

The Role of Rivers in the United States 19th Century Territorial Expansion from the Mississippi River to the Pacific Ocean

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How to cite this paper: Olson, K.R. (2023)

The Role of Rivers in the United States 19th Century Territorial Expansion from the Mississippi River to the Pacific Ocean. *Open Journal of Soil Science*, **13**, 517-533.

<https://doi.org/10.4236/ojss.2023.1312024>

Received: November 21, 2023

Accepted: December 5, 2023

Published: December 8, 2023

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Abstract

This study explores the key role of rivers in the westward expansion of the United States during the 19th century. In the early 1800s, President Jefferson envisioned a United States that extended from the Atlantic to the Pacific Ocean. At the time, the entire United States territory was located between the Atlantic Ocean and the Mississippi River. Much of the land west of the Mississippi River was claimed by Spain, France, or Canada. In 1803, President Jefferson was able to purchase the Missouri River watershed from France via the Louisiana Purchase. This allowed the United States to extend its land claim west from the confluence of the Missouri and Mississippi Rivers to the head waters of the Missouri River at the continental divide in the Rocky Mountains. President Jefferson commissioned William Clark and Meriwether Lewis, in 1803, to explore, discover and describe the Missouri River watershed and find a water route to the Pacific Ocean. The Lewis and Clark Corps of Discovery trip found no such waterway link but did continue to explore the Pacific Northwest lands north and west of the continental divide. The only way that the Pacific Northwest could be claimed as part of the United States was for Americans to settle there before the Canadians did. Starting in the 1820s, many Americans traveled via the Oregon Trail to the Willamette Valley (Land of Flowing Milk and Honey) in Oregon. The primary objectives of this study are to document how the United States: 1) extended its land claims west from the Mississippi River to the North American continental drainage divide; 2) established an American claim to the Pacific Northwest territory; and 3) fulfilled President Jefferson's vision of a United States extending from the Atlantic to the Pacific Ocean.

Keywords

Louisiana Purchase, President Thomas Jefferson, Oregon Trail,

1. Introduction

Meriwether Lewis and William Clark were tasked by President Jefferson to discover, explore and describe Louisiana Purchase lands, which included the Missouri River watershed [1] and to find a water route to the Pacific Ocean. During their trip, in 1803, Lewis and Clark received official word from President Jefferson that the United States had acquired New Orleans, Louisiana, and 2,144,510 km² of the Missouri River watershed from the French [1]. The Louisiana Purchase from France extended the western United States boundary from the Mississippi River to the Continental Drainage Divide at the headwaters of the Missouri River in the Rocky Mountains.

The Lewis and Clark Corps of Discovery Expedition trip success was a way to encourage Americans to travel west and to settle in the Pacific Northwest. David Thompson, a Canadian, explored most of the Columbia River between 1807 and 1811 for the North West Company. Canadian outposts were later established on the Columbia River at Fort Walla Walla (1818) and Fort Vancouver (1825). The Canadians could not settle the Pacific Northwest, via the Columbia River, before the Americans did, using the Oregon Trail, in the early 1820s.

The primary objectives of this study are to document how the United States, a country, existing in 1803 from only the Atlantic Ocean to the Mississippi River: 1) extended its land claims west from the Mississippi River to the North American continental drainage divide; 2) established its claim to the Pacific Northwest Territory; and 3) fulfilled President Jefferson's vision of a United States extending from the Atlantic to the Pacific Ocean.

2. Methodology

The study shows how the United States methodically extended its territorial claims via rivers from the Mississippi River to the Pacific Ocean. The approach used included the purchase of the Missouri watershed from France via the Louisiana Purchase. In 1803, President Jefferson commissioned William Clark and Meriwether Lewis to explore, discover and describe the Missouri River watershed and find a water route to the Pacific Ocean. The Lewis and Clark Corps of Discovery trip found no such waterway link but did continue to explore the Pacific Northwest lands north and west of the continental divide. Starting in the 1820s, many Americans traveled via the Oregon Trail which paralleled the Platte, Snake, and Columbia rivers to the Willamette Valley (Land of Flowing Milk and Honey) in Oregon.

2.1. Cultural and Natural History

The Spanish and French were the first Europeans to discover the Missouri River and its rich and varied resources in late seventeenth century [2]. The land in the

Missouri River basin was originally controlled by Native Americans, Spanish and French. After President Thomas Jefferson agreed to the Louisiana Purchase it became part of the United States.

2.2. Exploration of the Upper Mississippi River Watershed and Settlement History

The French explorers, Pere Jacques Marquette (a Jesuit Priest) and Louis Jolliet, left Lake Huron and traveled down the Wisconsin and Upper Mississippi rivers in May of 1673. These French explorers were the first Europeans to visit the confluence of the Missouri and Mississippi rivers [2].

Spain and the young United States signed Pinckney's Treaty in 1795 which gave America the rights to navigate the entire Mississippi River on its western border [2]. In 1798, Spain revoked the treaty and by 1800, the rights to navigate the Lower Mississippi River (Louisiana) were returned to Napoleonic France. Fearing that the U.S. could be cut off from using the Port of New Orleans and the Mississippi River, President Thomas Jefferson proposed buying the Port of New Orleans [3] [4] for \$10 million dollars. France counter offered and indicated it was willing to sell both the Louisiana region and Missouri River valley watershed, for \$15 million dollars—a price less than 8 cents per ha. The deal known as the Louisiana Purchase was officially signed in 1803 (Figure 1) [1].

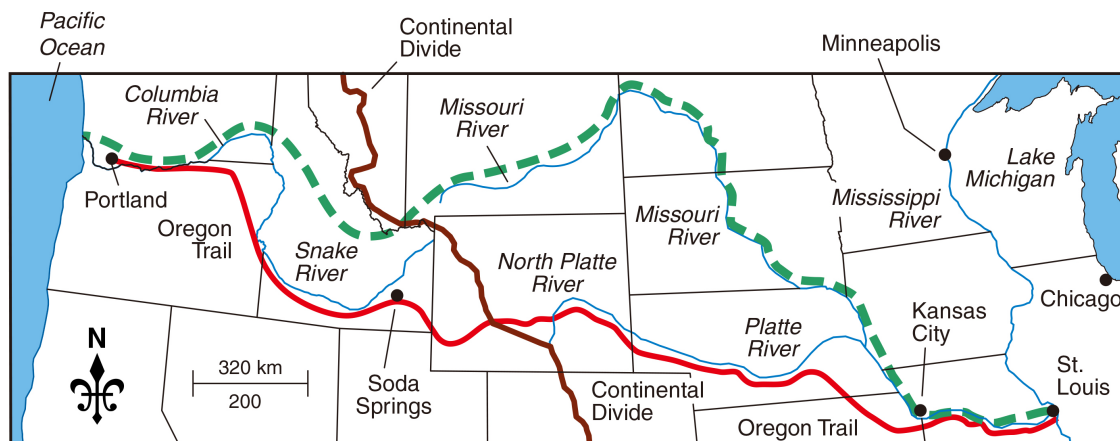
In 1803, President Jefferson commissioned William Clark and Meriwether Lewis to find a water route to the Pacific Ocean and to explore the Missouri River watershed [1]. It was known that the Columbia River system drained west out of the Rockies into the Pacific Ocean and that the headwaters of the Missouri River had a similar latitude as the Columbia River system. Maps of the region were nonexistent or scarce. It was widely thought that there was a connection, or short portage, between the two rivers existed [1] [5] [6] (Figure 2). Meriwether Lewis left Washington D.C. on July 5, 1803, for Pittsburgh, Pennsylvania, via Philadelphia, to obtain a boat for the trip down the Ohio River. He carried a letter from President Jefferson authorizing him to obtain needed support from any federal agency for his expedition. His mission was to find an all-water passage across continental divide and to explore land purchased from Napoleon by President Jefferson.

Ambrose [1] reported that there were delays in the boat construction. It took until August 31, 1803, for the boat construction to be completed and loaded with supplies for the trip down the Ohio River. Lewis reached the Falls of Ohio at Louisville on October 14, 1803. William Clark joined the Expedition at Clarksville, Indiana Territory [5]. The Corps of Discovery expedition left Clarksville, Indiana Territory on October 26, 1803 [1]. After reaching the confluence of the Mississippi and Ohio rivers at Cairo, the Corps of Discovery expedition then travel north, against the flow, on the Mississippi River to St. Louis. Lewis and Clark set up Camp DuBois in Wood River, Illinois Territory (Figure 3). In the spring of 1804, Meriwether Lewis and William Clark expedition traveled north, against the current, on the Missouri River.



Legend Louisiana Purchase

Figure 1. The Louisiana purchase. Reprinted with permission from editor of Journal of Soil and Water Conservation.



Legend
 Oregon Trail 1820s
 Lewis and Clark 1804 - 1806
 Water
 Rivers
 Continental Divide
 State boundaries

Figure 2. The Oregon Trail from St. Louis along the Missouri River, Platte River, North Platte River, overland to the Snake River and the Columbia River to the Cape Disappointment and the Pacific Ocean. Map by Mic Greenberg. Reprinted with permission from editor of Open Journal of Soil Science.

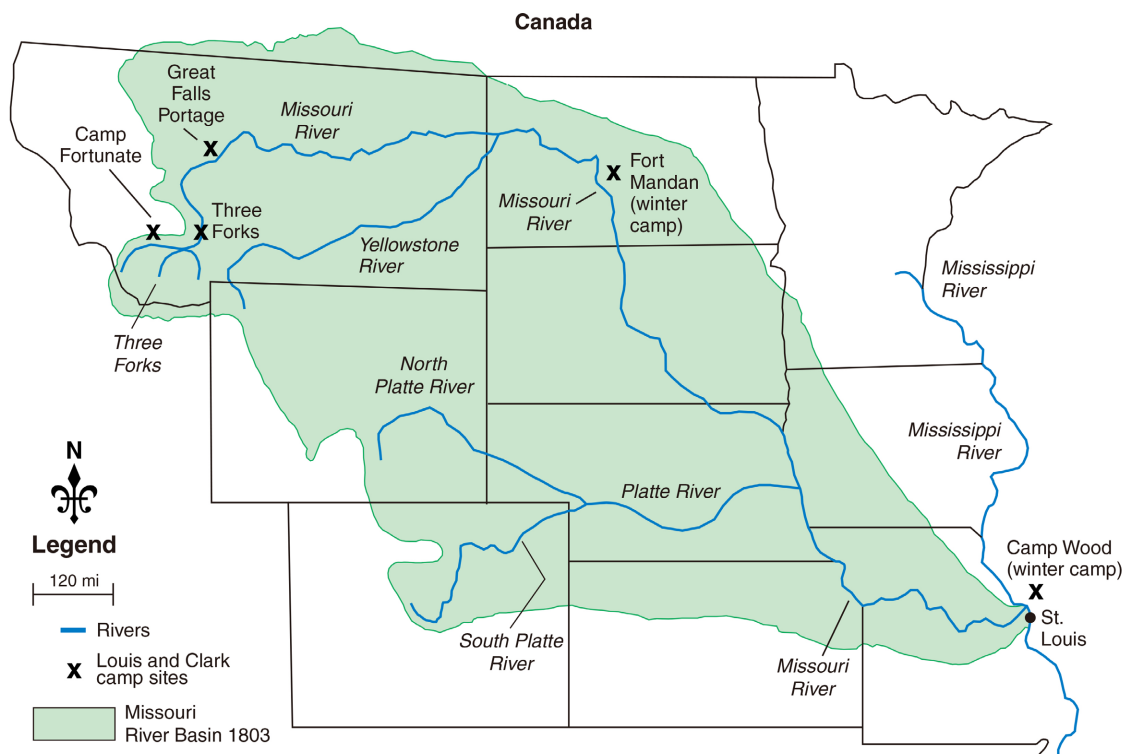


Figure 3. The North Platte, South Platte, and Platte rivers and the Yellowstone River are major tributaries of the Missouri River flowing east out of the Rocky Mountains across the Great Plains. Campsites of the Lewis and Clark 1803 to 1804 expedition up the Missouri River to find the Northwest Passage are noted on the map. Reprinted with permission from editor of Open Journal of Soil Science.

2.3. The Missouri River

The Missouri River (Big Muddy) (**Figure 3**) is the longest tributary of the Mississippi River. The confluence of these two great rivers is located north of St. Louis at Spanish Lake, [7]. The Missouri River is the longest river in North America, even longer than both the Mississippi River and the Yukon River. The Missouri River flows from the western Montana Rocky Mountains southeast to the confluence with the Mississippi River. The Missouri River drains a 14.4 million ha semi-arid watershed. The Missouri River (**Figure 4**) provided social, spiritual, physical and economic resources and was a big part of Native American culture. The river became a European route for trade and adventure.

Lewis and Clark (**Figure 5**) started their trip up the Missouri River (**Figure 3**) in the spring of 1804. The trip was an attempt find a water route to the Pacific Ocean and to explore the Missouri River watershed [6] [7] [8]. In 1804, Clark and Lewis reached the confluence with the Platte River (**Figure 6**). The 1690 km Platte River was not navigable, so Lewis and Clark continued travel north on the Missouri River. President Jefferson previously insisted they stay on the Missouri River. By October (1804) the Expedition passed the Grand River confluence (**Figure 3**) where the Arikaras Indians resided. The Arikaras were farmers, who grew grain crops on the alluvial soils, and often traded grain for goods with the Sioux [1].



Figure 4. The 1803 to 1805 Meriwether Lewis route from the Atlantic Ocean to the Pacific Ocean. Map by Mic Greenberg. Reprinted with permission from editor of Open Journal of Soil Science.



Figure 5. A statue at Fort Mandan of Lewis and Clark meeting with a Native American chief. Reprinted with permission from editor of Open Journal of Soil Science.

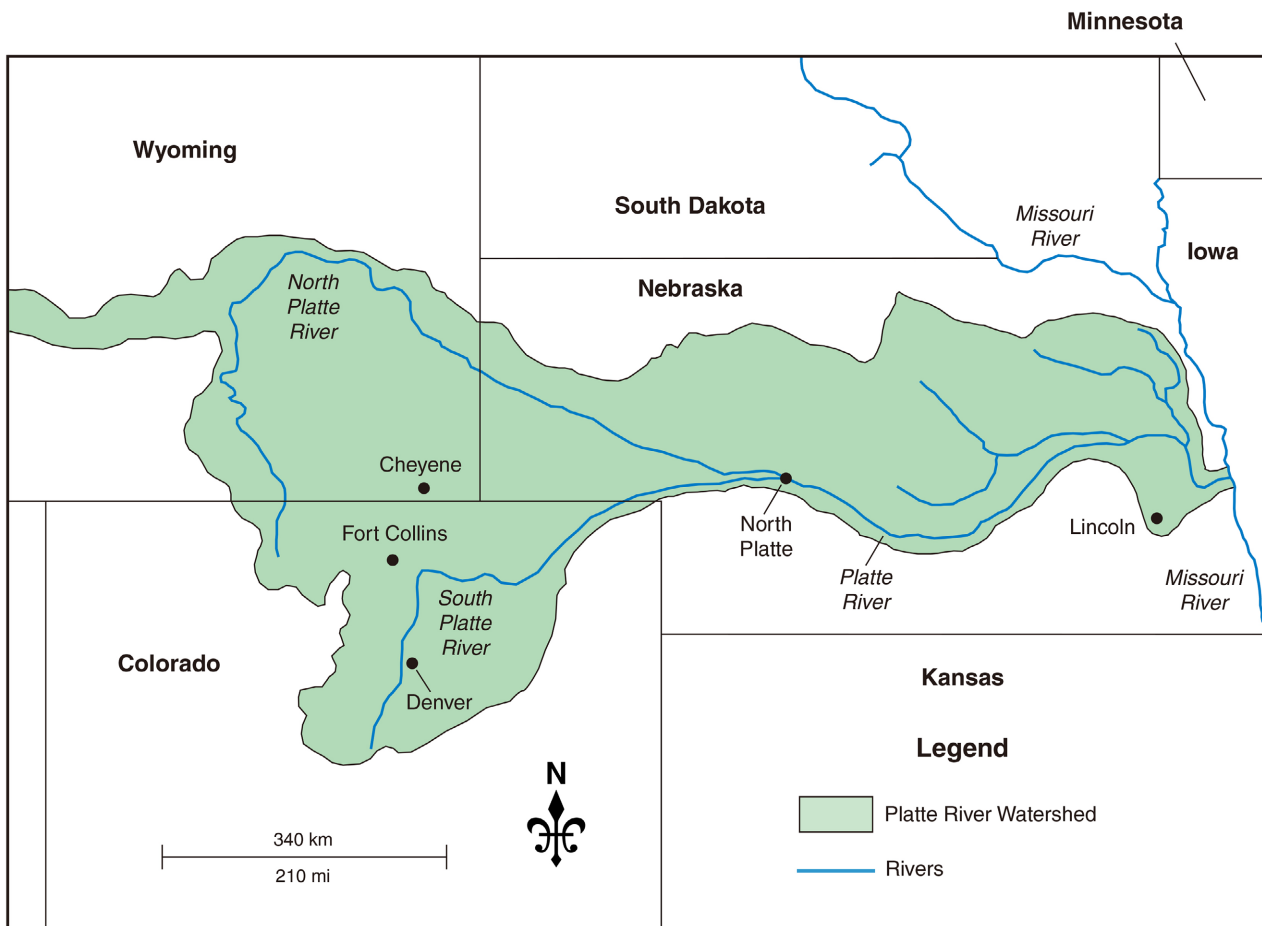


Figure 6. The North Platte River flows east out of the Wyoming Rocky Mountains, and the South Platte flows northeast from Colorado Rockies to form the Platte River in central Nebraska. Reprinted with permission from editor of Open Journal of Soil Science.

The Corps built a winter camp near a Mandan village (**Figure 3**) at a bend in the Missouri River (in present-day North Dakota) (**Figure 2**). At Mandan, they met a French Canadian, Toussaint Charbonneau. His 16-year-old wife, Sacagawea (**Figure 7**), was from the Shoshone Tribe that occupied land at Three Forks and near the headwaters of the Missouri River. Sacagawea and Charbonneau served as interpreters and translators for the Corps and guided them to the Missouri River headwaters [1].

The Corps continued their trip west on the Missouri River in the spring and summer of 1805. Lewis continued to record notes on the diversity of plants and animals observed, such as elk (**Figure 8**), pronghorn, and buffalo. The Falls of the Missouri (near Great Falls, Montana) were major obstacles to the Corps' continued travel on the Missouri River (**Figure 2**) and (**Figure 4**). A 16 km section of the river had five separate cascades with a combined height of 57 m. They descended an additional 130 m for a total elevation change of 187 m. The 40 km Lewis and Clark portage around the Great Falls of Missouri (**Figure 9**) took one month. Lewis and Clark expedition traveled southwest, after the portage, to Three Forks at the headwaters of the Missouri River.



Figure 7. Sacagawea from the Shoshone tribe. Reprinted with permission from editor of Journal of Soil and Water Conservation.



Figure 8. Meriwether Lewis on the trip up the Missouri River described in his notes a wide variety of animals including the majestic elk like this one in Yellowstone Park. Reprinted with permission from editor of Journal of Soil and Water Conservation.



Figure 9. Hydroelectric dam built on top of the Missouri falls on the Missouri River near Idaho Falls, Montana provided electricity for economic development of the region. Reprinted with permission from editor of Journal of Soil and Water Conservation.

On July 25, 1805, the Corps of Discovery expedition reached Three Forks of the Missouri River. They had traveled 4000 km on the Missouri River from their Wood River campsite across the Mississippi River from St. Louis. This presented a new dilemma: they needed to pick the correct fork to avoid spending the winter of 1805-1806 in the Rocky Mountains and they did. Sacagawea (**Figure 7**), who had been captured five years before, was reunited with her family at the Shoshone campgrounds near Three Forks. Shoshone warriors showed Lewis and Clark the location of the Lemhi Pass and Nez Perce trail that crossed the continental divide.

Unfortunately, there was no all-water passage across the Rocky Mountains and the continental drainage divide. Having completed both missions assigned by President Jefferson, Lewis and Clark decided to continue to the Pacific Ocean rather than returning home. The Corps of Discovery expedition had to travel by horseback from the continental divide in the Rocky Mountains to the Clearwater River [1]. The Clearwater River was a tributary of the Snake River, which was a tributary of the Columbia River. They used these rivers as gateways to get to the Pacific Ocean [5].

2.4. Snake River Gateway

The Snake River was controlled by two large Native American groups. The Shoshone occupied the Snake River Plain above and below the Shoshone Falls (**Figure 10**) [9]. The Nez Perce territory stretched from the Columbia Plateau into western Idaho and northern Oregon. The Snake River Plain [10] [11] was a pathway across the main Rocky Mountains for many hundreds of kilometers (**Figure 10**) and (**Figure 11**). As a result of the pathway, the Shoshone had a trade dependent economy with other Native Americans on both sides of the Rocky Mountains. The Shoshone were the most powerful tribe in the Rocky Mountain area and their territory extended across the continental divide and into the Missouri River watershed.

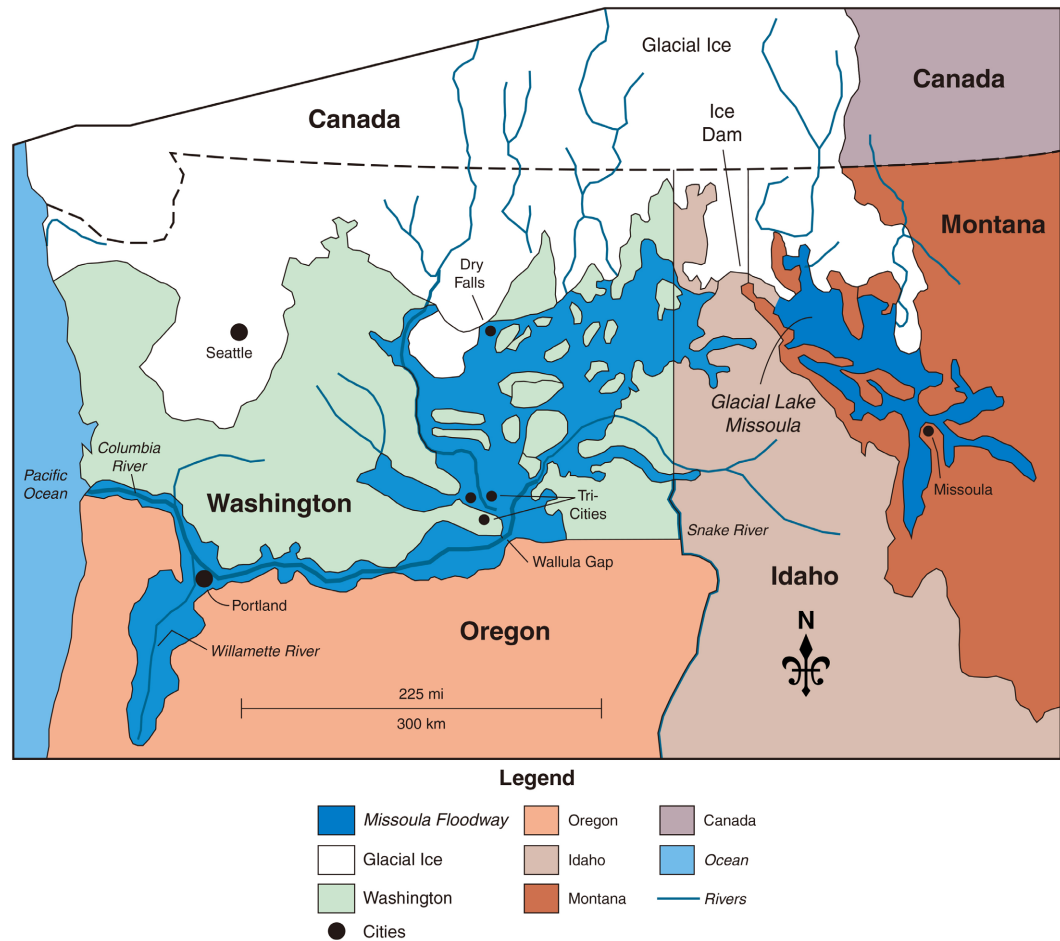


Figure 10. The Glacial Lake Missoula’s 600 km path to the Pacific Ocean. The ice dam blocking Lake Missoula breached many times. Map by Mic Greenberg. Reprinted with permission from editor of Open Journal of Soil Science.

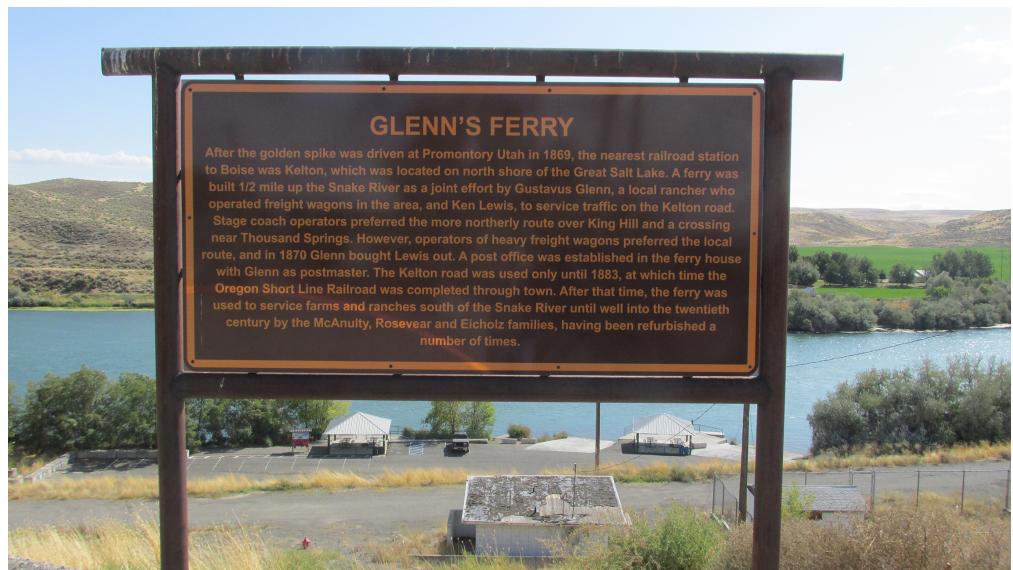


Figure 11. Glenn’s ferry crossing of the Snake River. Reprinted with permission from editor of Open Journal of Soil Science.

Most of the Shoshone east of the Rocky Mountains died from a smallpox epidemic brought on by European explorers and fur trappers. The Shoshone eventually merged with other tribes including the Bannock who introduced buffalo hunting on horses, a skill acquired from Europeans. Steelhead and salmon from the Pacific Ocean spawned, by the millions, in the Columbia and Snake rivers and were a vital food supply for the Nez Perce living downstream from Shoshone Falls.

2.5. Exploration and Settling of the Pacific North West

The Lewis and Clark Expedition (1805-1806) was the first American group to cross the continental divide in the Rocky Mountains (**Figure 2**). They then traveled down the Snake and Columbia rivers to the Pacific Ocean [7]. The party had crossed the Lemhi Pass, a few kilometers from present-day Salmon, Idaho. Initially they traveled north on the Lemhi River and attempted to descend into the Snake River but found it impassable because of violent rapids [1] [2]. They eventually changed pathways and traveled north to the Lochsa River to the Clearwater River which flowed into the Snake River, the Columbia River which discharged into the Pacific Ocean (**Figure 2**) and (**Figure 10**). They were also among the first Europeans to view the Snake River Watershed (**Figure 2**).

After Lewis and Clark completed their mission and returned to Washington, DC, many more American explorers traveled to, and through, the Snake River and its major tributaries area between 1806 and 1811. Many of these explorers were on the original Lewis and Clark Expedition.

Later American fur trappers came looking for beaver streams. However, in 1819, the Hudson's Bay Company sent Canadian fur trappers into the Snake River watershed to kill as many beavers as possible to discourage American trappers from coming to the Oregon territory. The territory included the future states of Oregon, Washington, Idaho and parts of Wyoming and Montana (**Figure 10**). The Pacific Northwest area was eventually annexed by United States.

2.6. Columbia River Gateway

2.6.1. Indigenous Peoples

Olson and Suski [12] found most historians believed “*that Chinese or Japanese vessels, blown off course, reached the North American Coast long before the Europeans [13]. Archaeologists found evidence of human activity in the Columbia watershed near the confluence of the Snake (Figure 10) and (Figure 12) and Palouse rivers. About 3500 years ago humans transitioned to a more sedentary lifestyle based primarily on availability of salmon*” [12].

“*Native Americans encountered foreigners in the 1700s and 1800s. In 1793, Alexander Mackenzie, the Canadian explorer, crossed the Columbia River valley in British Columbia. American and European vessels explored the coastal area around the mouth of the Columbia River in late 18th century and traded with the natives [13]. The contact proved deadly for Native American tribes as a large part of their population was lost after a smallpox epidemic*” [12].

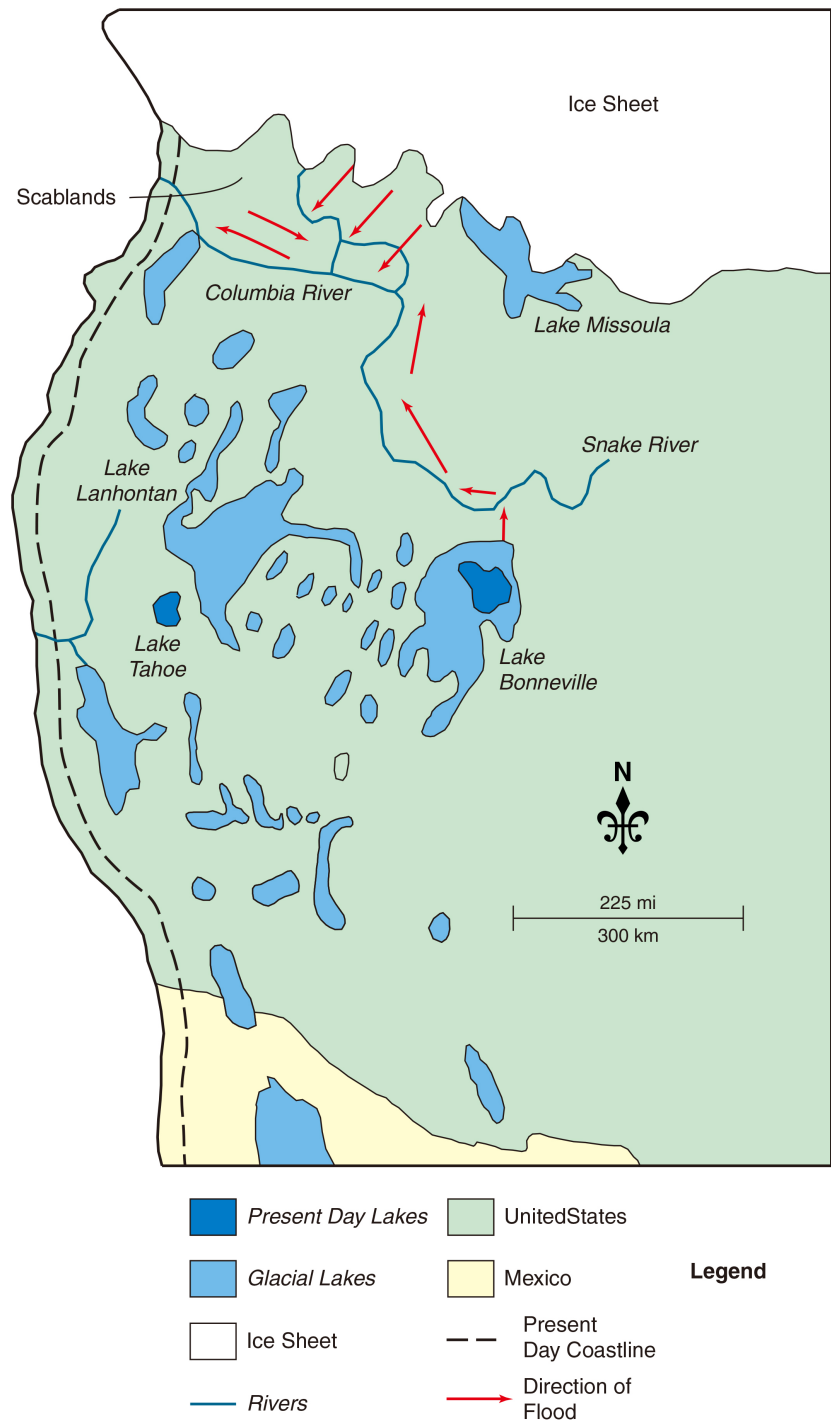


Figure 12. Present day and glacial lakes in the Pacific Northwest. Reprinted with permission from editor of Open Journal of Soil Science.

Moulton [8] documented “from 1805 to 1806 the Lewis and Clark Expedition traveled through the Oregon territory along the Clearwater, Snake and Columbia rivers. They encountered small settlements of Native Americans. The Indigenous groups of the lower and mid-Columbia River valley were not tribal. The social units were smaller than a village and often at a family level. The units would shift

with the season, following the salmon up and down the river and tributaries. Historically, the Columbia River salmon and steelhead runs averaged 10 to 16 million fish annually. The most productive and significant Native fishing site was located at Celilo Falls. The establishment of salmon canneries by European settlers in 1866 reduced the salmon population dramatically” [8].

2.6.2. Willamette Valley

Olson and Suski [12] reported “the 240 km Willamette Valley in Oregon was the favored destination of immigrants using the Oregon Trail, and was promoted in the 1820s as the “Land of Flowing Milk and Honey” (Figure 13) and (Figure 14). The Willamette Valley has a Mediterranean climate with oceanic features; summers are dry, cloudless and hot, while winters are consistently cloudy, cool and rainy [14]. The steel-covered wheels of the oxen-drawn wagon trains cut into exposed batches of bedrock, and are still visible 200 years later (Figure 13).

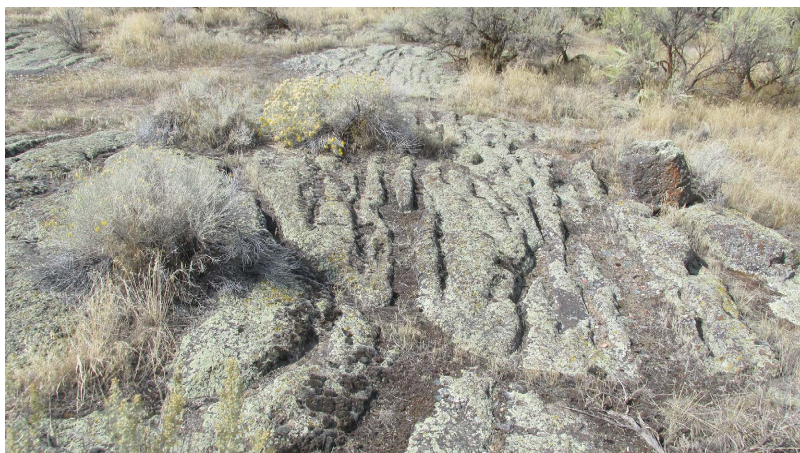


Figure 13. Oregon Trail wheel tracks on bedrock along the Oregon Trail in Idaho. The steel strips were attached to the wooden wheels cut into the stone and these cuts were weathered for over 200 years. Reprinted with permission from editor of Open Journal of Soil Science.



Figure 14. A Conestoga covered wagon at the Oregon Trail Visitor center. Reprinted with permission from editor of Open Journal of Soil Science.

“The Willamette River flows through the entire Willamette Valley and into the Columbia River north of the current city of Portland. It is surrounded on three sides by the Oregon Coast Range to the west, the Cascade Range to the east and the Calapooya Mountains to the south. The broad flat plain is Oregon’s most agriculturally productive area. Much of the Willamette Valley soil fertility is derived from a series of massive ice-age floods (Figure 10) that came from Lake Missoula in Montana. These floods scoured the landscape across eastern Washington and carried sediment and soil down the tributaries to the Columbia River Gorge. Floodwaters backed up by ice jams flooded the valley to a depth of 90 to 120 m, and, if the floodwaters were at that depth today, modern-day Portland, with an elevation of 6.1 m above sea level, would be under water. The lake gradually drained leaving highly fertile alluvial soils and layered sedimentary soils on the Willamette Valley floor to a height of about 55 to 61 m above current sea level. The sediments, soils, alluvial and lacustrine parent materials are up to 1 km thick in the valley” [12].

2.7. Oregon Trail the Platte River Gateway to the Pacific Northwest

Olson and Morton [7] determined *“the Oregon Trail, 1820s to 1850s, is located adjacent to the Platte and North Platte rivers (Figure 5) and then proceeds overland to the Snake River. The wooden wheels had steel covered rims which cut grooves into any exposed bedrock (Figure 13) and can still be seen 150 years later. Many American settlers traveled the Oregon Trail using horses and Conestoga wagons. The final destination was the Willamette Valley in Oregon (Figure 10) south of Columbia River” [7].*

“The North and South Platte rivers emerge from the Rocky Mountain snow-melt in Colorado and Wyoming and meet near the town of North Platte, Nebraska, to form the Platte River (Figure 6). The Platte River, about 500 km long, is a major tributary of the lower Missouri River and has a 77,000 km² basin. The North Platte River watershed encompasses 80,000 km², and the South Platte River drainage basin is 73,000 km². The broad, shallow Platte River is not easily navigated due to its muddy silted bottom and numerous islands. Although it was not a good river to canoe and was never used as a major water route, it was an important trail marker for settlers and adventurers traveling west to Oregon, California, Utah, and Montana [9] [10] [11]. Today many of the river valleys and bottomlands in this region are used for irrigated agriculture that is made possible by eight dams on the North Platte River and 20 on the South Platte River” [7].

The Oregon Trail had been established by the middle of the 19th century, and generally followed the Platte, Snake, and Columbia rivers. However, settlers had to cross the Snake River [7]. One ferry crossing was near present day Glenn’s Ferry (Figure 11). Another ferry crossing of the Snake River was created near the mouth of the Boise River called *“Three Island Crossing”* or *“Two Island*

Crossing". This area split the river into three or four 61 m wide channels. Emigrants crossed the Snake and proceeded down the west bank before re-crossing the river near Fort Boise. The Lower Snake River then passes through a 1.6 km deep gorge known as Hells Canyon (**Figure 15**), the deepest river gorge in North America [8]. Overland settlers would continue down the drier east side of the gorge. Others floated their wagons on the Snake and Columbia rivers to the Willamette River and valley (**Figure 3**). The Willamette Valley, the destination of choice for the travelers on the Oregon Trail [1] was often referred to as the "*Land of Flowing Milk and Honey*" (**Figure 16**).



Figure 15. Hells canyon along the Snake River. Boaters can travel the 50 km scenic and wild section of the river. Reprinted with permission from editor of Open Journal of Soil Science.



Figure 16. The Willamette land use was changed to urban use such as Portland and the agricultural Land of Flowing Milk and Honey is now covered by vineyards. Reprinted with permission from editor of Open Journal of Soil Science.

3. Conclusion

The study documents the key role of rivers in the United States territorial expansion in the 19th century from the Mississippi River to the Pacific Ocean. In 1803, President Jefferson commissioned Meriwether Lewis and William Clark to explore the Missouri River watershed and find a water route to the Pacific Ocean. With such a river connection, President Jefferson hoped to claim additional North American lands between the continental divide in the Rocky Mountains and the Pacific Ocean. The Lewis and Clark expedition trip found no such waterway link; however, they did continue on to explore the lands west of the continental divide. The Pacific Northwest land was not included in the 1803 Louisiana Purchase (**Figure 1**) [14]. The only way that the Pacific Northwest could be claimed as part of the United States territory was for Americans to settle there before the Canadians. North West Company outposts were already established on the Columbia River. The previous Lewis and Clark Expedition successful trip was used by President Jefferson to encourage Americans to travel, via the Oregon Trail which paralleled the Platte and Snake rivers (**Figure 2**), to settle and establish the United States claim the Pacific Northwest. Starting in the 1820s, many Americans traveled via the Oregon Trail to the Willamette Valley in Oregon. American settlement in the Pacific Northwest allowed President Jefferson's vision of the United States extending across North America from the Atlantic to the Pacific Ocean, to become a reality.

Acknowledgements

A special thanks to Cory Suski, Sam Indorante, John Crivello, Lois Wright Morton, and Jerry Miller who assisted in the research, writing, distribution and archival of cited Great Rivers of North America publications.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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