbia rivers suggested the possibility of a short portage. Optimistic cartography inevitably led to disappointing progress.

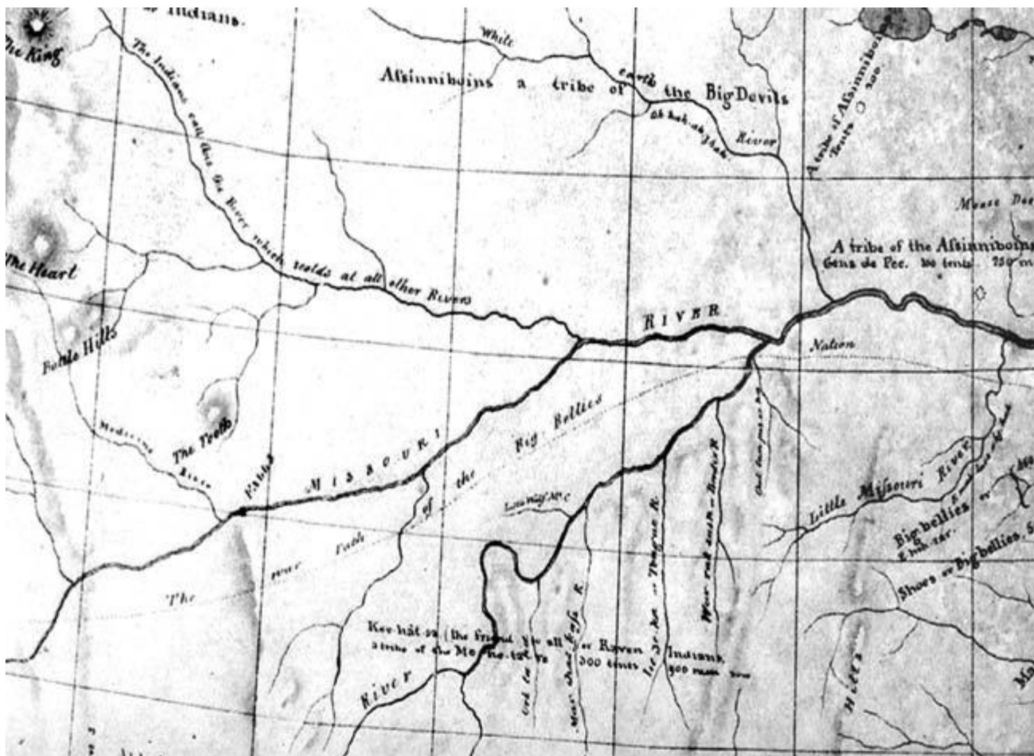

Figure 5 - Inset of Clark's map of 1805[64]

This inset map (zoomed-in area of Clark's map of 1805) shows how Clark incorporated Shehek-Shote's delineation of the Yellowstone River and its tributaries, and where he charted "The war path of the Big Bellies [Hidatsa] Nation."

[64] Extract of Clark's map taken from: Zedeno, Hollenback, and Grinnell, "From Path to Myth: Journeys and the Naturalization of Territorial Identity along the Missouri River," 123.

On April 7 1805, the expedition set forth up the Missouri River from Fort Mandan. The keelboat (along with various documents and letters including Clark's map) returned back downriver to St. Louis. With this, the permanent party of the expedition took shape, thirty-three members in total. While the Missouri River remained the main conduit for the expedition, their form of travel changed after leaving Fort Mandan. Sergeant Patrick Gass, a carpenter by trade, oversaw the construction of six canoes dugout of cottonwood to make up for the absence of the keelboat.[65] Although the party still had the two pirogues (masted rowboats) from St. Louis, canoes became the primary means of transportation for the remainder of the expedition.

As the expedition proceeded upriver, Lewis and Clark consistently referred back to the geographic knowledge that they had received from the Mandan-Hidatsa. At different points along their route, this information acted as a catalog from which the captains could cross-reference with their own maps and as reinforcement that they were headed in the right direction (Figure 6). This information was not only critical for the outbound trip in 1805 but was also key over a year later on the return journey. As Clark travelled on the Yellowstone River in the summer of 1806, one of his central preoccupations was matching up the rivers he passed with the tributaries Shehek-Shote had charted on his map.

During the first month of travel after leaving Fort Mandan, Lewis and Clark were encouraged as the expedition passed the mouths of the Little Missouri, White Earth, and Yellowstone rivers all as they expected based on the Mandan-Hidatsa information.[66] On May 8, the expedition arrived at the mouth of a large northern tributary of the Missouri. The captains correctly deduced that they had also been informed of this river over the winter and that it was

[65] Verne Huser, *On the River with Lewis and Clark* (College Station: Texas A&M University Press, 2004), 67.
[66] Allen, "An Analysis of the Exploratory Process: The Lewis and Clark Expedition of 1804-1806," 27.

known to the Hidatsas as "the river which scoalds [sic] at all others."[67] As was customary for European and American explorers, Lewis and Clark renamed the tributary the Milk River (the name it still has today) because of "the water of this river possess[ing] a peculiar whiteness, being about the colour of a cup of tea with the admixture of a tablespoonfull [sic] of milk."[68] The captains surely would have preferred a cup of tea to the sediment filled river water the party relied on for hydration.

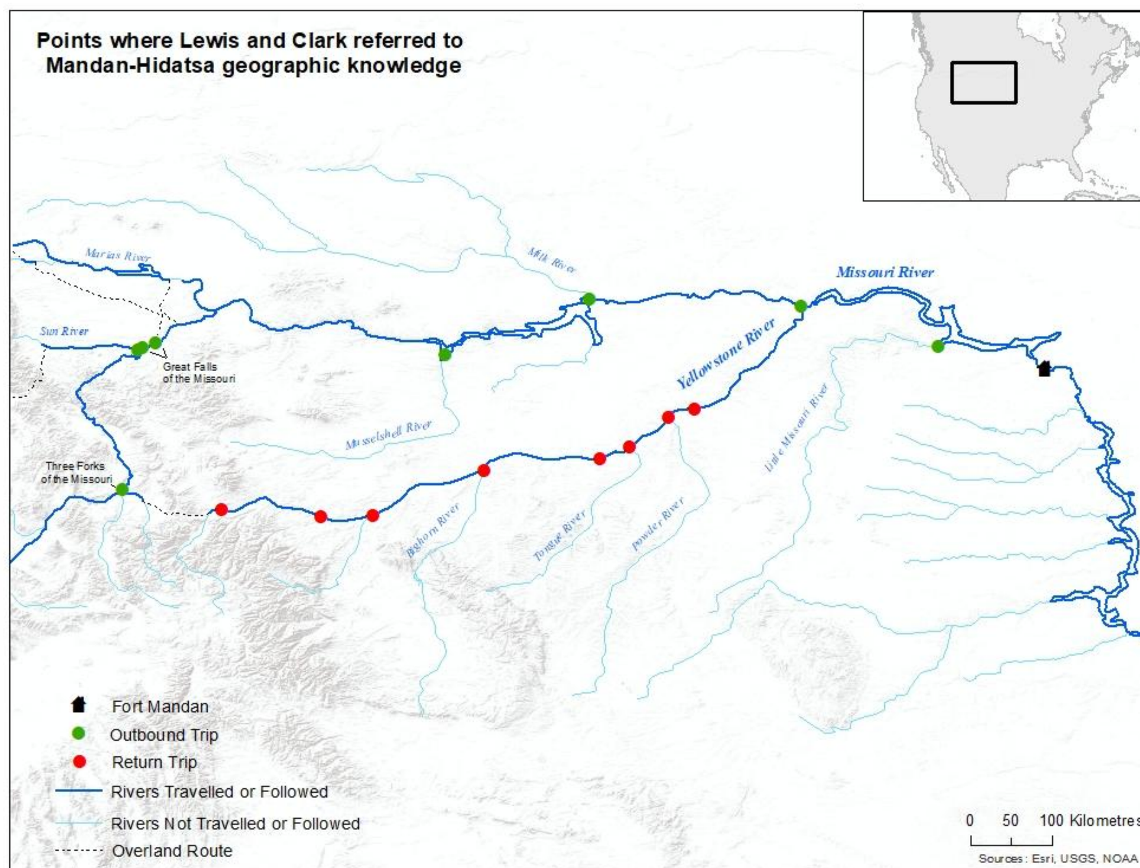

Figure 6 – Points Where Lewis and Clark Referred to Mandan-Hidatsa Geographic Knowledge

This map shows the places where Lewis and Clark referenced geographic information they had learned from the Mandan-Hidatsa over the course of the 1804-5 winter. The captains noted this in their journals on the outbound journey from the Mandan-Hidatsa villages to the Three Forks of the Missouri in the spring and

[67] *JLCE*, May 8 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-05-08
[68] Ibid.

summer of 1805. Clark also referred to this information on his return trip along the Yellowstone River in the summer of 1806.

Continuing west along the Missouri, on May 20 the party arrived at the mouth of a river that Lewis declared he had "little doubt" was the Musselshell River referred to by the Hidatsa.[69] In this way, Lewis and Clark were confident that they were proceeding exactly along their intended course. After all, in their minds they only had to keep following the Missouri River west towards the Rocky Mountains. On June 3 though, this confidence wavered as the expedition unexpectedly came to a point where the Missouri conjuncted with another large river.

As represented on Clark's map of 1805, the expedition expected the "river which scoalds [sic] at all others" (the Milk River), to be the only major northern tributary of the Missouri past the mouth of the Yellowstone. It came as quite a surprise, then, when on June 3 the Missouri River divided into two nearly equal streams. Because the Mandan-Hidatsa information had been so reliable up to that point, Lewis admitted that he was "astonished at their not mentioning" this fork in the river.[70] At first, it does appear puzzling. Perhaps, as scholar Barbara Belyea states though, "it was due to the captains' failure to reconcile the Mandans' and Hidatsas' knowledge of the upper Missouri with the watershed patterns of their official maps."[71] Given how successfully the captains' had reconciled the two thus far in the expedition, it is not unreasonable that one piece of information may have slipped through the cracks. Perhaps this divide of the Missouri into two streams mattered less for the Mandan-Hidatsa. As indicated on Clark's map, the "war path" of the Hidatsa was parallel to the Missouri but on the southern side. Hidatsa

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[69] *JLCE*, May 20 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-05-20
[70] *JLCE*, June 3 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-06-03
[71] Barbara Belyea, "Decision at the Marias," in *Dark Storm: Moving West* (Calgary: University of Calgary Press, 2007), 36.

warriors did not regularly pass this split in the Missouri for they knew to keep following the southern, more westerly fork that was the true Missouri River.

No matter the cause of the omission, the split in the river created a palpable dilemma. Picking the wrong course could create weeks of delays and strand the expedition on the eastern side of the Rocky Mountains as snow clogged the mountain passes. The captains understood the severity of the moment. Lewis admitted that following the wrong course "would probably so dishearten the party that it might defeat the expedition altogether."[72]

After a few days of investigation with Clark leading a party along the southern fork and Lewis leading a party along the northern fork, the expedition reconvened at the junction of the two streams. Lewis and Clark both concluded (correctly) that the southern fork was the true Missouri River. The water of the southern fork was more transparent, a distinguishing feature the Mandan-Hidatsa had told them about the Missouri as it drew near the Great Falls. The captains also felt the course of the southern fork led more in a westerly direction that the party wished to travel towards the Rockies. Lewis was so confident he even named the northern fork Maria's River, after his cousin Maria Wood.[73] The problem was that every other member of the expedition believed the northern fork was the true Missouri. It was deeper and the water flowed in a similar fashion to the rest of the Missouri River up to that point. Facing uncertainty and disagreement, the expedition relied on Mandan-Hidatsa knowledge.

The Mandan-Hidatsa had given Lewis and Clark one "infallible sign" about the true course of the Missouri.[74] They would have to pass a series of falls before arriving at the

[72] *JLCE*, June 3 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-06-03
[73] Over time the apostrophe was lost and the river became known by its current name, Marias River.
[74] Olin D. Wheeler, *The Trail of Lewis and Clark, 1804-1904: A Story of the Great Exploration across the Continent in 1804-06; with a Description of the Old Trail, Based upon Actual Travel over It, and of the Changes Found a Century Later*, vol. 1 (New York: The Knickerbocker Press, 1904), 301.

mountains. On June 9, Lewis led an advance party along the southern fork in search of the falls. Within a few days, Lewis arrived at the falls and had the proof he needed. As further confirmation, Lewis saw an eagle's nest that the Hidatsa had described to him as being located at the Great Falls.[75] Today, this location is known as Black Eagle Dam in the city of Great Falls, Montana.

After a difficult, month-long portage in which many supplies had to be cached and the pirogues had to be substituted by two additional canoes, the expedition made it past the falls and was underway again on July 15, 1805. Lewis and Clark knew from Mandan-Hidatsa information that the next major landmark they would reach was the Three Forks of the Missouri and the captains anxiously hoped to encounter some Shoshones in that vicinity. As the party approached the Three Forks, the magnitude of the Rocky Mountains finally started to sink in. The long-held belief of a short portage faltered. On July 24, Lewis wrote "I can scarcely form an idea of a river runing to great extent through such a rough mountainous country without having it's stream intersepted by some difficult and grangerous rappids or falls."[76]

At the Three Forks, the captains named the three rivers the Jefferson, the Madison, and the Gallatin after the president, secretary of state, and secretary of the treasury respectively. Here, unlike at the Marias, there was far less indecision about which river to ascend. The party started along the Jefferson, the most westerly of the three forks. On August 8, Sacagawea recognized a Shoshone cultural and geographical landmark called "the beaver's head" beyond which she told Lewis the "summer retreat of her nation...was not very distant."[77] The following

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[75] *JLCE*, June 14 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-06-14; Notably, in 1860, Captain W. F. Raynolds of the U.S. Corps of Topographical Engineers, sighted an eagle's nest in the same spot Lewis had fifty-five years earlier.
[76] *JLCE*, July 24 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-07-24
[77] *JLCE,* August 8 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-05

day, Lewis set out with three men in the direction Sacagawea had instructed in search of the Shoshone.

From that point forward, the expedition progressed past the scope of Mandan-Hidatsa geographic knowledge, knowledge that had guided the expedition all the way across the northern plains. Through maps and oral descriptions, Mandan-Hidatsa knowledge keepers had informed Lewis and Clark of the extensive Missouri and Yellowstone River systems. When a crisis arose at the junction of the Missouri and Marias Rivers, the captains fell back on Mandan-Hidatsa knowledge to confirm the southern fork was the true Missouri. As the expedition approached the Rocky Mountains, Lewis and Clark established their plan to secure Shoshone horses based on Mandan-Hidatsa information. In this way, the geographic knowledge cultivated by the Mandan-Hidatsa from their role in a widespread trading network and from their raiding patterns facilitated the expedition's considerable progress across the continent during the spring and summer of 1805.

Chapter 2: Outbound Journey - Three Forks of the Missouri to the Pacific Ocean

Perched along the bank of the Beaverhead River in present-day southwestern Montana, Lewis waited anxiously for Clark and the main party of the expedition to appear. Behind him, Cameahwait and his men were unnervingly gathered. It was the morning of August 17 1805, and four days since Lewis and his advance party had made contact with Shoshone leader Cameahwait and his people. Through a rough translation process involving mostly signs, Lewis had informed Cameahwait about the purpose of his visit and assured him that Clark and the main party would be along shortly. Unfortunately, Clark and the main party were making slow progress ascending the Beaverhead River and Cameahwait was growing suspicious that Lewis might be drawing him into an ambush. To alleviate any potential distrust, Lewis and the other members of the advance party handed over their guns to Cameahwait and his men. The disarming eased tensions long enough for Clark and the main party to come into sight. Clark's arrival brightened the mood, which only grew more rejoiceful when Sacagawea recognized Cameahwait as her brother.[1] This was both an affectionate reunion and a stroke of considerable luck for the expedition who now found themselves on quite favourable terms with the Shoshone. Lewis declared the meeting place Camp Fortunate and the site became the expedition's main camp for the next week.

Lewis and Clark knew full well how critical the upcoming months would be for the expedition. They had the Rocky Mountains to cross and the Pacific Ocean to reach before winter. This leg of the journey required travelling through completely unfamiliar territory. As a result, the captains sought the counsel of Indigenous guides and knowledge keepers, individuals who ultimately determined the very rivers and trails that the expedition traversed. Often conveyed

[1] *JLCE,* August 17 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-17

through multiple translators and drawn in the soil or with charcoal on a hide, this knowledge saved the expedition from immeasurable lost time and potential pitfalls. Beyond geographic information and guidance, Indigenous communities also provided the expedition with logistical support, provisions, and shelter during this trek to the coast. This was all-important assistance.

During the initial period of interaction with the Shoshones, the captains did all they could to learn more about the best route to cross the mountains and reach the headwaters of the Columbia River. In this pursuit, they "prevailed" on Cameahwait to "instruct" them "with rispect to the geography of his country."[2] This instruction has since been termed "Cameahwait's Geography Lesson" and is a matter of some disagreement among scholars.[3]

There are differing opinions when it comes to the date in which the meeting occurred. Lewis reports the event in his journal entry for August 14 when he first encountered the Shoshones and before the reunion with the main party of the expedition on August 17. The published account of the expedition in 1814, which Clark edited, however, places the event on August 20 and with Clark opposite Cameahwait in the discussion.[4] Moreover, in the journal entries for August 17, following the reunion and a subsequent diplomatic council, both captains mention they made "enquiries" about the geography of the region.[5] Given the significance of the information, it is altogether probable that Cameahwait relayed it more than once and that both captains may have learned of it from separate discussions. In any case, if the exact timing of the meeting is uncertain, its impact was not. Cameahwait's geographic knowledge underwrote the next month of the expedition, likely the most demanding period of the entire journey.

Cameahwait began by drawing the local river system on the ground. He delineated the

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[2] *JLCE,* August 14 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-14
[3] J. I. Merritt, "Cameahwait's Geography Lesson," *We Proceeded On* 29, no. 4 (2004): 36–37.
[4] Nicandri, *River of Promise: Lewis and Clark on the Columbia*, 38.
[5] *JLCE,* August 17 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-17

course of the Lemhi River, which ran alongside the main Shoshone village, about a day's march from Camp Fortunate. In Cameahwait's depiction, the Lemhi flowed into a larger river, the Salmon River, which eventually flowed into the ocean.[6] Although the Salmon River ran northwest through the mountains, Cameahwait warned the captains that it was unnavigable due to a rapid current and jagged rocks that jutted out of the riverbed. To cement his point, using "heeps of sand" Cameahwait constructed a three-dimensional model showing how closely the mountains beset the river so that even the shoreline was impassable.[7] Perturbed and disheartened by this unexpected information, Lewis inquired about alternate routes.

For a route to the southwest, Cameahwait referred Lewis to a Shoshone elder who "depicted with horrors" the ruggedness of the terrain and the lack of resources along the way this late into the season.[8] The elder advised Lewis that the expedition should wait until next spring and that he could guide them at this time. Knowing a wait that long would derail the expedition, Lewis politely declined the offer and gave the elder a knife in return for the information. For a route to the northwest, Cameahwait informed Lewis about a trail that the Nimiipuu used to cross the mountains on their way to the buffalo country. The Nimiipuu lived west of the mountains and sometimes allied with the Shoshone on buffalo hunting excursions.[9] Committed to full disclosure, Cameahwait cautioned Lewis about the hardships of this route. Not seeing a better option though, Lewis reasoned that if the Nimiipuu could endure this trail, then so could the expedition.

The geographic information provided by Cameahwait and the unnamed elder demonstrated the breadth and depth of the Shoshone's geographic knowledge. This knowledge

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[6] The Salmon Rivers flows into the Snake River which flows into the Columbia River which flows into the ocean.
[7] *JLCE,* August 14, 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-14
[8] Ibid.
[9] Campbell, "The Lemhi Shoshini: Ethnogenesis, Sociological Transformations, and the Construction of a Tribal Nation," 569.

identified multiple routes, the challenges along each, and the ways each route's viability shifted by the season. It also indicated the deep-rooted connection between the Shoshones and their homelands in the Salmon River Valley. The Shoshone Map Rock, a petroglyph located near present-day Boise, Idaho provides another example (Figure 7). The petroglyph depicts the Snake and Salmon rivers along with the flora and fauna of the region. Although the origins of the map are unknown, some scholars believe it to be thousands of years old and it is evidence of the ancestral mapping practices of the Shoshone.[10]

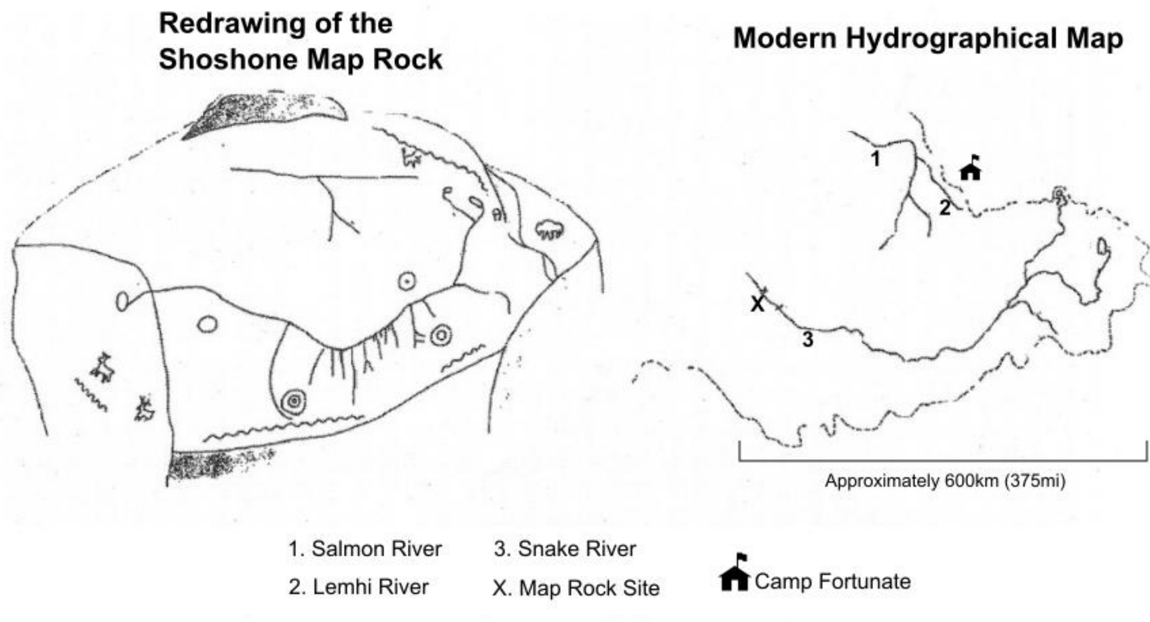

Figure 7 - Graphic showing a redrawing of the Shoshone Map Rock compared to a modern hydrographical map of the Snake, Salmon, and Lemhi rivers.[11]

After the meeting with Cameahwait, Lewis and Clark deliberated on their next course of action. Despite the information given to them by Cameahwait, the captains still clung to faith in

[10] Jeremy Hardwood and Sarah Bendall, *To the Ends of the Earth : 100 Maps That Changed the World* (Cincinnati, OH: David & Charles, 2006), 14; Mark Warhus, *Another America: Native American Maps and the History of Our Land* (New York: St. Martin's Press, 1997), 20; Lucchesi, "'Indians Don't Make Maps': Indigenous Cartographic Traditions and Innovations," 16.

[11] Images taken from Warhus, *Another America: Native American Maps and the History of Our Land*, 22. Labels and captions added by author.

the possibility of an all-water route across the continent.[12] On August 18, accompanied by Cameahwait and his men, Clark set out from Camp Fortunate with an advance party for the Shoshone village on the Lemhi River. At the Shoshone village, Cameahwait engaged an elder, referred to in the journals as Old Toby, as a guide. Cameahwait described Old Toby as "better informed of the country" than anyone else in the community.[13] By the afternoon of August 20, Clark and his party were on the move with Old Toby at the helm in search of concrete proof on the navigability of the Salmon River.

Three days later and 85km (53 mi) upstream from the Salmon River's confluence with the Lemhi, Clark had seen enough.[14] Old Toby had guided Clark and his party on an arduous field reconnaissance "over large irregular and broken masses of rocks" that littered the fragmented trail.[15] Eventually, Old Toby led Clark up from the shoreline to a vista point where the captain could see the course of the Salmon for 32km (20mi) upriver. At this point, Clark became "perfictly satisfyed as to the impractability of this rout."[16] He witnessed what the Shoshone knew all along, a water route across the mountains was not a feasible option.

Before turning back, Old Toby drew a map in the ground for Clark that showed a trail leading north from their present location towards where the Bitterroot Salish lived, another ally of the Shoshone. From this trail, the expedition could connect with the trail Cameahwait had described that went west across the mountains. Hearing this, Clark considered it the best available route for the expedition to follow and upon reconvening with Lewis back at the Shoshone village, the plan was set into motion. This information provided by Old Toby, combined with the knowledge Cameahwait had shared with the captains, ensured the expedition

[12] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 298.
[13] *JLCE,* August 26 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-26
[14] Charles R. Knowles, "Indispensable Old Toby," *We Proceeded On* 29, no. 4 (2003): 61.
[15] *JLCE,* August 23 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-23
[16] Ibid.

proceeded along the most practical route available and avoided other paths that could have spelled disaster for the party.

While Clark was on his field reconnaissance, Lewis had moved the main expedition camp to the Shoshone village and was busy acquiring horses for the cross-mountain trek. The prices for horses varied from "3 or 4 dollars worth of marchandize" initially to a pistol, 100 balls of gunpowder, and a knife for a single horse.[17] In total, the expedition managed to acquire thirty horses from the Shoshone. This was a considerable number given that Cameahwait admitted that spring the Hidatsa had raided his people and stolen most of their horses. Although once horse-rich, starting in the mid-18th century Cameahwait's band of northern Shoshone increasingly found themselves on the receiving end of warfare perpetrated by the Hidatsa, Blackfoot, Atsina, and other groups.[18]

Indirectly, this subjugation played a major role in the extreme hospitality displayed by the Shoshone towards the expedition. While the Hidatsa, Blackfoot, and Atsina had access to British guns through trading partnerships, the Shoshone had no such advantages. The Spanish, who were the Shoshones only Euro-American trading partner, had a strict policy that prohibited the sale of guns to Indigenous peoples.[19] Lewis reported that Cameahwait told him "if we had guns, we could then live in the country of buffaloe and eat as our enimies do and not be compelled to hide ourselves in these mountains and live on roots and berries as the bear do."[20] Whether Lewis captured Cameahwait's exact words or not, they paint a vivid picture and indicate the Shoshones need for firearms. As part of their diplomatic efforts, Lewis and Clark assured Cameahwait that Americans would furnish the Shoshones with guns in the future. This promise, however, like

[17] *JLCE,* August 27 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-27; *JLCE,* August 29 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-29
[18] Calloway, "Snake Frontiers: The Eastern Shoshones in the Eighteenth Century," 83, 87–88.
[19] Ibid, 88.
[20] *JLCE,* August 14 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-08-14

many others future settlers would make, never amounted to what the Shoshones envisioned.

By August 30, the expedition was once again underway guided by Old Toby. The Shoshone elder, accompanied by his son, had agreed to lead the expedition along the northwesterly trail through the mountains.[21] After leaving the Shoshone village, the expedition's route took them essentially due north. By the evening of September 4, the expedition arrived at the lower reaches of the south-north flowing Bitterroot River. Here, they encountered a large group of the Bitterroot Salish in a valley known today by the U.S. National Park Service as Ross's Hole but to the Bitterroot Salish as *Kʷtíł P̓upƛ̓m̓*.[22]

The valley made an excellent horse pasture and Clark counted "at least 500... elegant horses" among the Bitterroot Salish.[23] The next morning, Lewis and Clark met with the leader of the group called Three Eagles. Communication though, proved difficult. Not only were the Americans the first white people the Bitterroot Salish had ever met, but the Bitterroot Salish language differed vastly from any Indigenous language the expedition had encountered up to that point.[24] This caused a longer-than-usual feeling out process as both sides speculated on the origins of the other group and peaceful intentions had to be established. Messages had to travel from Salishan to Shoshone (through a Shoshone boy living with the Bitterroot Salish), from Shoshone to Hidatsa (through Sacagawea), from Hidatsa to French (through Charbonneau), and from French to English (through one of the Frenchmen in the party).[25] Translation was a constant issue throughout the expedition that prevented free-flowing communication but at no point were more interpreters required than this. A certain degree of misunderstanding was inevitable.

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[21] *JLCE,* September 2 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-09-02
[22] This word translates to Big Clear Area. Salish-Pend d'Oreille Culture Committee and Elders Cultural Advisory Council Confederated Salish and Kootenai Tribes, *The Salish People and the Lewis and Clark Expedition*, 83.
[23] *JLCE,* September 4 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-09-04
[24] Salish-Pend d'Oreille Culture Committee and Elders Cultural Advisory Council Confederated Salish and Kootenai Tribes, *The Salish People and the Lewis and Clark Expedition*, 16–17.
[25] *JLCE,* September 5 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-09-05

Remarkably, however, the two sides were able to hold a friendly council, exchange gifts, and the captains managed to trade for additional horses. After two days of communion, the two groups parted ways with the expedition continuing their march north and the Bitterroot Salish heading for the Three Forks of the Missouri to rendezvous with the Shoshone for a joint bison-hunting excursion. Despite the brief interaction, the Bitterroot Salish left quite a positive impression on the expedition. Sergeant John Ordway reported in his journal that "these natives... [were] the likelyest and honestest we have seen and [had been] verry friendly to us."[26] What the Bitterroot Salish thought of the expedition remains less clear.

On September 9, the expedition reached an important landmark in their venture across the mountains. They arrived at the mouth of Lolo Creek along the Bitterroot River, about 15km (10mi) south of present-day Missoula, Montana. Here, Old Toby informed Lewis that the expedition would leave the Bitterroot River and turn almost due west up Lolo Creek. Knowing that the hardest segment of the trail was to come, the captains decided to make camp for two nights at their present location so that the horses could rest and expedition hunters could search for more food. The captains called this campsite Travelers' Rest.

During this two-day interlude, Old Toby provided the captains with a key piece of geographic information. The Shoshone elder pointed out that the Bitterroot River continued north from Travelers' Rest until it flowed into a larger river, known today as the Clark Fork River. Old Toby explained that a person could follow the course of the Clark Fork River east for a ways and reach the Missouri River in only four days.[27] While not pertinent on their outbound trip to the Pacific, this route offered an incredible short cut connecting the Missouri and Columbia rivers. Instead of the more than 1100km (700mi) the expedition had travelled from the

[26] *JLCE,* September 5 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-09-05
[27] Moulton, *The Lewis and Clark Expedition Day by Day*, 292.

Great Falls of the Missouri to their present location, Old Toby's shortcut promised to cut that distance to only 275km (170mi).[28] The expedition would test this route on the return journey the following year.

The expedition proceeded on from Travelers' Rest by the afternoon of September 11. They were now following the established Indigenous route across the mountains that Cameahwait had referred to over three weeks prior. This route, part of the *k'uysey'ne'iskit* (meaning bison hunt trail) used by the Nimiipuu is now known as the Lolo Trail.[29] Archaeologist C. M. McLeod describes the trail as covering "approximately one hundred and fifty miles [240km] of some of the most rugged terrain in the United States."[30] From the east, the trail begins at the confluence of Lolo Creek and the Bitterroot River. It then ascends the crest of the Bitterroot Range of the Rocky Mountains before traversing a number of precipitous ridges a few kilometres north of the Lochsa River (a tributary of the Clearwater River of the Columbia River system) until reaching its terminus on the Weippe Prairie in west-central Idaho.[31]

Despite his much-needed guidance up to that point, it is unclear how effective Old Toby operated as a guide once the expedition found Lolo Trail. Although they knew about the trail, the Shoshones did not use it and it is unlikely that Old Toby had ever traversed it before.[32] This is indicated on September 13 when Clark reported, "my Guide took a wrong road and took us out of our rout 3 miles through intolerable rout."[33] Once the expedition made it back to the main trail, neither captain mentioned Old Toby again in their journals until the expedition arrived at Weippe Prairie. That Old Toby remained with the party even when the route became unfamiliar

[28] Allen, "An Analysis of the Exploratory Process: The Lewis and Clark Expedition of 1804-1806," 34–35.
[29] Sara A. Scott, "Indian Forts and Religious Icons: The Buffalo Road (Qoq'aalx 'Iskit) Trail Before and After the Lewis and Clark Expedition," *International Journal of Historical Archaeology* 19, no. 2 (June 2015): 385.
[30] Charles M. McLeod, "A Cultural History of the Lolo Trail" (Missoula, University of Montana, 1984), 1.
[31] Ibid., 4.
[32] Knowles, "Indispensable Old Toby," 32.
[33] *JLCE,* September 13 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-09-13

is evidence of his commitment and dependability as a guide in fulfilling his responsibility to see that the expedition arrived safely on the other side of the mountains.

On this outbound trek of the Lolo Trail, the party endured some of the most dire conditions of the entire expedition. The party had to melt snow for drinking water and kill horses for food. Clark described himself as being as "wet and as cold in every part as I ever was in my life, indeed I was...fearfull my feet would freeze in the thin mockersons which I wore."[34] On September 18, after a week of misery and hunger, the captains made an executive decision to send Clark ahead with an advance party in search of bigger game. While on this search two days later, Clark made it to Weippe Prairie and stumbled upon a group of Nimiipuu boys who led him to their nearby village along the Clearwater River.

While Shoshone guidance and knowledge helped the expedition across the mountains, Nimiipuu hospitality saved the party from further hardship and privation. The Nimiipuu fed Clark and invited him to spend the night in their village. The next morning, Clark sent one member of the advance party, accompanied by a Nimiipuu man, to meet Lewis and the main party. Although only able to communicate with signs, Clark stayed in the village and met with a Nimiipuu leader. This leader drew a map of the Clearwater River in the ground for Clark. He also informed Clark that a "greater Cheif than himself" called Twisted Hair was presently at a fishing camp nearby.[35] By eleven o'clock that evening, Clark reached Twisted Hair's camp.

The following day, September 22, Twisted Hair drew a map for Clark using beargrease and charcoal on a white elkskin. The map showed the course of the Clearwater River flowing into the Snake River, the Snake River flowing into the Columbia River, and the course of the

[34] *JLCE*, September 16 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-09-16
[35] *JLCE,* September 21 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-09-21

Columbia River until Celilo Falls, about 480km (300mi) to the west.[36] Pleased with this information, Clark sought to confirm it by querying other Nimiipuu individually for maps about the river system. Described by scholar G.M. Lewis as "verification by collation," independent questioning was a common method employed by Euro-American explorers and traders to confirm Indigenous geographic information they received.[37] The captains used this technique multiple times throughout the expedition. In this case, the Nimiipuu maps varied little and Clark rightly took this as a sign of their accuracy.[38]

Back at the Nimiipuu village, Lewis and the main party of the expedition arrived. Although a beleaguered group, the party felt immense "pleasure" having "tryumphed" over those "dismal and horrible" mountains.[39] The Nimiipuu treated the party generously. Villagers gave the expedition food, initially at no cost and then in exchange for trade goods, and welcomed the party to make camp among them.

The Nimiipuu lived in a number of autonomous villages throughout the Snake and Clearwater River valleys.[40] They made up the largest group of the Sahaptian language family, spoken throughout the Columbia Plateau.[41] Nimiipuu lands spanned much of present-day west-central Idaho and into the southeastern corner of Washington State and the northeastern corner of Oregon. The village the expedition arrived at was near the eastern extent of Nimiipuu territory, located near the present-day town of Weippe, Idaho.

Geopolitically, the Nimiipuu were in a similar situation to the Shoshones. They lacked

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[36] Ronda, "'A Chart in His Way': Indian Cartography and the Lewis and Clark Expedition," 45.
[37] Malcolm G. Lewis, "Misinterpretation of Amerindian Information as a Source of Error on Euro-American Maps," *Annals of the Association of American Geographers* 77, no. 4 (December 1987): 560–61; Malcolm G. Lewis, "Native North Americans' Cosmological Ideas and Geographical Ideas and Geographical Awareness: Their Representation and Influence on Early European Exploration and Geographical Knowledge," in *North American Exploration: A New World Disclosed*, vol. 1 (Lincoln, NE: University of Nebraska Press, 1997), 111.
[38] Ronda, "'A Chart in His Way': Indian Cartography and the Lewis and Clark Expedition," 46.
[39] *JLCE,* September 22 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-09-22
[40] Pinkham and Evans, *Lewis and Clark among the Nez Perce: Strangers in the Land of the Nimiipuu*, 25.
[41] Cutright, *Lewis and Clark: Pioneering Naturalists*, 214.

firearms and as a result were at the mercy of the more well armed Blackfoot and Atsina when they ventured east over the mountains to hunt bison. Expedition traders provided the Nimiipuu with their first six guns and the captains assured them there were more to come once the expedition returned home safely, opening the way for American traders to follow in their footsteps.[42] Desirous of these trade relations, Nimiipuu leaders determined that aiding the expedition was the best course of action.[43] This was a pattern throughout the expedition. The Indigenous communities who would benefit most from American trade were more hospitable to the expedition and those who already had established trade relations with European powers were more hostile.[44]

The expedition remained with the Nimiipuu for two weeks. Lewis and Clark moved the camp about 40km (25mi) northwest to the confluence of the Clearwater and North Fork Clearwater rivers. This camp was a staging area and the two weeks acted as a preparatory period in which the expedition readied itself for the final leg of the outbound journey to the Pacific. Planning to return to river travel, building canoes became the primary task for the expedition. Made from ponderosa pine, the party adopted the Nimiipuu method of hollowing the logs by burning instead of with an axe, mallet, or chisel.[45] The construction would have gone quicker but many of the men were indisposed. Moving west of the Rocky Mountains required a change in diet from bison to salmon and root vegetables. Many of the men, including both captains, fell ill during this transition. Some took weeks to adjust and even then most remained adverse to fish. Frenchmen in the party started trading with Indigenous peoples for dogs to eat and soon dog

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[42] Ronda, *Lewis and Clark among the Indians*, 159–60.
[43] Pinkham and Evans, *Lewis and Clark among the Nez Perce: Strangers in the Land of the Nimiipuu*, 41.
[44] The major exception to this was the Mandan-Hidatsa who were hospitable to the expedition despite their numerous well-established trade relations. Hoxie and Nelson, *Lewis & Clark and the Indian Country: The Native American Perspective*, 102.
[45] Huser, *On the River with Lewis and Clark*, 67; Cutright, *Lewis and Clark: Pioneering Naturalists*, 219.

became the preference for many expedition members in the absence of bigger game. This predilection for dog over salmon sensibly puzzled the locals.

Knowing they would be passing back through Nimiipuu territory on their return journey, Lewis and Clark branded their horses and left them in the care of the family of Twisted Hair. Twisted Hair himself intended to escort the expedition downriver, along with another Nimiipuu leader known to the captains as Tetoharsky. This continued a trend for the expedition that started with Old Toby and would persist on their return journey as well. For the remainder of the expedition, in addition to seeking out Indigenous geographic information, Lewis and Clark also began to seek Indigenous guides. The unfamiliar landscape and peoples west of the Rocky Mountains drove this new strategy. Figure 8 shows the different stretches of the expedition's outbound journey in which they received Indigenous guidance.

On the morning of October 8, the expedition embarked from their camp down the Clearwater River. Twisted Hair and Tetoharsky met the party as they proceeded downriver. Old Toby, who had stayed with the expedition since its arrival among the Nimiipuu, left suddenly with his son the following day "without [the] knowledge" of the captains.[46] Perhaps this was due to the expedition venturing too far into unfamiliar territory or simply that Old Toby felt he had seen out his responsibility and that now the party was in the hands of their Nimiipuu guides. Clark wished to send a man on horseback to catch up to Old Toby so he could receive his payment but Twisted Hair advised him that his people would only "take his [Old Toby's] things" as he passed the Nimiipuu villages.[47] As a result, the Shoshone elder, who had accompanied the expedition for fifty days and guided them through dense forest and rugged mountainous terrain,

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[46] *JLCE,* October 9 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-10-09
[47] Ibid.

departed with only two horses him and his son took as compensation to see themselves home.[48]

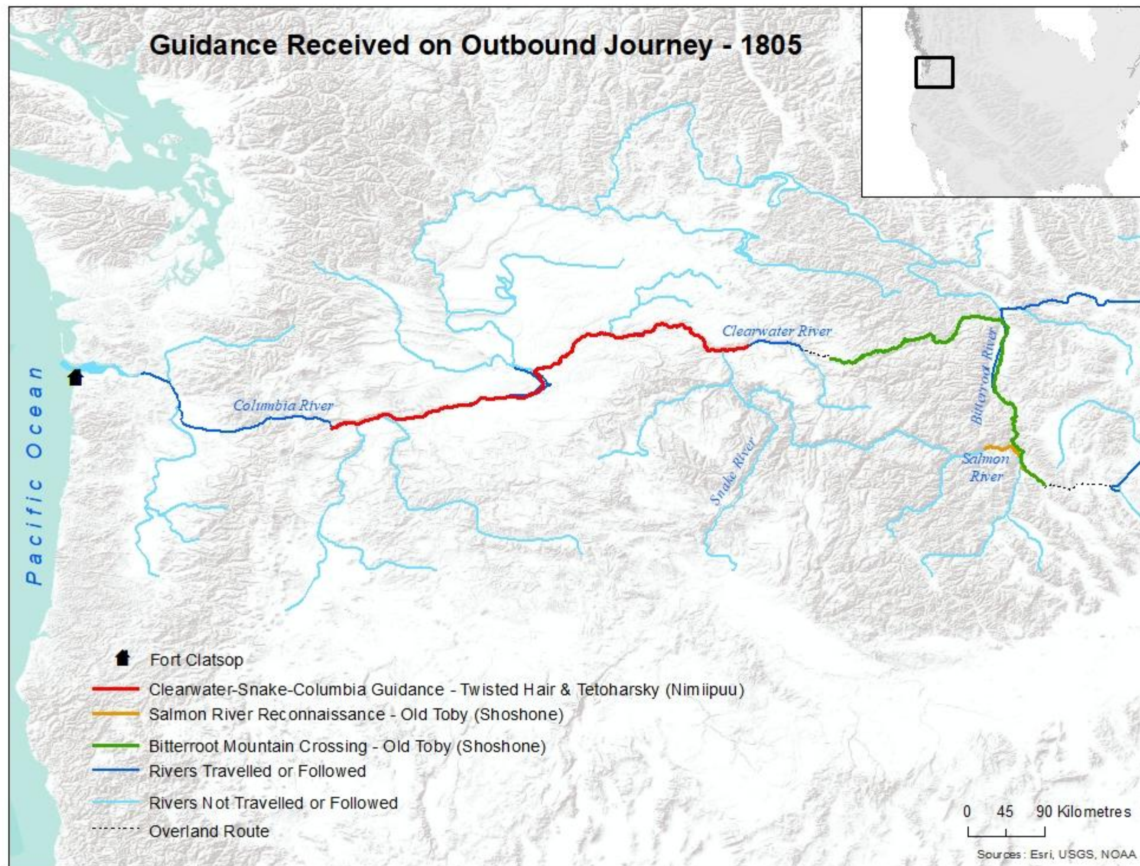

Figure 8 – Guidance Received on Outbound Journey, 1805

This map shows the portions of the expedition's route on the outbound journey when they received Indigenous guidance.

The expedition was unacustomed to travelling downriver. Along the steady flowing Missouri River they had pushed against the predictable current. Now, they faced rapids, fluctuating currents, shoreline protusions, and hidden obstacles in the riverbed.[49] It was early autumn meaning waters were near their lowest and imperceptible rocks lay scattered just beneath the surface of the water. Despite Twisted Hair's and Tetoharsky's navigational abilities,

[48] The fifty consecutive days spent with the expedition was longer than any other Indigenous person besides Sacagawea. Knowles, "Indispensable Old Toby," 26.
[49] Huser, *On the River with Lewis and Clark*, 125.

expedition canoes frequenly collided with the bedrock of the rivers, especially as the men adjusted to this new mode of travel. When this occurred, the canoe and its contents overturned, creating havoc.

On October 15, after consulting with some local Palouse men, Twisted Hair and Tetoharsky halted to inform the captains of a particularly bad set of rapids that lay ahead. Alert to this warning, the first five canoes successfully navigated the rocky current but the sixth and final canoe struck a rock. Indigenous onlookers though were "extreamly ellert" and along with the other canoe men, rescued both the overturned men and supplies.[50] Even with these hazards, the expedition made good progress and reached a significant milestone on the evening of October 16, arriving at the Columbia River.

At the confluence of the Snake and Columbia rivers, "about 200 men Singing and beeting on their drums" greeted the expedition.[51] Twisted Hair and Tetoharsky facilitated this grand welcome, as they had gone ahead to inform local Yakama and Wanapum leaders about the arrival of the expedition. In addition to functioning as guides, during their time with the expedition in the fall of 1805, Twisted Hair and Tetoharsky also assumed the critical role of diplomats. Using their knowledge of the local language and peoples, the Nimiipuu leaders worked to establish amicable relations between the expedition and the different communities they encountered on their trip downriver.

The captains decided to make camp for two nights at this important juncture and Clark used part of this time for a reconnaissance. With two men, he ascended the Columbia River for about 15km (10mi) until reaching a Yakama fishing island. There, after some trading and visiting, locals pointed Clark towards the mouth of the Yakima River that entered the Columbia

[50] *JLCE,* October 16 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-10-16
[51] Ibid.

from the northwest, which he could see from the island. Although wanting to explore it further, it was getting late and Clark decided he should return to camp while still light out. The next morning, before the expedition set off, Clark consulted with Cuttsahnem, the "Great Chief" of the Yakama nation, who drew a map for Clark.[52] The map delineated the course of the Columbia River and its tributaries above its confluence with the Snake River as well as the locations of local Indigenous groups who inhabited the area. Cuttsahnem drew this map on a hide with charcoal. Knowing the expedition would be unable to see this territory firsthand, Clark recognized the value of Cuttsahnem's map and made a copy of it with pen and paper.[53]

On October 22, the expedition arrived at an important cultural, economic, and environmental landmark. They came to Celilo Falls, or the Great Falls of the Columbia. This marked the beginning of an extremely hazardous stretch in the river characterized by a steep descent in which the river could drop 12m (40 ft) over a 3km (2mi) span.[54] Over the next ten days, the expedition proceeded by a combination of manoeuvring the rapids and portaging the canoes when possible. Just beyond Celilo Falls, when the rushing waters reached their peak, the river "became agitated in a most Shocking manner" as large swells, whirlpools, and eddies churned up the current.[55] Although this turbulence wreaked havoc on expedition canoeists, it was a haven for Indigenous anglers as fish got caught up in the erratic waters.

This locus, established as a fishing centre and now known as The Dalles, was the epicenter of a Pacific-Plateau trade network and a place of immense cultural intermingling.[56] Unbeknownst to Lewis and Clark, it also served as the dividing line between the two great

[52] *JLCE,* October 18 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-10-18
[53] The original hide map survived for 90 years until 1895 when a fire at the University of Virginia destroyed it. Ronda, "'A Chart in His Way': Indian Cartography and the Lewis and Clark Expedition," 46.
[54] Roberta Ulrich, *Empty Nets: Indians, Dams, and the Columbia River* (Corvallis, OR: Oregon State University Press, 1999), 21.
[55] *JLCE,* October 24 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-10-24
[56] Ronda, *Lewis and Clark among the Indians*, 170–71.

cultural and linguistic families of the region, Sahaptian and Chinookan.[57] Well aware of this territoriality, Twisted Hair and Tetoharsky informed the captains that they could no longer be of service past this point and turned back east to return to their villages. With the departure of their Nimiipuu guides, the expedition proceeded on without Indigenous guidance for the first time in over two months.

West of The Dalles and past the Cascade Mountains, the arid plains of the plateau gave way to the lush, wooded terrain of the coast. This land of towering red cedars was home to a variety of Chinookan peoples. The Chinookans made up a number of small autonomous communities inhabiting villages along the Columbia River and their population density at the time was greater than almost any other Indigenous population on the continent north of Mexico.[58] Here, the expedition had an almost constant entourage of local peoples who either continued alongside the party in their finely crafted canoes or followed the expedition's progress from the shoreline and mingled with the party once they made camp in the evening.

As the expedition neared the Pacific, signs of pre-existing Euro-American trade relations became prevalent. The captains saw items such as kettles, frying pans, glass beads, and swords.[59] Unlike with the Nimiipuu and Shoshone, guns were more common and many of the men carried pistols. Euro-American clothing was also apparent including jackets, overalls, hats, and shirts. One Chinookan man who piloted the expedition for a stretch in thick fog was dressed in a sailor's uniform.[60] Based on their experience dealing with Euro-American traders, Chinookan merchants knew the value of their wares and were not in the business of underselling their products. Before long, the expedition became acutely aware of this practice.

[57] Cutright, *Lewis and Clark: Pioneering Naturalists*, 234.
[58] Yvonne Hajda, "Social and Political Organization," in *Chinookan Peoples of the Lower Columbia*, ed. Robert T. Boyd, Tony A. Johnson, and Kenneth M. Ames (Seattle: University of Washington Press, 2013), 146.
[59] *JLCE,* November 4 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-11-04
[60] *JLCE,* November 7 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-11-07

By midday on November 3, after passing the mouth of Sandy River at the eastern extent of present-day Portland, the expedition returned for the first time since leaving the Mandan-Hidatsa in April to territory previously visited by Euro-Americans.[61] William Broughton, a lieutenant for British explorer George Vancouver, had travelled up the Columbia River about 240 km (150mi) to that point in 1792 and Vancouver had made a map of these surveys. Lewis and Clark carried this map with them, meaning that as long as they remained on the west coast, and particularly around the mouth of the Columbia, they had pre-existing reliable geographic information from which to consult.[62]

At last, on November 7, Clark declared "Great joy in camp we are in View of the Ocian".[63] Although he could only see the Columbia River estuary, the sentiment remained. The expedition's actual arrival at the edge of the Pacific Ocean proved anti-climactic. Upon their arrival in Gray's Bay at the mouth of the Columbia, thundering waves forced the party to bivouac on the beach.[64] This temporary shelter turned into a miserable weeklong camp as stormy weather prevented the expedition from navigating the choppy waters. Finally, the weather let up allowing the party to move camp to a more spacious beach with a bigger harbour.[65]

After about ten days at this new campsite and the end of November in sight, Lewis and Clark had a decision to make about where the expedition should establish its winter quarters. The Clatsop, a sub-Chinookan group that inhabited the south shore directly across from the expedition's current location, informed the captains that elk was plentiful on that side of the Columbia River. Low on food, this was a key piece of information. As Figure 9 shows, verbal

[61] *JLCE,* November 3 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-11-03
[62] Herman R. Friis, "Cartographic and Geographic Activities of the Lewis and Clark Expedition," *Journal of the Washington Academy of Sciences* 44, no. 11 (November 1954): 346, 350.
[63] *JLCE,* November 7 1805, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1805-11-07
[64] The bay is named for Robert Gray, the first American to see the Columbia River estuary in 1792.
[65] Moulton, *The Lewis and Clark Expedition Day by Day*, 345.

communication constituted the most common medium in which Indigenous peoples provided Lewis and Clark with geographic information.

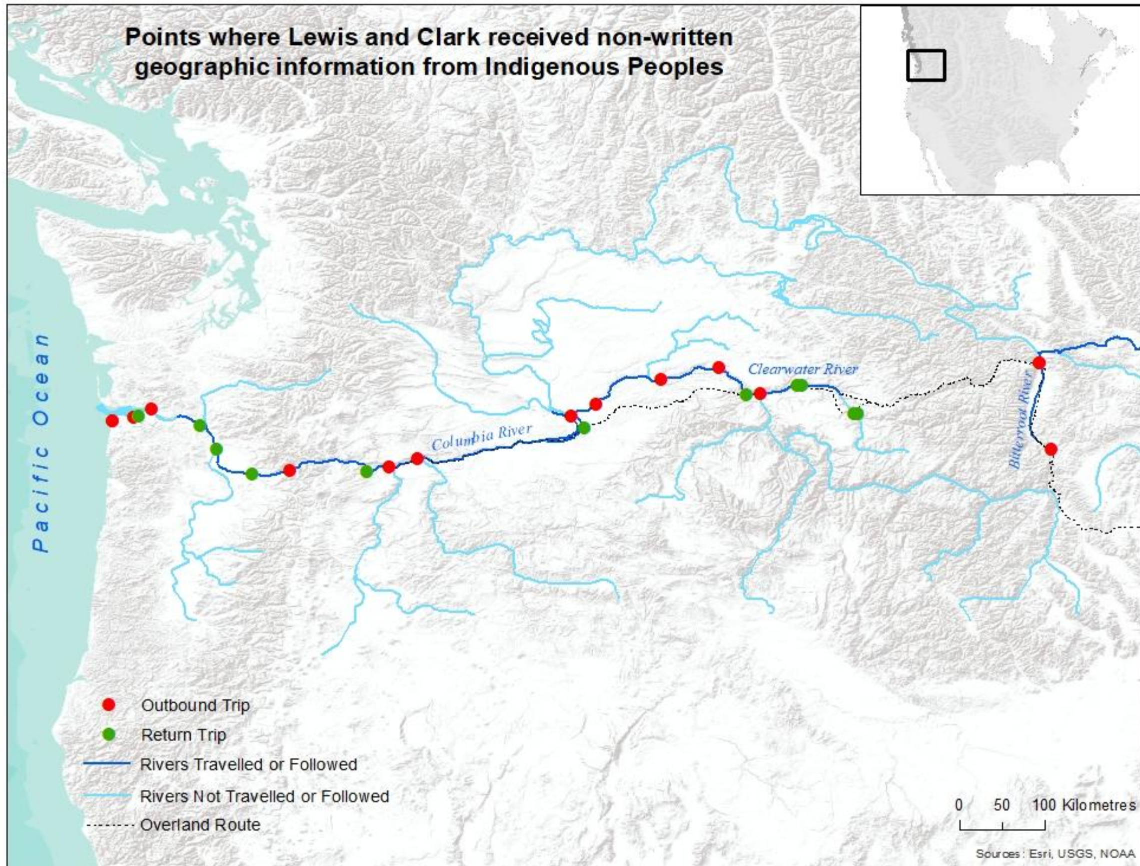

Figure 9 - Points Where Lewis and Clark Received Non-Written Geographic Information from Indigenous Peoples

Much of the geographic information Lewis and Clark received was not in map form. The majority of the time, Indigenous peoples conveyed their geographic knowledge to the captains either verbally or through signs. This map shows the points along the expedition's route, from the meeting with the Shoshone onwards, where the captains received non-written geographic information from Indigenous peoples. This includes the information about good hunting locations from the Clatsop, information about the shortcut between the Missouri and Bitterroot rivers from Old Toby, and when Yakama fishermen informed Clark about the location of the mouth of the Yakima River along the Columbia.

The captains put the matter of a site for winter lodgings up to a vote of the entire expedition, including York (Clark's slave) and Sacagawea. The outcome was to send an advance party across to the south shore of the river to determine whether elk were in fact abundant before

reaching a final decision. Within a few days, expedition hunters found the Clatsop information proved accurate. Ultimately, the decision to establish the winter quarters in the area the Clatsop recommended (as opposed to returning farther upriver) came down to four factors: the presence of elk nearby, the close proximity to the ocean where salt could be obtained, milder temperatures by the coast, and the possibility that a European or American trading vessel might arrive over the course of the winter.[66]

Construction on the winter lodgings began soon after. As they had with Fort Mandan, Lewis and Clark named the establishment after the closest Indigenous neighbour, in this case Fort Clatsop. That, however, is where most of the similarities between the Fort Mandan and Fort Clatsop winters end. Whereas the 1804-5 winter was characterized by shared entertainment and friendly visiting between the expedition and the Mandan-Hidatsa, the 1805-6 winter was characterized by strict business relations and tension between the expedition and local Chinookans. The captains instituted a formal guard rotation and regulations that required locked gates at night and all Indigenous peoples to vacate the premises of the fort each evening at sunset.[67]

This heightened security reflected the overall wariness of the expedition. Lewis and Clark knew little of Chinookan peoples and had no impetus to learn. Well outside the boundaries of the Louisiana Purchase, the captains felt no incentive to foster diplomatic relations with local communities. Lewis and Clark did not invite any local leaders to council at Fort Clatsop over the winter nor did they visit any of the neighbouring Chinookan villages.[68] They confined nearly all interactions to trading and even then, kept business dealings infrequent.

Indigenous traders only visited Fort Clatsop on twenty-four occasions during the four

[66] Cutright, *Lewis and Clark: Pioneering Naturalists*, 243.
[67] *JLCE,* January 1 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-01-01
[68] Ronda, *Lewis and Clark among the Indians*, 193.

months that the expedition spent on the coast.[69] Trading aggravated both the captains and the Chinookans. The Chinookans had grown accustomed to European and American maritime traders interested furs and pelts.[70] All the expedition wanted, however, was food. The captains, running low on trade goods and knowing they had to preserve some for the return journey, were appalled by the prices Chinookan traders demanded for their provisions. Described by Lewis and Clark as "great higlers," Chinookans were experienced traders who drove hard bargains.[71] They were fully aware of the value of the commodities they presented. In any case, high prices lessened the frequency of the interactions between the expedition and local communities.

Curiosity and proximity, however, ensured the occurrence of some amiable interaction. Towards the end of their stay at Fort Clatsop, the captains noted their appreciation for a Clatsop leader named Coboway for his continued "good conduct and friendly intercourse" over the winter.[72] A Clatsop youth by the name of Twiltch also regularly accompanied expedition hunters in their search for elk. Years later after Twiltch had made a name for himself in his community for his proficiency with firearms, he recounted with pride that Lewis and Clark themselves had taught him the art of marksmanship.[73]

The most prolonged interaction though occurred beyond the confines of Fort Clatsop. Almost immediately after erecting Fort Clatsop, the captains sent five men to make camp on the beach for saltmaking. The party needed salt for curing meat and many of the men also liked it for flavouring. The saltmakers selected the site of present-day Seaside, Oregon, about 20km

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[69] Ibid., 190.

[70] William L. Lang, "The Chinookan Encounter with Euro-Americans in the Lower Columbia River Valley," in *Chinookan Peoples of the Lower Columbia*, ed. Robert T. Boyd, Kenneth M. Ames, and Tony A. Johnson (Seattle: University of Washington Press, 2013), 256–57.

[71] *JLCE,* January 4 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-01-04

[72] *JLCE,* March 19 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-03-19

[73] Olin D. Wheeler, *The Trail of Lewis and Clark, 1804-1904: A Story of the Great Exploration across the Continent in 1804-06; with a Description of the Old Trail, Based upon Actual Travel over It, and of the Changes Found a Century Later*, vol. 2 (New York: The Knickerbocker Press, 1904), 197.

(12.5mi) southwest of Fort Clatsop, as the centre for their work. This location was amidst territory shared by the Clatsop and Tillamook peoples.[74] This afforded the saltmakers more of an opportunity to engage with the locals compared to the men at Fort Clatsop. The saltmakers spent time in Indigenous homes during the winter, the only expedition members to do so, and lived alongside their Clatsop and Tillamook neighbours.[75]

On January 5 1806, two of the saltmakers returned to Fort Clatsop with a gallon of salt and an unexpected surprise. The saltmakers brought with them "a considerable quantity" of whale blubber they had traded for with some Tillamooks and informed the captains it came from a beached whale south of the saltmaking camp.[76] Finding the whale meat to be "very pallitable and tender", Clark resolved to set out the following day in search of the whale and to trade for more blubber.[77] Clark engaged twelve men to accompany him along with Sacagawea, Charbonneau, and their baby Jean-Baptiste. Sacagawea convinced Clark to let her come by asserting that "she had traveled a long way with us to See the great waters, and that now that monstrous fish was also to be Seen, She thought it verry hard that She could not be permitted to See either."[78] Clark could hardly argue with that logic. The party departed Fort Clatsop on the morning of January 7 and arrived at the saltmaking camp early the following day.

At the saltmaking camp, Clark hired a Tillamook man to guide the expedition to the whale site in exchange for a woodworking file (Figure 10). The guide led the party south until reaching a large promontory and motioned that the only way was to ascend the ridge, which Clark described as an "emence mountain."[79] Now called Tillamook Head, the promontory

[74] Cutright, *Lewis and Clark: Pioneering Naturalists*, 249.
[75] Ronda, *Lewis and Clark among the Indians*, 188.
[76] *JLCE,* January 5 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-01-05
[77] Ibid.
[78] *JLCE,* January 6 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-01-06
[79] *JLCE,* January 7 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-01-07

reaches a height of over 335m (1100ft).[80] At the top of the bluff, Clark looked on at the ocean in awe as he "beheld the grandest and most pleasing prospects which [his] eyes ever surveyed."[81] The next day, once down below on the other side of the promontory by present-day Cannon Beach, the party found themselves at a Tillamook village. Here, the guide pointed to indicate the whale was near and left the party.

To Clark's astonishment, Tillamooks had stripped the entire whale clean of its flesh so that only the "Skelleton of [the] monster" remained.[82] The party lingered long enough for Clark to take a measurement of the massive cetacean, which he recorded at 32m (105 ft), suggesting it was likely a blue whale.[83] Before dusk, the party retraced their steps, returning to the Tillamook village. The locals were busy processing the meat, boiling the blubber and extracting the oil.[84] Clark was able to procure about three hundred pounds of meat and a few gallons of oil to bring back to Fort Clatsop. Reflecting on the adventure, Clark thanked Providence for "having Sent this monster to be *Swallowed by us* in Sted of *Swallowing of us* as [the biblical] jonah's did."[85]

The excitement of the whale-sighting trip was an exception during the 1805-6 winter. For the vast majority of the winter, expedition members experienced monotony, dreariness, and a longing for home. During the four-month period at Fort Clatsop, it rained every day except for twelve and was cloudless for only six.[86] Historian William L. Lang argues that these relentless climatic conditions were "among the most important factors" in influencing the captains negative perception of the Pacific Coast, both in terms of landscape and peoples.[87] More than anything, it

[80] Ibid.
[81] Ibid.
[82] *JLCE,* January 8 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-01-08
[83] Moulton, *The Lewis and Clark Expedition Day by Day*, 379.
[84] Moulton, *The Lewis and Clark Expedition Day by Day,* 379.
[85] *JLCE,* January 8 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-01-08
[86] Cutright, *Lewis and Clark: Pioneering Naturalists*, 250.
[87] William L. Lang, "Lewis and Clark on the Columbia River: The Power of Landscape in the Exploration Experience," *The Pacific Northwest Quarterly* 87, no. 3 (Summer 1996): 141.

seems the expedition was unfit to cope with the endless rain. The men languished and counted the days until springtime when they could begin the return journey.

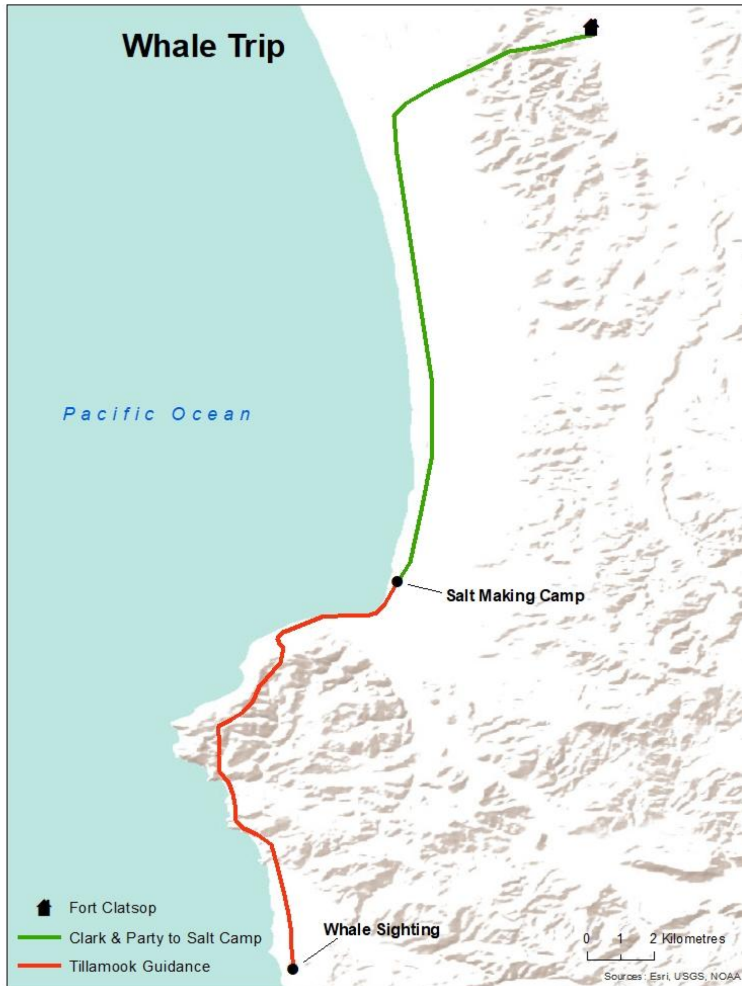

Figure 10 – Whale Trip Route

This map shows the route of Clark's party from Fort Clatsop to the saltmaking camp and the route the Tillamook man guided the expedition along to the site of the whale.

Clark used this extended period of dormancy as an opportunity to work on his mapmaking and to assess the bulk of geographic knowledge he had received since leaving Fort Mandan the previous year. He began his journal entry for February 14 by describing a map he had completed, which depicted the entirety of the expedition's route. The map spanned much of the continent from the confluence of the Missouri and Mississippi rivers in the east to the mouth of the Columbia River at the Pacific Ocean to the west. Clark affirmed that for the portion of the

map that the expedition had passed through, he had laid down the courses of the rivers according to survey and celestial observation. For the rest of the map west of Fort Mandan however, including the sources of those rivers, Clark noted that he based his chart "agreeably to the information of the nativs."[88] This included a map given to Clark sometime over the winter by a Clatsop man that showed the Pacific Coast in detail from about 125km (80mi) north of Fort Clatsop to about 220km (135mi) south of it.

Indeed, for all the mapping Clark did west of Fort Mandan he relied on Indigenous information to fill the periphery of his maps.[89] Indigenous mapmakers had provided him with knowledge over hundreds of kilometres of territory. Unfortunately, this specific map Clark mentioned on February 14 has never been positively identified among the expedition's records making it impossible to know for certain the improvements that it contained compared to his 1805 map of the West, created at Fort Mandan. It is quite likely though that this new map served as the basis for Clark's eventual master map of the West, published in 1814.[90]

From a geographical standpoint, the most significant development over the winter though was not Clark's mapping but the conclusions reached based on the new geographic information Indigenous peoples had provided the captains over the past seven months. After describing his map, Clark proudly declared that he and Lewis had "now discover[ed] that [they] had found the most practicable and navigable passage across the Continent of North America."[91] This proposed passage followed the route the expedition had travelled from St. Louis until the Great Falls of the Missouri. From the Great Falls though, instead of continuing southwest along the Missouri River as the expedition had done, the proposed route was to proceed west overland until arriving at the

[88] *JLCE,* February 14 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-02-14
[89] Moulton, "Lewis and Clark: Pioneering Cartographers on the Columbia River," 21.
[90] Ibid.
[91] *JLCE,* February 14 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-02-14

Bitterroot River and from there picking up the route the expedition had followed across the Lolo Trail and then along the Clearwater, Snake, and Columbia rivers to the Pacific Ocean. The deviation was a result of the shortcut Old Toby had told the captains about and which had been supported by information received from the Bitterroot Salish and Nimiipuu. While this revelation was significant, it did confirm that there was in fact no direct "water communication" across the continent as Jefferson had envisioned.[92]

As spring approached and the long Fort Clatsop winter neared its end, the party looked forward to their departure. The expedition had come a long way since meeting with the Shoshone the previous summer. In that period, they had traversed the Rocky Mountains and the Columbia River Basin, both unknown regions that held little conception in the mind's eye of Euro-Americans at the beginning of the nineteenth-century.[93] For this reason, Lewis and Clark had to rely on Indigenous knowledge keepers both to get a picture of the region and more vitally for route suggestions. Indigenous guides used their expertise of their homelands to advise Lewis and Clark in multiple capacities. Old Toby, Twisted Hair, and Tetoharsky not only led the party across unfamiliar terrain but also acted as interpreters and ambassadors during the expedition's trek to the ocean. Clark and his party even benefited from the guidance of a Tillamook man on their excursion to see the whale, a trip that involved both recreation and trade. All of this assistance contributed to the expedition's safe arrival and winter long stay at the Pacific Ocean.

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[92] Jefferson's Instructions to Lewis, 20 June 1803, in *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, 2nd ed., ed. Donald Jackson (Urbana: University of Illinois Press, 1978), 61.
[93] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 307.

Chapter 3: Return Journey – Pacific Ocean to St. Louis

On the morning of March 27 1806, the Watlalas, an upper-Chinookan people, treated the expedition to a feast of candlefish, sturgeon, wapato, and camas, serving as much food as the party could eat.[1] After the meal, Lewis and Clark inquired about the course of a nearby river that entered the Columbia River just east of the Watlala village. This river, known today as the Cowlitz, constituted one of the few north flowing tributaries of the Columbia River west of its confluence with the Snake River. The Watlalas informed the captains that the river was "navigable a very considerable distance for canoes."[2] Based on this information, Lewis projected correctly that the Cowlitz River then must irrigate "the country lying West" of the Cascade Mountains. This information added detail to a geographical blind spot for Lewis and Clark, as the captains were unable to survey that region for themselves. In this way, the Watlala's meeting with the expedition had been a productive one. Watlala's generosity fed the hungry expedition and their knowledge of the surrounding landscape expanded the captains' understanding of the Columbia River watershed beyond their immediate line of travel.

Four days earlier, the party had departed Fort Clatsop. Despite the urge felt by each man to get home, the expedition's return trip to St. Louis in the spring and summer of 1806 was not simply a mad dash to be back on American soil. Instead, it was one of the most fruitful periods of geographical learning of the entire expedition. On the outbound journey, the captains had focused their attention on learning the route to the Pacific in pursuance of Jefferson's primary geographic instruction to locate "the most direct & practicable water communication across this continent."[3] On the return journey though, this pathfinding was no longer an issue. Although not

[1] *JLCE,* March 27 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-03-27
[2] Ibid.
[3] Jackson, *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, 61.

a direct water passage, the basic route from St. Louis to the Pacific Ocean was now familiar. This insurance allowed Lewis and Clark to more thoroughly pursue Jefferson's secondary geographic instruction to "endeavor to inform [themselves], by enquiry, of the character & extent of the country watered" by the Missouri and Columbia Rivers.[4]

This revamped form of geographic inquiry drove Lewis and Clark to seek out a greater array of Indigenous-made maps, gathering far more on the return journey than they had on the outbound trek (Figure 11). The captains adjusted their focus to learn more about the geographic areas and waterways beyond the now familiar Missouri and Columbia Rivers that they had followed on the outbound trek. As Lewis and Clark received new Indigenous geographic information, they integrated it with conjectural beliefs on the nature of western geography they had held since before the expedition. Sometimes the Indigenous knowledge and conjectural notions were reconcilable and sometimes not, leading to some consequential misinterpretation of the Indigenous information. Overall, on the return journey Lewis and Clark had an "exploring agenda every bit as complex" as the one they had adhered to on the outbound trek.[5] Increased geographic consultation also meant further immersion for Lewis and Clark into Indigenous culture and lifeways as the captains continued to rely on Indigenous knowledge keepers and guides for support.

As they had done with the Watlalas, Lewis and Clark repeatedly sought out information on the courses of nearby rivers as the expedition proceeded east along the Columbia River. On March 31, four days after the meeting with the Watlalas, the expedition arrived at the mouth of the Sandy River on the Columbia. Here, the captains hoped to corroborate an important piece of geographic information they had received over the winter.

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[4] Ibid., 63.
[5] Ronda, "Exploring the American West in the Age of Jefferson," 27.

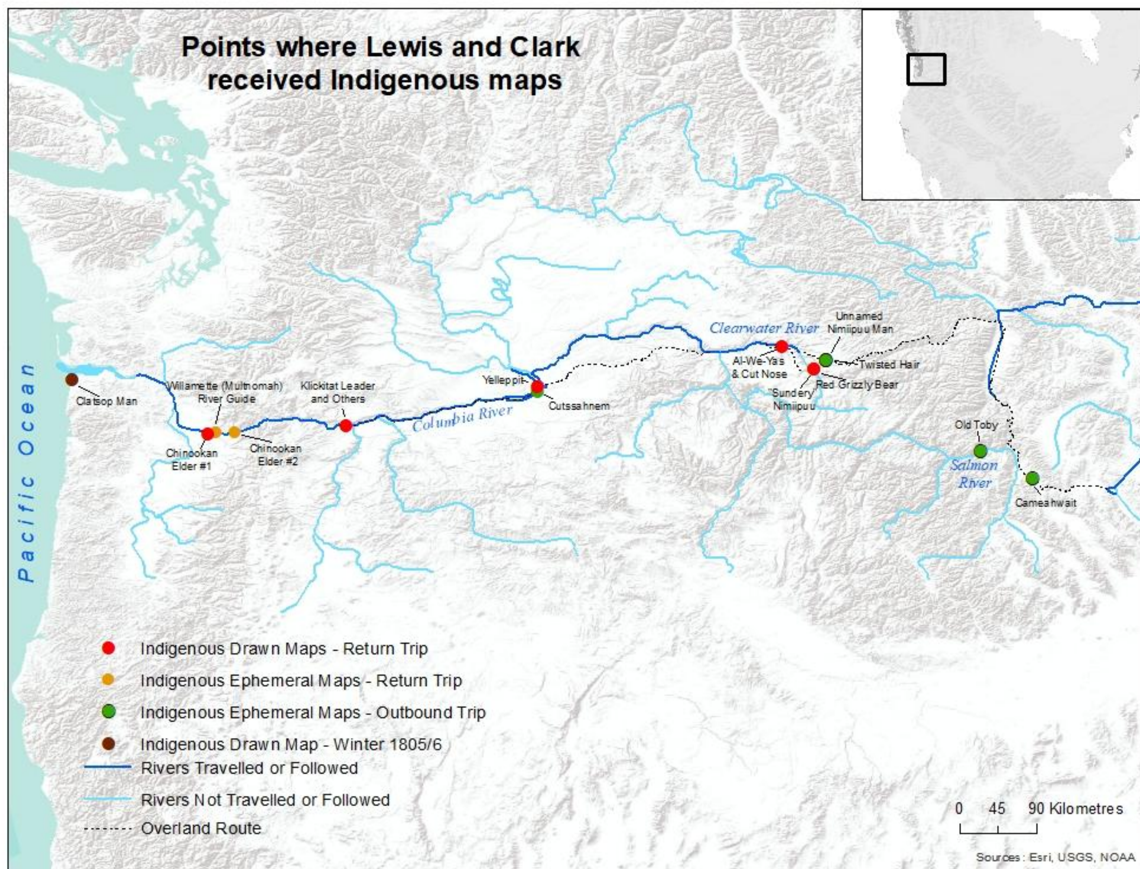

Figure 11 – Points Where Lewis and Clark Received Indigenous Maps

This map shows the places where Lewis and Clark received maps from Indigenous peoples, not including the Mandan-Hidatsa. These maps were either preserved by the captains as distinctly Indigenous renderings, or ephemeral maps (drawn in the ground or on a hide with charcoal) that Clark then copied and designated as based on Indigenous information.

During their time at Fort Clatsop, an Indigenous group of upriver traders had notified Lewis and Clark about "a large river which falls into the Columbia on its South Side at what point [the captains] could not lern."[6] Upon arrival at the Sandy River, the captains believed it was that river. The following day, the captains sent a detachment up the Sandy River, led by Sergeant Nathaniel Hale Pryor. While Pryor led this reconnaissance, Lewis and Clark consulted with three

[6] *JLCE,* February 14 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-02-14

local men on the course of the Sandy. The men informed the captains that the river, which they had "heretofore deemed so considerable," only flowed for about 65 km (40mi), originating at the base of Mount Hood.[7] In the evening, Sergeant Pryor returned with a report of his reconnaissance that corresponded with the Indigenous information. Despite the veracity of this information, Lewis and Clark were unsatisfied. Given their belief in the magnitude of the reputed waterway, the captains remained determined to locate the river in question and resolved to make camp for the next few days in that pursuit.

The next morning, a group of local traders visited the party, accompanied by three men who belonged to another band of Chinookan peoples. These men told Lewis and Clark that their people "resided at the falls of a large river which discharges itself into the Columbia" about 25km (15mi) downriver.[8] Excited by this information, the captains "readily prevailed" on the men to draw a map of this river.[9] The resulting map, drawn on a mat with charcoal, situated the mouth of this river along the Columbia behind an island on its south side. On both the outbound and return trips, the party had passed this island to the north and consequently had missed seeing it. Clark promptly recruited seven men to accompany him on a reconnaissance of this river and engaged one of the Indigenous men to guide him in exchange for a burning glass (specialized lens used to focus the sun's rays to start a fire).[10] The river is the present-day Willamette River although the captains called it the Multnomah, presumably a misinterpretation of a Chinookan word. The place where it flows into the Columbia River is the location of present-day Portland, Oregon.

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[7] *JLCE,* April 1 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-01; Mount Hood was named in 1792 by British Lieutenant William Broughton for Admiral Samuel Hood. Lewis and Clark were aware of this.
[8] *JLCE,* April 2 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-02
[9] Ibid.
[10] Ibid.

Clark's reconnaissance lasted two days and one night. He ascended the Willamette River a little over 16km (10mi) and measured its depth to be more than 9m (30ft). On the way back to the main camp, Clark's party stopped at the village of their guide along the Columbia River. At this village, Clark conferred with an "old and inteligent" Chinookan man.[11] This man drew a map for Clark that depicted the course of the Willamette River south of its confluence with the Columbia and showed the different Chinookan groups residing along the river. By the end of his reconnaissance of the Willamette, Clark considered himself to be "perfectly Satisfyed of the Size and magnitude of this great river."[12]

Unfortunately, this satisfaction proved unfounded and resulted in Lewis and Clark's "most critical...geographic error" of the entire expedition.[13] Based on the Indigenous information they had received and Clark's reconnaissance, the captains extrapolated that the Willamette River must "Water that vast tract of Country betwen the Western range of mountains [Rocky Mountains] and those on the Sea coast [Cascade Mountains] and as far S. as the Waters [Gulf] of Callifornia."[14] This was a vast overestimation and distortion of the actual course of the Willamette River, which in reality only flows for about 300km (185mi), all of which is confined to northwestern Oregon.

This monumental error, which proceeded to "haunt [subsequent] explorers for the next thirty years," was due to a combination of two factors.[15] First, the captains were wrongly applying information they had received from Indigenous peoples about the course of the Snake River to the Willamette. This misconception would be somewhat cleared up once Lewis and Clark learned more about the Snake River over the coming weeks. Second, and more

[11] *JLCE,* April 3 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-03
[12] Ibid.
[13] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 341.
[14] *JLCE,* April 3 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-03
[15] Ronda, "Exploring the American West in the Age of Jefferson," 56.

significantly, the captains charted the Willamette River in this way to conform to a prevalent geographical notion at the time, called the pyramidal height-of-land theory.[16] This theory proposed a common source area from which rivers flowed to the Pacific Ocean, Gulf of California, and Gulf of Mexico. While the captains had not found this source area by the headwaters of the Missouri and Columbia rivers, they still envisaged it existed, only to the south. As a result, the captains conceived that the Willamette originated in a region where the headwaters of the Yellowstone, Bighorn, Platte, Snake, Arkansas, Colorado, and Rio Grande rivers were also all located.[17] It is clear, then, that this error resulted not from a "willful attempt to deceive" on the part of Indigenous geographic informants, as previous scholarship has suggested, but from a widely accepted Euro-American geographical theory that has since been proven erroneous.[18]

On April 6, the expedition resumed its upriver journey, leaving its camp by the Sandy River. The next day, while briefly stopped on shore to trade for provisions, Clark consulted with a Chinookan elder whom he asked about the course Willamette River. The elder proceeded to draw a map in the sand that "perfictly Corisponded" to the previous maps Clark had received.[19] While the map did not change Clark's opinion on the course of the Willamette, which he continued to believe was much larger than in reality, the Chinookan elder's map did elucidate another geographic feature for Clark. The elder's representation of a mountain captivated Clark. A week prior on a clear day, Clark had glimpsed a distant snow-covered peak, which he called Mount Jefferson in honour of the president (a name it retains). Now, the Chinookan elder depicted the mountain in detail for Clark. Laid down to the southeast of the confluence of the

[16] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 328.
[17] Ronda, "Exploring the American West in the Age of Jefferson," 56.
[18] Malcolm G. Lewis, "Recent and Current Encounters," in *Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use* (Chicago: University of Chicago Press, 1998), 83.
[19] *JLCE,* April 7 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-07

Willamette and Columbia rivers, the elder showed the mountain by "raiseing the Sand."[20] Based on the pre-eminence that the elder gave to the mountain, Clark correctly deduced that it was even larger than the formidable Mount St. Helen's. Slowly but surely, Clark was learning more about the geography of the region because of Indigenous information.

Within a few days, the party arrived at the western end of the hazardous series of rapids and falls that had proved so troublesome the previous autumn. This time going upriver, however, the expedition found the river travel to be even more difficult. Due to snowmelt, the Columbia coursed faster and flowed about 6m (20ft) higher in some places than it had in the fall of 1805.[21] Before long, the party grew fatigued and dejected by the strenuousness of manhandling the canoes against the current and portaging them around the rapids. By April 15, upon arrival at The Dalles, the men had had enough. The captains decided to set up camp and see if they could trade for horses over the next few days to carry the party to the Nimiipuu villages, located at the western edge of the Rocky Mountains.

At The Dalles, the captains split up in order to cover more area and maximize their chance for success in their pursuit of trading for horses. Clark took a party of eleven men and Sacagawea a few kilometres upriver in order to set up his wares for local customers to see. In this, Clark assumed the role of a merchant like any other at The Dalles, the trading locus of the region, which he described as "the Great Mart of all this Country."[22] While engaged as a vendor, Clark met a Klickitat leader from whom he "precured a Sketch of the Columbia and its branches" from The Dalles to past the Columbia's confluence with the Snake River.[23] This map correctly depicted the courses of the Deschutes, John Day, Umatilla, and Walla Walla rivers, all southern

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[20] Ibid.
[21] Huser, *On the River with Lewis and Clark*, 12.
[22] *JLCE,* April 16 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-16
[23] *JLCE,* April 20 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-20

tributaries of the Columbia, as relatively short. Clark, still relying on false assumptions, wrongly interpreted this new piece of knowledge as a further confirmation that the Willamette River had to water the "extensive tract" of land to the south of the Columbia.[24]

If Clark lacked as a geographical theorist, he fared even worse as a tradesperson. By April 21, when the party was set to leave The Dalles, they had traded for only ten horses in total.[25] Unaccustomed to the local bargaining system, the steep prices demanded for horses were simply more than the captains could afford to pay. The party resolved to proceed on foot. There was, however, a significant consolation. Clark had met an unnamed Nimiipuu man, presumably in the area for trading, who offered to guide the expedition on his way home to the Nimiipuu villages.[26]

For about the first week after leaving The Dalles, the expedition's route was straightforward and the party needed little guidance as they continued to follow the course of the Columbia River. The Nimiipuu man, instead, assumed the role of an advisor. He notified the captains about the distances between villages along the route, about what groups would be more hospitable, and about whom the local leaders were at different villages. This information was extremely useful for the captains both in deciding where to make camp each night and in their continued efforts to trade for additional horses.

On April 27, as the expedition neared the confluence of the Snake and Columbia rivers, they met a "man of much influence not only in his own nation but also among the neighbouring tribes and nations."[27] This man, called Yelleppit, was the leader of the Walla Walla people. The party had met him briefly on their outbound journey but as they were in a rush, they did not visit

[24] Ibid.
[25] Moulton, *The Lewis and Clark Expedition Day by Day*, 461.
[26] *JLCE,* April 21 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-21
[27] *JLCE,* April 27, 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-27

long and the captains had promised to spend a few nights in his village on their return. Now, Yelleppit displayed great hospitality and the party all "suped heartily" on food supplied by the Walla Wallas.[28] During friendly dinner conversation, the Walla Wallas also provided Lewis and Clark with a crucial piece of geographic information. They informed the captains about a more direct route the party could follow to the Nimiipuu villages. The trail was well stocked with game and water sources, and would shorten the journey to the Nimiipuu villages by over 125km (80mi) compared to following rivers as they had done on the outbound trip.[29] After consulting with Yelleppit and their Nimiipuu guide, who both corroborated the information, the captains "did not hesitate" in their decision to pursue this overland shortcut.[30]

Over the next two days, in order to access the shortcut, the party ferried their supplies across the Columbia River to its south side with canoes borrowed from Yelleppit. During this period, a formal council was held. Yelleppit expressed his desire to gain a prominent place in the American trade system and the captains assured him that in the coming years Americans would establish a trading post at the headwaters of the Missouri River.[31] As was customary with their diplomatic councils, Lewis and Clark presented a peace medal and an American flag to Yelleppit. The interaction built a relationship of mutual respect.

Five years later, in 1811, when British-Canadian explorer and trader David Thompson came down the Columbia River, Yelleppit had retained the medal and flag, and he proudly showed them to Thompson.[32] This signified the high regard Yelleppit had for the captains, which they echoed. After the expedition, Clark wrote that out of all the Indigenous leaders he had

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[28] Ibid.
[29] *JLCE,* April 27 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-04-27
[30] Ibid.
[31] Ronda, *Lewis and Clark among the Indians*, 220.
[32] David Thompson, *Columbia Journals*, ed. Barbara Belyea (Montreal: McGill-Queen's University Press, 2015), 152.

encountered on the journey, Yelleppit "was the greatest we met with."[33] For all the mutual respect however, the promises Lewis and Clark had made about future trade fell well short of expectations. While the St. Louis Fur Company did establish Fort Henry at the Three Forks of the Missouri in the spring of 1810, they had to abandon it very soon after owing to Blackfoot raids.[34] The Walla Walla had to wait until 1818 for a Euro-American trading partner when the British-Canadian North West Company, at the recommendation of David Thompson, erected a trading post at the confluence of the Columbia and Walla Walla rivers. Although promises of future American trade proved useful for Lewis and Clark in fostering good relations with Indigenous peoples, the United States was unable to uphold them in the years following the expedition.

Before leaving Yelleppit and the Walla Wallas, the captains took the opportunity to discuss geography with their hosts. The Walla Wallas moved villages seasonally and their homelands extended across much of the Columbia Plateau, requiring them to be knowledgeable of a vast region.[35] Yelleppit informed the captains that the Walla Walla, Deschutes, Umatilla, John Day, and Tucannon rivers all had their sources in the same range of mountains to the southeast. This description provided Lewis and Clark with the first "accurate rendering" they had received on the alignment of the present-day Blue Mountains that span throughout much of northeastern Oregon and into southeastern Washington.[36] Based on this information, Clark sketched a map, which he annotated "given us by Yellept the principal Chief of the Wallah

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[33] Jackson, *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, 544.

[34] Theodore Binnema and William A. Dobak, "'Like the Greedy Wolf': The Blackfeet, the St. Louis Fur Trade, and War Fever, 1807-1831," *Journal of the Early Republic* 29, no. 3 (2009): 418–19.

[35] Roberta Conner and William L. Lang, "Early Contact and Incursion, 1700 - 1850," in *Wiyaxayxt / Wiyaakaa'awn / As Days Go by: Our History, Our Land, Our People -- The Cayuse, Umatilla, and Walla Walla* (Pendleton, OR: Tamastslikt Cultural Institute, 2006), 28–29.

[36] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 340.

wallah Nation."[37] Aside from their considerable misconceptions about the Willamette River, the captains were gaining a better understanding of the geography of the Columbia Plateau, which they would seek to build upon even further during their anticipated visiting with the Nimiipuu.

On the morning of April 30, the expedition departed from the Walla Walla, whom Lewis described as "hospitable, honest, and sincere people."[38] Since leaving The Dalles, the party had experienced more success trading for horses and now had twenty-three horses to transport their baggage as they embarked on the overland shortcut to the Nimiipuu villages. Led by their Nimiipuu guide, the expedition proceeded without difficulty across present-day southeastern Washington State, through Walla Walla, Columbia, Garfield, and Asotin counties. This nearly 200km (115mi) trail along the northernmost foothills of the Blue Mountains was an established Nimiipuu road used to travel to and from the Columbia River.[39] Traversing Indigenous trails was a common strategy for the captains. In fact, Lewis and Clark rarely ever blazed their own trail. Either the expedition followed the course of a river or, when inland, followed pre-existing Indigenous trails.

By the afternoon of May 4, the expedition was back in Nimiipuu territory. The party arrived at a Nimiipuu village, located at the site of present-day Clarkston, Washington. Here, they saw a familiar face in the form of Tetoharsky, one of the guides who had accompanied the party down the Columbia River the previous fall. Tetoharsky welcomed the captains and pointed them in the direction of where they could find Twisted Hair (the other guide from the previous fall), who had watched over their Shoshone horses and resided a few days march from Tetoharsky's village.

As the expedition proceeded on towards Twisted Hair's residence, they were crossing

[37] Ronda, "'A Chart in His Way': Indian Cartography and the Lewis and Clark Expedition," 45.
[38] *JLCE,* May 1 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-01
[39] Pinkham and Evans, *Lewis and Clark among the Nez Perce: Strangers in the Land of the Nimiipuu*, 119.

through the heart of the Nimiipuu homelands. The party passed a number of small villages in which the inhabitants were gathering camas and biscuitroot (cous) in advance of the spring salmon runs. At one of these villages, the captains met with a local leader called Cut Nose, named as such for a scar he had obtained in battle against the Shoshones.[40] The captains presented Cut Nose with a medal, and he remained with the party until they reached Twisted Hair.

Visiting at Cut Nose's village were three Schitsu'umsh (Coeur d'Alene) men. The Salish-speaking Schitsu'umsh lived throughout present-day northern Idaho, with their territory centered on Lake Coeur d'Alene.[41] The captains, realizing this presented an opportunity to learn more about peripheral geographies far beyond the scope of the expedition, eagerly questioned the Schitsu'umsh men about their homelands. The men told Lewis and Clark that they lived "at the falls of a large river disharging itself into the Columbia on it's East side."[42] This fits the description for the present-day Spokane Falls located along the Spokane River, which flows from Lake Coeur d'Alene to the Columbia River. The captains, completely unfamiliar with the waterways of that area, did their best to appreciate the information, but their understanding of it was muddied at best.

In an attempt to comprehend the Schitsu'umsh information, Lewis and Clark oversimplified it. This is evident on Clark's 1814 map, as he drew a lake in that region which could either be interpreted as the present-day Lake Coeur d'Alene or Lake Pend Oreille and a river which similarly could be interpreted as either the Spokane, Pend Oreille, or Kootenay

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[40] *JLCE,* May 5 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-05

[41] E. Richard Hart, "The Continuing Saga of Indian Land Claims: The Coeur D'Alene Tribe's Claim to Lake Coeur D'Alene," *American Indian Culture and Research Journal* 24, no. 1 (2000): 183.

[42] *JLCE,* May 6, 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-06

rivers.[43] Despite the oversimplification, the Schitsu'umsh information did add geographic detail to a region on Clark's map that would have otherwise been completely blank or purely conjectural. That some level of comprehension was reached is a credit to the Schitsu'umsh men, the captains, and the multiple interpreters in a conversation that had to pass through six languages.[44]

Before locating Twisted Hair, Lewis and Clark benefitted from another moment of geographical learning. On the morning of May 8, Cut Nose and the brother of Twisted Hair called Al-We-Yas (who had offered to accompany the party to Twisted Hair's village) drew a map for the captains of the "principall watercourses West of the Rocky Mountains."[45] This map covered a vast area, from about the locations of present-day Portland, Oregon in the west to Missoula, Montana in the east. The map answered an important question that Lewis and Clark had about the nature of the Snake and Salmon rivers.[46] Cut Nose and Al-We-Yas showed the Snake River as a principal waterway and the Salmon River as its tributary, joining the Snake to the south before its confluence with the Clearwater River. The captains had previously believed the opposite, that the Salmon River was the main stream and the Snake River its tributary, so this was a significant clarification.[47]

Over the next few days, the expedition both met Twisted Hair to reclaim their horses and held an important council with the Nimiipuu. The council last two days, May 11 and 12, and the captains had an opportunity to meet the most influential Nimiipuu leaders in the area. These

[43] Robert Carriker, "Still Exploring, Still Learning in 1806: Observations of the Lewis and Clark Expedition between the Columbia and the Biterroot Range," *Oregon Historical Quarterly* 105, no. 3 (Fall 2004): 3.
[44] Presumably from the Coeur d'Alene language (Salishan) to the Nimiipuu language (Sahaptian) to Shoshone to Hidatsa to French to English.
[45] *JLCE,* May 8 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-08
[46] Carriker, "Still Exploring, Still Learning in 1806: Observations of the Lewis and Clark Expedition between the Columbia and the Biterroot Range," 4.
[47] *JLCE,* May 8 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-08

leaders included men by the names of Broken Arm, Red Grizzly Bear, and Five Big Hearts, as well as Cut Nose who had already made the acquaintance of the captains. These men had not been present at the Nimiipuu villages the previous summer when the expedition passed through, as they had been away leading war parties. Beyond the gift giving and the diplomatic concerns discussed at the council, two relevant geographic matters were covered. The two matters of geographic importance were closely related: the return trek across the Rocky Mountains and a location for a campsite in the meantime. The captains' had anticipated the obstacle of the mountains for some time. They had expedited the party's departure from Fort Clatsop under the impression that this would permit them to cross the mountains earlier. Upon arrival in Nimiipuu territory, however, the captains were discouraged to see that snow still covered the mountains.

Now, at the council, the Nimiipuu informed Lewis and Clark that the mountain passes were indeed too deeply packed with snow at this time and that if the party attempted to cross them before the next full moon (about a month's time) they would "certainly perish."[48] After digesting this "unwelcom inteligence," Lewis reasoned that the party would have to form a more permanent camp for the longer-than-expected stay and asked about a good site for that purpose.[49] The Nimiipuu leaders recommended a spot on the eastern side of the Clearwater River. This site was directly across from present-day Kamiah, Idaho, and was near good hunting grounds with plenty of room for the expedition horses to graze. Although expedition journalists never named this campsite, it has historically been referred to as Camp Chopunnish (after Lewis and Clark's name for the Nimiipuu).[50] For all three of the expedition's campsites that they spent prolonged periods of time at (Fort Mandan, Fort Clatsop, Camp Chopunnish), Lewis and Clark chose the site for these camps almost exclusively based on Indigenous recommendations.

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[48] *JLCE,* May 12 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-12
[49] Ibid.
[50] Moulton, *The Lewis and Clark Expedition Day by Day*, 486.

As was their primary concern throughout the expedition, the party's central occupation while at Camp Chopunnish was locating food. Expedition hunters searched the nearby hunting grounds for game, but their yields were never enough to satisfy the entire party. Trading was always an option, but by this time in the expedition, the party's store of trade goods had vastly diminished. Some of the men resorted to stripping their jackets of their brass buttons to trade but these items only garnered limited amounts of local produce. Clark, however, developed an effective strategy in obtaining food for the party. Described by Lewis as the Nimiipuu's "favorite phisician," Clark established a popular doctoring practice that attracted patients from all corners of the Nimiipuu villages.[51] Clark administered medicine from the expedition's stockpile in response to a number of purported ailments and in exchange for food. These medicines included eyewash, laudanum, laxatives, and various salves and ointments. Lewis recognized the "deseption" involved in this quasi-medical practice but considered it "pardonable" given that the Nimiipuu were prescribed "no article which can possibly oinjure them" and no medicine that expedition members had not taken themselves.[52] Despite the deceitful aspects of this practice, many Nimiipuu sought out Clark for his doctoring, and the practice functioned as an offshoot of the already established positive relations between the Nimiipuu and the expedition.

As the month of May progressed, this friendly accord was a prominent feature of life at Camp Chopunnish. Expedition members and Nimiipuu men played games together and had athletic competitions. These included horse races, foot races, and a game called "prison base" (a version of which is still played on school grounds today). The captains appreciated this friendly competition and exercise, as they worried that some of the non-hunters in the party had become

[51] *JLCE,* May 12 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-12
[52] *JLCE,* May 5 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-05

“reather lazy and slouthfull” over this extended period of inactivity for the expedition.[53] If the outbound journey through the mountains had been any indication, the captains needed all the men to be strong and attentive for the return trek.

By the end of May, expedition food stores were again a concern for the party. There was only so much doctoring required and Clark’s medical practice dried up. Nimiipuu leader Red Grizzly Bear, in an act of extreme hospitality that demonstrated the goodwill between the Nimiipuu and the expedition, told the captains that the party could help themselves to his stable of horses whenever they were in need of meat. Grateful for this, Lewis wrote that he doubted “whether there are not a great number of our countrymen who would see us fast many days before their compassion would excite them to a similar act of liberallity.”[54] Many years later, in 1842 at around the age of ninety, Red Grizzly Bear recalled this goodwill and remembered how Lewis and Clark had “honored [him] with their friendship and counsel.”[55] Assuredly, without Red Grizzly Bear’s generosity, food shortages would have proved a serious concern for the expedition.

At about the same time as Red Grizzly Bear’s generous offer, two Nimiipuu men brought news to the captains about local salmon runs. The men reported that although it would be some time still before salmon reached upriver as far as Camp Chopunnish, that there were now excellent salmon runs not far on the Snake River. Appreciative of this information, the captains sent Sergeant John Ordway, along with two men, to procure some salmon for the party.

Ordway and his detachment left Camp Chopunnish on May 27 and returned on June 2. Their westerly route took them along minor creeks to the Salmon River and then along the Salmon River until its confluence with the Snake River. The journey featured 1200m (4000ft)

[53] *JLCE,* June 8 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-06-08
[54] *JLCE,* May 27 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-27
[55] Pinkham and Evans, *Lewis and Clark among the Nez Perce: Strangers in the Land of the Nimiipuu*, 147.

changes in elevation as the party straddled the border between the Seven Devils Mountains and Wallowa Mountains in present-day western Idaho.[56] A collection of Nimiipuu guides, including Twisted Hair for a period, led Ordway and his men for different portions of this trip. In addition to procuring some salmon that were "as fat as any [Lewis] ever saw," Ordway's excursion doubled as a geographical reconnaissance as he and his small party saw terrain that no one else on the expedition had the opportunity to witness.[57] Clark questioned Ordway upon his return and used Ordway's report to help fill in some geographical blind spots about the region surrounding the confluence of the Snake and Salmon rivers.[58]

While Ordway was off seeing new territory, Clark engaged in his own geographical learning. Between May 29 and 31, the expedition added two important Indigenous maps to its store of geographic information. The first map, produced by Red Grizzly Bear, spanned from the confluence of the Columbia and Snake rivers in the west to beyond the Three Forks of the Missouri in the east. This map built upon the previous knowledge that Cut Nose had provided to Clark on May 8 by highlighting the Snake River drainage system and again delineating the Snake River as the principal stream and the Salmon River as its tributary. Red Grizzly Bear provided further detail by depicting additional Snake River tributaries both above and below the mouth of the Salmon River, including the present-day Grande Ronde River and Powder River in northeastern Oregon.

Clark produced the second map based off extensive consultation with "sundery" Nimiipuu men.[59] This map built upon the previous knowledge that the Schitsu'umsh had provided to Clark on May 6 about the river system of present-day northern Idaho and northwestern Montana. The

[56] Ibid., 183.
[57] *JLCE,* June 2 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-06-02
[58] Carriker, "Still Exploring, Still Learning in 1806: Observations of the Lewis and Clark Expedition between the Columbia and the Biterroot Range," 5.
[59] *JLCE,* May 31 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-05-31

map depicted a central river, which Clark named after himself, that coursed north along the shoulder of the Rocky Mountains before turning westward until flowing into the Columbia River. While in the present-day, this waterway is considered a combination of three separate rivers (the Bitterroot, Clark Fork, and Pend Oreille), they do all connect.[60] Accordingly, the Nimiipuu did accurately convey to Clark that the waterway represented a continuous thoroughfare by which a person could access the Columbia River from the headwaters of the Bitterroot River without leaving the river.

By early June, the party was becoming restless. The captains were anxious to depart Camp Chopunnish and resume the expedition's return journey. Despite newly received information from the Nimiipuu that the Rocky Mountains should not be crossed until the first of July, the party set off from Camp Chopunnish on June 10. As they departed, Lewis voiced the party's confidence by writing that the expedition felt "perfectly equiped for the mountains."[61] From June 10 to 14, the party camped in Weippe Prairie right at the western base of the Lolo Trail, the same spot that they had emerged from the mountains ten months prior, in order for additional hunting and storing of provisions. On the morning of June 15, the party was underway across the mountains, albeit only temporarily. Two days later, after tromping through snow 4m (15ft) deep in places and losing the trail, it became clear to the captains they had made a serious mistake. Lewis considered it "madnes in this stage of the expedition to proceed without a guide who could certainly conduct us" over the mountains and the dejected party underwent a "retrograde march" back to Weippe Prairie.[62] Navigating the complexities of the cross-mountain trails and inclement weather required experience and knowledge that the Nimiipuu had developed over generations but that the overconfident expedition simply did not possess after only a single crossing the

[60] Moulton, "Lewis and Clark: Pioneering Cartographers on the Columbia River," 24.
[61] *JLCE,* June 10 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-06-10
[62] *JLCE,* June 17 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-06-17

previous summer. Ignoring the Nimiipuu advice proved reckless and resulted in the only backtracking of the entire expedition.

Back at Weippe Prairie on June 18, Lewis and Clark sent two men back to the Nimiipuu villages to find a willing guide. The captains gave a rifle to the men to offer to as incentive. In the event that did not work, an additional two guns and ten horses were to be given once the guide had safely conducted the party east of the mountains. By the afternoon of June 23, the two expedition men returned accompanied by three Nimiipuu men who had agreed to act as guides in exchange for two guns apiece. While Lewis and Clark only identified one of the men as the brother of Cut Nose, Nimiipuu oral histories indicate the other two were the son's of Twisted Hair and Red Grizzly Bear, respectively.[63] Additionally, in the meantime when the two expedition men had been off in search of guides, two other Nimiipuu men had crossed paths with the main party on their way over the mountains and had consented to guide the expedition. This meant that the party now had a total of five guides, described by Lewis as "all young men of good character and much respected by their nation" to lead them eastward along the Lolo Trail.[64]

Notwithstanding their initial blunder and subsequent retreat, the expedition's return journey across the mountains went smoothly. Guided by the five Nimiipuu men, whom Lewis professed were "most admireable pilots," the party reached Traveler's Rest (the site of their camp from September 9-11, 1805) on the eastern side of the Lolo Trail in only six days.[65] On the trek, the captains regretted their initial overconfidence, admitting that "without the assistance of our guides I doubt much whether we... could find our way to Travellers rest in [the] present situation."[66] Indeed, the Nimiipuu knew the way intimately. They never lost the main trail and

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[63] Pinkham and Evans, *Lewis and Clark among the Nez Perce: Strangers in the Land of the Nimiipuu*, 226.
[64] *JLCE,* June 23 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-06-23
[65] *JLCE,* June 27 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-06-27
[66] Ibid.

crucially pointed out good spots to access spring water and horse feed along the way.[67] While the barrier of the Rocky Mountains had proved insurmountable for the expedition on its own, Indigenous guidance facilitated a safe crossing for the party on both the outbound and return journeys.

At Traveler's Rest, the captains finalized a plan they had been formulating since the Fort Clatsop winter. In order for further exploration and geographical reconnaissance, the expedition would split up. Lewis was to lead a party northeast to seek out and verify the shortcut to the Missouri River that Old Toby and other Indigenous informants had described. Clark was to lead a party southeast to the Yellowstone River and then along eastward along the Yellowstone. The two parties were to reunite at the confluence of the Missouri and Yellowstone rivers. In preparation for this penultimate leg of the journey, the expedition camped at Traveler's Rest for three nights, from June 30 to July 3.

During this period, the Nimiipuu guides remained with the party. Although they expressed concern over entering Blackfoot territory, the guides agreed to stay on and accompany Lewis and his party to "put [them] on the road to the Missouri."[68] The guides and the expedition had built up a strong rapport. Before leaving Traveler's Rest, the captains gave the Nimiipuu the guns they had been promised, along with ample ammunition and gunpowder. Lewis and Clark also gave a medal to one Nimiipuu guide, who according to Clark had been "remarkably kind to us in every instance," and to the rest the captains tied blue ribbons in their hair, "which pleased them very much."[69] As a sign of their friendship, the guides held a name exchanging ceremony with the captains, in which they gave Lewis a Nimiipuu name meaning "the white bearskin

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[67] McLeod, "A Cultural History of the Lolo Trail," 40–41.
[68] *JLCE,* July 2 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-02
[69] *JLCE,* July 1 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-01

foalded."[70]

Not only did this ceremony indicate the goodwill between the captains and the Nimiipuu guides, it also represented the growth in Lewis and Clark's cultural learning that had developed over the course of the expedition. Early on in the expedition, the captains had largely dismissed Indigenous cultural practices. As the journey progressed though and the expedition spent time in Indigenous communities and became immersed in Indigenous culture, Lewis and Clark gained an appreciation for Indigenous customs, culminating in the name exchanging ceremony with the Nimiipuu guides. While this appreciation developed partly through trade and diplomacy, geographic inquiry constituted a significant mechanism for Lewis and Clark to learn about Indigenous lifeways. The geographic knowledge Indigenous peoples conveyed to the captains provided a window through which Lewis and Clark, perhaps sometimes unknowingly, also learned about Indigenous worldviews. Beyond that, when Indigenous geographic information proved accurate or when Indigenous guides demonstrated their knowledge of their homelands, it deepened the captain's appreciation of the connection between Indigenous geographical understanding and cultural practices.

On the morning of July 3, the two parties of the expedition set out in their respective directions from Traveler's Rest. Lewis and his party, led by the Nimiipuu guides, proceeded north along the Bitterroot River. At the confluence of the present-day Bitterroot and Clark Fork rivers, the party crossed to the north side of the Clark Fork River and turned eastward, continuing a little ways before making camp. In the evening, the Nimiipuu guides informed Lewis that they would be leaving the party the next day. The guides explained that it was not safe for them to continue any farther into Blackfoot territory and warned Lewis that the Blackfoot would

[70] *JLCE,* July 2 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-02

"cut...off" Lewis and his party.[71] Despite this, the guides showed Lewis a "well beaten track...at no great distance from [their] camp" that would take Lewis to the Great Falls of the Missouri, his intended destination.[72] Before separating, the guides and Lewis "smoke[d] [the] pipe" together and expedition hunters provided the guides with enough meat to last them back to their villages.[73]

The trail the Nimiipuu guides identified for Lewis was called the *k'uysey'ne'iskit,* meaning bison hunt trail in the Nimiipuu language.[74] Many Indigenous groups, including the Nimiipuu, Bitterroot Salish, Kootenai, and Spokane used the trail to cross east over the continental divide and onto the plains to hunt bison.[75] Lewis and his party followed this trail east along the present-day Clark Fork and Blackfoot rivers, over the continental divide, and then east along the Sun River until the Great Falls of the Missouri. The pass in which Lewis and his party crossed the continental divide is now called Lewis and Clark Pass in the Helena National Forest. On July 12, the party arrived at the Great Falls of the Missouri. In total, they had followed the *k'uysey'ne'iskit* for 120km (75mi) over mountainous terrain without any indication of uncertainty, a credit both to the Nimiipuu instructions and to the clear-cut trail.[76] The success of Lewis and his party gave empirical confirmation to what local Indigenous peoples had known for generations, that an overland shortcut existed and was the best route between the Great Falls of the Missouri and the Bitterroot Valley.

At the Great Falls of the Missouri, Lewis's party subdivided further. Lewis took a party north along the Marias River while Sergeant Patrick Gass took charge of the remaining men to

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[71] *JLCE,* July 4 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-04
[72] *JLCE,* July 3 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-03
[73] *JLCE,* July 4 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-04
[74] Scott, "Indian Forts and Religious Icons: The Buffalo Road (Qoq'aalx 'Iskit) Trail Before and After the Lewis and Clark Expedition," 385.
[75] Ibid., 402.
[76] Ibid., 385.

portage the canoes around the falls. The location of the Marias River had surprised the expedition on its outbound journey and Lewis wished to examine its course, especially to see how far north it extended (thus delineating the northern boundary of the United States according to the Louisiana Purchase). Although Lewis was "determined to take every possible precaution to avoid...an interview with" the Blackfoot on this reconnaissance, the Nimiipuu warning proved prescient.[77]

On July 26, Blackfoot warriors spotted Lewis and his party. The next morning, after camping together, a violent altercation occurred (the only one of the expedition) that left one Blackfoot dead and Lewis and his party fleeing south on horseback. After a day and a half of near constant riding over 200km (125mi), Lewis and his party made it back to the Great Falls of the Missouri and reunited with Gass's detachment. From there, they took to the river and proceeded eastward along the Missouri, retracing their steps from the previous year until arriving at the mouth of the Yellowstone and reuniting with Clark and his party. Despite the ill-fated reconnaissance of the Marias River, from a geographical standpoint the verification of the overland shortcut alone made Lewis's exploration worthwhile during this stretch of the expedition.

During Lewis's eventful sojourn, Clark was engaged in exploration of his own. From Traveler's Rest, Clark and his party proceeded south following the course of the Bitterroot River. In this, they effectively retraced their steps from the previous year when Old Toby had guided the expedition. Past the headwaters of the Bitterroot River, the party came to an extensive valley where, according to Clark, the "Indian trail Scattered in Such a manner that we Could not pursue it."[78] Here, Sacagawea informed Clark that as a child she had been in this valley often and knew

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[77] *JLCE,* July 17 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-17
[78] *JLCE,* July 6 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-06

of a nearby passage through the mountains, the present-day Big Hole Pass in Beaverhead County, Montana. Despite later romanticizations of the expedition that overemphasized Sacagawea's role as a guide, her geographic knowledge on this stretch of the journey did prove extremely useful for Clark and his party.[79] Sacagawea's guidance, as well as that of the other Indigenous guides discussed in this chapter, is shown in Figure 12.

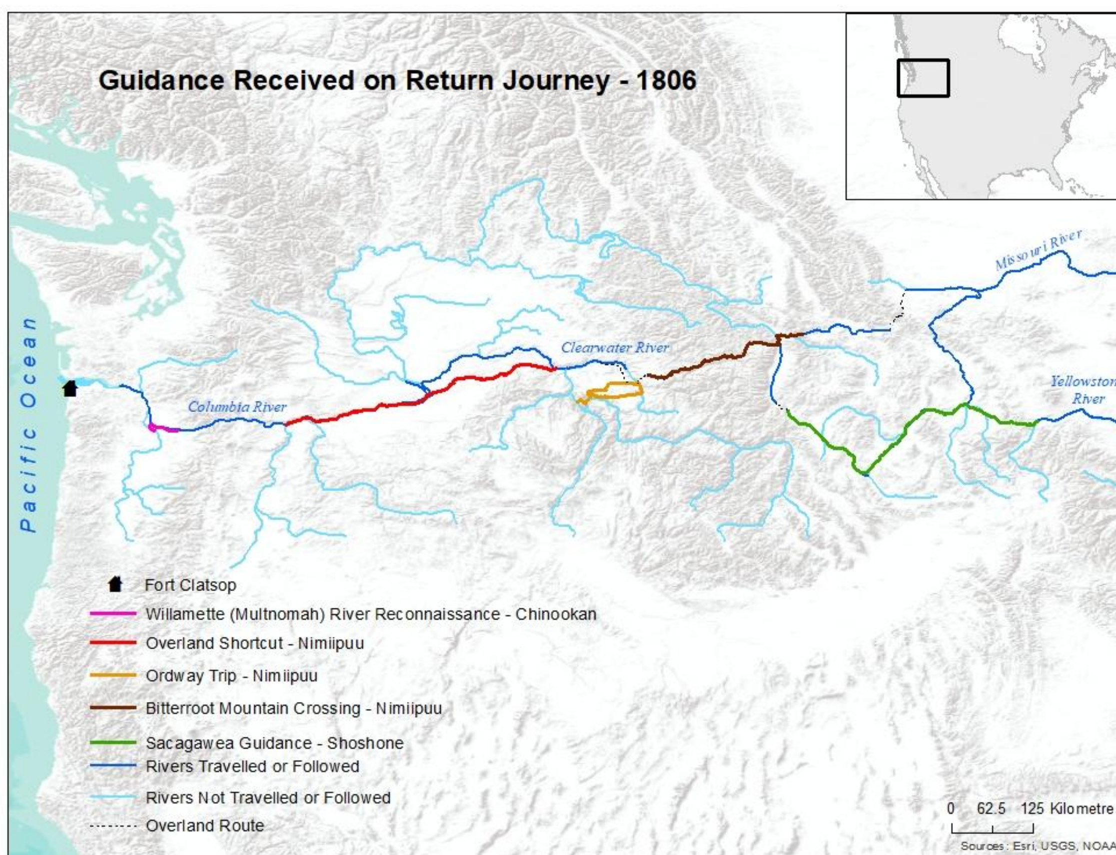

Figure 12 – Guidance Received on Return Journey, 1806

This map shows the portions of the expedition's route on the return journey when they received Indigenous guidance.

[79] Grace Raymond Hebard, *Sacajawea, a Guide and Interpreter of the Lewis and Clark Expedition, with an Account of the Travels of Toussaint Charbonneau and of Jean Baptiste, the Expedition Papoose* (Glendale, California: The Arthur H. Clark Company, 1957); Eva Emery Dye, *The Conquest: The True Story of Lewis and Clark* (Chicago: A. C. McClurg & Co, 1902).

Once across Big Hole Pass, the party soon came to the site of Camp Fortunate (where the expedition had met the Shoshones in August of 1805). Proceeding on from Camp Fortunate, the party again retraced their route from the previous year as they traveled northeast along the Beaverhead and Jefferson rivers. By July 13, they arrived at the Three Forks of the Missouri where the party further split in two. Sergeant John Ordway led a detachment in canoes along the Missouri River until reuniting with Lewis and his party at the Great Falls of the Missouri on July 19. Meanwhile, Clark and the remaining men, plus Sacagawea, continued overland in search of the Yellowstone River. As Clark's party moved southeast now through unfamiliar territory, he acknowledged that Sacagawea "has been of great Service to me as a pilot through this Country [and] recommends a gap in the mountain more South which I shall cross."[80] Past this gap, now called Bozeman Pass, the party reached the Yellowstone River on July 15 at the site of present-day Livingston, Montana. While Clark had wanted Sacagawea with his party to act as an interpreter in the event they encountered a band of Apsaalooke (Crow), her guidance between the Bitterroot Valley and Yellowstone River was instrumental both in navigating mountain passes and in knowing the right Indigenous trails to follow as they weaved throughout the countryside.

Once on the Yellowstone River, the route for Clark's party was straightforward. The party spent a few days camped to construct canoes, and then simply floated eastward with the current towards the Missouri River. While this stretch gave Clark an opportunity to chart the course of the Yellowstone, the speed with which the party travelled afforded the captain little time to survey the surrounding river valley or various tributaries of the Yellowstone River. Although Clark did ascertain the nature of the divide area between the Missouri and Yellowstone rivers, much of the geographic information he noted in his journal during this period was a recollection of what the Mandan-Hidatsa had told him about the region nearly twenty months

[80] *JLCE,* July 13 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-07-13

prior.[81] This included identifying the tributaries he passed according to their Mandan-Hidatsa names and describing their courses based on Mandan-Hidatsa geographic information.

On August 12, the expedition reunited on the Missouri River just east of the mouth of the Yellowstone River. From here, the final leg of the return journey commenced. There was no further geographic exploration or inquiry needed as the party proceeded along the familiar Missouri with haste. Despite learning from traders that Americans had "long Since given out" hope for the expedition's safe return, on September 23 1806, the party arrived at St. Louis more than twenty-eight months after having set out.[82]

The return journey from the Pacific Coast in 1806 marked a period of intensive geographic learning for Lewis and Clark as they sought to expand their knowledge of peripheral regions beyond the expedition's line of travel. Indigenous peoples including multiple Chinookan groups, the Walla Walla, the Schitsu'umsh, and particularly the Nimiipuu provided the captains with maps and information that expanded Lewis and Clark's picture of western geography far beyond the narrow channel that was the expedition's course. While the captains misconstrued some of this information as they filtered it through the lens of long-held conjectural geographic notions, Indigenous knowledge and guidance facilitated the accomplishment of Lewis and Clark's geographical objectives on the return journey. This geographical learning was interwoven with cultural learning as well, enriching the captains' appreciation of Indigenous lifeways more deeply compared to the outbound journey alone.

[81] Allen, "An Analysis of the Exploratory Process: The Lewis and Clark Expedition of 1804-1806," 39.
[82] *JLCE,* September 17 1806, https://lewisandclarkjournals.unl.edu/item/lc.jrn.1806-09-17

Epilogue: Clark's 1814 Master Map of the West

In the summer of 1810, Nicholas Biddle, editor of the first published narrative of the Lewis and Clark journals, wrote to Clark proposing that a map be included in the publication alongside the written account of the expedition. Biddle suggested "a large connected map of the whole route & adjacent country" that spanned as much territory as Clark's "Indian information [would] authorize."[1] Indeed, all of the surveying and geographic inquiry that Clark had pursued throughout the expedition was in anticipation of producing such a continental map. Clark responded to Biddle by informing the editor that although the map was not fixed according to "celestial observations" that it was "much more correct than any which has been before published."[2] Four years later, in 1814, after various delays, the journals and accompanying map, often called Clark's master map, were finally published.

Much had transpired in the intervening eight years since the expedition's completion in 1806. Lewis died unexpectedly in 1809. The circumstances surrounding his death, an apparent suicide from a self-inflicted gunshot, remain murky and some modern scholars believe that Lewis was murdered.[3] Sacagawea died too in 1812 while living with her husband Toussaint Charbonneau at Fort Manuel, a newly established fur-trading post near the Mandan-Hidatsa villages.[4] Although only a young woman of around twenty-five, Sacagawea succumbed to a

[1] Donald Jackson, *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, 2nd ed. (Urbana: University of Illinois Press, 1978), vol 2, 550.
[2] Ibid., 563, 565.
[3] David L. Nicandri, "The Columbia Country and the Dissolution of Meriwether Lewis: Speculation and Interpretation," *Oregon Historical Quarterly* 106, no. 1 (2005): 7.
[44] An alternate theory exists about Sacagawea's death that claims she lived until 1884 and died an old woman at Wind River, Wyoming. This theory is unsubstantiated by the historical evidence and modern scholars agree that it is a myth.; W. Dale Nelson, *Interpreters with Lewis and Clark: The Story of Sacagawea and Toussaint Charbonneau* (Denton, TX: University of North Texas Press, 2003), 73.; Ronda, *Lewis and Clark among the Indians*, 256–58.

"putrid fever" as reported by the chief clerk at the fort.[5] Sacagawea's son Jean Baptiste, whom she had given birth to during the expedition, continued in the exploring tradition of Lewis and Clark. In 1846 at the onset of the Mexican-American War, Jean Baptiste signed on as a guide and was assigned to accompany the Mormon Battalion from Albuquerque to San Diego.[6] In this, he led an expedition west to the Pacific Ocean just as he had witnessed Lewis and Clark do as an infant. After the war, Jean Baptiste remained in the West until his death in 1866.

Clark, for his part, fared well after the expedition. He married and started a family in St. Louis where he worked as the "principal Indian agent for all tribes west of the Mississippi," a position Jefferson appointed him following the expedition.[7] By 1822, after a stint as Governor of the Missouri Territory, Clark assumed the role of the first U.S. Superintendent of Indian Affairs, which he retained until his death in 1838.[8] For the duration of Clark's life and into the 1840s, the map he produced for the published edition of the journals remained the "standard authority" on western North American geography (Figure 13).[9]

Even from a cursory inspection of Clark's map, the complex representation of western mountains and rivers is pronounced. Clark illuminated the multi-ridge structure of the Rocky Mountains, emphasizing the magnitude of this mountain system and reflecting the hardships that the expedition endured in its crossing. Clark also depicted the Cascade Mountains not as a sub-range of the Rockies, but as a distinct mountain range in their own right.[10] This marked the first time in Euro-American mapping that the Rocky and Cascade Mountains were positioned

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[5] Luttig, John C., *Journals of a Fur-trading Expedition on the Missouri River, 1812-1813, ed. Stella M. Drumm (*New York: Argosy-Antiquarian Press, 1964), 106.
[6] Nelson, *Interpreters with Lewis and Clark: The Story of Sacagawea and Toussaint Charbonneau*, 106.
[7] Jay H. Buckley, *William Clark: Indian Diplomat* (Norman, Oklahoma: University of Oklahoma Press, 2008), 66.
[8] Ibid., 146.
[9] Ibid., 84.; J. H. Andrews, *Maps in Those Days: Cartographic Methods before 1850* (Portland: Four Courts Press, 2009), 248.
[10] Ronda, "Exploring the American West in the Age of Jefferson," 34.

correctly. In terms of rivers, Clark accurately identified the headwaters and principal tributaries of the Missouri and Columbia rivers.[11] By doing this, he dispelled the Jeffersonian myth of a short portage between those two rivers. The lasting impact, high level of detail, and accuracy of Clark's master map have led modern scholars to label it as an "undisputed masterpiece of cartography" and as "one of the most important American maps ever produced."[12]

Figure 13 - Clark's Master Map of 1814[13]

For the base layer of his map, Clark used the Nicholas King map of 1803 for the general shape and outline of the continent. This kept the Pacific coastline as delineated by George Vancouver following his explorations in 1792. In certain areas, Clark compiled information from

[11] Except of course for the the Willamette (Multnomah) River, which Clark continued to overestimate and which marked the only glaring error of his map.

[12] Gilman, *Lewis and Clark: Across the Divide*, 163; Spencer Snow, "Maps and Myths: Consuming Lewis and Clark in the Early Republic," *Early American Literature* 43, no. 3 (2013): 694.

[13] William Clark, *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* (Philadelphia: Bradford and Inskeep, 1814), Geography and Map Division, Library of Congress, http://hdl.loc.gov/loc.gmd/g4126s.ct000028.

explorations and trading ventures after the Lewis and Clark expedition for geographic features like mountains and river systems. This included information from the explorations of Zebulon Pike, John Colter and George Drouillard (two former expedition members turned fur traders), and American traders at Astoria. These later ventures provided information on the Upper Mississippi River, the Yellowstone and Big Horn river valleys, and the Pacific Northwest respectively. [14]

The bulk of Clark's master map, however, came from the information he gathered during the expedition itself. Daily route maps, and regional maps produced at Fort Mandan and Fort Clatsop provided the basis for much of this work. The Indigenous knowledge embedded in Clark's map though is what set it apart from earlier published maps of the West. Indigenous maps gathered throughout the journey allowed for Clark's master map to span hundreds of kilometres beyond the areas the expedition visited itself. Had Clark relied only on what the expedition saw first-hand, his map would have only shown detail for a thin line across the continent. To offset this limited scope, Clark relied on Indigenous knowledge and later colonial exploits to expand the map's coverage to both the north and the south of the expedition's route. Clark's master map, compiled from a wide array of sources, symbolized the image of the West that conditioned Euro-American perceptions of the region for decades.[15]

[14] This paragraph up until here is based on information from: Jackson, *Thomas Jefferson & the Stony Mountains: Exploring the West from Monticello*, 273–74.
[15] Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, 376.

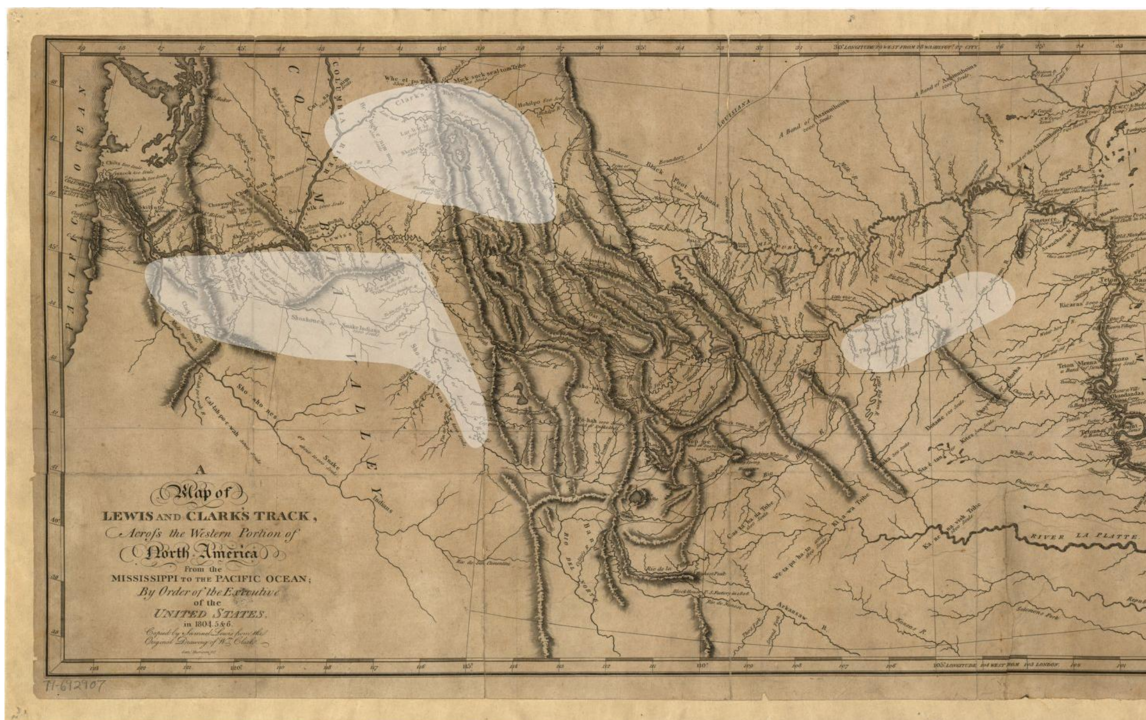

Figure 14 – Western Portion of Clark's Master Map from the Mandan-Hidatsa Villages to the Pacific Ocean

The white highlighted areas of the map show where it can be confidently inferred that Clark drew these geographic regions based entirely or almost entirely on Indigenous information.

While Clark left little record of his process for producing the map, it is clear he closely reviewed both the maps he received from Indigenous community members and his notes detailing the wisdom Indigenous knowledge keepers had shared with him.[16] The contributions of men like Mandan leader Shehek-Shote, Nimiipuu leader Red Grizzly Bear, and Walla Walla leader Yelleppit are all embedded in the map (Figure 14). Clark incorporated Shehek-Shote's knowledge for the Yellowstone River and its tributaries, Red Grizzly Bear's knowledge for the Snake and Clark Fork river systems, and Yelleppit's knowledge for the Blue Mountains and southern tributaries of the Columbia River. Clark's use of Indigenous geographic knowledge in

[16] Kastor, *William Clark's World: Describing America in an Age of Unknowns*, 151.

the master map reflected the significant contributions that Indigenous communities made to the expedition.

The maps that Indigenous knowledge keepers drew for Lewis and Clark provided the expedition with geographic information over a truly extensive region. Figure 15 shows the total area covered by each Indigenous map that Lewis and Clark received west of the Rocky Mountains. The maps span from the Pacific Ocean to the west, past the Three Forks of the Missouri to the east, about the modern Canada-U.S. border to the north, and close to the headwaters of the Snake River to the south. While the maps inevitably varied on the geographic features that they depicted within that area, they provided a window through which Lewis and Clark ascertained more about the West than any Euro-American had before or would for years afterwards. Perhaps equally important, the maps also represent the most tangible record of the impact that Indigenous peoples had on Lewis and Clark's geographic learning during the expedition.

For all the ways that Indigenous knowledge, guidance, and logistical support underwrote the expedition, Clark made little reference to them in his master map. This differed from his open acknowledgement to his European and American sources.[17] In this, Clark contributed to the erasure of Indigenous knowledge, a destructive hallmark of colonialism. Clark's records during the expedition painted a different picture, though. His journals contained frequent descriptions of the value he placed on Indigenous knowledge and he took great care to preserve the Indigenous maps he received. These records allow for the Indigenous knowledge in Clark's master map to shine through even as Clark obscured them in the final product.

[17] Ibid., 19.

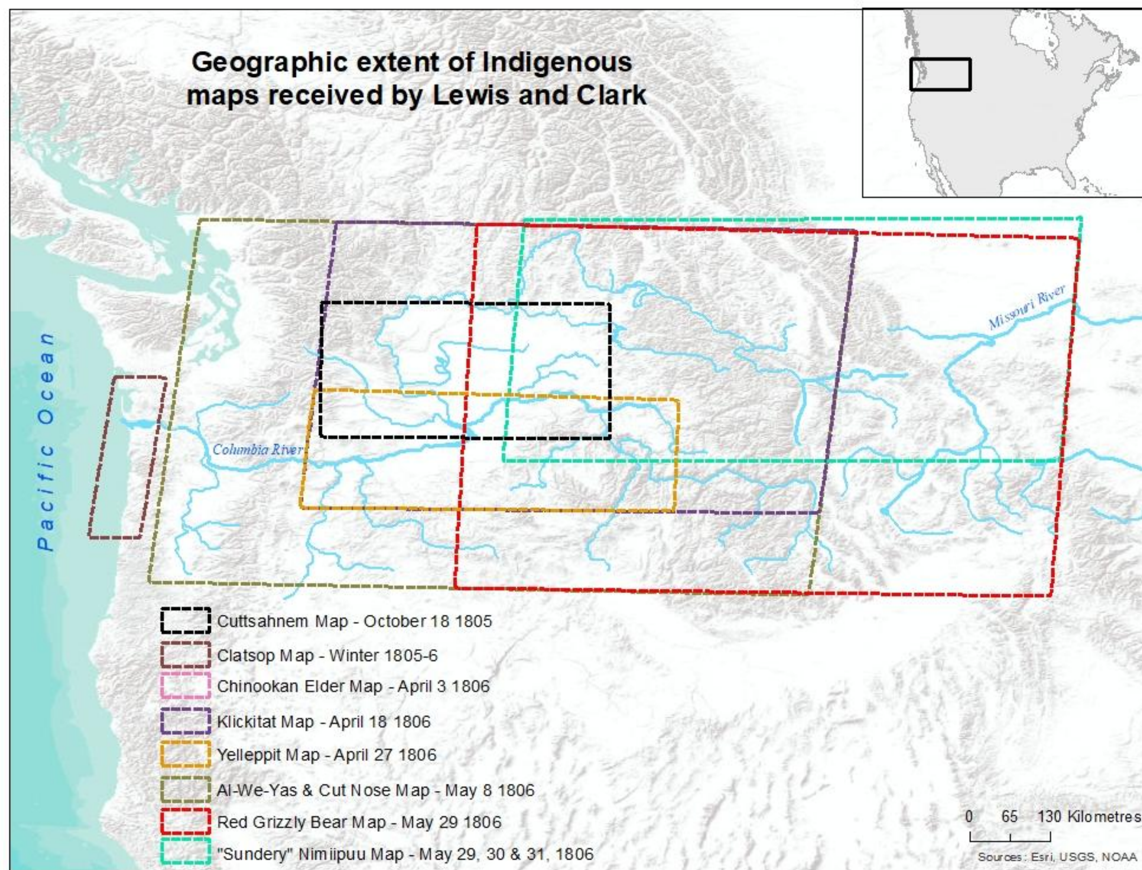

Figure 15 – Geographic Extent of Indigenous Maps Received by Lewis and Clark[18]

The publication of the expedition's narrative and of Clark's master map in 1814 represented both the closing of the final chapter of the Lewis and Clark expedition, and the opening of new possibilities in the West. The captains' journals and particularly Clark's map provided a window through which Americans could envision the "potentialities of empire."[19] Despite Clark's detailed efforts to chart the geography of the West, he made no such effort to

[18] The outlines for the extent of the Clatsop, Al-We-Yas & Cut Nose, Klickitat, and "Sundery" Nimiipuu maps are all based from a map in Gilman, *Lewis and Clark: Across the Divide*, 148.
[19] Jimmy L. Bryan, "Unquestionable Geographies: The Empirical and the Romantic in U.S. Expansionist Cartography, 1810–1848," *Pacific Historical Review* 87, no. 4 (2018): 600.

delineate the political boundaries of the region. The only political boundary to appear on Clark's map was a thin line he drew to represent the northern border of the Louisiana Territory with Britain. Even then, however, Clark positioned the map in such a way that the boundary line continued off the page once west of the continental divide. By this, Clark purposefully obscured the international border of the Oregon Country at a time when Britain and the United States still very much disputed that territory. For the United States' other principal continental imperial rival in Spain, Clark omitted all Spanish claims to the southwest on his map. This did not mean that Clark opted to impose American claims to that region though. Instead, he simply avoided demarcating political boundary lines in the southwest altogether.

The lack of territorial boundaries on Clark's master map also had bearing on Indigenous populations. While Clark included the names of communities in roughly the regions they inhabited, he did not present Indigenous groups as nations despite referring to them as such numerous times in the journals. On his map, the presence of Indigenous peoples did not indicate an impediment to westward settlement. Instead, the region appeared as a vast, contiguous space not bounded by any pre-existing boundaries. This may seem a subtle distinction but it left the door open for Americans to fantasize about expansionism, leading scholars like James P. Ronda to argue that Clark's map "is Manifest Destiny visualized."[20] This representation of the West as open for American settlement was only reinforced by the many Euro-American toponyms like Madison River and Mount Jefferson that filled Clark's map, implicitly making American claims to the land.[21]

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[20] James P. Ronda, *Finding the West: Explorations with Lewis and Clark* (Albuquerque: University of New Mexico, 2001), 55.
[21] Kastor, *William Clark's World: Describing America in an Age of Unknowns*, 178–79; Gilman, *Lewis and Clark: Across the Divide*, 163.

By focusing on geographical features over imperial political boundaries, Clark's map coincided with other published maps of Jefferson's western expeditions. Maps from the Pike expedition, and the Freeman and Custis expedition similarly represented the West as a place of almost nonexistent borders.[22] This reflected the empirical nature of the Jeffersonian expeditions. Before the United States could look to expand west, it had to gain a geographic understanding of western landscapes. Assessing unfamiliar territory was a logical early progression in empire building. The Jeffersonian expeditions, of which Lewis and Clark were the most successful, sought to fulfill this step.

Clark's master map was not a value-free document.[23] Rather, it encapsulated the objectives of the expedition. The interlocking nature of river systems on Clark's map demonstrated the immense possibilities for developing American trade networks in the region. Clark's attempt to accurately represent western mountains and rivers corresponded with the efforts of the expedition to accumulate geographic information and comprehend unfamiliar landscapes. The lack of political boundaries on Clark's map did not imply that he opposed American expansionism. Clark knew that his map would be useful in laying American claims to the West and he sought to create a template onto which future American officials could impose political boundaries that best interested the United States when the time came.[24] While the direct impact that Clark's map or the Lewis and Clark expedition itself had on American westward expansion is difficult to ascertain, it is unquestionable that the lives of the Indigenous peoples who assisted the expedition changed dramatically in only one or two generations.

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[22] Kastor, *William Clark's World: Describing America in an Age of Unknowns*, 178.
[23] Gilman, *Lewis and Clark: Across the Divide*, 163.
[24] Kastor, *William Clark's World: Describing America in an Age of Unknowns*, 182.

This study has sought to examine one such way in which Indigenous communities assisted the expedition, the transfer of geographic knowledge from Indigenous peoples to Lewis and Clark. Not only was Indigenous knowledge essential to the expedition's mapmaking, but it also facilitated the physical progress of the expedition across the continent. Without the geographic information supplied by Indigenous knowledge keepers or the assistance of Indigenous guides, the expedition would have never crossed the Rocky Mountains or reached the Pacific Ocean. Ultimately, then, as the Lewis and Clark expedition remains one of the most well-known sagas in American history, the pivotal role that Indigenous geographic knowledge had in the expedition's success deserves far more recognition than it has thus far received.

Bibliography

Primary Sources

Clark, William. ‘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’. Philadelphia: Bradford and Inskeep, 1814. Geography and Map Division, Library of Congress. http://hdl.loc.gov/loc.gmd/g4126s.ct000028.

———. ‘A Map of Part of the Continent of North America: Between the 35th and 51st Degrees of North Latitude, and Extending from 89^0 Degrees of West Longitude to the Pacific Ocean’. 1805. Geography and Map Division, Library of Congress. http://hdl.loc.gov/loc.gmd/g3300.ct000586.

Crow’s Heart. ‘Geography of a War Party’. In *Mandan-Hidatsa Myths and Ceremonies*, edited by Martha Warren Beckwith, 303–7. New York: Kraus Reprint Co., 1969.

Grinnell, Calvin. Meet the Three Affiliated Tribes, n.d. http://www.lewis-clark.org/article/1178.

Jackson, Donald. *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*. 2nd ed. 2 vols. Urbana: University of Illinois Press, 1978.

Jefferson, Thomas. “From Thomas Jefferson to George Rogers Clark, 4 December 1783.” Founders Online, National Archives. https://founders.archives.gov/documents/Jefferson/01-06-02-0289. [Original source: The Papers of Thomas Jefferson, vol. 6, 21 May 1781–1 March 1784, ed. Julian P. Boyd. Princeton: Princeton University Press, 1952, p. 371.]

King, Nicholas. ‘[Lewis and Clark Map, with Annotations in Brown Ink by Meriwether Lewis, Tracing Showing the Mississippi, the Missouri for a Short Distance above Kansas, Lakes Michigan, Superior, and Winnipeg, and the Country Onwards to the Pacific].’ 1803. Geography and Map Division, Library of Congress. http://hdl.loc.gov/loc.gmd/g4126s.ct000071.

Lewis and Clark Expedition Maps and Receipt. Yale Collection of Western Americana, Beinecke Rare Book and Manuscript Library.

Lewis, Meriwether, William Clark, and Gary E. Moulton. *Atlas of the Lewis & Clark Expedition*. Lincoln: University of Nebraska Press, 1983.

Lewis, Meriwether, Clark, William, et al. *The Journals of the Lewis and Clark Expedition*, ed. Gary Moulton. Lincoln, NE: University of Nebraska Press / University of Nebraska-Lincoln Libraries-Electronic Text Center, 2005. http://lewisandclarkjournals.unl.edu.

Luttig, John C. *Journals of a Fur-trading Expedition on the Missouri River, 1812-1813*, ed. Stella M. Drumm. New York: Argosy-Antiquarian Press, 1964.

U.S. Congress. *Annals of the 7th-9th Congresses*. Vol. XII. Washington, D.C, 1827.

Secondary Sources

Allen, John Logan. “An Analysis of the Exploratory Process: The Lewis and Clark Expedition of 1804-1806.” *Geographical Review* 62, no. 1 (1972): 13–39.

———. *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*. Urbana: University of Illinois Press, 1975.

Alvin M. Josephy Jr., ed. *Lewis and Clark Through Indian Eyes*. New York: Knopf, 2006.
Ambrose, Stephen E. *Undaunted Courage: Meriwether Lewis, Thomas Jefferson, and the Opening of the American West*. New York: Simon & Schuster, 1996.
Andrews, J. H. *Maps in Those Days: Cartographic Methods before 1850*. Portland: Four Courts Press, 2009.
Appel, Peter A. “The Louisiana Purchase and the Lewis and Clark Expedition: A Constitutional Moment?” In *Lewis and Clark: Legacies, Memories, and New Perspectives*, 87–116. Berkeley: University of California Press, 2004.
Belyea, Barbara. “Decision at the Marias.” In *Dark Storm: Moving West*, 31–49. Calgary: University of Calgary Press, 2007.
———. “Inland Journeys, Native Maps.” *Cartographica* 33, no. 2 (Summer 1996): 1–16.
Binnema, Theodore. “How Does a Map Mean?: Old Swan’s Map of 1801 and the Blackfoot World.” In *From Rupert’s Land to Canada: Essays in Honour of John E. Foster*, 201–24. Edmonton: University of Alberta Press, 2001.
Binnema, Theodore, and William A. Dobak. “‘Like the Greedy Wolf’: The Blackfeet, the St. Louis Fur Trade, and War Fever, 1807-1831.” *Journal of the Early Republic* 29, no. 3 (2009): 411–40.
Bowers, Alfred W. *Mandan Social and Ceremonial Organization*. Chicago: University of Chicago Press, 1950.
Boyd, Robert T., Kenneth M. Ames, and Tony A. Johnson, eds. *Chinookan Peoples of the Lower Columbia*. Seattle: University of Washington Press, 2013.
Briceland, Alan V. “British Exploration of the United States Interior.” In *North American Exploration: A Continent Defined*, 2:269–327. Lincoln, NE: University of Nebraska Press, 1997.
Bryan, Jimmy L. “Unquestionable Geographies: The Empirical and the Romantic in U.S. Expansionist Cartography, 1810–1848.” *Pacific Historical Review* 87, no. 4 (2018): 593–637.
Buckley, Jay H. *William Clark: Indian Diplomat*. Norman, Oklahoma: University of Oklahoma Press, 2008.
Calloway, Colin. “Snake Frontiers: The Eastern Shoshones in the Eighteenth Century.” *Annals of Wyoming* 63, no. 3 (1991): 82–92.
Campbell, Gregory R. “The Lemhi Shoshini: Ethnogenesis, Sociological Transformations, and the Construction of a Tribal Nation.” *American Indian Quarterly* 25, no. 4 (2001): 539–78.
Carriker, Robert. “Still Exploring, Still Learning in 1806: Observations of the Lewis and Clark Expedition between the Columbia and the Biterroot Range.” *Oregon Historical Quarterly* 105, no. 3 (Fall 2004).
Chuinard, M.D., Eldon G. *Only One Man Died: The Medical Aspects of the Lewis and Clark Expedition*. Glendale, California: The Arthur H. Clark Company, 1980.
Clarke, Charles G. “The Roster of the Expedition of Lewis and Clark.” *Oregon Historical Quarterly* 45, no. 4 (December 1944): 289–305.
Conner, Roberta, and William L. Lang. “Early Contact and Incursion, 1700 - 1850.” In *Wiyaxayxt / Wiyaakaa’awn / As Days Go by: Our History, Our Land, Our People -- The Cayuse, Umatilla, and Walla Walla*, 23–60. Pendleton, OR: Tamastslikt Cultural Institute, 2006.

Crampton, Jeremy W. “Maps as Social Constructions: Power, Communication and Visualization.” *Progress in Human Geography* 25, no. 2 (2001): 235–52.
Cutright, Paul Russel. *Lewis and Clark: Pioneering Naturalists*. Lincoln, NE: University of Nebraska Press, 1989.
Daehnke, Jon D. *Chinook Resilience: Heritage and Cultrual Revitalization on the Lower Columbia River*. Seattle: University of Washington Press, 2017.
DeLay, Brian. “Indian Polities, Empire, and the History of American Foreign Relations.” *Diplomatic History* 39, no. 5 (November 2015): 927–42.
DeVoto, Bernard. *The Course of Empire*. Boston: Houghton Mifflin Co., 1952.
Dodge, Colonel Richard Irving. *Our Wild Indians: Thirty-Three Years' Personal Experience among the Red Men of the Great West*. Hartford, Conn: A. D. Worthington and Company, 1883.
Dye, Eva Emery. *The Conquest: The True Story of Lewis and Clark*. Chicago: A. C. McClurg & Co, 1902.
Fenn, Elizabeth A. *Encounters at the Heart of the World: A History of the Mandan People*. New York: Hill and Wang, 2014.
Flint, Richard. “The Flipside of Discovery: Planned Pueblo Indian Response to the Approach of the Coronado Expedition.” *New Mexico Historical Review* 88, no. 1 (2013): 1–14.
Flores, Dan. “A Very Different Story: Exploring the Southwest from Monticello with the Freeman and Custis Expedition of 1806.” *Montana The Magazine of Western History* 50, no. 1 (2000): 2–17.
Friis, Herman R. “Cartographic and Geographic Activities of the Lewis and Clark Expedition.” *Journal of the Washington Academy of Sciences* 44, no. 11 (November 1954): 338–51.
Furtwangler, Albert. *Acts of Discovery: Visions of America in the Lewis and Clark Journals*. Urbana: University of Illinois Press, 1993.
Gilman, Carolyn. *Lewis and Clark: Across the Divide*. Washington, DC: Smithsonian Books, 2003.
Gow, John Harley. “Persistent Mirage: How the ‘Great American Desert’ Buries Great Plains Indian Environmental History.” University of Saskatchewan, 2011.
Greer, Allan. “Settler Colonialism and Empire in Early America.” *The William and Mary Quarterly*, 3, 76, no. 3 (July 2019): 383–90.
Hajda, Yvonne. “Social and Political Organization.” In *Chinookan Peoples of the Lower Columbia*, edited by Robert T. Boyd, Tony A. Johnson, and Kenneth M. Ames, 106–24. Seattle: University of Washington Press, 2013.
Hall, Ryan. *Beneath the Backbone of the World: Blackfoot People and the North American Borderlands, 1720-1877*. Chapel Hill: University of North Carolina Press, 2020.
Hardwood, Jeremy, and Sarah Bendall. *To the Ends of the Earth : 100 Maps That Changed the World*. Cincinnati, OH: David & Charles, 2006.
Harley, J. B. “Deconstructing the Map.” In *The New Nature of Maps: Essays in the History of Cartography*, 149–68. Baltimore: The John Hopkins University Press, 2001.
———. “Rereading the Maps of the Columbian Encounter.” *Annals of the Association of American Geographers* 82, no. 3 (September 1992): 522–36.
Hart, E. Richard. “The Continuing Saga of Indian Land Claims: The Coeur D'Alene Tribe's Claim to Lake Coeur D'Alene.” *American Indian Culture and Research Journal* 24, no. 1 (2000): 183–88.

Hebard, Grace Raymond. *Sacajawea, a Guide and Interpreter of the Lewis and Clark Expedition, with an Account of the Travels of Toussaint Charbonneau and of Jean Baptiste, the Expedition Papoose*. Glendale, California: The Arthur H. Clark Company, 1957.

Hixson, Walter L. *American Settler Colonialism: A History*. New York: Palgrave Macmillan, 2013.

Hoxie, Frederick E., and Jay T. Nelson, eds. *Lewis & Clark and the Indian Country: The Native American Perspective*. Urbana: University of Illinois Press, 2007.

Hoy, Benjamin. *A Line of Blood and Dirt: Creating the Canada-United States Border across Indigenous Lands*. New York: Oxford University Press, 2021.

Huser, Verne. *On the River with Lewis and Clark*. College Station: Texas A&M University Press, 2004.

Jackson, Donald. *Thomas Jefferson & the Stony Mountains: Exploring the West from Monticello*. Urbana: University of Illinois Press, 1981.

Kastor, Peter J. *William Clark's World: Describing America in an Age of Unknowns*. New Haven, CT: Yale University Press, 2011.

Knowles, Anne Kelly. "GIS and History." In *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship*. Redlands, California: ESRI Press, 2008.

Knowles, Charles R. "Indispensable Old Toby." *We Proceeded On* 29, no. 4 (2003): 26–35.

Lang, William L. "Lewis and Clark on the Columbia River: The Power of Landscape in the Exploration Experience." *The Pacific Northwest Quarterly* 87, no. 3 (Summer 1996): 141–48.

———. "The Chinookan Encounter with Euro-Americans in the Lower Columbia River Valley." In *Chinookan Peoples of the Lower Columbia*, edited by Robert T. Boyd, Kenneth M. Ames, and Tony A. Johnson, 250–71. Seattle: University of Washington Press, 2013.

Lee, Robert. "Accounting for Conquest: The Price of the Louisiana Purchase of Indian Country." *Journal of American History* 103, no. 4 (2017): 921–42.

Lewis, Malcolm G. "Indicators of Unacknowledged Assimilations from Amerindian 'Maps' on Euro-American Maps of North America: Some General Principles Arising from a Study of La Verendrye's Composite Map, 1728-29." *Imago Mundi* 38 (1986): 9–34.

———. "Misinterpretation of Amerindian Information as a Source of Error on Euro-American Maps." *Annals of the Association of American Geographers* 77, no. 4 (December 1987): 542–63.

———. "Native North Americans' Cosmological Ideas and Geographical Ideas and Geographical Awareness: Their Representation and Influence on Early European Exploration and Geographical Knowledge." In *North American Exploration: A New World Disclosed*, 1:71–126. Lincoln, NE: University of Nebraska Press, 1997.

———. "Recent and Current Encounters." In *Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use*, 71–110. Chicago: University of Chicago Press, 1998.

Lucchesi, Annita Hetoevehotohke'e. "'Indians Don't Make Maps': Indigenous Cartographic Traditions and Innovations." *American Indian Culture and Research Journal* 42, no. 3 (July 2018): 11–26.

McLeod, Charles M. "A Cultural History of the Lolo Trail." University of Montana, 1984.

McNeil, Kent. “The Louisiana Purchase: Indian and American Sovereignty in the Missouri Watershed.” *The Western Historical Quarterly* 50, no. 1 (2019): 17–42.

Merritt, J. I. “Cameahwait’s Geography Lesson.” *We Proceeded On* 29, no. 4 (2004): 36–37.

Miller, Robert J. *Native America, Discovered and Conquered: Thomas Jefferson, Lewis and Clark, and Manifest Destiny*. Westport, CT: Praeger, 2006.

Moodie, D. W., and Barry Kaye. “The Ac Ko Mok Ki Map.” *The Beaver*, Spring 1977, 4–15.

Moulton, Gary E. “Lewis and Clark: Pioneering Cartographers on the Columbia River.” In *Enlightenment Science in the Pacific Northwest: The Lewis and Clark Expedition: A One-Day Symposium given on February 18, 1984 at Lewis & Clark College, Portland, Oregon*. Portland: Lewis & Clark College, 1984.

———. *The Lewis and Clark Expedition Day by Day*. Lincoln: University of Nebraska Press, 2018.

Nelson, W. Dale. *Interpreters with Lewis and Clark: The Story of Sacagawea and Toussaint Charbonneau*. Denton, TX: University of North Texas Press, 2003.

Nicandri, David L. *River of Promise: Lewis and Clark on the Columbia*. Washburn, ND: The Dakota Institute Press of the Lewis and Clark Fort Mandan Foundation, 2009.

———. “The Columbia Country and the Dissolution of Meriwether Lewis: Speculation and Interpretation.” *Oregon Historical Quarterly* 106, no. 1 (2005): 6–33.

O’Briant, Kevin. “Too Ne’s World: The Arikara Map and Native American Cartography.” *We Proceeded On* 44, no. 2 (2018): 6–15.

Ostler, Jeffrey. “Locating Settler Colonialism in Early American History.” *The William and Mary Quarterly* 76, no. 3 (July 2019): 443–50.

Pearce, Margaret Wickens, and Renee Pualani Louis. “Mapping Indigenous Depth of Place.” *American Indian Culture and Research Journal* 32, no. 3 (2008): 107–26.

Pinkham, Allen V., and Steven R. Evans. *Lewis and Clark among the Nez Perce: Strangers in the Land of the Nimiipuu*. Washburn, ND: The Dakota Institute Press of the Lewis and Clark Fort Mandan Foundation, 2013.

Robinson, Arthur H., and Barbara Bartz Petchenik. *The Nature of Maps: Essays toward Understanding Maps and Mapping*. Chicago: University of Chicago Press, 1976.

Ronda, James P. “‘A Chart in His Way’: Indian Cartography and the Lewis and Clark Expedition.” *Great Plains Quarterly* 4, no. 1 (Winter 1984): 43–53.

———. “‘A Most Perfect Harmony’: The Lewis and Clark Expedition as an Exploration Community.” In *Voyages of Discovery: Essays on the Lewis and Clark Expedition*. Helena, MT: Montana Historical Society Press, 1998.

———. “Exploring the American West in the Age of Jefferson.” In *North American Exploration: A Continent Comprehended*, 3:9–74. Lincoln, NE: University of Nebraska Press, 1997.

———. “Exploring the Explorers: Great Plains People and the Lewis and Clark Expedition.” *Great Plains Quarterly* 13, no. 2 (Spring 1993): 81–90.

———. *Finding the West: Explorations with Lewis and Clark*. Albuquerque: University of New Mexico, 2001.

———. *Lewis and Clark among the Indians*. Lincoln: University of Nebraska Press, 1984.

Rundstrom, Robert A. “GIS, Indigenous Peoples, and Epistemological Diversity.” *Cartography & Geographic Information Systems* 22, no. 1 (1995): 45–57.

Salish-Pend d’Oreille Culture Committee and Elders Cultural Advisory Council Confederated Salish and Kootenai Tribes. *The Salish People and the Lewis and Clark Expedition*. Lincoln, NE: University of Nebraska Press, 2005.

Scott, Sara A. “Indian Forts and Religious Icons: The Buffalo Road (Qoq’aalx ’Iskit) Trail Before and After the Lewis and Clark Expedition.” *International Journal of Historical Archaeology* 19, no. 2 (June 2015): 384–415.

Short, John Rennie. *Cartographic Encounters: Indigenous Peoples and the Exploration of the New World*. London: Reaktion, 2009.

Skarsten, M.O. *George Drouillard: Hunter and Interpreter for Lewis and Clark and Fur Trader, 1807-1810*. Spokane, Washington: The Arthur H. Clark Company, 1964.

Slaughter, Thomas P. *Exploring Lewis and Clark: Reflections on Men and Wilderness*. New York: Knopf, 2003.

Snow, Spencer. “Maps and Myths: Consuming Lewis and Clark in the Early Republic.” *Early American Literature* 43, no. 3 (2013): 671–708.

Steinke, Christopher. “‘Here Is My Country’: Too Né’s Map of Lewis and Clark in the Great Plains.” *The William and Mary Quarterly* 71, no. 4 (October 2014): 589–610.

Thompson, David. *Columbia Journals*. Edited by Barbara Belyea. Montreal: McGill-Queen’s University Press, 2015.

Troupe, Cheryl Lynn. “Mapping Metis Stories: Land Use, Gender, and Kinship in the Qu’Appelle Valley, 1850-1950.” University of Saskatchewan, 2019.

Ulrich, Roberta. *Empty Nets: Indians, Dams, and the Columbia River*. Corvallis, OR: Oregon State University Press, 1999.

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

Weddle, Robert S. “Soto’s Problem of Orientation: Maps, Navigation, and Instruments in the Florida Expedition.” In *The Hernando De Soto Expedition: History, Historiography, and “Discovery” In the Southeast*, edited by Patricia Kay Galloway, 219–33. Lincoln, NE: University of Nebraska Press, 2005.

West, Elliott. “Finding Lewis and Clark by Stepping Away.” In *Finding Lewis and Clark: Old Trails, New Directions*, 174–90. Pierre, SD: South Dakota State Historical Society Press, 2004.

Wheeler, Olin D. *The Trail of Lewis and Clark, 1804-1904: A Story of the Great Exploration across the Continent in 1804-06; with a Description of the Old Trail, Based upon Actual Travel over It, and of the Changes Found a Century Later*. Vol. 1. New York: The Knickerbocker Press, 1904.

———. *The Trail of Lewis and Clark, 1804-1904: A Story of the Great Exploration across the Continent in 1804-06; with a Description of the Old Trail, Based upon Actual Travel over It, and of the Changes Found a Century Later*. Vol. 2. New York: The Knickerbocker Press, 1904.

Wilson, Gilbert L. *The Horse and the Dog in Hidatsa Culture*. Anthropological Papers of the American Museum of Natural History. New York: American Museum Press, 1924.

Wolfe, Patrick. “Structure and Event: Settler Colonialism, Time, and the Question of Genocide.” In *Empire, Colony, Genocide: Conquest, Occupation and Subaltern Resistance in World History*, edited by A. Dirk Moses, 102–32. New York: Berghahn Books, 2008.

Wood, W. Raymond. *An Interpretation of Mandan Culture History*. River Basin Survey Papers 39. Washington, DC: U.S. Government Printing Office, 1967.

———. “Mapping the Missouri River through the Great Plains, 1673-1895.” *Great Plains Quarterly* 4, no. 1 (Winter 1984): 29–42.

———. “Tribal Relations on the Upper Missouri River before Lewis and Clark.” In *Finding Lewis and Clark: Old Trails, New Directions*, 10–24. Pierre, SD: South Dakota State Historical Society Press, 2004.

Yellow Bird, Loren. “Now I Will Speak (Nawah Ti Waako’): A Sahnish Perspective on What the Lewis and Clark Expedition and Others Missed.” *Wicazo Sa Review*, American Indian Encounters with Lewis and Clark, 19, no. 1 (Spring 2004): 73–84.

Zedeno, Maria Nieves, Kacy Hollenback, and Calvin Grinnell. “From Path to Myth: Journeys and the Naturalization of Territorial Identity along the Missouri River.” In *Landscapes of Movement: Trails, Paths, and Roads in Anthropological Perspective*, 106–32. Philadelphia: University of Pensylvania Press, 2009.