VIKING WATERWAY

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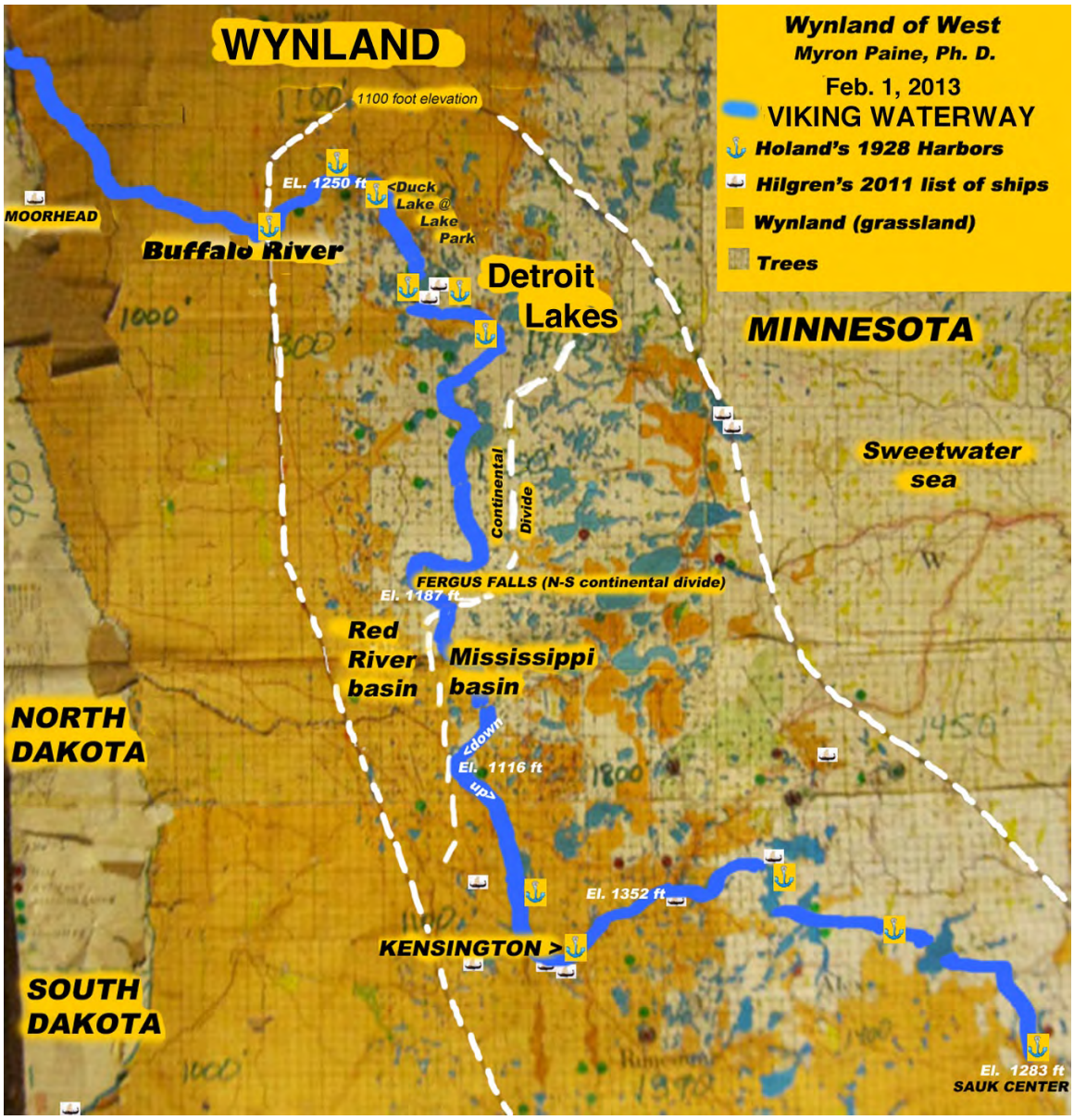


The Viking Waterway allowed knarrs to be transported from the Red River Valley to the Mississippi River Valley. The land within the white dotted line is called a Horst, which is an elevated tableland. The brown shading represents grassland. Boats could be pulled up-stream in grassland.

The VIKING WATERWAY TOUR

Three historically important water communication networks intersect in Minnesota. Drainage to the north via the Red River reaches Hudson Bay and the north Atlantic. To the east lie the Great Lakes, which continue to serve as a major trade route through the St Lawrence to the Atlantic. And to the south is the enormous Mississippi River system, which, with the Ohio and Missouri Rivers, drains and connects most of today's middle part of North America. Minnesota's riverine networks connect all three and have been exploited by natives and foreigners seemingly forever. Today's journey will introduce you to key places along these passages, perhaps help you identify signs of the past, and tease you with a much larger tapestry of past events in Minnesota.

Four major histories converge in this area of Minnesota:

1. The ancient copper trade, which enabled the Bronze Age in Europe and the Mediterranean,

2. Viking explorers before AD 1000 and Lenape settlers from about AD 1000 to AD 1400,

3. The Greenland Lenape, whose epic migration from Greenland to the Atlantic coast, AD 1360 to AD 1585, is documented by the Maalan Aarum, and

4. The Scandinavian rescue mission led by Paul Knudson, AD 1354 to AD 1362.

ANCIENT COPPER TRADE

It is widely accepted that Minoans traders reached England to acquire tin and the Baltic to obtain amber. But the presumed Atlantic barrier has always presented scholars with an almost religious excuse to reject the idea of Minoan (or other) explorers reaching pre-Columbian North America. This means that 1300 years of copper movement to the Mediterranean go unacknowledged. Between approximately 2500 BC and ending abruptly at 1200 BC, stupendous quantities of pure copper were taken from around Lake Superior via the Mississippi River to Poverty Point, LA. There it was consolidated for shipment and freighted via the Gulf Stream to Europe. This copper trade per se is not our subject today, but we must recognize the ancestral copper trade as the builders of this waterway. The massive earth modifications you will see today were probably made during the period 2500-1200 BC.

The planet suffered an as-yet-undetermined catastrophe around 1200 BC. We know it devastated the Greeks, Hittites, Egyptians, Assyrians, Canaanites, and Chinese and caused "dark ages" of varying durations around the Earth. Following the 1200 BC date, copper mining in the Keweenaw Peninsula of Michigan ceased and major changes are observed throughout the archaeological record of central North America.

The end of the Bronze Age in Europe coincided with the end of the major copper mining and trade in America. The copper miners left nearly 10,000 pits around Lake Superior, plus harbors, mooring stones and artifacts along the waterway we are discussing today. The multitude of men necessary for the mammoth earth modifications you will see today most likely came during the copper trading era.

In 1940 Reider T. Sherwin published his first book "The Viking and the Red Man" in the prelude to World War II. In that book he had over 2500 comparisons between the Algonquin (Lenape) and Old Norse.

Throughout World War II Sherwin, who was retired, kept his focus. For fourteen more years he compared Algonquin (Lenape) and Old Norse phrases until he had eight volumes under the same name and over 15,000 comparisons of Algonquin (Lenape) and Old Norse.

In his forth volume, he wrote the forward himself and said,
"The Algonquin (Lenape) Indian Language is Old Norse."
A few lines later he wrote, "… the truth cannot be denied."

VIKING EXPLORERS and LENAPE SETTLERS

We are much more familiar with the Viking-Lenape story. Viking explorers discovered this mid-continent waterway and exploited it because it suited their roving lifestyle.

In Europe, Vikings exploded from Scandinavia in the 8th C to terrorize, and eventually merge among the occupants of England, Ireland, France, Russia, Sicily, etc. By the late 10th C they colonized Iceland, then Greenland and North America. Around AD 1000 the Vikings in Greenland and, derivatively, America became Christians. They called themselves "Lenape," which means, "abide with the pure."

The Atlantic was no barrier to the Vikings. They explored Ungava, Labrador, Hudson Bay, James Bay, the Red River Valley in Minnesota, and the whole Mississippi river basin. They left behind swords, axes, fire steels, spear points, whetstones, mooring stones, the Kensington Rune Stone, other rune stones, and countless place-names.

Icelandic sagas and the Lenape History, called the Maalan Aarum, document Viking voyages to Labrador, Newfoundland and to "Wyn "Vin" land of the West".

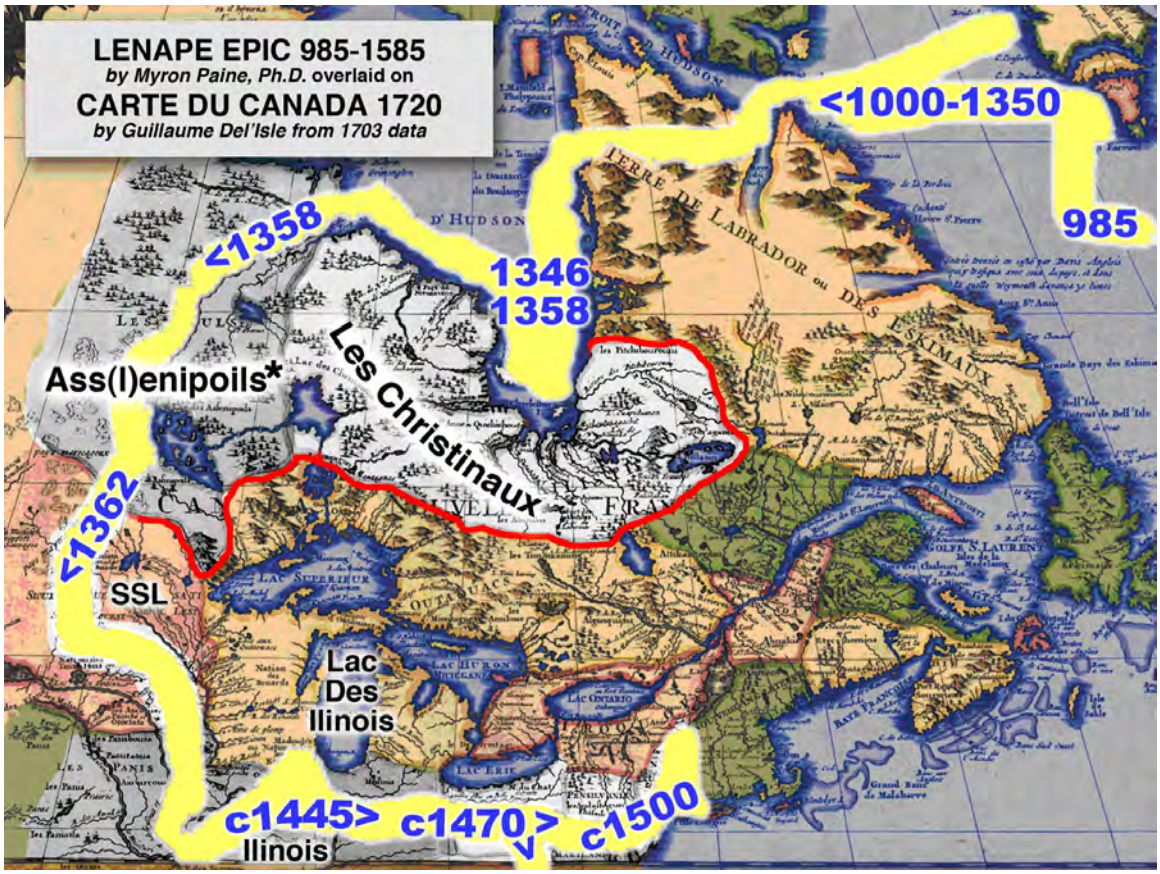
The creators of the Maalan Aarum spoke Old Norse. Their influence on modern America is still encountered on a daily basis. They named Canada (Kanaı Daı) and three of Canada's provinces: Labrador "Broad Fjord", Quebec "Blocked Stream" and Saskatchewan "Rushing water".

The following 19 U. S. states are all Old Norse names: Massachusetts, Maine, Michigan, Wisconsin, Minnesota, Dakota, Wyoming, Iowa, Illinois, Ohio, Missouri, Mississippi, Kansas, Oklahoma, Arkansas, Kentucky, Tennessee, Alabama, and Nebraska.

Here we introduce a major, and often overlooked, error; "Wyn," pronounced, "vin," translates as "fine or open," <u>not</u> as "vine." Therefore, Wynland means a fine land, or grassland. Western Minnesota is grassland, with only trees around the lakes. Minnesota does have grapes, but the first known written record of Wynland stressed "Self-seeding grain", which was the rice of the North and South Rice Rivers here in Minnesota.

The VIKING WATERWAY TOUR

The ROUTE of the GREENLAND LENAPE



The Maalan Aarum tells us the Lenape left Greenland about AD 1350, when the climate became too cold for survival. They walked across the ice to the mouth of Hudson Strait, across Ungava Peninsula, down Hudson Bay and into the forested land to the south. All this time they were among "kinfolk", descendants of earlier Viking settlers who had interbred with natives.

GREENLAND LENAPE

The Vikings in America vanished into non-history and emerged, unrecognized, as the Lenape on the East Coast when the English invaded.

The arriving European settlers on the east coast from North Carolina to New York and up to the source of the Hudson River encountered the Lenape from Greenland. Kinfolk of the Greenland Lenape settled on the coast from New York to Canada Maritimes. These kinfolk had sailed directly from Greenland to America. "Beothuk" (a major Newfoundland tribe) means, "Sail direct." The Beothuk and other Norse, who sailed directly to America, also called themselves "Lenape."

Besides Norse DNA and the Old Norse language, the Greenland Lenape passed their religion from parents and elders to children for centuries. In 1820, the last of the Lenape storytellers transferred the Lenape history to Moravian priests doing missionary work in America.

This history was embodied in a collection of 184 "sticks" upon which pictographs were etched. These pictographs were prompts to the storyteller. He studied each pictograph and then recited the self-verifying stanza that he had memorized long ago. As a whole, the self-verifying stanzas with pictographic prompts comprise North America's first history. It is called the "Maalan Aarum," which means "Engraved years."

The Maalan Aarum tells that, in James Bay, the population increased by eating whales and geese, of the first meeting of the leaders on North America soil, of the rejection of the Norwegian rescue fleet, of the death of Norwegian Paul Knudson, of the Lenape retreat to James Bay, and of the division of the Lenape in an attempt to migrate south to warmer weather.

Their journey took them south (up) the Red River between Minnesota and the Dakotas to Sisseton, SD, (SSL). As the Little Ice age intensified, they migrated south along the Big Sioux River to Minnehaha County SD. Then drought drove them east across southern Minnesota. Opportunities for better living led them down the west bank of the Mississippi until they found the Missouri, then up the Ohio River Valley. About 1470 the population divided with the Lenape tribe going east to the Atlantic Coast and the Southern Lenape, who went south. Shawnee means south. So the Shawnee Lenape became known as the Shawnee.

The Lenape and the Shawnee were Christians. The map on the opposite page is based on French voyageur input, dated 1703, which labels the land between the Nelson, Lake Winnipeg, Red River and James Bay as "Les Christinaux". The area of present day Illinois, Indiana, and Ohio, was labeled "Illini" The Illini resided on the River of the Divine, now called the Illinois River. "Illini" means "Pure."

Page from a 1958 Book by Hjalmar Holand

Full of cheer and the determination to plant the Roman cross in Russia, King Magnus now awaited the collection of the tithes. By 1353 abundant funds were coming in, and the king prepared for another campaign. But now the report was heard that the plague had spread such death in Russia that it would be suicidal to go there. Terrified by the memory of their own sickening experience, the people refused any inducement to take part in the proposed crusade.

The king was therefore obliged to give up his great mission against the Russians. However, he had the funds provided through the cooperation of the Pope, and was thus reminded of his obligations toward Greenland. His people there were falling away from Christianity. Seeing he could not go east, he would go west and there restore his subjects to the Church. We have a late copy of a letter issued by him in 1354, in which he provides for an extraordinary expedition to Greenland. At its head is placed Sir Paul Knutson, formerly Lawspeaker of Gulathing.[31] The following is a translation of the letter.

> Magnus, by the grace of God, King of Norway, Sweden and Skaane, sends to all men who see or hear this letter [his wishes for their] good health and happiness.
>
> We desire to make known to you that you [Paul Knutson] are to select the men who shall go in the Knorr [the royal trading vessel] . . . from among my bodyguard and also from the retainers of other men whom you may wish to take on the voyage, and that Paul Knutson the commandant shall have full authority to select such men whom he thinks are best qualified to accompany him, whether as officers or men. We ask that you accept this our command with a right good will for the cause, inasmuch as we do it for the honor of God and for our predecessors, who in Greenland established Christianity and have maintained it until this time, and *we will not let it perish in our days*. Know this for truth, that whoever defies this our command shall meet with our serious displeasure and receive full punishment.
>
> Executed in Bergen, Monday after Simon and Judah's day in the six and xxx year of our rule (1354). By Orm Östenson, our regent, sealed.[32]

This page is testimony that King Magnus did send a rescue mission. King Magnus' order can be found online in the Norwegian History data.

This page is also testimony that the "Columbus was first" historians have ignored evidence for nearly a century to keep the "Columbus was first" myth the only discovery of America story students learn in school.

SCANDINAVIAN RESCUE MISSION

The Scandinavian Rescue Mission began in Bergen, Norway in AD 1354. Hjalmar Holand wrote the factual history in his 1958 book, *Explorations in America before Columbus.*
The Maalan Aarum [see LENAPE LAND > NO ONE TURNED BACK > BOAT WRECK] testifies to the validity of the Scandinavian Rescue Mission.

The Lenape Historians recorded, after AD 1370 that the Scandinavian rescue mission was rebuffed and that Paul Knudson, who was on a voyage to move the Greenland Lenape to their kinfolk in Minnesota, was killed in a boat wreck caused by a submerged rock. Paul Knudson's broken sword, axe, and fire steel, are now displayed in the Lake Nipigon Historical Museum, Lake Nipigon, Canada.

The remainder of the Scandinavian Rescue team was still with the combined groups of the Minnesota Lenape and the Greenland Lenape, when the episode of the "ten men dead" happened. We will return to the rest of the 14th century history later.

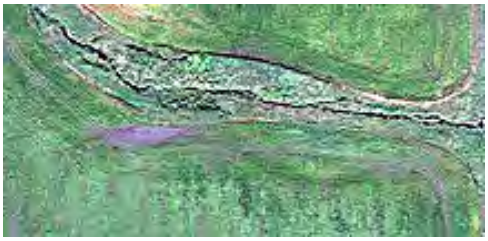
That is the overview of the history linking Vikings and Lenape to Minnesota. Many, many details and sub-stories elaborate on this. Myron and I are here today to answer your questions and to make sure you go away intrigued. And perhaps a bit frustrated that none of this was taught to you in school. But that, too, is a different subject.

LANDSCAPE MODIFICATIONS

In nature, straight lines and perfect circles are very unusual. While glacial moraines and meteor strikes can produce such formations, too many in a small area suggests purposeful changes made by people. In general, rivers meander and canals are straight. For example, compare the Pelican River to the Erie Canal.

A careful examination of Minnesota's lakes and rivers discovers many, many such unnatural features. We will discuss many terrain features and present them in a compelling context. We will treat them as plausibly man-made, leaving out most of the "mays," "maybes," "mights," "appears," "apparently," and "could haves" for simplicity. We believe there are simply too many such features to be accidents of nature. We believe the early copper haulers and later Vikings/Lenape constructed at least some of them. This is, of course, speculative, but we will visit several of these and illustrate how they could be part of the Viking Waterway.

When Myron first located mooring stone # 1 that Holand described he was surprised to see a straight shore and rectangular corners. Myron considered this feature an odd coincidence. He went on to locate the areas of the other mooring stones. When most of the mooring stones were near harbors that were man-modified, he concluded that most of the harbors were truly man-made. Recalling the histories that Myron knew, he hypothesized that the only activity with enough men that for this task was the copper haulers from 2,500 BC to 1,200 BC.



Another unnatural feature to look for is straight lines. This photo of a straight line implies that men modified the earth. In this case, the men were trying to move a boat through a flat swampy area by making a channel to drain the swamp and put water under the boat.

These features, seen via Google Earth, were the reason we came to western Minnesota in October 2012. When "ground-truthed" we realized that, obviously, they were not obvious to people on the ground looking at single features. Holand missed the man-modified harbors.

Topographic Map - TopoQuest enables a viewer to look at contour maps of an area. The contours are within 10 feet of elevation. As we looked for the specific routes of the VIKING WATERWAY these features caught our eye.

A set of contours likes these for a jetty 1,127 feet long by 459 feet wide are man-made.

They are too straight and too uniform in height to be natural for a feature in a lake made by a melting glacier. The Jetty has obviously withstood erosion by wave actions over centuries.

Obviously, the Jetty was not obvious, even to people, who were looking at it via Google Earth.

We will write more about the Jetty later.

Another surprise was the two segments of a dike shown at the right. In this case, we suspected that a dam had been placed in a valley on the east side of a possible lake. We were searching for dikes that retained the water at 1,400 feet on the south side of the lake, the probable height of the dam. The two east-west segments are connected to a higher elevation to the east (right) and eroded segment of the ancient dike to the west.

With this clue, we were able to see the ancient dike installation, convincing evidence that the water level had been artificially raised at one time to 1,400 ft.

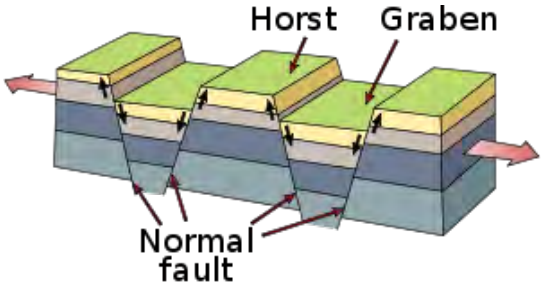
We think the man-modified terrain features we will discuss are enough to present a strong case that a multitude of men working under competent hydraulic engineers constructed the VIKING WATERWAY. The VIKINGS-LENAPE recognized, exploited and maintained the Waterway to sustain their way of life.

The VIKING WATERWAY TOUR

Most people do not recognize that western Minnesota is a terrain called a Horst. A Horst is an elevated tableland.

In western Minnesota four rivers flow parallel to edges of the Horst.

The North Rice River flows west along the northern edge.
The Red River flows north along the western edge.
The Minnesota River flows east along the southern edge.
The Mississippi River flows south along the eastern edge.



A Viking-Lenape crew sitting in a knarr on any one of these rivers saw a scene like this, where the terrain in the distance rises hundreds of feet, thus giving the illusion of an Island.

From Hawley, MN, on the Buffalo River, the crew had to row, pole, pull, carry, or lift their one-ton boats up to an elevation of 162 meters (518 feet) higher.

Why would a crew even try?

Because, in the beginning, the copper haulers wanted to get to the Mississippi River the fastest way possible. The Red River and Minnesota River flow so slowly that a crew had to row 2.6 miles to go 1 mile up the Red River. Walking at about 2 miles an hour in grassland, and pulling a boat along was faster with less effort.

When they got the boat up on the Horst, the Pelican, the Pommes de Terre, and the Chippewa Rivers flowed south toward the lake at Alexandria that drained east into the Mississippi. All those rivers flowed through or near lakes with animals, birds, fish and wood—through a fine land.

If the Viking-Lenape on the Red River elevated their boats into Stakke Lake they knew the rest of the voyage was feasible.

The VIKING WATERWAY TOUR

BOATS

European historians of the colonial period presented the Atlantic as a barrier to conceal the reality that the Europeans were stealing from fellow Christians. This first century Egyptian mosaic tells a different history.

At the top is an artist's version of mines. The rocks in front of the mines with corn growing on top represent the copper of America. The winding river below the rocks is the Mississippi.

In the lower right hand corner, the artist shows that he knows about trans-oceanic ships with sails, rowed riverboats, and canoes with paddlers. Symbolically the sea people of the mosaic are in a different world from the men squabbling for big buildings.

Many drawings of big ships with one big sail exist. To the right is an artist's representation of an ocean going ship during the copper trade. On the deck we can see a smaller boat that can be rowed. A ship such as this carried four such boats.

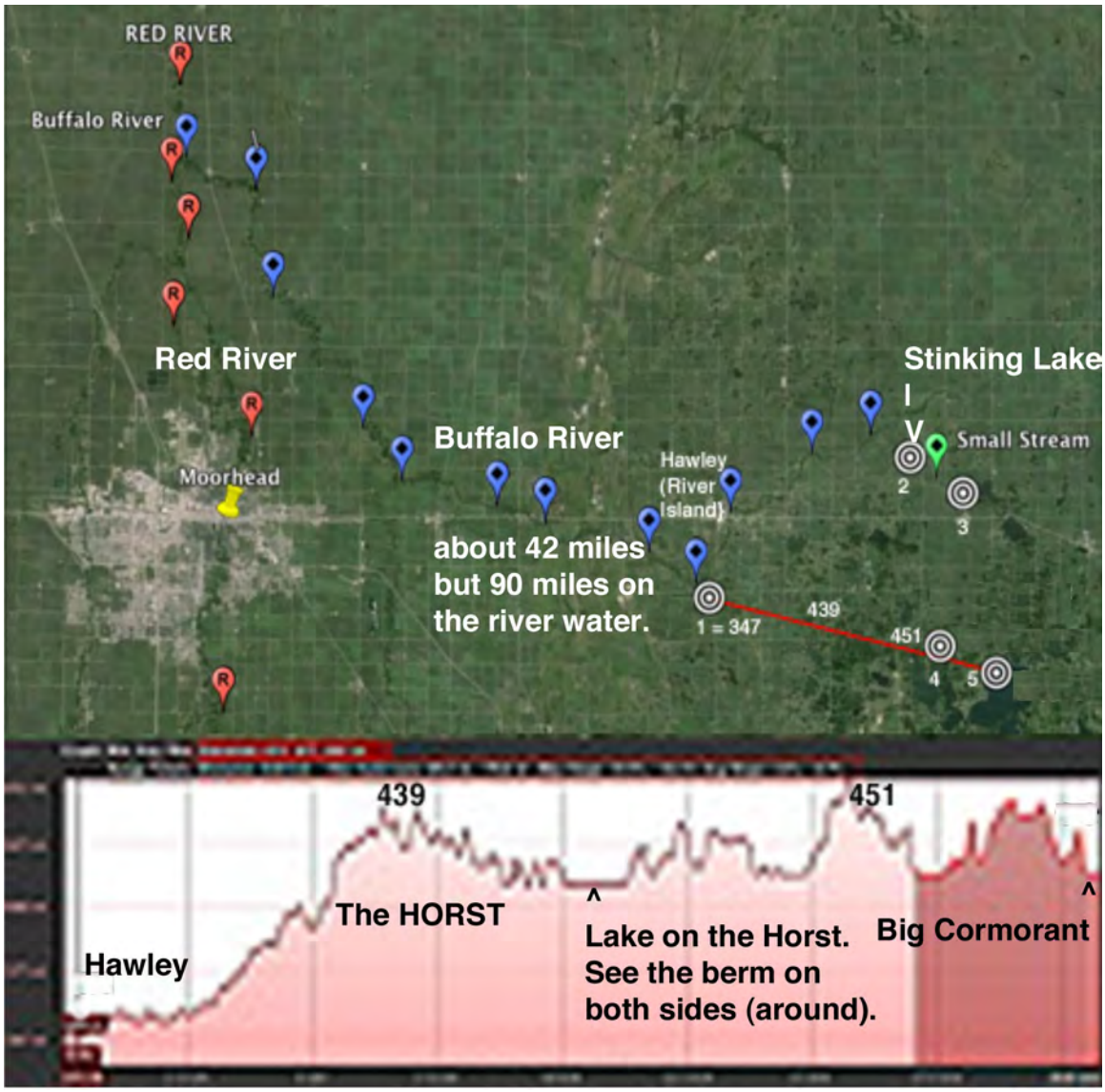
When the winds were not in the right direction, the ship was not dead in the water. The boats were lowered into the sea. The crews rowed, pulling the main ship behind. On the northern route to America there is no distance greater than six rowing days between lands.

The copper haulers wanted to carry as much copper as they could. The boat at left was the best compromise between a river craft and a boat worthy of rowing on an ocean. The sail shown is for display purposes. Normally, on a river the boom was lowered and the mast taken down. They were secured to the boom rack seen to the left of the single man in front of the boat.

The original Vikings-Lenape 20-oar knarr was similar to the copper hauler's boat. The usual crew size was l5 men. Notice that the word "knarr" later morphed into "canoe."

The crews traveled in parties of two or more boats. Oars were inserted ten through the ten oar holes on both sides of the boat. Then twenty men could lift and carry a boat for short distances. The weight each man had to lift was about 100 pounds. Traveling in parties of two or more boats was also a prudent way to go. There was a boat available in case of a boat wreck.

For this presentation we assumed that the copper haulers made the waterways. The Vikings-Lenape recognized and restored the waterway. For four centuries the Viking-Lenape flourished in Wynland, which had an outstanding transportation system on water. The Vikings-Lenape rowed or paddled from Hudson Bay to the Gulf of Mexico. The Vikings-Lenape were in the upper strata of the villages of the Mississippi culture.



The cross section shows elevations between Hawley, "River Island," and Big Cormorant, "Thief," Lake. Note the rapid elevation rise of the Horst.

The Google Earth elevations are given in meters. They are used for relative comparisons. Contour map elevations are given in feet. They are used to determine actual elevation. Google Earth usually reads 30 to 40 feet lower than the contour map heights.

Stinking Lake [target 2] is at 370 meters elevation. The terrain between Stinking Lake and Big Cormorant Lake is as high as 44 meters, 140 feet higher than Stinking Lake.

The Vikings-Lenape pulled their boats over 40 miles up stream but they still had a bit of a problem.

In the image on the left, the elevation of Big Cormorant Lake, which is near Stakke Lake, is 414 meters. The red pins show the route of the Red River, which drains, slowly, toward the north. The blue pins show the general route of the Buffalo River, which flows west.

In this segment the crews pulled both the boats and the cargo up stream. One of the wonders of Wynland is that the crews walked in grassland. Occasional trees along the shore were cut down to enable the men in harnesses to pull the boat without interference to the ropes.

The mooring stones identified by Holand are shown as white targets. Mooring stones 1 and 2 lie near harbors beside the Buffalo River. The elevation at mooring stone 1 is 346 meters. At this location perhaps some of the cargo was unloaded and dispatched overland by porters to the collection jetty in Stakke Lake. The lighter boats were pulled up to the mooring stone #2 at 371 meters elevation.

The red line between MS 1 and MS 5 shows the slice of terrain that is shown in the elevation plot. Note the quick rise at the left of the elevation plot. This rise shows the steep slope to be climbed to reach elevated tableland. The "small stream" pin marks the toughest segment of the waterway between Hudson Bay and Gulf of Mexico. If there was ever water in the stream, it surely was not there in the autumn.

The Vikings-Lenape traveled though Minnesota for four centuries. They learned that boats could be rowed from Stakke Lake to the Mississippi River when the snowmelt water enhanced the stream flow. Then the Vikings-Lenape traders had access to most of the Mississippi market all the way to the Gulf of Mexico.

But the problem was: How to get a twenty-oar boat into Stakke Lake?

There is about a 146-meter (471 feet) difference between the Red River Valley and Stakke Lake. There is higher ground all around Stakke Lake. Carrying a boat for a short distance was one thing. Carrying a boat up slope for seven miles tested the limits of the crew's physical abilities.

The VIKING WATERWAY TOUR

Stinking Lake and Mooring Stone 2.

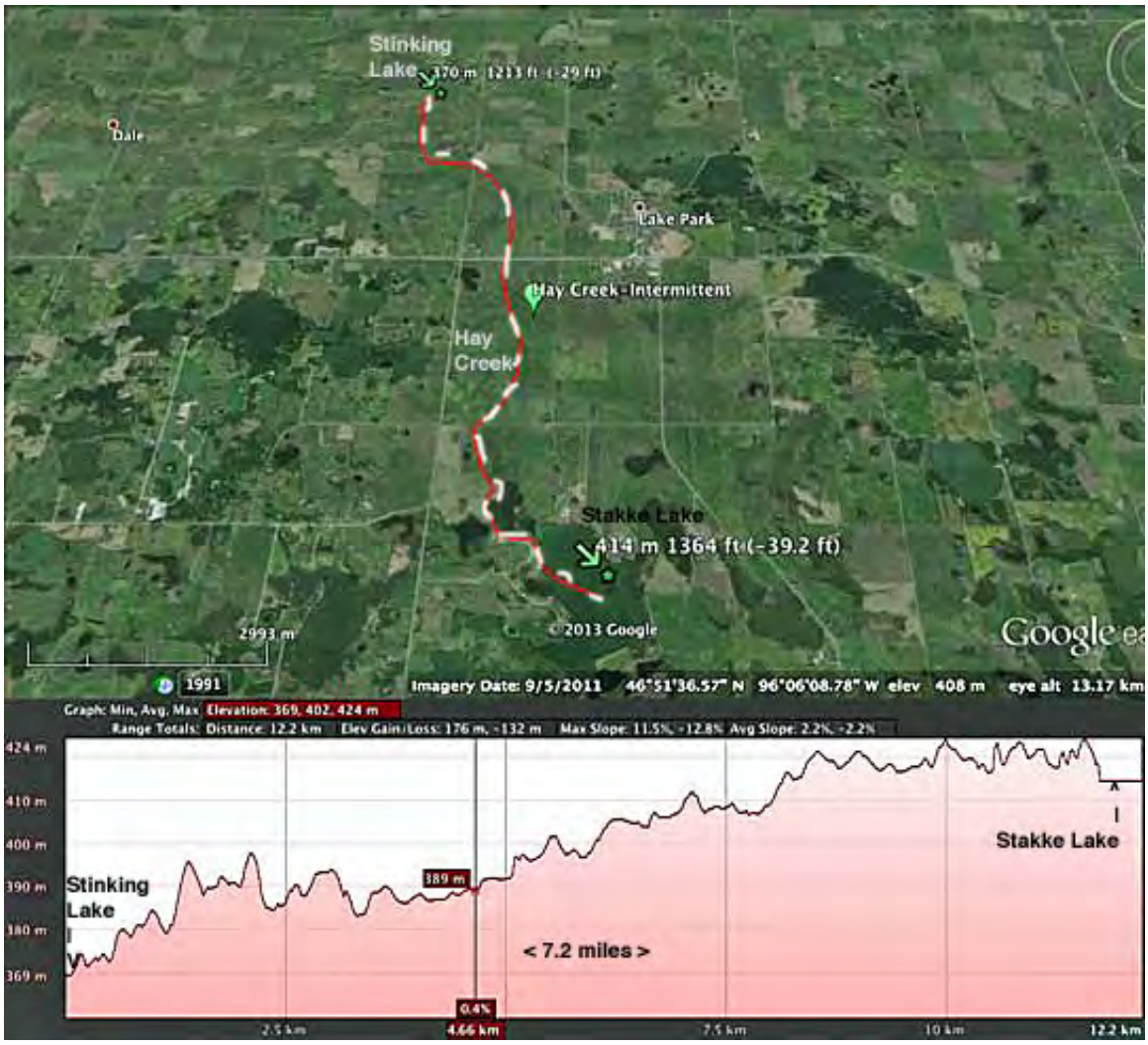
Hjalmar Holand quoted Reverend S. G. Hague's comments on mooring stone #2: "It [the stone] is now twenty feet above river level. It is not difficult to believe the water may have been that high..."

The mooring stone in the foreground and the large stones in sight in the background were anchor stones used by the copper haulers. They had been abandoned at Stinking Lake as the copper boats were being stripped to minimum weight.

About two thousand years later, Harald Hardrada, led his flotilla of 300 boats to Stinking Lake and Stakke Lake beyond. At the time the most powerful god of the VIKINGS was Thor, the hammerer. The Viking foundry men were producing the highest-grade steel in the world. The Viking sword found at Ulen, MN belonged to one of Harald's officers, who chose to stay behind.

Among the uses of high grade steel was a punch and hammer set capable of drilling holes in hard stone. Nearly every boat carried a punch and hammer.

When I tried to find locations of the mooring stones that Holand had listed, I was surprised. Mooring stone #1 was near a lagoon. The lagoon has square corners. Mooring stone # 2, shown to the right, is near a "U" shaped harbor or old camp. The circle of trees near the mooring stone is one of two possible campsites near the entrance of Stinking Lake.



Cargo, mast, boom, and sail unloaded and carried overland from Stinking lake (top) to the Jetty in Stakke Lake.

For the copper haulers, the Jetty at Stakke Lake was their goal for the autumn and winter. The copper haulers unloaded their boats at Stinking Lake. Then they portaged their stuff for seven miles along the west side of Hay Creek, which was dry in the autumn. Hay Creek is a long relatively gradual slope from Stinking Lake near Buffalo River to Stakke Lake on the Horst. At Stakke Lake they stored their supplies on the Jetty, while they waited for the spring thaw.

The process was similar for the Viking-Lenape during their four centuries from 1,000 AD to 1,400 AD. But the Vikings-Lenape were not under any pressure to get to the Gulf of Mexico, so they came and went over the Jetty with a variety of schedules.

Two or more Scandinavian crews spent the winter with the Lenape at the Jetty during the winter of AD 1361-1362.

At Stinking Lake, mooring stone #2, the boats were stripped of boom, mast, and sail. The oars were inserted through the oarlocks so that twenty men, ten on each side of the boat lifted and moved the boat if necessary. Then the boat was floated on water along the straight channel toward Hay ("the small") Stream.

Du Temple, who estimated the amount of copper missing from Lake Superior, calculated that an average of about 500 tons of copper was removed each year for 1,000 years. A hundred 20-oar boats removed 500 tons of copper. Some extra boats were sent along to account for attrition. We are assuming 120 20-oar boats per year for hundreds of years passed over the Jetty at Stakke Lake during the copper hauling era.

So with winter coming and the hundreds of boats strung out, the copper haulers were looking for a place to over winter. The place had to have animals and fish to eat, wood, water, and shelter from the north wind. The place had to hold hundreds of boats and accommodate thousands of men.

The first copper haulers did not find such a place. So the decision makers on the other side told the copper haulers to make one. They made the Jetty at Stake Lake.

The Jetty at Stakke Lake was located where the portaged materiel from the Buffalo River was put down until needed later. The boat crews, which left the Jetty, were on their way to the Gulf of Mexico or, at least, Lake Alexandria

The Jetty was as big as five city blocks. The Jetty held hundreds of boats and accommodated thousands of men. Some of the Vikings-Lenape chose to move to other groves of trees near the lakeshores for a stay of many months. The command center was on the hill to the west of the Jetty.

WHAT WOULD STAKE LAKE LOOK LIKE AT 1375 ELEVATION?

The Vikings-Lenape realized the situation was either moving dirt in the Stakke Lake to Bijou channel or moving dirt between Middle and Big Cormorant Lake. The advantages to raising the water level to about 1375 feet became obvious.

They would have to have a few short dikes on the north side of Stakke Lake, but at elevations below 1375 the original terrain would retain the water. The Jetty operation was not affected, as if the Jetty was designed for water at 1175 elevation.

The Vikings-Lenape restored the dam between Middle and Big Cormorant Lake.

The VIKING WATERWAY TOUR

When the boats had been stripped to minimum weight, the route shown above was the toughest segment of the waterway between Hudson Bay and the Gulf of Mexico. Many of the Vikings-Lenape on the Jetty were going to Alex South Harbor and back. Either way this segment was their most difficult passage.

The elevation profile shows the challenge. The boat crews had to lift their craft up a 61-foot ramp to get them onto the Horst. The ramp was preferable to moving the boats up the long seven-mile incline to Stakke Lake. Snow and ice made the operation go more smoothly.

Four boats a day was the normal rate of using the ramp.

This tough path has four sub-segments. We call them the straight channel, the shallow waterway, the ramp, and the down slope. The following photos will explain the sub-segments.

The Straight channel,
looking west into Stinking Lake.

This straight channel and the two hillocks imply man-made structures. In the past, the channel was a ditch full of water so the men standing on the drier banks pulled the boats through the marsh. The hillocks were a place for the coordinators to stand when the water was high or when high reeds obscured the channel.

Stinking lake can be seen in the background. A modern culvert and warning post are near the viewer.

This straight channel was observed via Google Earth. The existence of the straight channel confirmed that a multitude of men modified the harbors and created this channel.

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The SHALLOW WATERWAY

This waterway is the channel intersected by the straight channel from Stinking Lake.

The water hole and the erosion in the foreground have been caused by decades of water gushing out of the culvert under the road. The sharp irregular channel on the eroded waterway is typical of a small amount of water flowing for centuries.

What is abnormal in this picture is the wide green uniform grade along the old streambed. This uniform grade was created by a multitude of men moving earth into place and tramping it down. Then the men moving boats put the boats onto rails and rollers and pulled them up the streambed. When the streambed was in use, the yearly erosion scars, if any, were filled and packed to make the "crust" seen to the left of the eroded waterway.

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The RAMP

The distance down the ramp is about 1,000 ft to the pond. In the distance is Stinking Lake. The ramp is about 200 feet wide side to side between the brown hills. The ramp has nearly the same slope as the hillsides but averages about 16 ft deep. A little hump at the top of the hill has been removed.

The advantage of the ramp is that the depth enabled men with ropes to stand higher than the boat. So with each "heave" the men with ropes lifted the boat as the boat was moved up the ramp. Usually 20 to 40 men worked together. This was not a lift and go operation. Use of the ramp was part of the normal routine of Vikings-Lenape. The concentration of men coming together for the lifting of the boats affected the social and economic activities of the surrounding countryside.

The Vikings-Lenape accomplished the task by using local Lenape from the surrounding neighborhood. The Scandinavians also employed nearby Lenape.

HARBOR at DUCK LAKE

The view above shows the ramp on the left and the long green slope down to Duck Lake. The crews either carried the boats or used a rail and rollers system. The harbor at Duck Lake is shown in the right bottom. The harbor is big enough to hold up to 150 boats. Note the almost round configuration formed by the two jetties coming out from the two sides.

This harbor at Duck Lake was an active year-round operation during the copper trading days and the Viking-Lenape centuries. The harbor in front of the two jetties holds up to 150 boats at anchor.

Mooring Stone #3 was to the right. The two jetties, one from the west and one from the east, define the harbor. The jetties reduced the effects of the north winds. They prevented wind driven lake ice from damaging boats.

The Viking-Lenape community at Lake Park engaged in hunting and fishing necessary to supply a large flotilla of boats and their crews. Duck Lake, Lake La Bell, and Boyer Lake provided animals, fish, wood, and winter shelter. Late 19th century maps show an almost continuous string of villages from Lake Park to Big Cormorant Lake.

But Stakke Lake was the hub of a fine place to over winter. There the Vikings-Lenape enjoyed gambling and dancing as they waited for spring.

Duck Lake to Stakke Lake

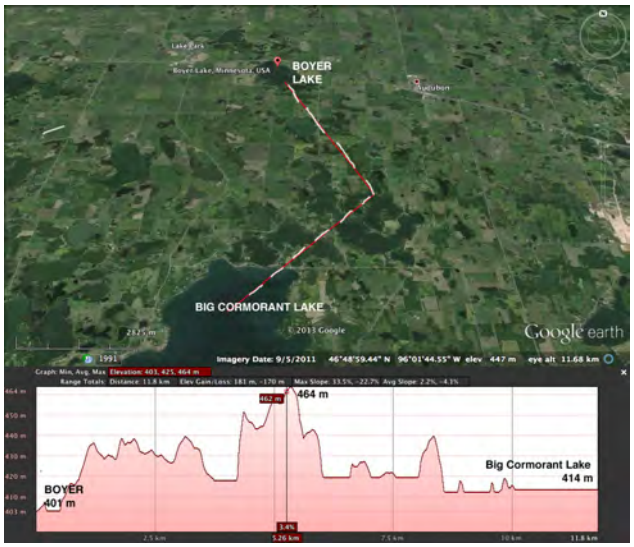
How did the Vikings-Lenape take their boats from Duck Lake?

Today to move boats from Duck Lake to Stakke Lake requires a four-mile portage over gradually rising relatively smooth ground. Two portage methods were available: Rails and rollers or pick-up-and-carry.

Either method benefited from the gradual rising, relatively smooth slopes. To portage a boat, the necessary manpower was made available by combining two crews to move one boat at a time. Besides, traveling in parties of two or more was just good exploring practice.

The possible route, shown, appears rough in the elevation graph, but the vertical distance is only 15 meters, (48 ft) in a distance of five miles.

A logical question to ask is: why not use the water route through Boyer Lake to the right?

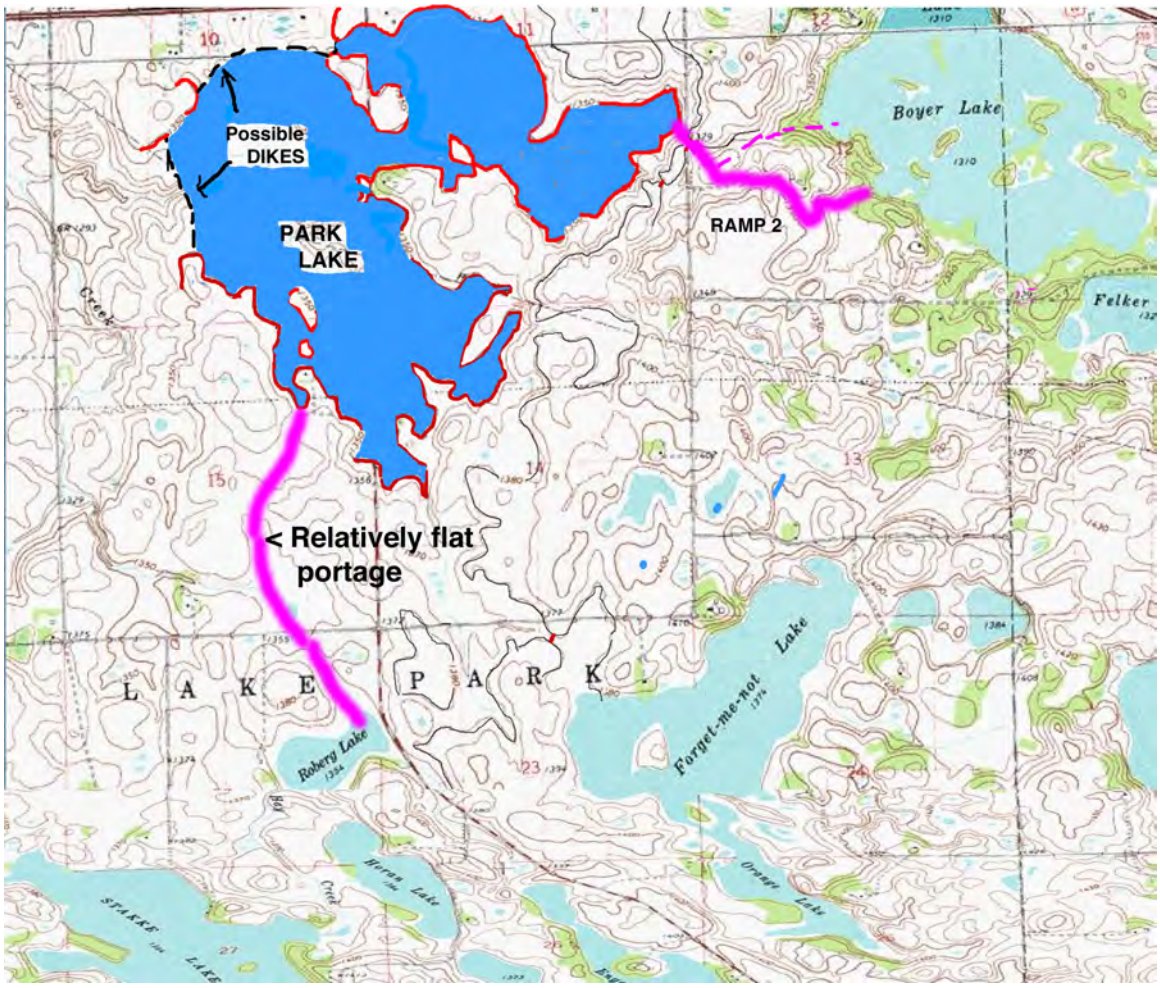


Boyer to Big Cormorant

Boyer to Detroit Lake

Most lakes are surrounded by a high berm, as if dropping a huge mass into a muddy earth created the lakes. To get out of Boyer Lake going to the south requires carrying a boat to an elevation 20 meters (64 feet) higher than the elevation shown in the suggested portage route.

PARK LAKE



The Vikings-Lenape noticed that someone had installed dikes at one time in the past. The large Jetty at Stakke Lake gives us a concept of the multitude of men capable of moving earth and coordinated by the bosses, who knew hydraulics. Those men added two low dykes to the existing terrain to create a lake. The Vikings-Lenape had the talent to restore the dikes.

If the Vikings-Lenape did restore Park Lake, They had two shorter portages, shown in purple: The ramp on the right is another 60-foot lift with a longer slope. Here a rail and roller method of elevating the boats worked. The portage to the left required moving the boats from 1350 feet, the elevation of Park Lake, over the 1380 elevation defining Stakke lake.

In Viking-Lenape "Park" meant, "contest " or "struggle." Maybe maintaining the long, low dykes was a struggle each year. Or maybe the struggle was to get boats up two 60-foot ramps. Or maybe they made the process into a contest of strength and talent.

Park Lake was a man-made lake with minimum water inflow. Thus the lake was often dry during a drought. Water level management or portaging boats was an on-going contest.

By the end of Viking-Lenape four-century period, the boats were more like the Montreal canoes. Six men portaged a canoe this size. At the end of the four centuries, the Vikings-Lenape drained Park Lake to get solid ground for longer portages of the lighter boats.

The Montreal is the largest "Voyageur-style" canoe. It will accommodate 18 paddlers and at least 5 non-paddlers. It tracks exceptionally well and at the same time, will outmaneuver most canoes in the 30'-34' range.

The 60" beam and shallow arch hull design provide superior seaworthiness and stability, while the 22" depth at centre provides freeboard to spare. The length of the Montreal can be customized from 34'–41' in length. The rocker can also be custom built to your specifications.

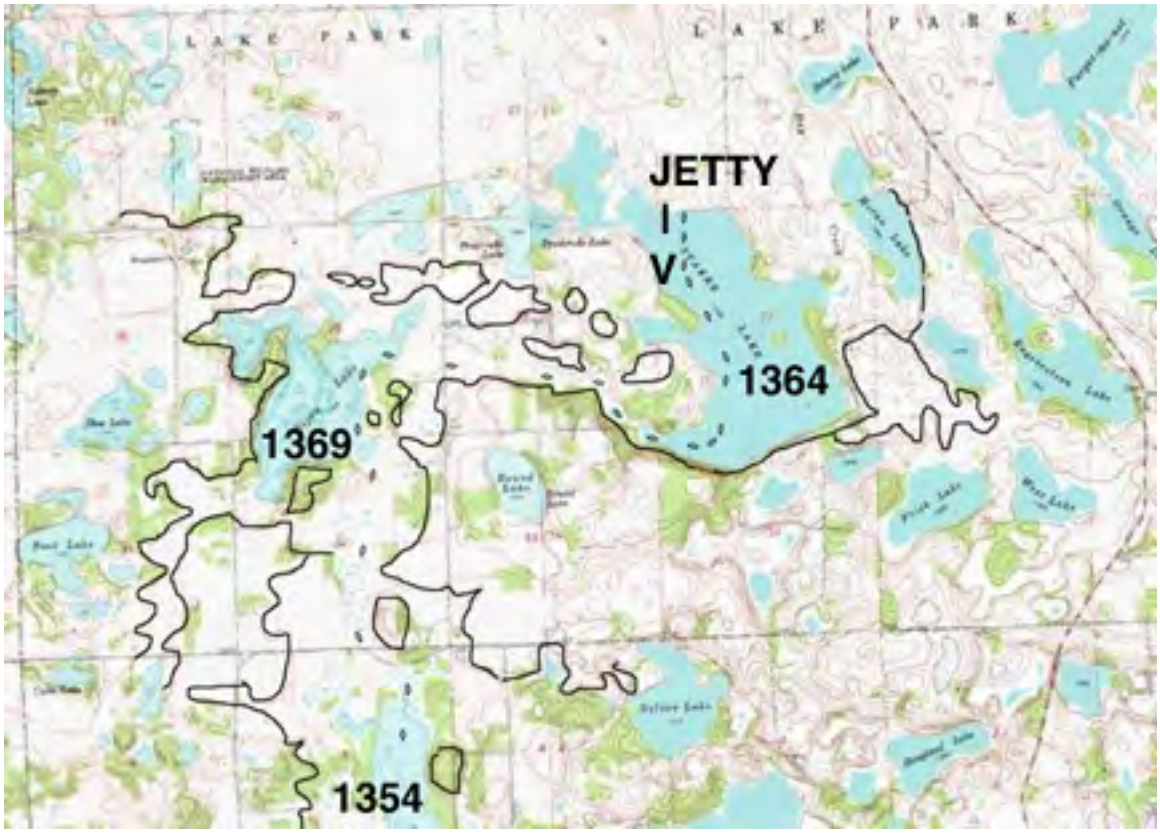
Montreal (34'): 9 Seats, 16 people Montreal X (37'-41'): 10 seats, 18 people.

Today we often refer to the canoes as 'Big Canoes' encompassing the many 22'+ styles and shapes paddled in North America today.

Length:	34' - 41'
Beam:	60"
Bow Height:	44"
Stern Height:	44"
Center Height:	22"
Max # of Paddlers:	18
Weight (FG):	600 lbs (Montreal) 650 lbs (Montreal X)
Loading	Five (5) tons

However it was done, the Viking-Lenape moved their boats from Duck Lake to Stakke Lake. Then, most likely, they stayed in near-by groves during the winter, while they waited for the spring thaw.

Stakke Lake



The Lenape word "Stakke" means "Snake." At the south end of Stakke Lake the shoreline is straight as if someone built a dam there sometime in the past. Based on the remaining terrain, the dam height was at 1,400 feet elevation. On the map the 1,400 feet elevations near the possible water route have been darkened. The channel between Stakke Lake and Bijou Lake can be seen.

Stakke Lake's water level today is at 1364 feet. If the water level were 20 feet higher, or the channel 20 feet lower, water flowed through the channel toward Bijou Lake, and from Bijou Lake to Upper Cormorant Lake. Stakke Lake truly looked like a snake as seen on the map, even one sketched in the dirt.

The possible water passage from Stakke Lake to Bijou Lake to Upper Cormorant Lake was evidence to the Viking-Lenape that someone dammed Stakke Lake to facilitate rowing boats via the waterway channel.

The first Vikings-Lenape in Stakke Lake portaged through the channel, but that portage was a minor delay. They were using lighter boats. But, during the four centuries they were there, the Vikings-Lenape raised the water level control dam between Middle and Big Cormorant lakes or lowered the channel.

The Scandinavians, who were moving heavier boats during a drought period, had to portage through the channel, but they did that the old fashioned way. They picked up their boats and carried them.

The 1127 foot by 459 foot projection into Stakke Lake, just west of the boats shown on the map, is the Jetty with a platform elevation above 1380 feet. This large man-made structure implies that, at one time in the past, there was a multitude of people in Stakke Lake, who were capable of moving earth. A forty-foot high dam and a twenty-foot deep channel were within their earth moving capacities.

The implications of the large labor force necessary to build the Jetty increased our understanding of the capabilities of the copper haulers. They were capable of making the dikes needed to create Park Lake. In fact they were capable of building the water control dam between Middle and Big Cormorant Lake.

The Vikings-Lenape were capable of understanding what the ancient structures meant. They were able to restore, improve, and maintain those structures.

The VIKING WATERWAY TOUR

WATER CONTROL DAM and BY-PASS

The elevation profile shows the by-pass.
The earth berm at the right side was a "piece of cake" portage.

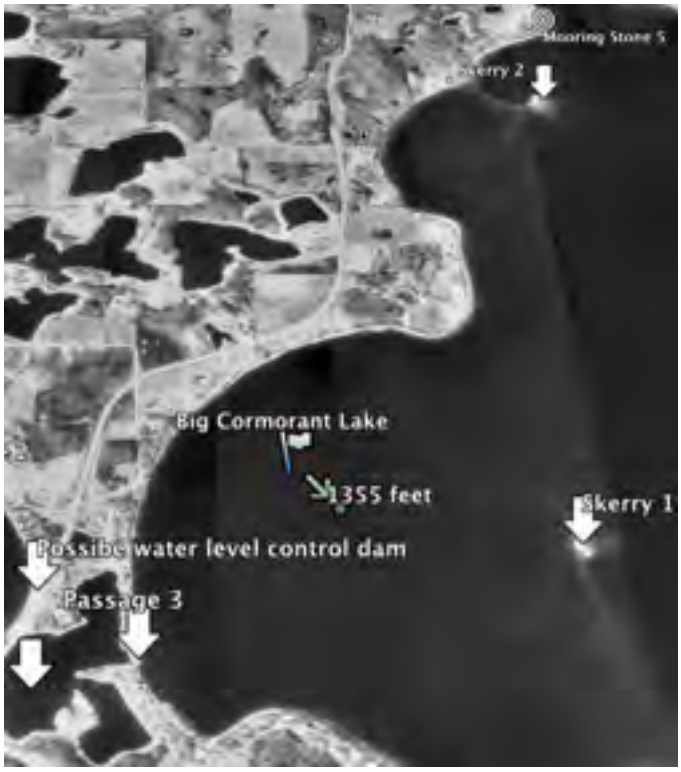
Between Middle and Big Cormorant Lakes there is a water level control dam. Today the earth is at slightly less than 1360 feet. But there is a hill in the center of the dam that still is at 1380 feet elevation. The first Vikings-Lenape found an eroded water control dam. During the four centuries they were in the area, the Vikings-Lenape restored the full width of the water elevation control dam. They raised the earthen dike by more than 20 feet, to the level of 1380.

When they raised the water level to about 1380, the Jetty functioned as originally designed. There was a nine-mile lake from the Jetty to the water level control dam and a by-pass from Nelson Lake to Big Cormorant Lake, which was the preferred rowing route. Given the evidence of massive earth moving in other places, the copper haulers were capable of raising the water control dike to an elevation of 1380 feet and the Vikings-Lenape were capable of restoring or improving the dike.

Today the water route from the Jetty to Big Cormorant Lake requires several portages. With the water control dam at elevation 1380 feet, the same journey was done without portages in a few hours. The passage cuts into low earthen barriers and the straight channel, that we see today, were later modifications as the water elevation control dam eroded down and the boats became lighter.

This picture illustrates two other important features. In the lower center is a small "secure" harbor located on the south side of a more public harbor. This earth configuration appears to be a natural occurrence, except similar secure harbors are also seen at Alex South Harbor, Grove, and Stakke Lakes. [See Appendix.]

The two skerries in Big Cormorant Lake cannot be seen today because the water level is higher.



This black and white photo is from 1991 data. This picture shows the two Skerries best. The skerries are important to the ten mates dead episode. They are mentioned on the Kensington Rune Stone. Hjalmar Holand wrote that Big Cormorant was the only lake in Minnisota to have two skerries.

Twenty-first century researchers do not see them today. As a result a few of these researchers have made erroneous hypotheses.

The rune puncher in 1362 knew what the word "skerries" meant. He also probably had seen only one lake with two skerries. Big Cormorant Lake is the lake where ten mates were beaten to death in 1362. We will discuss that episode on the long bus ride this afternoon.

The terrain of the mooring stone #5 where the men were beaten is shown on the right. Significantly the side is the highest ground with a steep fifty-foot hillside, which was considered protection. But the location is also a trap if a small group of attackers came out of the woods from the west.

Mooring Stone #6

Holand and his helpers found a mooring stone in Pelican Lake. They assumed that the mooring stone was involved in the ten mates dead episode. Holand labeled it mooring stone #6 and described the location at the east end of Pelican Lake.

This mooring stone, which Holand included in his list for the ten mates dead episode, is misleading.

The copper haulers used the mooring stone as they made the 0.4-mile long straight channel (the left blue mark) and enhanced the water flow from Detroit Lake (upper right) to Pelican Lake (lower left). Later the Viking-Lenape added the hole in the mooring stone for routine tethering of boats. Holand wrote about a waterway to the east and south of the Mooring Stone, but the ground and the lakes to the lower right of I-58 are all at higher elevations than Pelican Lake. A map that showed lakes without elevations misled Holand.

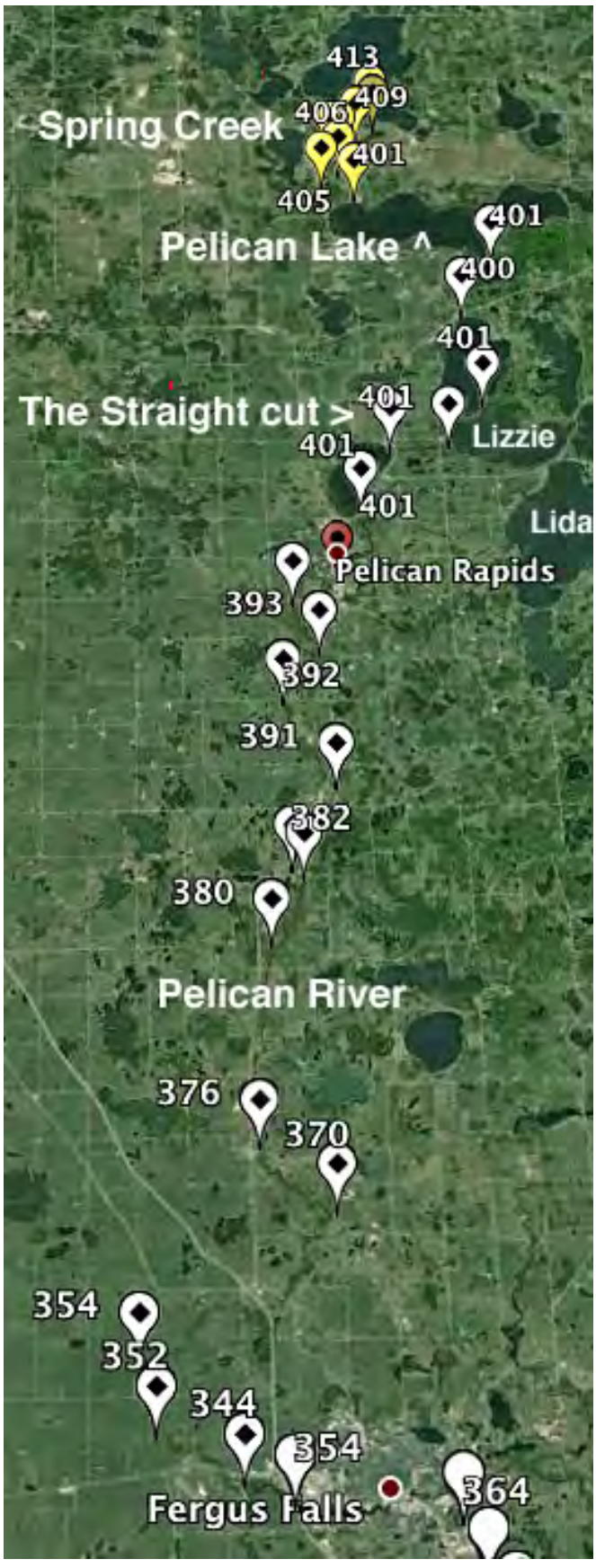
Except for the 0.4-mile straight channel (lower left) the waterways look natural but they also reflect ancient man-modification and natural alteration since that time. A few of the waterways are steep cuts through natural hills, when a more circuitous, drainage through a swamp is near by.

The straight channel between Little Pelican Lake and Pelican Lake is man-modified. There is a 45-foot high hill to the north of the cut, where the earth was dumped. Because the straight channel is there, the water from the eastern lakes increased the Pelican River flow. The combined flow from Big Cormorant Lake and the Detroit Lakes string made the Pelican River more useful for larger boats.

We are not going to use the TOUR time to look at the straight channel or the mooring stone #6 site. You can look at them via Google Earth and the contour map.

The VIKING WATERWAY TOUR

The PELICAN RIVER



The VIKING WATERWAY followed Spring Creek between Big Cormorant Lake and Pelican Lake. (Yellow pins)

Then the WATERWAY followed the Pelican River from Pelican Lake to Fergus Falls MN. (White pins)

Lake Lizzie, and Lake Lida are about the same elevation. I wondered why the Vikings-Lenape did not choose to go through the string of lakes south of the South Arm of Lake Lida?

Those lakes are at HIGHER elevations!

The straight segment to the west of Lake Lizzie is interesting. The straightness is not natural, especially when the channel cuts between lands on both sides that average 40 feet higher.

So I made a series of cross channel elevations. (Next page) My conclusion is that the copper haulers excavated a way out of Lizzie Lake. The Vikings-Lenape restored the channel.

Pelican River should drain small lakes, but in a few places the river flows in a semi-circle to go around small ponds. A river that flows through a land of a thousand lakes without going through many lakes seems curious. The berm effect of each lake is responsible. The fact that man created the river after the lakes were formed is another reason.

Look at the cross sections of the 1.4-mile cut to get out of Lake Lizzie.

West **Middle** **East.**

All three show evidence of a berm to the south (right). In the middle view the dirt for the berm was piled into a small pond. Digging a 40-foot deep channel for 1.4 miles was the best way to get hundreds of thousands of boats out of Lizzie Lake!

Were the rivers man-modified to by-pass rapids and falls?

Pelican Rapids was a test of that question. By the time we started to write this booklet, we knew that EVERY rapids or falls from the Hudson Bay to Lake Winnipeg had a man-modified by-pass. The by-pass was used to pull a boat, on water, upstream around the rapids.

We knew that Fergus Falls also has a by-pass. But we had ignored looking at Pelican Rapids. The name alone implies that the Pelican River had rapids. So when we put this booklet together, the logical question was:

Was there a by-pass at Pelican Rapids?

There are at least three bypasses.

1. TOP PHOTO (opposite page): Just upstream of the dam in the center of Pelican Rapids there is a flooded curve where the rapids were. The by-pass cut through to the east of the little slice of land showing in the center of the lake.

2. LEFT BOTTOM PHOTO (opposite page): Men constructed a similar by-pass down-stream from the rapids. A feature of these man-modified bypasses is that the water divides to flow both over the rapids and through the by-pass. Many dams today have a lock system to by-pass a dam. To construct a by-pass around rapids and have both the by-pass and the rapids share the water is a more difficult engineering feat.

3. RIGHT BOTTOM PHOTO (opposite page): Pelican River has rapids where it flows off a layer of stratified rock. Then the river turns sharply to the right along the front of the stratified cliff. The broader by-pass at the bottom of the photo is man-modified to enable boats to float down and make the turn.

Natural water erosion can create bypasses, but natural water erosion usually cuts off an oxbow loop and leaves the water stagnant or the loop dry. We find so many bypasses with water over both the rapids and through the by-pass unusual. Every by-pass improved the ability of the crew to pull the boat around the rapids. Similar rivers in Canada, other than the Nelson-to-Lake Winnipeg system, were examined to determine if they had bypasses on the segments with rapids. No obvious bypasses were found.

Thus the bypasses at Pelican Rapids are further evidence that sometime in the past, a multitude of men modified the rivers from Hudson Bay to Fergus Falls. The reason for that activity is easy to understand. A loaded boat floating on water can be pulled up stream, or float down stream, with less effort than unloading the cargo and portaging the boat around the rapids.

The VIKING WATERWAY TOUR

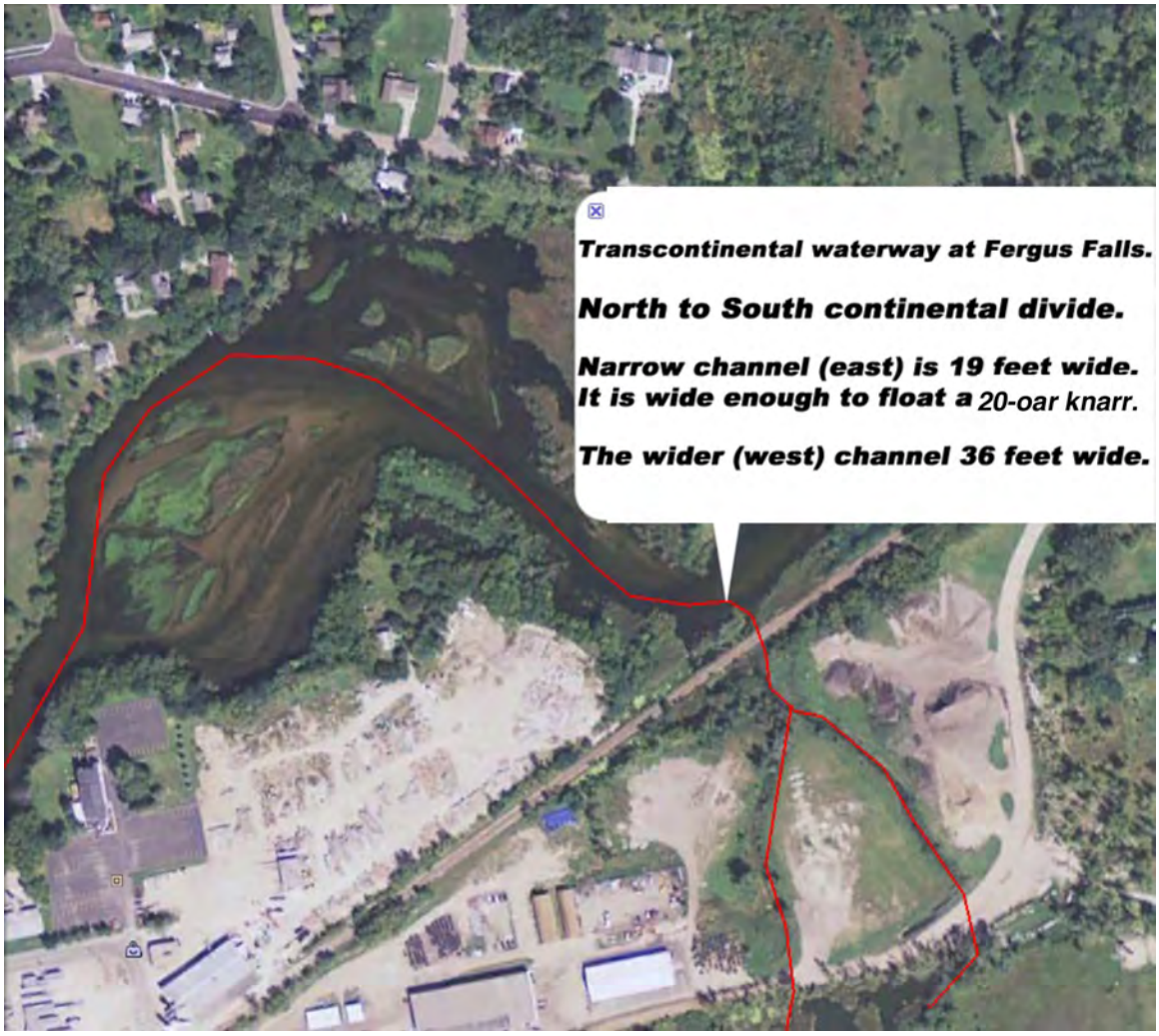
FERGUS FALLS, MN

The Vikings/Lenape knew that "Fergus Falls" meant, "Worthy of being a Falls." [That name was a little subtle Nordic humor.] The falls are at the vertical arrow pointing down on the wide Ottertail River.

The Pelican River merges with the Otter Tail River at Pin 344 on the left. Holand wrote that the Scandinavians turned east, going up-river toward the falls. The white pins show the route the Vikings Lenape took to pass over the falls. The white pins at the right represent leaving the falls and moving, with portages, through a series of small lakes until the "North Ten Mile Lake" was reached.

The portages here are of the "pick up and carry" type although repeated use may have resulted in a more permanent rails and rollers installation.

The CONTINENTAIL DIVIDE



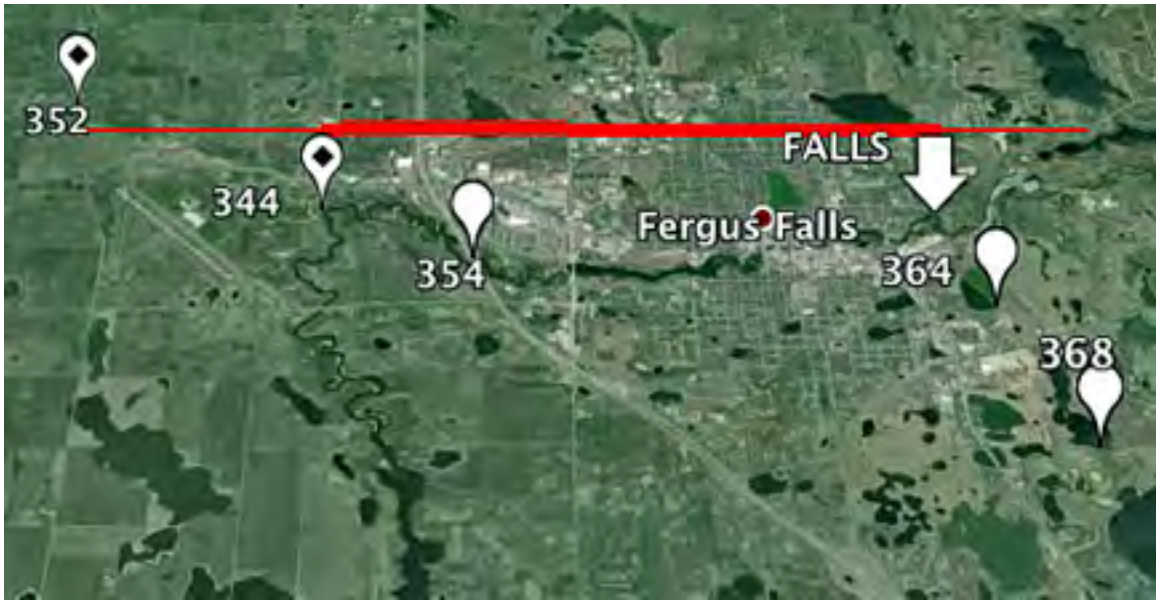
Fergus Falls straddles the North-South continental divide. The Otter Tail River flows on the Hudson Bay side of the divide. The Vikings-Lenape were going to Lake Alexandria on the Mississippi side.

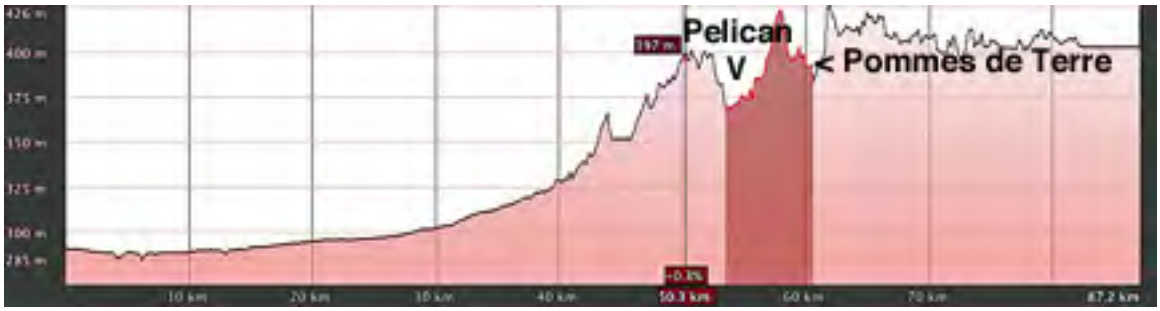
They discovered that the best place to move boats over the divide was at the falls. Boats were pulled up-river, across the pond that fed the falls, and lifted out of the Ottertail into the channels shown in the picture.

Myron noted the Fergus Falls by-pass as being an unusual terrain situation, but he ignored the evidence of the by-pass. Years later, while investigating the Nelson River, Myron observed the same configuration over and over. We have already written about the Pelican Rapids bypasses. The implications of the bypasses are that the multitudes of men must have installed them all along the Viking Waterway. The Vikings-Lenape maintained the bypasses.

The VIKING WATERWAY TOUR

RAISING the POSSIBITIES





This elevation slice of Fergus Falls illustrates what Vikings-Lenape were doing.

The red line indicates the elevation slice, which was made from west to east. The thick red line corresponds to the darkened area in the elevations plot. The darkened area shows the elevations between P-344 and the white 364 pins.

Note that the Pelican River, represented by the "P" pins is nearly off the Horst. The water from the Pelican River and the Otter Tail River soon plunge off the Horst.

So the Copper haulers, the Vikings/Lenape, and the Scandinavians turned up river. In the process they crossed the continental divide on water, gained elevation, and left the falls with in a river drainage, which was higher on the Horst, flowing south, and in the Mississippi River Basin.

How did the copper haulers and the Vikings-Lenape figure that out?

However they did, they made the crossing of the falls easier by rigging a series of cables strung along the river bank and over the otter Tail River so the boat crews, who remained in their boats, pulled the boats, hand over hand, up stream and across the Otter Tail River.

CORMORANT

The bird, the lake, or the thieves?

"Cormorant" is a Lenape word. To Lenape, "cormorant" meant "thieves" anywhere in North America.

In the Wikipedia, Cormorant is a bird having 40 species and a small known range in South America very, very long ago to nearly worldwide today. The bird has been associated with thievery similar to the camp robbing magpie.

Today in Minnesota most fishermen know Big Cormorant Lake as one of the bigger and best lakes. There are Cormorant birds on the lake.

So which came first? The thieves, the bird, or the lake?

Reason tells us that the lake was last. Was Big Cormorant Lake named for the thieves or the bird?

When the ten mates were beaten to death, the Lenape already had a name for thieves, "cormorant." They probably called the bird by the sound it made. That was Lenape custom. For example, what we call an eagle; they called a "meeesh," the sound an eagle makes just before its claws hit its prey.

One hypothesis is that the lake was named after the thieves. Then the cormorant bird was named because Europeans found a lot of those birds at Lake Cormorant.

Another hypothesis is that the lake was named after the birds. Lenape, who observed the thievery behavior of the birds everywhere, may have told Europeans everywhere that the bird was a thief. Thus the lake was named after the birds. The human thieves, who murdered, were there at the lake named "Cormorant" by coincidence.

Which do your favor: the thieves, or the birds?

The POMME de TERRE RIVER

In early frontier times, about 1870, Ten Mile Lake must have still been a complete lake. So, we can assume the copper haulers used the full length before they rowed down the Pommes de Terre River, which is represented by the white pins.

East of Elbow Lake Holand's friends found a mooring stone in a harbor that does not look like a natural formation. Staying with our convention of the mooring stones representing a place where boats changed depth in the water, we can wonder why the harbor and the mooring stones were here in the middle of the prairie?

One rationale is that the Vikings-Lenape knew there were portages and up stream pulls ahead. This spot was a place to unload the cargo again. They sent the stuff overland to Alexandria area. I-95 goes right by. I-95 was built on "high and dry" land. Today, the distance to Alexandria is 25 miles. But Alexandria Lake made the distance to water on the lake only seven miles away. That distance was about a half-day portage.

The VIKING WATERWAY TOUR

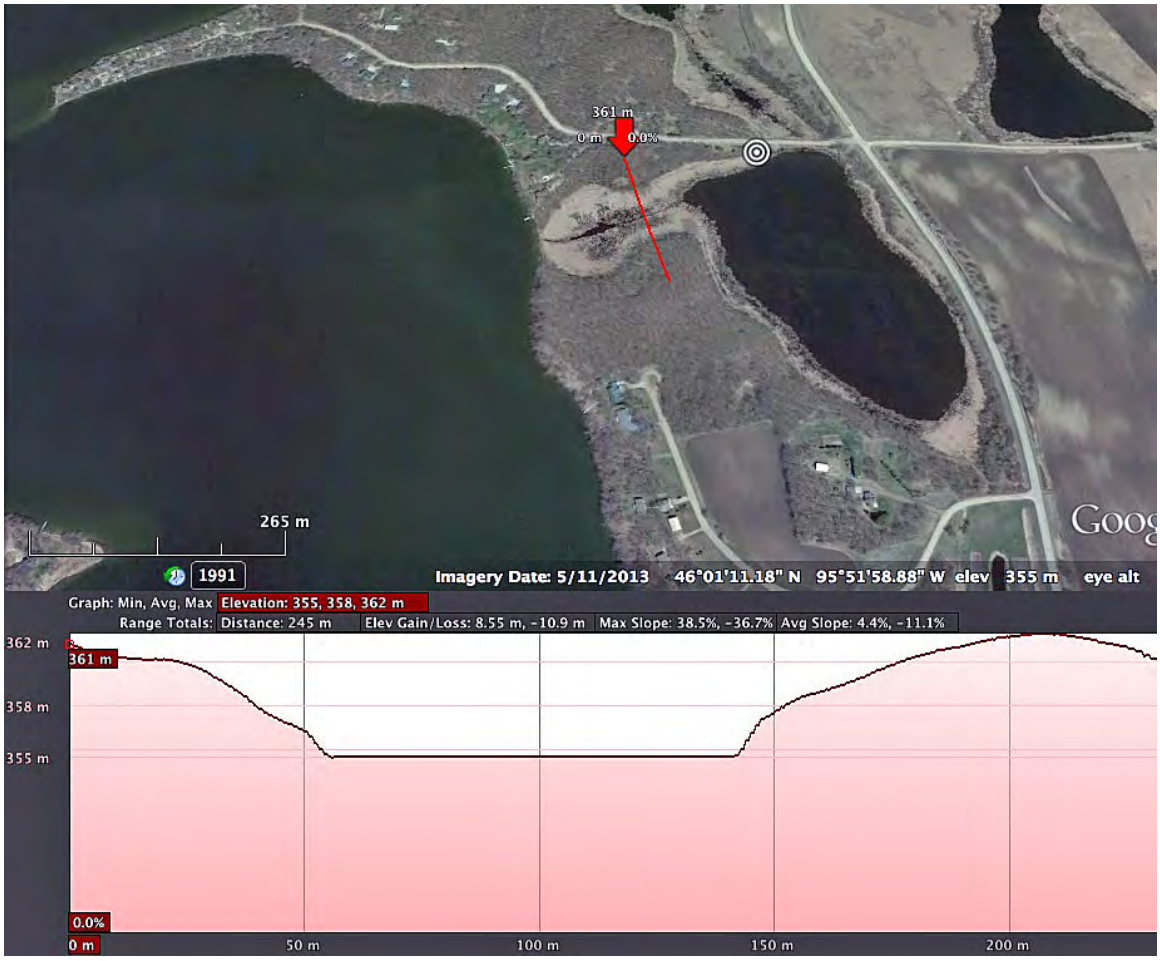
From the Lake north and east of Barrett,"a little place," the copper haulers portaged their boats for four miles over flat ground. On the east end of the portage they re-launched their boats into the Chippewa, "Ship way" River. At that spot there are two small lakes with a channel between them. The lakes are at the same elevation. But the channel runs through terrain 7 meters (22.4 feet) higher than either lake. Nature does not usually do things like that. Part of the old channel is a straight segment.

The Ancient copper haulers continued to row down the Chippewa River toward the Minnesota River. But they did not want to row on the Minnesota River. The water flowed too slowly. The river wiggled back and forth too much. Sometimes the river even flowed west instead of east. The river flowed through a loam type soil, which caused the river to pick up more debris. They found the water hardly drinkable. So they named it "minimum sweetness" or as the Vikings-Lenape said, "Minnesota."

The Vikings-Lenape had little desire to go to the Minnesota River either. The place to be was back home in Lake Alexandria.

The VIKING WATERWAY TOUR

Mooring Stone #7

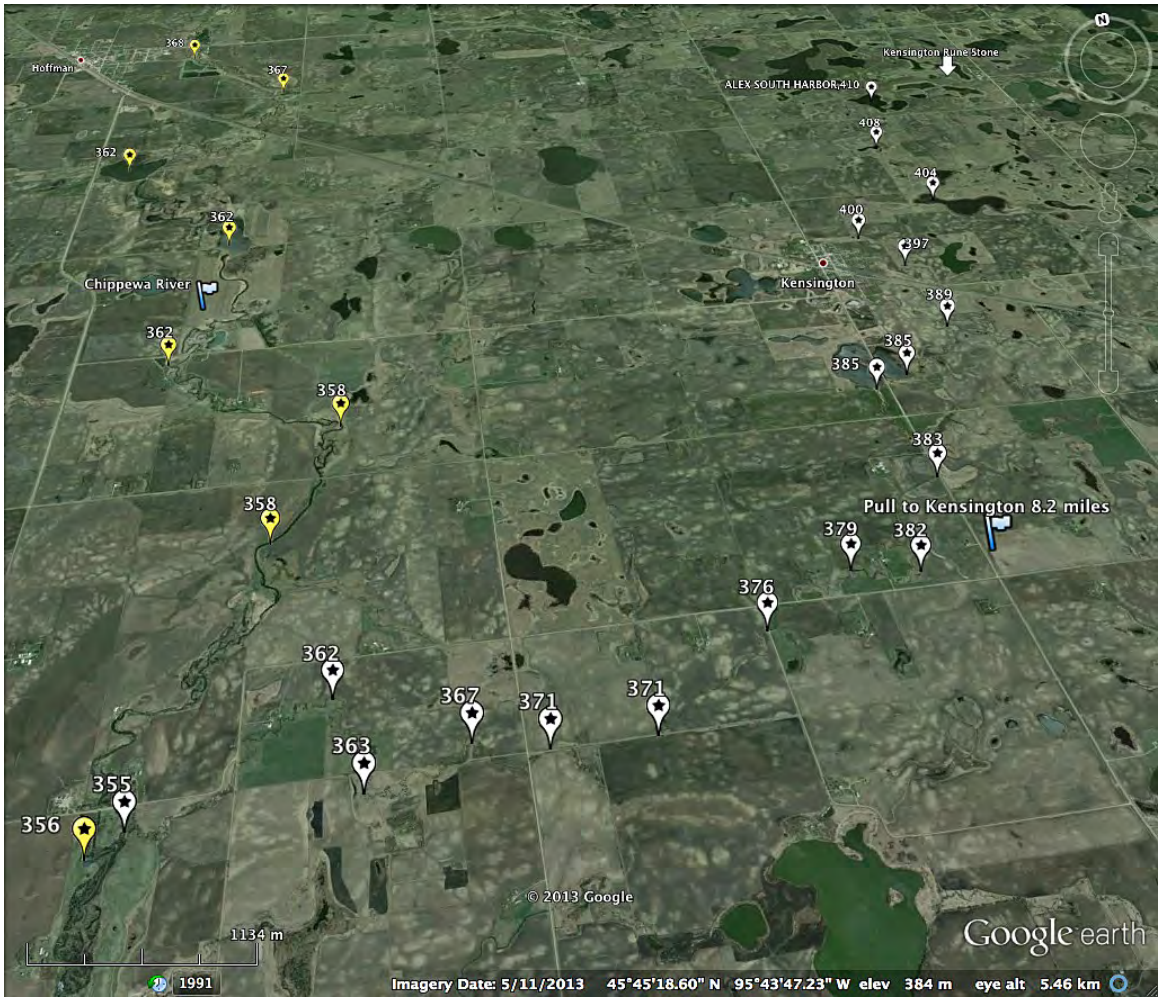


The mooring stone [located at the target] and the channel access to what is a natural pond indicate man-modifications with a purpose. The wider channel allowed boats to come and go at the same time. Supplies were unloaded from the boats and portaged down the road to Alexandria Lake.

The VIKING WATERWAY TOUR

To ALEXANDRIA LAKE

The boats rowing downstream had a four-mile portage and then an 8.2-mile pull up a small stream to get to Alex South Harbor.



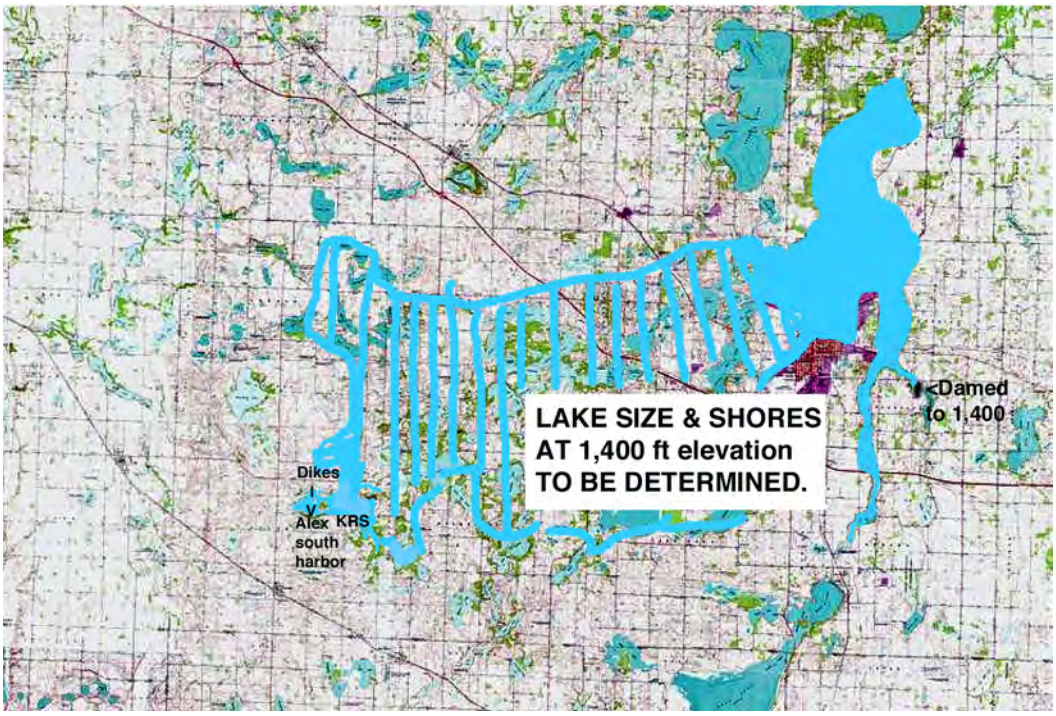
The Vikings-Lenape continued to row south on the Chippewa River [Yellow pins] until they reached the small stream, which gave them access to Kensington. Then they slipped into the harnesses again and pulled the empty boats 8.2 miles to Kensington. [White pins].

Compared to the ordeal of the Buffalo River, this pull up stream must have seemed like a "walk in park" as some of the path is today. Both the Buffalo River pull and the pull into South Alex Harbor are in grassland. The word "Wynland" (pronounced "Vinland") defines this type of land.

The Lenape knew "Kensington" to mean "Kin's Place town." Kensington is located 2.3 miles SW of Alex South Harbor and Runestone Park. Alex South Harbor is just south of the Lake Alexandria dike. Alex South Harbor is more closely associated with Lake Alexandria than the town of Kensington. Kensington may have been a place for kin, living or dead, but the town was by the side of the stream to Lake Alexandria.

The VIKING WATERWAY TOUR

ALEXANDRIA LAKE



When confronted with a span of nearly eighteen miles to traverse with large numbers of boats, competent engineers determined that the least costly solution was to raise the water level of the many lakes to create one large lake.

The dam between Lake Geneva and Jessie Lake is in an obvious location in a valley between two out-croppings at 1,400 feet or higher. Not so immediately obvious are the dikes needed in the valleys to form and contain the lake water.

The Kensington Rune Stone Park was part of the southwest dam. Most boat traffic passed through the park, which was part of the portage path to raise the boats to the 1,400-foot elevation needed to get into Alexandria Lake.

The four centuries of Viking/Lenape travel across the lake explains why stones with holes are found all over the place.

The VIKING WATERWAY TOUR

The PORTAGE PATH into ALEXANDRIA LAKE

The portage stream led to an ancient harbor near the present Kensington Rune Stone monument. The Alex South harbor was the transition portage between the stream, whereby the boats were pulled to the harbor, and the portage into the Alexandria Lake at an elevation of 1,400.

The red dots indicate the transition portage. The map contours show a shallow channel as if the boats were pulled up the last stage on a stream of flowing water from the spillway east of Runestone Hill. The water flow was a controlled flow, which was used when there were boats to pull up the transition portage.

The terrain east of Runestone Hill was the spillway and the launching pad for boats coming and going from the lake. Two segments of dikes, with elevations to 1,400 feet can be seen just to the north of the south harbor to Alexandria Lake.

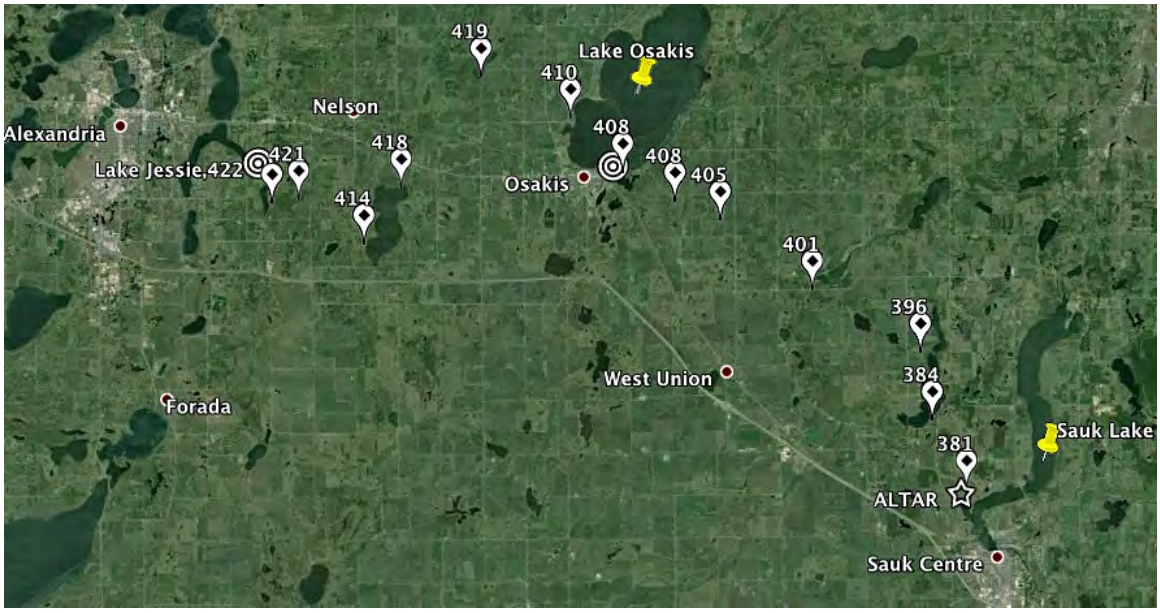
A major segment of the dike system has been eroded in the southwestern corner of the lake. Action of ice and waves caused the erosion in the six centuries since the Vikings/Lenape were forced to leave.

The ancient copper haulers paused only long enough to regroup. Then they went on east to haul copper year after year for hundreds of years.

For the Vikings-Lenape, Alexandria Lake was a terminal objective, a true kin's-place town. Many young men left on their quests from Alex South Harbor in the spring to make the Red River, Stakke Lake, Pelican River journey before autumn. Most of those men returned with sagas. Some returned with wives.

The VIKING WATERWAY TOUR

ALEXANDRIA to SAUK CENTER



After rowing through Alexandria Lake, the Viking-Lenape traders had one last segment to traverse before they reached the Mississippi River and the Mississippi people.

First they had to traverse nearly flat ground between Lake Jessie and Lake Osakis. They restored the dikes at the south end of Lake Jessie. Then they cleaned out the straight channel (@ pin "M" 421) going east from Lake Jessie. Then they rowed or pulled their boats through the shallow channels to Lake Osakis.

Today there are many narrow straight channels in the area. Those channels mostly follow the ditch lines of sectional roads. These straight channels are modern drainage channels, which are used to lower the water table so the land can be farmed. The net effect of these drainage systems is to lower the level of waterways that Viking/Lenape used.

After reaching Osakis Lake, they rowed down stream to Sauk ("Saga") Lake. At Sauk Lake someone set up an altar. The Vikings-Lenape used their hammers and punches to make it a Christian Altar. The altar is still there; a big rock with holes placed to hold up a cloth background and horizontal supports for an altar table.

The Vikings-Lenape traverse of the waterway was made often during the four centuries at the beginning of the second millennium after Christ. They were the traders of the Mississippi culture.

The VIKING WATERWAY TOUR

MISSISSIPPI CULTURE

(Black Dots)

Look at the black dots along the Mississippi. Those dots represent the Mississippi Cultures. (AD 800-1500) The Mississippi cultures were mound builders. Mounds are rare in western Minnesota. But the Vikings-Lenape were the traders along rivers of the mound builders.

Two of my American correspondents, Claude from Ottawa, ON, and Lonewolf, from western Pennsylvania, corresponded with me for a few years. They both described their ancestor's stories of men with blond hair traveling in their region. Then the men stopped coming for years. Then the men with blond hair began to come again, before the European invasion.

"Grandfather Commada, chief of the Circle of All Nations, introduced me to the Seven Fires Prophecies, which had passed from "Native American" villages on the Atlantic coast to as far west as Walla Walla, WA. The fourth fire prophecy told them that good and evil pale-skinned people would come. The good pale-skinned people would extend their hand in friendship. Most Americans met pale-skinned people with an out stretched hand. But they watched with concern. There were things to trade and sagas to hear when the Vikings-Lenape came ashore. These were the good pale-skinned people. The first action of most evil pale-skinned people was to build a fort.

At autumn time in the middle of the 14th century, crews of the Vikings-Lenape stayed at Batesville, "Hill Village," which is on the eastern edge of the Ozarks in Arkansas. Batesville is on the White, "fresh, drinkable," River. The Vikings-Lenape crews had just come upriver from Magnus. But that is another story.

APPENDIX 1
SECURE HARBORS

At least four Minnesota lakes show evidence of man-modification to create secure harbors. The harbors protected the boats from the north winds and wind driven Ice. A narrow entrance limited access.

At Stakke Lake the Jetty was built at an angle north of another peninsula to create a narrow entrance to a secure harbor between the Jetty and the peninsula.

At Big Cormorant Lake the harbor north- south dikes connected to an east-west dike that creates the secure harbor within the harbor.

At Grove Lake the long east-west dike connects the east shore to the island in the west to make a secure harbor. The entrance was narrowed and a knob near the harbor mouth enables an obsever to keep track of the boats coming and going.

The Alex South Harbor is similar in layout to the Grove Lake Harbor. The secure harbor is on the south. The enrence to the secure harbor is on the west. The neck and knob are in similar places.

The Alex Harbor is located just south of the dikes that retained Lake Alexandria water. There is evidence of a boat portage path to the elevation of the Lake.

Holan's description about finding the mooring stone #8 fits Alex South Harbor better than the current location for the Kensington Rune stone. I have re-read Holand's testimony several times. Obviously Holand will not change his words. I continue to believe his testimony. Whoever located the finding spot of the Knesington Rune Stone and I just disagree.

But Alex South Harbor was the transition harbor between boats pulled up the 8.2 segment from the Chippewa River to Lake Alexandria.

APPENDIX 2
The TEN MATES DEAD Episode

This photo shows a very special stone. Mark Hilde, a TOURist on the VIKINGS WATERWAY TOUR followed up on rumors he heard playing golf. This was the grave marker stone of the TEN MATES DEAD episode of AD 1361.

Mark was able to trace when and where the stone was found, who owned it since, and where it was moved. He found a newspaper story. Years earlier Judi Rudebusch had seen the story and traced the grave marker to the owners, who want to be anonymous. They took pictures for Judi, who shared this one.

Before the murders both the Scandinavians and Greenland Lenape thought everything was going well with the migration of thousands of Greenland Lenape. The Greenland Lenape history tells of friendly relations in Wynland as Greenland Lenape moved among their kinfolk to settle in a pleasing land to the west of Big Stone Lake. The town of Sisseton (SD) was occupied.

The big boats of the Scandinavians were being used less. The Scandinavians had heard of the river route to the Mighty Waters. They thought that this was the time to engage in a voyage of discovery.

Could their large boats get through the waterway and on to the Mighty Waters?

They decided to try the voyage. Two of the remaining Scandinavian crews set off in late summer to get their boats into position for the spring voyage from Stakke Lake.

They pulled their boats upstream on the Buffalo River to the first mooring stone. At that spot they unloaded the supplies and trading goods. They had hides: of buffalo, deer, antelope, foxes, martin, and rabbit. They had horns and hooves. They had feathers of the eagle, pheasant, goose, prairie chicken, and crow. They even had whale oil, walrus ivory and rope. Their Lenape carriers stored the supplies on the Jetty at Stakke Lake. The Lenape camped nearby until the Scandinavians arrived with the boats.

Then the shocking mass murder happened. The shock was amplified because the mass murder occurred among new Lenape because some of the "ten mates dead" were Scandinavian.

In the alarm immediately after the ten mates were murdered the Scandinavians chose to sleep in their boats, anchored to a skerry on Big Cormorant Lake. There is a little known story that the bodies were buried at Stakke Lake. This story makes sense because some of the dead Lenape men had friends or family near Stakke Lake. The people from Stakke Lake were on the murder site within two hours. After the bodies were buried, the rune puncher erected a grave marker and wrote, in haste, "Norsk-to return."

We know where the grave marker stone is now. We can see the text. The text is stavless Swedish runes, which was used for messages that were written in a hurry. The rune puncher was writing "free hand." He left a message that there were Norse men under the grave marker and that the Scandinavians intended to return. At dawn the next morning the Scandinavians departed for the Pelican River.

We do not know who the murderers were. The best guess is that they were desperate men, who had become thieves because of the cold climate and severe drought. One reason for thinking they thieves is that the Lenape history emphasizes friendship before the episode and peace immediately after. The Lenape were Christian but they had Old Testament justice. Perhaps when the thieves met their justice, Lenape society returned to normal.

But the frightened Scandinavians went on their way imagining enemies behind every clump of trees. That anxiety was punched into the Kensington Rune Stone. But there was another recorder in the area, the Lenape stanza maker.

Either of the two reports below tells us that ten mates were beaten to death on the VIKING WATERWAY.

The Drottkvaett composer and the rune puncher recorded the event so future generations remembered. Today, 651 years later, we do know that TEN MATES were beaten to death on the VIKING WATERWAY in AD 1362.

The Lenape history has two stanzas before the episode, which proclaim they had friends among the people all around. The first stanza after the episode talks about the sachem, named "Peaceable", who lived in a pleasant land. He was leader of both the Norse (rectangle) and the natives (triangle) in a flat, icy land.

So the murders were the act of thieves, who were desperate. The Lenape had Christian ethics. Those ethics included the Old Testament "an eye for an eye" code. Probably the thieves were quickly found and justice was done.

The VIKING WATERWAY TOUR

EXPLANATION of TERMS

HORST

Geologic term for a raised, plateau-like, feature, often the result of faulting whereby one section is raised (horst) and another is lowered (graben). The tableland in north-central Minnesota resembles a horst but may have been caused by impactors of the debris front that shoved the sea bottom upward under the two-mile layer of ice above. The many Minnesota Lakes are on the Horst. The lakes and the earth around them are similar to a stone dropped into wet mud. Most lakes are sunk below the ground surface and a berm of earth surrounds the lake. The Horst resembles an island towering over flat grassland.

KENSINGTON RUNE STONE (KRS)

The KRS is a 200-pound greywacke slab with runic inscriptions on its upper face and on one edge. It was found enmeshed in the roots of a tree by farmer Olof Ohman in 1898 near Kensington, MN. Its authenticity is highly controversial; we accept its legitimacy as determined by Scott Wolter's detailed petrography analysis. Dated AD 1362, it is translated as follows:

Eight Götalanders and 22 Northmen on (this?) acquisition journey from Vinland far to the west. We had a camp by two skerries one day's journey north from this stone. We were fishing one day. After we came home, found 10 men red from blood and dead. Ave Maria save from evil. There are 10 men by the inland sea to look after our ships fourteen days journey from this peninsula (or island). Year AD 1362.

Both the KRS and the Maalan Aarum tell the same story of 10 men dead.

KNARR

A class of Viking boats, similar in appearance to the familiar "Viking Dragon Ships" but smaller. River knars were approximately 42 feet long and rowed by 18-20 men, for example two rows of 10. They may have been crewed by about 15 men. They had a shallow draft, weighed a ton, could carry 5-6 tons, and could be portaged by the crew simply by pushing oars crosswise through the oarlocks so they extended a couple feet out either side – and then lifting and walking.

LENI LENAPE

Name designating a tribe of Americans (Indians) present on East Coast at time of European arrival, from Carolinas to source of Hudson River.

The Americans from New York to Newfoundland were similar to Lenape, but their ancestors came to America by other routes. They used other names. Leni Lenape was the Viking name for themselves; translates as "abides with the pure" in Old Norse/Icelandic.

LENI LENAPE CONTINUED

Leni Lenape originated in Greenland and migrated via Hudson Bay, Minnesota, Illinois, Ohio, Pennsylvania, and New Jersey to coast during period c. AD 1000 to c. AD1500. They departed Greenland as Christians and retained much of this tradition as a parent transmitted religion. Many Lenape will insist they are not Christian. They behave as Christians aspire to behave.

Records show the Pope and King of Norway sent missions to the Leni Lenape to collect taxes, to "rescue" their Norse relatives, and assist them throughout the time period of interest (AD 1000-1362)

LES CHRISTINAUX

This name was given by late 17th c French voyageurs and explorers to an extensive region south and southwest of Hudson Bay extending nearly to the Great Lakes. The inhabitants of this area were descendants of the Greenland Lenape who had entered the area since AD 1000 to mid-14th c, and, no doubt, interbred extensively with the natives. The "natives" may have been Christian Albans who had fled from Ireland and Scotland.

MAALAN AARUM

History of Leni Lenape inscribed as pictographic prompts on a set of 184 sticks. The tribe's "story teller" would read the prompts and then recite the associated story as he was taught and his teacher was taught, and so on back into time. The important element of the history was the self-verifying stanza.

MOORING STONES

Stones with holes formed using an iron punch. A wooden or iron pin can be jammed in the hole and a mooring line tied to it. Such mooring stones are found predictably along Minnesota (and Scandinavian and Russian) waterways. Some are small and were probably carried as temporary land anchors, while most were large and near harbors, portages, and camps.

We made a hypothesis that the mooring stones along the Waterway were used to tether a boat while it was being loaded or unloaded. That method would reduce the need to move a boat with respect to shore as the change of the load caused a change of depth. This hypothesis appears consistent with our understanding of the events along the Waterway.

SKERRIES

Small, rocky islands in lakes. Only Big Cormorant Lake has/had TWO such islands, thus making it the prime candidate for the scene of the murder of the ten mates.

VIN

This appears in "Vinland" and "Vinland of the West". Vin, in Europe, is usually represented as "vine" as associated with grapes. However, this is wrong. "Vin" translates from Old Norse as "fine" or "clear", thus "Vinland" would indicate a good land, one likely clear of trees and probably good for farming. The American translators used the spelling "Wynland with the same pronunciation."

Old Norse one thousand years on America here.
Thirteen sixty-two in the best Wynland of West.

MORE INFORMATION

The Oldest American History is at
LENAPE LAND

Links to the Lenape Epic IS at
LENAPE EPIC

The original Viking-Lenape research is documented in
FROZEN TRAIL to MERICA