

ON-THE-WATER GUIDE

for Paddlers & Boaters



Natural & Cultural History of the
Lower St. Louis River



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EXPLORE THE ST. LOUIS RIVER

Welcome to the St. Louis River, the headwaters of the Great Lakes. The local Chippewa tribe knows it as Gichigami zibi, “The River that flows into the great waters.”

The colorful human history of this area includes Native American encampments, European explorers, missionaries, and you. Geography linked with history to create Minnesota’s oldest European settlement here, a fur trading post near the traditional Native village site of Fond du Lac.

For centuries, human hands have affected the river. Trapping, logging, quarrying and steelmaking made permanent changes within the landscape. Yet nature continues in this productive haven for birds, fish and mammals. Industry emerging from the still-green shoreline reminds us that humans have a place in the past, present and

future of the dynamic St. Louis River.

Let this book be your guide to the natural and cultural history of this great river. Whether you are an armchair explorer, educator or serious boater, this guide will help open up the stories of the river and entice you to get out to appreciate and protect this unique and inspiring place.

ABOUT THE ST. LOUIS RIVER

The St. Louis River, the largest U.S. tributary to Lake Superior, drains 3,634 square miles, entering the southwestern corner of Lake Superior between Duluth, Minnesota and Superior, Wisconsin. The river flows 179 miles through coarse soils, glacial till and outwash deposits at its headwaters; a deep, narrow gorge at Minnesota’s Jay Cooke State Park; and red clay deposits in its lower reaches.

Below the Fond du Lac Dam, as the river approaches Lake Superior, it slows down and spreads out in a freshwater estuary covering 12,000 acres.

The upper part of the estuary has some wilderness-like areas, while urban development, an industrial harbor and a major port characterize the lower estuary. The lower estuary includes St. Louis Bay, Superior Bay, Allouez Bay and the lower Nemadji River. The estuary's active harbor is the largest and busiest on the Great Lakes and one of the leading bulk-cargo ports in North America.

The St. Louis River estuary and surrounding area have been designated as an Area of Concern (AOC) by the International Joint Commission through the U.S.-Canada Great Lakes Water Quality Agreement. AOCs are places throughout the Great Lakes that were polluted by the past practice of dumping untreated waste on land and in the water. The St. Louis River AOC is being addressed by the St. Louis River System Remedial Action Plan, which focuses on cleaning up and improving river quality.

The Remedial Action Plan began in 1989 as a collaboration between the Minnesota Pollution Control Agency and the Wisconsin Department of Natural Resources. At that time, the agencies created a Citizens Advisory Committee. In 1997, with agency assistance, the committee incorporated as an independent nonprofit organization now known as the St. Louis River Alliance. Many of the original citizen

and agency partners are active in implementing the plan today.

ABOUT THIS GUIDE

This guide focuses on the lower St. Louis River and its estuary, which begins at the Fond du Lac Dam and ends in Lake Superior.

The original *On-the-Water Guide* was published in 2001 and reprinted in 2002, in part through financial support from the Beneficiary Group for Environmental Improvement for the St. Louis River/Interlake/Duluth Tar Agreement given to the St. Louis River Alliance. This new edition has been made possible with funding through the Coastal Management Act, by NOAA's Office of Ocean and Coastal Resource Management, in conjunction with Minnesota's Lake Superior Coastal Program. This newest edition includes portions of the river that were not previously included as well as additional features to teach more about the rich cultural and natural history of the river. **The maps in this guide are not to be used for navigation purposes. They are for recreational use only.**

For more information about the river, please visit the St. Louis River Alliance's website: www.stlouisriver.org.

PUBLIC ACCESS

On the maps throughout the guide, public access points to the St. Louis River are marked: "P" Parking/Public Access. These may also include fishing piers and/or public and private boat launches or carry-in access points.

LICENSES AND FEES

Fishing Regulations and Licensing. All persons 16 and older are required to have the appropriate license when fishing. For more information contact the Department of Natural Resources of the state in which you plan to fish.

Boat Licenses. Watercraft may need to be licensed, depending on your home state and boat type. Please check with the Department of Natural Resources in your home state for more information.

City of Superior Boat Launch Fees (displayed in parked vehicle) annual hangtag rates (2013):

- Superior Resident \$25
- Senior Resident \$20
- Non-resident \$30
- Senior non-resident \$25

Hangtags are available at:

- Parks and Recreation office, 1316 N. 14th Street, 2nd floor
- Nemadji Travel Plaza, 3027 East 2nd Street
- Barker's Island Marina Ship's Store, 250 Marina Drive
- ICO, 2704 N. 21st Street

Daily Permit fees (available at launch sites):

- Resident/Nonresident \$5



PROTECT, RESTORE AND ENHANCE

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The St. Louis River Alliance (SLRA) is a local nonprofit organization made up of citizens and businesses working together to protect, restore and enhance the St. Louis River. The SLRA is an active partner with federal, state, tribal and local agencies in efforts to delist the St. Louis River Area of Concern by 2025.

The SLRA receives its support from members and through public education and outreach projects such as this guide. The SLRA also provides opportunities for the public to connect to the river through stewardship and recreation activities year-round. These include a spring river clean-up, summer canoe tour, winter walk on the river and a fall train ride.

For more information on the SLRA and its activities, visit our website at www.stlouisriver.org or like us on Facebook.



HISTORY

GEOLOGIC, NATURAL & INDUSTRIAL

GEOLOGIC HISTORY OF THE LOWER ST. LOUIS RIVER

The geologic history of the lower St. Louis River can be reconstructed from the rocks and sediments exposed in the river bed and along the shoreline. The bedrock the river flows over is part of the Canadian Shield, the stable ancient core of the North American continent.

The present St. Louis River channel was shaped primarily by the glaciers of the Pleistocene epoch. As glaciers advanced and retreated across the land, receding for the last time around 10,000 years ago, the slowly melting ice and flowing meltwater left behind complex patterns of sediment, including moraines, drumlins, and lake-bottom clays. These glacial deposits, which form many of the surface features we see today, greatly

influence the flow and habitat conditions of the river.

The lower St. Louis River flows through high banks of red clay, silt and sand. These sediments were deposited when a large lake, known as Glacial Lake Duluth, covered the area. Glacial Lake Duluth formed as meltwater was trapped in front of the ice of the Superior Lobe when it filled the basin to the northeast. The red clay that is so typical of the lower St. Louis River and the Nemadji River basin was deposited in the deep water of this glacial lake. As the ice receded farther north, lower outlets were exposed in other areas, dropping the lake level significantly as the water drained away to the east. This allowed water to flow into the lake at the western end, cutting a deep channel—the ancestral St. Louis River—into the easily eroded red clay.

YOU CAN HELP KEEP THE ST. LOUIS RIVER CLEAN

Years ago, direct dumping from industries and factories polluted the St. Louis River. Those practices have stopped, but run-off from yards, roads and parking lots is still a source of pollutants like bacteria, sediments and extra nutrients. Pet waste, grass clippings and even sand washing into the river can cause problems.

These steps can help prevent this pollution in all water bodies, including the St. Louis River:

- Keep streets, gutters and storm drains clean; never use them for dumping.
- Clean up after your pets.
- Keep your car in good condition; fix leaks.
- Use rain barrels or plant rain gardens to slow down rainwater in your yard.
- Wash vehicles at the carwash or on your lawn, not on the street.

For more information, visit www.lakesuperiorstreams.org

Then, as the heavy weight of the ice was removed, the land began to rebound. Since the land to the north was the last to lose its covering of ice, it was the last to rebound. As the land rose, the water in Lake Superior shifted toward the western end of the lake and flooded the channel of the St. Louis River and its tributaries, forming the freshwater estuary that we see today. A baymouth sand bar formed across the western end of the lake, separating the estuary from the open water of the lake and creating a sheltered harbor. Historically, there was only one break in the baymouth bar where both the St. Louis River and the Nemadji River flowed out into Lake Superior.

NATURAL HISTORY OF THE LOWER ST. LOUIS RIVER

The lower St. Louis River is an amazingly diverse and complex area. This section of the river flows through thick

deposits of red clay. As Lake Superior water levels rose, the St. Louis River and its tributaries were flooded by the rising water, creating a complex estuary with an irregular shoreline and bays at the mouth of each tributary.

Important wetland communities along the lower St. Louis River occur nowhere else in the world outside of the Great Lakes region.

The baymouth bar that creates the protected water of the harbor is typical of estuary systems. The lake side of the bar is composed primarily of sand, and the landward side is made up of finer sediments. The baymouth bar as a whole protects the wetland habitats of the bay from the high-

energy wind and waves of the lake.

Remnants of at least two older baymouth bars are found within the estuary. Grassy Point, located about five miles from the mouth of the river, represents a baymouth bar from an earlier glacial lake stage when the water level was at least three feet higher than the current level.

When first charted by William Hearing in 1861, the St. Louis River estuary was relatively shallow and was bordered by a variety of wetlands and riparian forest communities. The forests of the surrounding uplands were dominated by coniferous and mixed deciduous/coniferous stands that lengthened the spring snow-melt period and slowed runoff. A thick layer of organic duff on the forest floor also helped slow the movement of water from the land into the river. A variety of fish, waterfowl, furbearers and other wildlife used the area for breeding and migration.

Since Hearing's time, filling of wetlands and open water areas for riverside development has caused a loss of about 3,000 acres of shallow wetland habitat. Another 4,000 acres of the estuary have been dredged or deepened for navigation. Despite these significant changes, the lower St. Louis River still provides vital habitat for fish reproduction, nesting colonial water birds and waterfowl, migratory shorebirds and songbirds and many other animals. The estuary supports a large, diverse warm-water fish community of approximately 54 species, including lake sturgeon, walleye, mus-

kellunge, yellow perch, northern pike, burbot (eelpout), black crappie, emerald shiner, spottail shiner and white sucker.

PRE-INDUSTRIAL HISTORY OF THE LOWER ST. LOUIS RIVER

Fond du Lac Region—“Head of the Lakes.” Native Americans have lived in Northeastern Minnesota for thousands of years. The ancestors of the present-day Chippewa (also known as Ojibwe and self-referred to as the Anishinaabeg) have resided in the Great Lakes region since at least 800 AD. The Lakota and Chippewa “co-habited” the area for a time and fought each other for territory. Oral traditions speak of a westward migration from the Atlantic Seaboard through the Great Lakes to the present day Lake Superior locations.

Europeans came to the area in the 1600s to explore, trade and introduce Christianity. Today, the neighborhood of Fond du Lac is located approximately 20 miles upstream from Lake Superior, but in the early days of exploration, the entire area was often referred to as Fond du Lac or “head of the lake.”

Native American Life at Fond du Lac. Prior to the early 1800s, reports indicate that the Fond du Lac Band consisted of villages scattered along the St. Louis River at what is now Fond du Lac, Superior, Minnesota Point, Wisconsin Point and Cloquet. They also had seasonal camps at Spirit Lake and Indian Point, living primarily on wild rice, game, fish and other wild

plants. The influx of fur traders to the region led the local tribes to settle in one place and trade furs for food and European goods.

Exploration. The St. Louis River was the scene of much activity by Native Americans, fur traders, missionaries and other intrepid explorers. During the days of canoe travel it was an important waterway and was used for two well-known trade routes. Canoe travelers en route from Lake Superior south to the Upper Mississippi region or north to Lake Vermilion would ascend the river to the Grand Portage, a mile and a half above Fond du Lac. Here they carried their canoes and cargo seven miles to avoid the rapids and falls of the river. The portage terminated at the lower end of Maple Island, a mile or so below Scanlon. From here, they could go by water to Knife Falls where the mile-long Knife Portage had to be crossed. Daniel Greyson Sieur du Lhut, in the summer of 1679, was one of the first European explorers to arrive in the area. The City of Duluth now bears his name.

Fur Trading. Many French and British fur traders ventured into the Fond du Lac region as early as the 1750s, but the two best known are Jean Baptiste Cadotte and Jean Baptiste Perrault. In 1793, they built Fort St. Louis as a permanent post in the area. Fort St. Louis was located near the present-day City of Superior and was surrounded by a stout palisade of posts 20 feet high. Thick double-ribbed gates stood in the front and rear. Inside were stores, dwellings

and workshops, with an open court in the middle where Native Americans brought their game and pelts. In 1816, Fort St. Louis was closed. The American Fur Trading Company built a new post about 20 miles up the river in Fond du Lac. This new post included large gardens planted with potatoes and other crops. Native American lodges and gardens were located on an island in the river. As the fur trade declined, fur companies had to find other lines of business. In 1834, the American Fur Company established commercial fisheries to exploit Lake Superior trout and whitefish. They located one of their packing stations at the Fond du Lac trading post, which operated until the late 1840s.

The First Missionary. American Fur Company President Ramsay Crooks and other company officials encouraged missionary work at the trading posts. Missionaries set up a school for Native American children. Some missionaries were ordained ministers, while others were laymen sent as teachers. The first mission was built in Fond du Lac by Reverend Edmund Franklin Ely. The area's first Christian marriage was performed there in 1834.

Development. In 1852, construction of the Soo Canal on the eastern end of Lake Superior renewed interest in developing the Twin Ports as a shipping center. In 1854, the U.S. government signed the LaPointe Treaty with the Chippewa Tribe, opening the St. Louis River area to settlement. Towns were platted on both sides of the river

in 1856, and the City of Superior soon had a population of over 500 people. In 1854, the first road in the region was built with the goal of linking the head of the lake with Fort Snelling on the Mississippi River. Known as the Military Road, it originated in Superior and covered 50-60 miles to the junction of the St. Croix and Mississippi rivers. It remained the only road to the area for over a decade.

POST-INDUSTRIAL HISTORY

Lake Superior and Mississippi Railroad. Between Riverside and Thomson are traces of an abandoned railway, the Lake Superior and Mississippi Railroad. In the 1850s and 1860s there was demand for a rail line that would connect the Mississippi River with Lake Superior to provide lower transportation costs for farm products, lumber and other commodities. This railroad was organized in 1861 but due to financing problems and the advent of the Civil War, it was not completed until 1870. The last spike was driven on August 1, 1870, and on that day the first train arrived at Duluth from St. Paul. The section between Thomson and Riverside, being close to the river, presented many spectacular views of the wild river with its numerous waterfalls and rapids. It also presented many dangers: high wooden trestles were built to cross the deep ravines along the riverbank, but the wooden structures were constantly threatened by fires started by the wood-burning locomotives. The grade was long and steep, and mud slides in the spring

often caused delays. At least one train slid down the bank into the river. With the introduction of the railroad, Duluth and Superior underwent a rapid period of growth. In 1869, Duluth grew from a population of 14 families to 3,500 people. In 1870, Duluth was incorporated as a city and by 1892, the population was over 50,000.

Bridges. The railroad industry developed the first bridges that linked Duluth and Superior. In 1887, a railroad bridge was built to span the area between Grassy Point and Superior. This bridge was designed for train passage across the harbor and had a swing span that would allow shipping trade to continue upstream on the St. Louis River. Farther upstream, another railroad bridge—the Oliver Bridge—was built connecting New Duluth, Minnesota and Oliver, Wisconsin. The Oliver Bridge accommodated vehicles as well as trains.

Logging Era. The coming of railroads brought towns and industries. Lumber was one of the first industries to develop in the area, which for a time was one of the world's largest lumber-producing regions. As the white pine forests were cut, logs were brought to saw mills on the lower river; large numbers of logs were stored in the river at Fond du Lac, surrounded by floating booms, waiting to be cut into lumber at sawmills. By 1894, Duluth's lumber industry included 15 sawmills, all located along the St. Louis River. But the logging boom was over quickly. By 1925, only one mill remained in operation in Duluth. The white pine

forests, which in 1895 had been estimated to hold a virtually inexhaustible 40 billion feet of lumber, had largely disappeared.

Quarries. Three sandstone quarries were operated near Fond du Lac—one along Mission Creek and another on the south side of the river about a mile above Fond du Lac. The third was on the north side of the river. Many stately “brownstone” buildings all around Duluth and the Midwest were built with this stone. When these quarries were active, the shipping channel was dredged all the way to Fond du Lac to facilitate transport of the rock. The scars left by the quarries can still be seen.

Dredging. By 1960, all major channels had been dredged to depths from 23 to 27 feet, a major change to this once-shallow freshwater estuary. Dredging had drastic effects on the shoreline, riverbed and habitat. Over 69,500,000 cubic yards of clay and mud mixed with sand were dredged from the river bottom. This dredge material was used as fill to create docks, replenish eroded areas on Minnesota and Wisconsin Points and to form new islands. The dredge channel is marked with buoys for safe navigation.

Steel. The United States Steel Corporation was organized in 1901, and a subsidiary thereafter known as Oliver Mining Company was also formed. In 1907, U.S. Steel Corporation (through its subsidiary the Minnesota Steel Company) purchased 1,500 acres of land on the St. Louis River in West Duluth. The plant was

completed in 1915, creating rapid growth in the populations of Gary and New Duluth. This plant produced coke for use in steelmaking. Coking byproducts include gas and heavy oils. The heavy oils were captured and sold, but the gas was allowed to escape. In 1911, Universal Portland Cement Company built a plant alongside the steel operation to use the furnace slag for cement making. The nearby community of Morgan Park was built to house the steel plant and cement plant workers.

By 1973, U.S. Steel closed its facility in Morgan Park completely. Today, this is the “USX” Superfund site, and is slowly being cleaned up.

Coal. In 1902, the Zenith Furnace Company began operation. It was a “three-unit” plant, which included a wholesale coal trade, the production of pig iron and the coking of bituminous coal. This site later became Interlake Iron. The coking operation at this site included the capture and sale of coking byproducts: heavy oils were sold to Duluth Tar and Chemical, and manufactured coal gas (“town gas”) was sold to the City of Duluth. This gas was piped to a city pumping station on Garfield Ave., from which it was piped to residences where it was burned to produce heat and light. Today the St. Louis River/ Interlake/ Duluth Tar Superfund site is being restored.

The 1950s saw the beginning of a steady decline in coal shipments, as it began to be replaced with other fuels. By 1959, the number of coal wharves dropped to 14. By 1970, three wharves

remained. Coal is still an important commodity. Low-sulfur western coal is brought by rail to Midwest Energy Resources in Superior, where it is loaded onto ships bound for Detroit Edison power plants in Michigan.

Grain and Flour. Grain shipments from Duluth and Superior experienced rapid growth in the late 1870s. During the late 1880s, developing Midwestern agriculture set the stage for remarkable growth on the harbor as a shipping point for Midwestern grains. The development of the Sault Canal at Lake Superior's outlet in 1884 allowed larger ships to transport grain from the Duluth-Superior Harbor. Because of the easy access to the terminals, ships could enter the harbor, unload, and load cargoes in a fraction of the turnaround time experienced in Chicago. By 1886, Duluth-Superior was the largest wheat shipping port on the Great Lakes. This growth continued past the turn of the century. Between 1919 and 1935, Duluth-Superior handled nearly 20 percent of all grain shipped on the Great Lakes. This development was instrumental in making Duluth-Superior a major hub in the grain shipping industry.

As early as 1885, there were 11 grain elevators on Rice's Point in the area that would be known as "elevator row." By 1918, there were 25 grain elevators standing on the harbor. During the 1880s, Superior received its first railroad line. By 1886, J. J. Hill's Great Northern Railroad had built the first grain elevator on the Wisconsin side of the harbor. Superior's reputation

for the largest elevators in the port was established by the development in 1941 of the Farmers Union Grain Elevator, constructed at the entrance to Howard's Bay (Howard's Pocket), and was enhanced by the construction of the Continental Grain Elevator on Connor's Point (Superior Bay) in 1965.

Petroleum. Standard Oil Company built the first dock for the receipt of petroleum products on the Superior side of St. Louis Bay in 1891. Although petroleum receipts have been less important to the Duluth-Superior economy than the iron and coal industries, an abrupt increase in shipments was seen in 1910, likely due to the established presence of the automobile in the Twin Ports. Like the coal and iron ore industries, petroleum increased with the advent of World War I and II. The years between 1932 and 1946 were busy years for this industry. After World War II, petroleum receipts abruptly declined and continued to decline into the 1960s. Lakehead Pipeline Company constructed the largest and most modern petroleum shipping terminal in the harbor in 1951, replacing the old Northern Pacific Coal Dock on the Superior Bay channel. Its shipment of petroleum products to Canada was impressive, but short-lived. By the end of the decade, a Canadian pipeline was completed and most shipments ceased. Calumet Oil still operates its refinery in Superior and ships most of its products by rail. Plans for future shipping of oil via tankers are being discussed in 2013.

Shipbuilding. Shipbuilding in Duluth-Superior underwent a boom as barges replaced sailing vessels and the transition from small wooden ships to large steel freighters took place. The N. Grignon Shipyard, the largest builder of wooden vessels on the harbor, was in operation between 1880 and 1895. In 1889, Captain Alexander McDougall founded the American Steel Barge Company and built the first steel vessels on the Duluth-Superior harbor. In just one four-year period, 1888-1892, Captain Alexander McDougall built over thirty "whalebacks" for use on the Great Lakes. The first five whalebacks were constructed in Duluth, while the remaining steamers were completed in Superior. These unique vessels were constructed from his own design. McDougall later sold his interests to an eastern investment group who continued the yard as the American Shipbuilding Company.

The two World Wars had a profound effect on the shipbuilding industry in Duluth-Superior. During World War I, McDougall established his second shipyard, McDougall Duluth Shipbuilding Company, in the Riverside section of Duluth. The yard was closed in 1922. During this brief period, 25 coastal freighters were constructed for the government. The Whitney Brothers Shipbuilding wharf built ten steel tugs in 1919 for the U.S. Shipping Board, and Globe Shipyard constructed 19 ocean freighters (each 260 feet long) on a government contract. During World War II, Globe Shipbuilding Company, Marine Iron

Shipbuilding Company, Barnes Duluth Shipbuilding Company (later Walter Butler Shipbuilders, Inc.) were reactivated and expanded to fulfill government shipbuilding contracts. Some 230 ships were built by eight different shipyards in the Duluth-Superior Harbor to meet the demand. These facilities closed after the war. By 1970, Fraser Shipyards, Inc. remained the only major ship yard on the Duluth-Superior harbor.

Shipping. During the latter part of the nineteenth century, the ports of Duluth and Superior were established as a major component of the country's rapidly expanding shipping industry. The vigorous efforts to develop this area, along with the natural benefit of ideal land and water features, have allowed Duluth and Superior to retain a strong presence in the transshipment industry. There are 15 major cargo terminals currently in the Duluth-Superior Harbor including: 6 multi-purpose bulk terminals, 1 general cargo distribution center, 2 ore docks, 1 coal dock, and 7 grain elevators with 55 million bushels of grain silo capacity. The principal cargoes of the port are 40% ore, 40% coal, and 10% grain. Today the Duluth-Superior Harbor is ranked the number one port in the Great Lakes and in the top 20 nationally in total cargo volume, shipping 40 million metric tons of cargo worth \$2 billion annually.

St. Louis River Area of Concern. In 1989, the St. Louis River was designated as an Area of Concern (AOC), one of the 43 most polluted sites in the

Great Lakes by U.S. and Canada Water Quality Agreement. This designation is largely due to past industrial uses, such as dumping waste on land and in the water, which was common prior to environmental regulations. These past practices left legacy pollutants, which have contributed to nine major problems associated with beneficial uses such as fishing and recreation. In addition, extensive filling of wetlands and dredging in the river has contributed to loss of fish and animal habitat.

Since the AOC designation, Minnesota and Wisconsin state agencies have been working together with federal and tribal agencies and numerous non-governmental organizations to develop a plan to address these nine problem areas. As of 2013, these collaborative efforts have cleaned up contaminated sediments and protected or restored fish and wildlife habitat.

A multiyear strategic plan has been developed with a goal to remove the St. Louis River as an Area of Concern by 2025.

Superfund Sites. Citizen concern about seriously polluted sites led Congress to establish the Superfund Program in 1980 to locate, investigate and clean up the worst sites nationwide. The Environmental Protection Agency administers the Superfund Program in cooperation with individual state and tribal governments. There are two Superfund Sites in the St. Louis River area; the St. Louis River/Interlake/Duluth Tar site (SLRIDT) and the U.S. Steel site. Significant progress has been made toward cleaning up these locations, but work remains to be done. In-water clean-up work will begin at the U.S. Steel site in 2014.



HABITAT OF THE LOWER ST. LOUIS RIVER

Several natural processes have a strong influence on the habitats of the lower St. Louis River. These include water depth, water temperature, water clarity, substrate composition (e.g., gravel, sand, silt, mud), and nutrient abundance.

Freshwater Estuary. The lower part of the river between the Fond du Lac dam and Lake Superior is a freshwater estuary. The river widens out, slowing its flow. Water from the river mixes with water from the Lake. The water is different in many ways, including temperature, clarity and nutrient levels. Freshwater estuaries are similar to saltwater estuaries in that they provide a diverse and protective nursery for small fish, animals and migrating birds and help temper extreme weather or storm events. They even act as a filter for pollutants and runoff

from surrounding areas.

Cyclical changes in water depth within the river are strongly influenced by the seiche, which occurs when winds or atmospheric pressure cause oscillations in Lake Superior water levels. The change in the water level can be from a few inches to more than a foot, and is enough to influence river habitats. The seiche influence reaches upstream to the Fond du Lac area, with areas closest to the harbor more influenced by the seiche than areas farther upstream. A strong seiche can actually reverse the direction of the river's flow as far upstream as Fond du Lac, one of the main characteristics of an estuary. The seiche leads to an exchange of water between the harbor and the lake at varying rates. It can also contribute to stratification within the river as colder lake water

sinks and warmer river water rises to the surface.

Sediment and water clarity are also important to aquatic habitats. Sediment is carried into the river by tributary rivers and streams. The sediment load is greatest following heavy rains. Changes in water clarity are also related to climate and rainfall. The upper reaches of the river drain from many boggy areas. In years of heavy rain, the bogs are flushed, moving more tannic acid/bog stain into the river. These changes in water clarity influence the amount of submerged vegetation by impacting the amount and depth of light penetration.

Many human activities also have a major influence on the habitats of the lower St. Louis River. One of the major human influences is the construction of dams. These river dams influence water flow, water level and the amount of sediment transported. Dams act as sediment traps, which alter the rate at which the upper part of the estuary is replenished by sediment.

Industrialization along the shore and dredging of the shipping channel has occurred for over 100 years.

Erosion caused by ship wakes and associated wave action also impacts habitats. Human changes to the landscape have increased the movement of water from the land into the river. Pavement and storm drains move water quickly into streams and ditches. In addition, today's early successional forests and deciduous forests do less to slow snowmelt than did the original coniferous forests. Faster runoff re-

sults in greater peak flows in streams and greater erosion of stream banks.

The plant communities include both upland and wetland habitats. Upland habitat is the elevated region from which rivers gather drainage. While the upland plant communities are not directly connected to the river or the estuary, they have a strong influence on the wetland and aquatic habitats by influencing erosion of upland areas.

Wetlands are areas where the water table is at or near the surface of the land, or where the land is covered by shallow water that may be up to six feet deep. They are transitional areas between the uplands and open water. Water is the primary factor that controls the environment in wetlands and the associated plant and animal life.

Throughout the world wetlands are a source of great productivity. In the lower St. Louis River, wetlands provide food and shelter for unique fish and mussel assemblages, a wide range of shore birds, waterfowl, passerines and raptors, and many other species. Although altered by dredging and filling, many of the present wetlands of the lower St. Louis River probably have species compositions and patterns that mimic the patterns prior to human influences.

Important wetland communities along the lower St. Louis River include marshes, wet meadows, wet shrub lands, mud flats, seeps and fens. Some of these wetlands occur nowhere else in the world outside of the Great Lakes region.



PLANTS, ANIMALS & BIRDS OF THE LOWER ST. LOUIS RIVER

MAMMALS

Woodchucks, ground squirrels, chipmunks, red squirrels, rabbits, weasels, mice, voles, beavers, muskrats, porcupine, black bears, raccoons, mink, otters, white-tailed deer, skunks, coyotes and red fox are the most commonly seen animals near the St. Louis River.

FISH

The most popular fish in the St. Louis River is the walleye. It lives much of the year in Lake Superior, but returns to the river in spring for spawning. The walleye remains in the river for most of the summer before heading back to the lake for winter. Other game fish such as the muskellunge, northern

pike and smallmouth bass, as well as panfish such as crappies, bullheads and yellow perch are year-round river residents.

MUSSELS

There are several native freshwater mussels found in the lower St. Louis River. Mussels require a firm substrate on which to attach; so far, they have only been documented in the stretch below the Fond du Lac dam, the undredged river channel and the industrial harbor flats. The lower St. Louis River was sampled for mussels in 2000, when eight native species were documented. Non-native zebra and quagga mussels are also present.



LAKE STURGEON RECOVERY IN THE ST. LOUIS RIVER

Lake sturgeon, the type of sturgeon found in the St. Louis River and other Great Lakes river systems such as the Mississippi, St. Croix and Chippewa, were once very abundant. In the mid-1800s, the European taste for the meat caused a rise in demand for sturgeon. In addition to smoked sturgeon, lake sturgeon were used for leather and their swim bladders were used to make isinglass, a high-quality gelatin used for waterproofing, pottery cement and clarifying wine and beer. The increased harvest, combined with habitat destruction, dam construction and water pollution, caused their populations to decline rapidly.

Efforts to reestablish sturgeon in the St. Louis River began in 1983 with a sturgeon fingerling stocking program by the Wisconsin and Minnesota Departments of Natural Resources, which continued yearly until 2001.

To improve sturgeon spawning habitat, rocks and boulders were placed downstream of the Fond du Lac Dam during 2009 by the Minnesota Department of Natural Resources and The Nature Conservancy.

After many years, these efforts have paid off. The oldest of the stocked fish have reached breeding age and are spawning in the natural and human-made riffles and pools of the St. Louis River.

In 2011, tribal biologists from Fond du Lac discovered the first evidence of successful sturgeon reproduction in the St. Louis River in many decades. Four sturgeon fry were collected in an area below the Fond du Lac dam; however, it will take years before their population rebuilds to sustainable levels.

WHAT YOU CAN DO

Fishing for sturgeon in the St. Louis River is prohibited at the time of this printing. If you catch a sturgeon while fishing for other legal fish species, release it as quickly and gently as possible.

TREES

Pines such as the red, white and jack are found along the river; along with white and red burr oaks; red, sugar and silver maples; balsam fir; black and white spruce; basswood; tamarack; white and black ash; quaking and big-toothed aspen; northern white cedar; and paper and yellow birch.

FLOWERING PLANTS

Cattails, black-eyed susans, clovers, water lilies, milkweed, indian paintbrush, smartweeds, wild rice, buttercups, wild iris, wild roses, arrowhead plants, fringed sedges, pickerel-weeds, trilliums and sumac are flowering plants located in or near the river.

BIRDS

The lower St. Louis River and its environs are home to a diverse array of native animal species. Nearly 300 bird species are commonly found in Minnesota. Over 230 bird species have been documented in the lower St. Louis River. This area is both a critical migratory stopover and an important breeding area.

In addition to songbirds, high numbers of raptors, shorebirds, waterbirds, gulls and terns migrate through the area each spring and fall. Several factors make the lower St. Louis River an important stopover site. Many migrants will not fly over large bodies of water, so they are effectively channeled along the western edge of Lake Superior through the area of the estuary. The estuary contains large expanses of wetlands, which provide an important

source of food both for migrants and for residents. Sandy beach habitats are far from common in the Upper Midwest; the lower St. Louis River is one of the few desirable places for shorebirds to stop during their migrations. The estuary is especially important during the spring migration because it is often the only place with open water. During these times, migrating birds are concentrated in a relatively small area. Some years, observers have reported seeing thousands of waterbirds at the height of migration. The diversity of habitat and extent of wetland and shoreline habitat makes the lower St. Louis River ideal for some species to breed as well.

Birds of conservation concern are the piping plover, black tern, common tern, American bittern, least bittern, Virginia rail, yellow-headed blackbird, sedge wren, marsh wren, northern waterthrush and green heron. These populations of these species have declined nationally or regionally; these species are now very rarely seen in the St. Louis River estuary. Two raptors of interest also breed in the estuary: bald eagle and peregrine falcon. Their populations have either increased or remained stable in recent years. Given the loss of wetland and shoreline habitats across the Great Lakes region and beyond, and the importance of such habitats to the declining bird species, the importance of retaining these habitats in the lower St. Louis River is vitally important.

➔ HELP STOP AQUATIC HITCHHIKERS!

Harmful aquatic invasive species (AIS) are one of the most prominent social, ecological, and economic issues facing our nation's waters, including the St. Louis River. These non-native plants, animals and pathogens displace native species, reduce diversity, impair water quality, damage natural and managed habitats, and can cost billions of dollars in lost recreation and business nationally.

The lower St. Louis River is invaded by zebra and quagga mussels, Eurasian ruffe, round and tubenose goby, spiny waterflea, rusty crayfish, rainbow smelt, sea lamprey, white perch, threespine stickleback, common carp, purple loosestrife, Eurasian watermilfoil, curlyleaf pondweed, and viral hemorrhagic septicemia (VHS).

Boating, angling, and waterfowl hunting can unintentionally spread AIS. Taking action is critical to protecting the St. Louis River and other nearby rivers, lakes and wetlands from the spread of AIS.

WHAT YOU CAN DO:

★ **Clean** aquatic plants, zebra mussels, other animals, and mud off watercraft, trailer, and equipment before leaving water access.

★ **Remove** any gelatinous material from fishing lines and downrigger cables where they meet a lure, swivel, or downrigger ball connection.

★ **Drain** water from boat, livewell, bilge, and portable bait containers before leaving any water access. Pull drain plug and open other water draining devices at water access and leave open while trailering or transporting boats.

★ **Dispose** of unwanted live bait, worms, and fish parts in the trash. When keeping live bait, drain bait container and replace with spring or dechlorinated tap water.

★ **Brush** seeds and mud from clothes and gear.

★ **Rinse** watercraft, trailer, and equipment with high pressure or hot water before going to other waters, **and/or**

★ **Dry** everything for more than five days or wipe with a towel before reuse.

For more information, contact the University of Minnesota Sea Grant Program at www.seagrants.umn.edu or 218-726-8712, or the Departments of Natural Resources at 715-392-7988 (WI) or 218-525-0852 (MN).



STOP AQUATIC HITCHHIKERS![™]

Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net

BIRDS COMMONLY SEEN IN THE ST. LOUIS RIVER ESTUARY

- Snow Goose
- Canada Goose
- Tundra Swan
- Wood Duck
- Gadwall
- American Wigeon
- American Black Duck
- Mallard
- Blue-winged Teal
- Northern Shoveler
- Green-winged Teal
- Redhead
- Ring-necked Duck
- Greater Scaup
- Lesser Scaup
- Bufflehead
- Common Goldeneye
- Hooded Merganser
- Common Merganser
- Red-breasted Merganser
- Common Loon
- Pied-billed Grebe
- Horned Grebe
- Red-necked Grebe
- Double-crested Cormorant
- American White Pelican
- Great Blue Heron
- Turkey Vulture
- Bald Eagle
- Northern Harrier
- Broad-winged Hawk
- Red-tailed Hawk
- American Kestrel
- Merlin
- American Coot
- Black-bellied Plover
- American Golden-plover
- Semipalmated Plover
- Killdeer
- Spotted Sandpiper
- Greater Yellowlegs
- Lesser Yellowlegs
- Ruddy Turnstone
- Sanderling
- Semipalmated Sandpiper
- Least Sandpiper
- Pectoral Sandpiper
- Dunlin
- Wilson's Snipe
- Bonaparte's Gull
- Ring-billed Gull
- Herring Gull
- Glaucous Gull
- Great Black-backed Gull
- Caspian Tern
- Common Tern
- Rock Pigeon
- Mourning Dove
- Great Horned Owl
- Snowy Owl
- Common Nighthawk
- Ruby-throated Hummingbird
- Belted Kingfisher
- Yellow-bellied Sapsucker
- Downy Woodpecker
- Hairy Woodpecker
- Northern Flicker
- Pileated Woodpecker
- Yellow-bellied Flycatcher
- Alder Flycatcher
- Least Flycatcher
- Eastern Phoebe
- Great Crested Flycatcher
- Eastern Kingbird
- Northern Shrike
- Blue-headed Vireo
- Warbling Vireo
- Red-eyed Vireo
- Blue Jay
- American Crow
- Common Raven
- Horned Lark
- Tree Swallow
- Bank Swallow
- Cliff Swallow
- Barn Swallow
- Black-capped Chickadee
- Red-breasted Nuthatch
- White-breasted Nuthatch
- Brown Creeper
- House Wren
- Winter Wren
- Golden-crowned Kinglet
- Ruby-crowned Kinglet
- Eastern Bluebird
- Veery
- Swainson's Thrush
- Hermit Thrush
- American Robin
- Gray Catbird
- Brown Thrasher
- European Starling
- American Pipit
- Bohemian Waxwing
- Cedar Waxwing
- Lapland Longspur
- Snow Bunting
- Tennessee Warbler
- Nashville Warbler
- Yellow Warbler
- Chestnut-sided Warbler
- Magnolia Warbler
- Yellow-rumped Warbler
- Black-throated Green Warbler
- Blackburnian Warbler
- Palm Warbler
- Black-and-white Warbler
- American Redstart
- Ovenbird
- Mourning Warbler
- Common Yellowthroat
- Wilson's Warbler
- Canada Warbler
- American Tree Sparrow
- Chipping Sparrow
- Clay-colored Sparrow
- Savannah Sparrow
- Fox Sparrow
- Song Sparrow
- Lincoln's Sparrow
- Swamp Sparrow
- White-throated Sparrow
- White-crowned Sparrow
- Dark-eyed Junco
- Northern Cardinal
- Rose-breasted Grosbeak
- Indigo Bunting
- Red-winged Blackbird
- Rusty Blackbird
- Common Grackle
- Brown-headed Cowbird
- Baltimore Oriole
- Pine Grosbeak
- Purple Finch
- House Finch
- Common Redpoll
- Pine Siskin
- American Goldfinch
- House Sparrow

LOWER ST. LOUIS RIVER OVERVIEW MAP

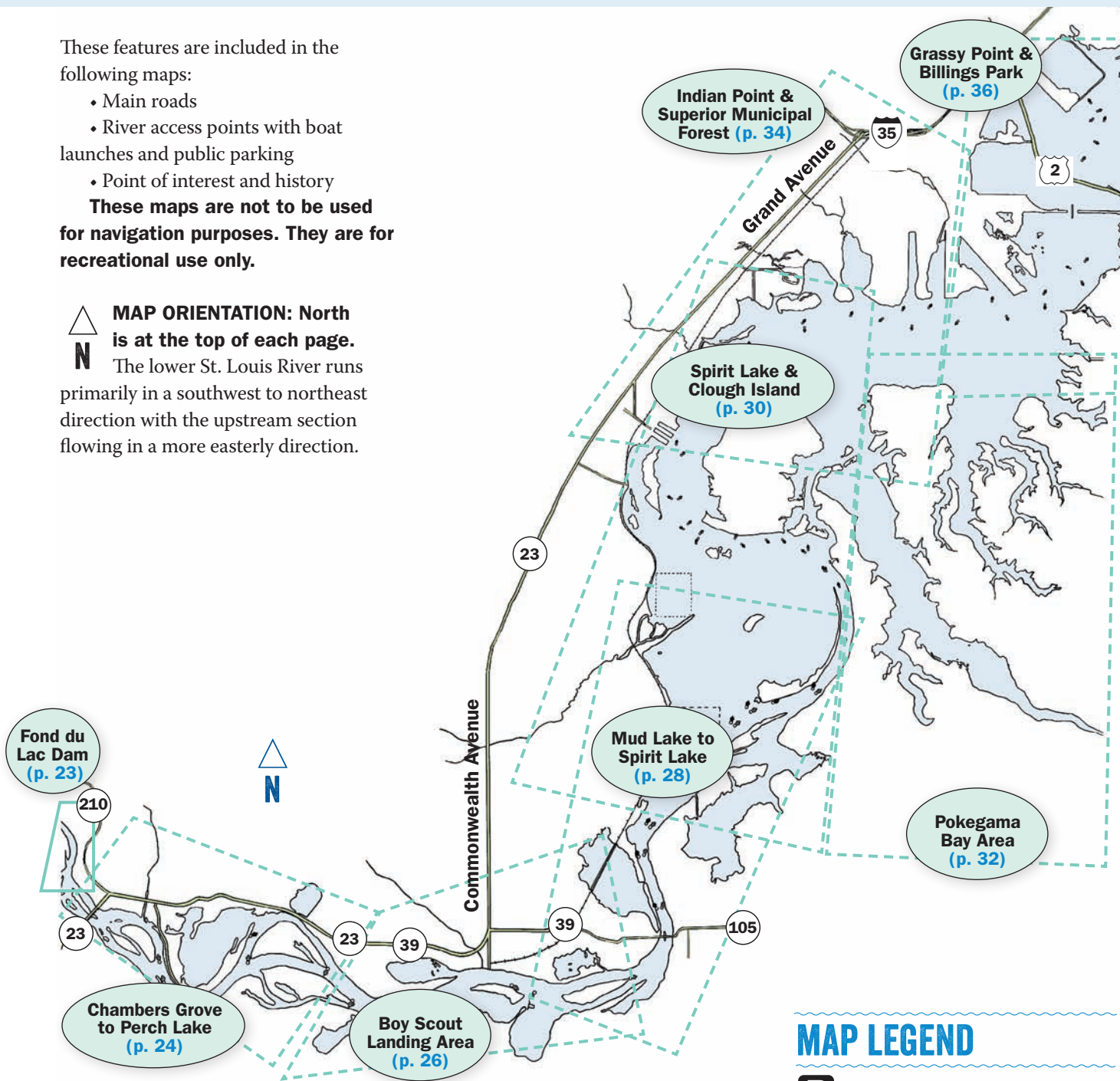
These features are included in the following maps:

- Main roads
- River access points with boat launches and public parking
- Point of interest and history

These maps are not to be used for navigation purposes. They are for recreational use only.

MAP ORIENTATION: North is at the top of each page.

The lower St. Louis River runs primarily in a southwest to northeast direction with the upstream section flowing in a more easterly direction.



MAP LEGEND

- Parking/Public Access
- Boat ramp
- Carry-in access
- Railroad
- Road
- Land
- Water



HELP KEEP THE ST. LOUIS RIVER CLEAN!

- Don't leave trash behind.
- Secure loose items in the boat to prevent accidental littering.
- Properly dispose of septic waste.
- Don't toss cigarette butts! They don't degrade for decades, and the chemicals they are designed to filter out can enter and pollute the environment.

SAFE BOATING ON THE ST. LOUIS RIVER

The St. Louis River is a great place to explore by canoe, kayak or motorized boat. Besides quiet wilderness areas, the river is also an active international seaport with shipping channels for 1000-foot “lakers” and ocean-going ships. There are also floating and underwater hazards. Many of these hazards can change with the current. The following will help ensure a safe boating experience.

- ★ **Know your boat and how to operate it safely in calm conditions as well as rougher waters.**
- ★ **Avoid being on the water alone. If you must be alone, tell someone where you are going and when you are expected to return.**
- ★ **Check weather forecasts and seek shelter if there is potential for lightning or hail. Always wear a personal floatation device.**
- ★ **Be knowledgeable of current navigation rules and proper etiquette. Check the Coast Guard website for current navigational rules. www.navcen.uscg.gov**

- ★ **Be watchful for moving and nonmoving hazards such as submerged logs.**
- ★ **Observe safe setback distances from ships and docks in the Harbor.**
- ★ **Don't drink and operate a boat.**

NOTE: Since 2013, the US Coast Guard has not placed navigational buoys in the channel upstream from Clough Island (after the channel became very shallow due to the 2012 flooding). Deeper draft boats need to proceed with caution to avoid unmarked shallow waters and other hazards. Submerged debris from 2012 flooding such as old logs may also cause hazards for years to come.

WEATHER CONDITIONS

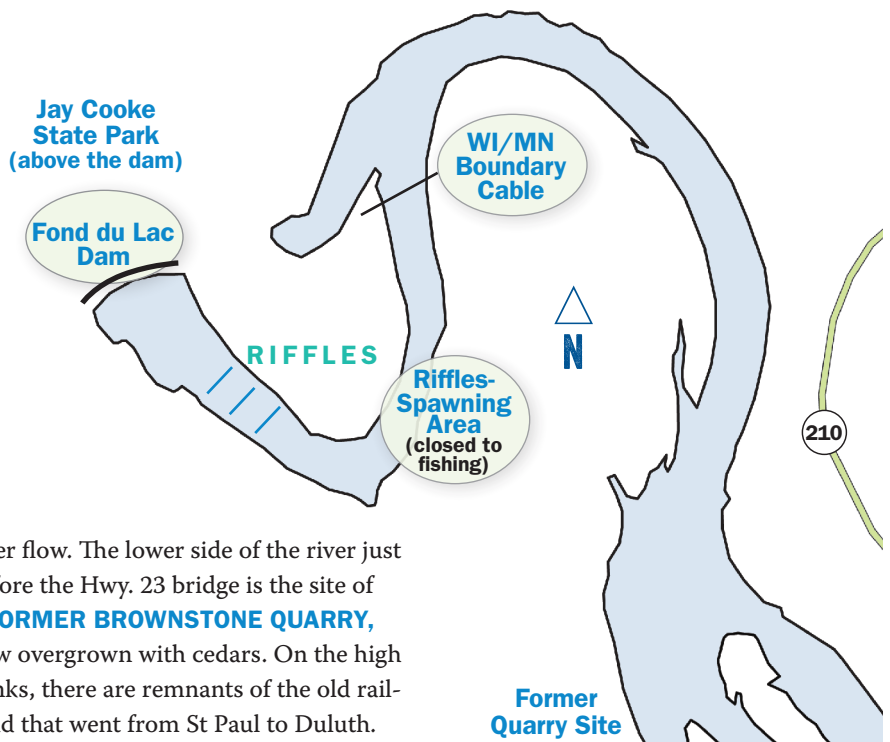
Weather can change rapidly and create unsafe boating conditions on the river. Boaters are advised to check the forecast before getting on the river. Stay off the water if strong winds and the potential for lightning and hail exist. Boaters caught in such conditions should seek shelter off the river immediately.

FOND DU LAC DAM

This guide covers the lower St. Louis River from the Fond du Lac Dam to Lake Superior. Enjoy the journey!

The **FOND DU LAC DAM** was built in 1924 to provide hydroelectric power and is the last dam as the river flows downstream. Just below the dam is a series of three **RIFFLES** made of very large boulders. They were placed here in 2009 to improve habitat for spawning lake sturgeon. The area above the **WI/MN BOUNDARY CABLE** located here is a **SPAWNING SANCTUARY** and is closed to fishing year-round. Below the riffles is a beautiful area to explore in a canoe or kayak. However, during heavy rainfall or spring-run off, the current may be very strong. There are also times Minnesota Power increases or decreases the flow of water over the dam spillway. An alarm is given prior to this action and boaters will need to be cautious of a change in

river flow. The lower side of the river just before the Hwy. 23 bridge is the site of a **FORMER BROWNSTONE QUARRY**, now overgrown with cedars. On the high banks, there are remnants of the old railroad that went from St Paul to Duluth.



CHAMBERS GROVE TO PERCH LAKE



ST. LOUIS AND RED RIVER STREAMBANK PROTECTION AREA

CHAMBER'S GROVE PARK is named for Michael and Emily Chambers, who built a brownstone mansion on this site in 1870 using stone from the nearby Chambers quarry. It was destroyed in a fire in 1891 but some ruins remain. A reconstruction of early fur trader John J. Astor's trading post was built in 1932; it was removed in 1968. The city park includes a pavilion and a fishing pier. **131ST AVENUE WEST (turns into W. Water St. as it follows the river)** is an excellent spring birding site and offers great fishing year-round. The first house on **RASK BAY** was constructed by the Rask family. The **PERCH LAKE** parking facility has public shore fishing. The DNR maintains fishing docks along the river. Perch Lake (formerly known as Windy Lake) is across Highway 23 from the river. In the distance is Ely Peak named for Edmund Ely. He founded the first mission school in the Fond du Lac area. **FOND DU LAC** was

one of the earliest settlements in the region. An early treaty with local Native Americans was made at Fond du Lac. A Native American and later a trading post cemetery were located on the site. The cemetery was relocated to the top of hill in 1870, when the railroad was routed through the middle of the town. The Montauk Steamer, a popular pleasure cruiser which allowed gambling, came as far up river as Fond du Lac until 1942. Fond du Lac was the location of several sawmills and shingle mills. The oldest existing house in the Duluth area, the **PETERSON HOUSE**, 13328 West 3rd Street, was built in 1867. Its brownstone foundation was made from local stone quarried half a mile up Mission Creek. **FOND DU LAC CAMPGROUND AND BOAT LANDING** is a privately-owned park that offers camping and a boat launch for a small fee. Historical Park (formerly John J. Astor Park) was first

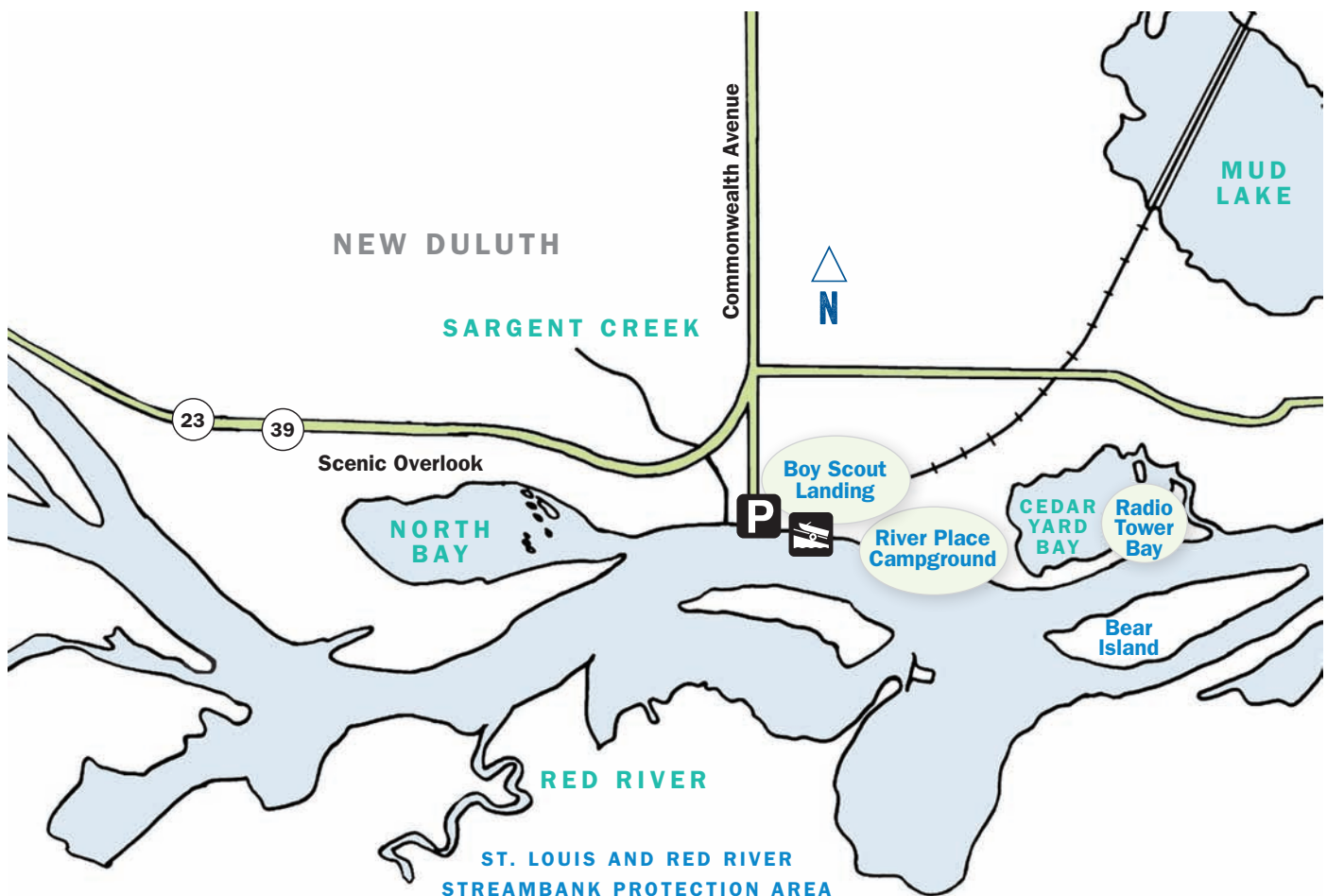
named for an early American fur trader in the region who built a trading post near this site in 1809 to trade with the Chippewa. The facility, expanded in 1816, included a two-story log building, stable and dormitory for traders. It was a natural location for trade and gatherings and was the site of treaty negotiations between local tribes and the U.S. in 1826. The first mission in the area was built next to **MISSION CREEK** in 1834. Two islands are slightly downstream from the park. **NEKUK ISLAND**, located on the Minnesota side of the river, had Native American farms and later settler farms on it. **AMIK ISLAND**, located on the Wisconsin side of the river, was the site of a hotel from the 1890s until 1915. Eelpout fishing is good here in early winter as fish can only go upstream as far as Fond du Lac Dam.

BOY SCOUT LANDING AREA

New Duluth and Gary began as separate communities. New Duluth was a bustling community by the late 1800s with commercial businesses that included sawmills, and later refrigerator manufacturing. Gary began when the steel mill was built in 1913. **BOY SCOUT LANDING** includes a public boat launch, fishing pier, and parking area. It was once a municipal dock used for steamer excursion stops and other vessel traffic; River Place condos are now located here. Boy Scout Landing was maintained by a local Boy Scout troop for 27 years before the site became a Minnesota DNR facility on city-owned land. Camping is available at **RIVER PLACE CAMPGROUND**, next to Boy Scout Landing. The water tower near the treeline is filled with water from artesian

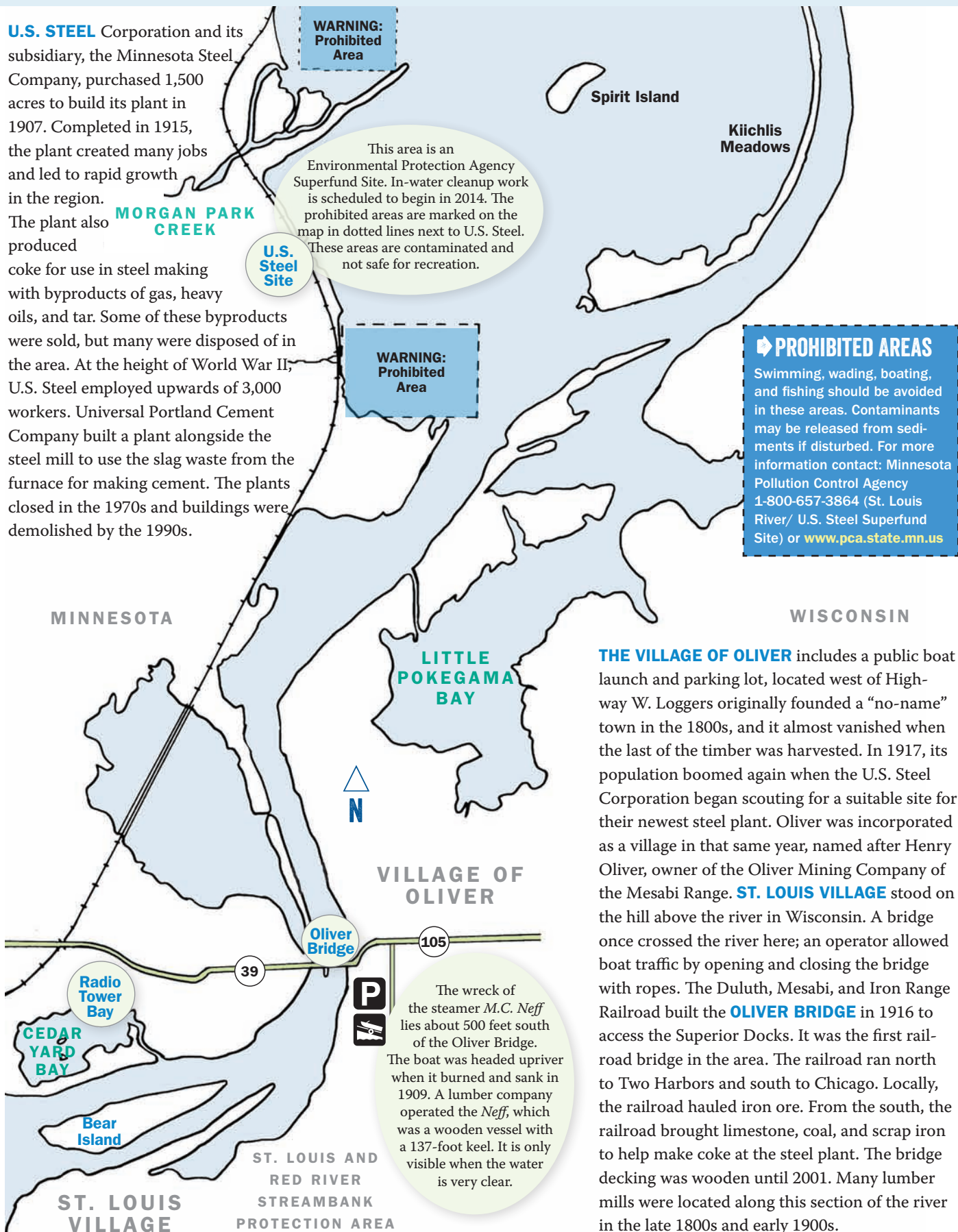
wells. The Eagle Scout Trail leads from Boy Scout Landing to a scenic overlook just up the river. **CEDAR YARD BAY/RADIO TOWER BAY** was named after the cedar boards that were cut in the sawmill on this bay in the late 1800s. Wood waste, several feet deep, has lain on the bottom of the bay for a century. It became Radio Tower Bay in 1948 when seven towers were installed in the bay, creating a unique broadcasting system for WREX. The station broadcast until 1953; only six of the concrete support pylons remain. In 2012, the first phase of an effort to restore this bay was completed by removing pilings that supported a train trestle. The next phase is scheduled for the summer of 2013 and will involve removing tons of wood waste. The large bay on the Wisconsin side had taverns

on each end, with a flour mill and a cooper (barrel-maker) in between. The pilings these shops were built on are still visible. **ST. LOUIS RIVER AND RED RIVER STREAMBANK PROTECTION AREA** is a 6,500 acre parcel purchased by the Wisconsin Department of Natural Resources to protect valuable fish and wildlife habitat. This area is also part of the Lake Superior National Estuarine Research Reserve (NERR). For more information about the NERR, please see page 65.



MUD LAKE TO SPIRIT LAKE

U.S. STEEL Corporation and its subsidiary, the Minnesota Steel Company, purchased 1,500 acres to build its plant in 1907. Completed in 1915, the plant created many jobs and led to rapid growth in the region. The plant also produced coke for use in steel making with byproducts of gas, heavy oils, and tar. Some of these byproducts were sold, but many were disposed of in the area. At the height of World War II, U.S. Steel employed upwards of 3,000 workers. Universal Portland Cement Company built a plant alongside the steel mill to use the slag waste from the furnace for making cement. The plants closed in the 1970s and buildings were demolished by the 1990s.



WARNING: Prohibited Area

This area is an Environmental Protection Agency Superfund Site. In-water cleanup work is scheduled to begin in 2014. The prohibited areas are marked on the map in dotted lines next to U.S. Steel. These areas are contaminated and not safe for recreation.

WARNING: Prohibited Area

PROHIBITED AREAS
Swimming, wading, boating, and fishing should be avoided in these areas. Contaminants may be released from sediments if disturbed. For more information contact: Minnesota Pollution Control Agency 1-800-657-3864 (St. Louis River/ U.S. Steel Superfund Site) or www.pca.state.mn.us

Spirit Island

Kiichlis Meadows

MINNESOTA

WISCONSIN

LITTLE POKEGAMA BAY

VILLAGE OF OLIVER

Oliver Bridge

Radio Tower Bay

CEDAR YARD BAY

Bear Island

ST. LOUIS VILLAGE

ST. LOUIS AND RED RIVER STREAMBANK PROTECTION AREA

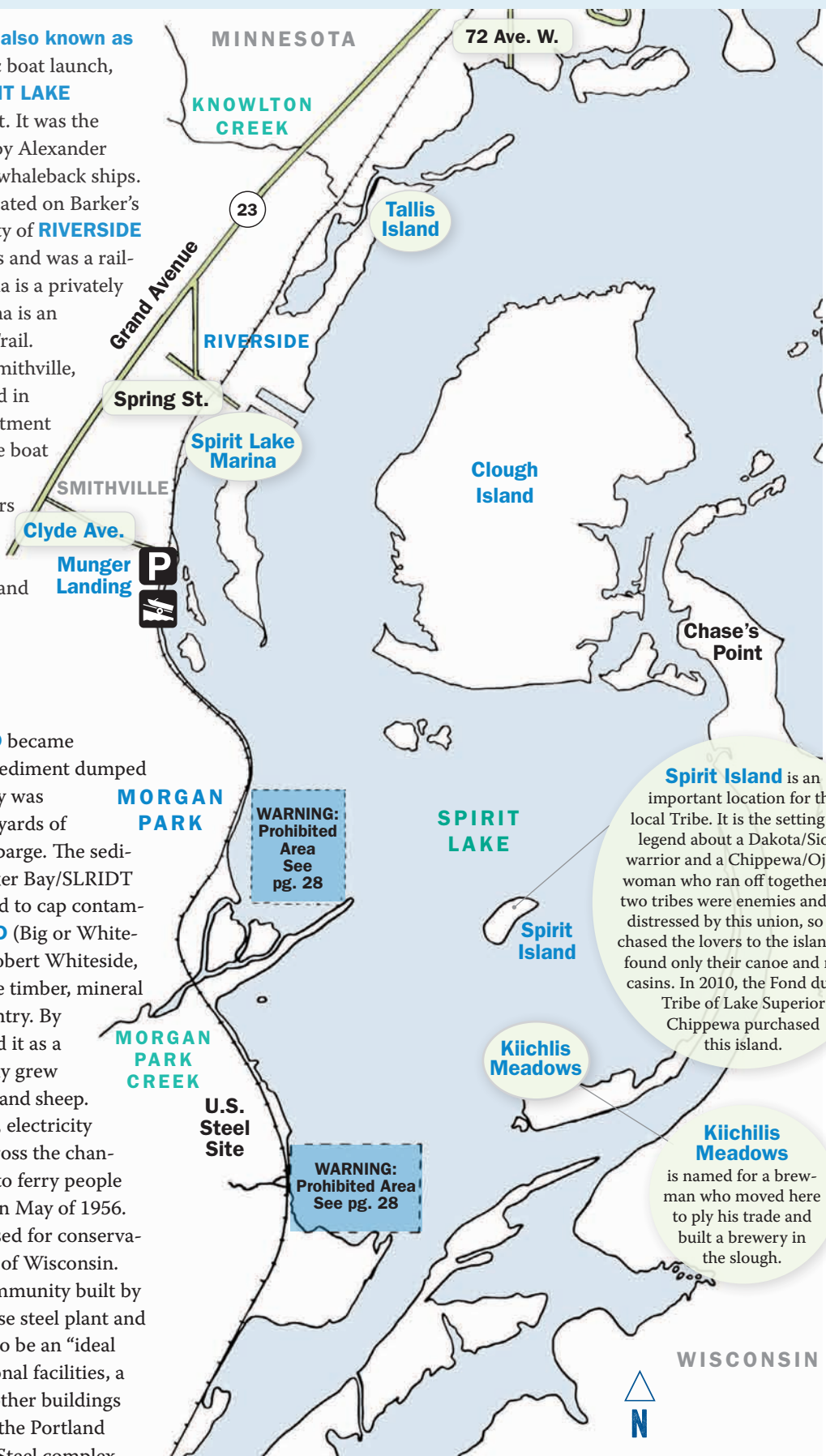
The wreck of the steamer *M.C. Neff* lies about 500 feet south of the Oliver Bridge. The boat was headed upriver when it burned and sank in 1909. A lumber company operated the *Neff*, which was a wooden vessel with a 137-foot keel. It is only visible when the water is very clear.

THE VILLAGE OF OLIVER includes a public boat launch and parking lot, located west of Highway W. Loggers originally founded a “no-name” town in the 1800s, and it almost vanished when the last of the timber was harvested. In 1917, its population boomed again when the U.S. Steel Corporation began scouting for a suitable site for their newest steel plant. Oliver was incorporated as a village in that same year, named after Henry Oliver, owner of the Oliver Mining Company of the Mesabi Range. **ST. LOUIS VILLAGE** stood on the hill above the river in Wisconsin. A bridge once crossed the river here; an operator allowed boat traffic by opening and closing the bridge with ropes. The Duluth, Mesabi, and Iron Range Railroad built the **OLIVER BRIDGE** in 1916 to access the Superior Docks. It was the first railroad bridge in the area. The railroad ran north to Two Harbors and south to Chicago. Locally, the railroad hauled iron ore. From the south, the railroad brought limestone, coal, and scrap iron to help make coke at the steel plant. The bridge decking was wooden until 2001. Many lumber mills were located along this section of the river in the late 1800s and early 1900s.

SPIRIT LAKE & CLOUGH ISLAND

CLYDE AVENUE BOAT LANDING (also known as **Munger Landing**) includes a public boat launch, fishing pier and parking area. **SPIRIT LAKE MARINA** is located on Spring Street. It was the location of an old shipyard owned by Alexander McDougal who designed and built whaleback ships. The last remaining whaleback is located on Barker's Island as a museum. The community of **RIVERSIDE** was built to house shipyard workers and was a railroad stop. Today, Spirit Lake Marina is a privately owned boat launch. Near the Marina is an access to the Western Waterfront Trail. From the end of Clyde Avenue in Smithville, view Clough Island and Spirit Island in **SPIRIT LAKE**. The large white apartment sitting on the hill to the north of the boat launch was once a Finnish College. Paddlers should avoid shallow waters to the right of the boat launch; it's best to paddle to the left of the island across from the boat launch and then up river to Spirit Lake.

In recent decades, **TALLIS ISLAND** became connected to the mainland due to sediment dumped in Knowlton Creek. In 2010, the bay was restored by removing 53,000 cubic yards of sediments with a hydraulic dredge barge. The sediments were transferred to the Stryker Bay/SLRIDT superfund site where they were used to cap contaminated sediments. **CLOUGH ISLAND** (Big or White-side Island) was homesteaded by Robert Whiteside, a Duluth pioneer who had extensive timber, mineral and oil holdings all around the country. By 1939, the Whiteside family operated it as a farm and country retreat. The family grew wheat and raised race horses, cattle and sheep. The house had a 600-foot deep well, electricity from Duluth (via a copper cable across the channel), a racetrack and a boat launch to ferry people to Duluth. The homestead burned in May of 1956. In 2010, Clough Island was purchased for conservation and is now owned by the State of Wisconsin. **MORGAN PARK** was a planned community built by U.S. Steel beginning in 1913 to house steel plant and cement plant workers. It was built to be an "ideal community" and included recreational facilities, a hospital and a school. Homes and other buildings were constructed of concrete from the Portland Cement Company, part of the U.S. Steel complex.



Spirit Island is an important location for the local Tribe. It is the setting of a legend about a Dakota/Sioux warrior and a Chippewa/Ojibwa woman who ran off together. The two tribes were enemies and were distressed by this union, so they chased the lovers to the island, but found only their canoe and moccasins. In 2010, the Fond du Lac Tribe of Lake Superior Chippewa purchased this island.

Kiichlis Meadows is named for a brewman who moved here to ply his trade and built a brewery in the slough.

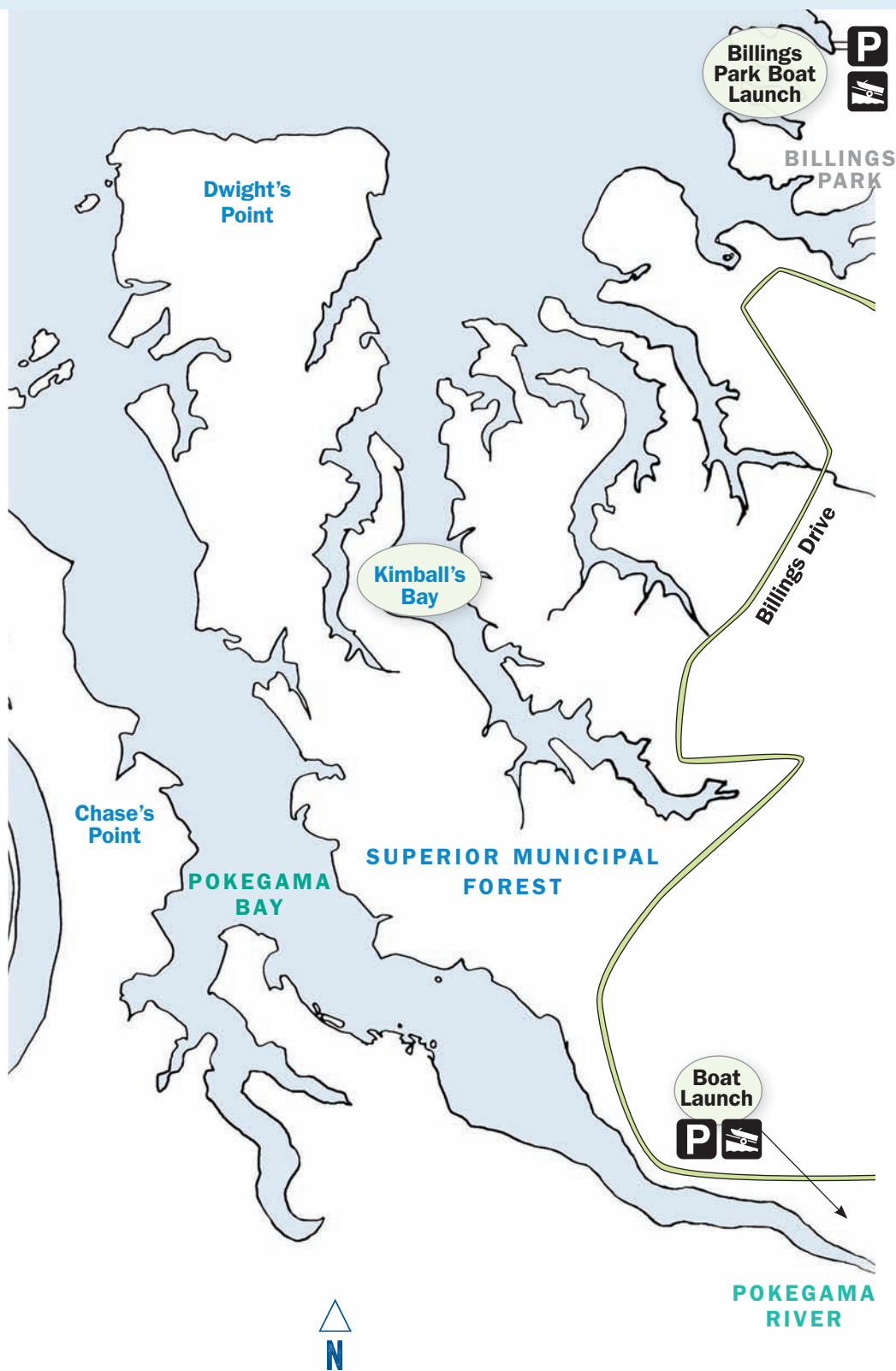
POKEGAMA BAY AREA

The **SUPERIOR MUNICIPAL FOREST** includes 4,400 acres of forest and natural habitat, the third largest forest within a city in the nation. It is the best remaining example of a boreal forest (conifers and hardwood, including white and red pine, balsam, cedar, black spruce, white birch, and aspen) in Wisconsin. A significant portion of the Superior Municipal Forest was designated as a State Natural Area (SNA) in 1996 and is now also included in the Lake Superior National Estuarine Research Reserve. This designation encompasses much of the mature forest and marsh, and also includes part

of the wet red clay flats where rare plants occur. **DWIGHT'S POINT** was named for a newspaperman who lived in Superior in the early 1900s. Adjacent to Dwight's Point in the Superior Municipal Forest, **POKEGAMA BAY**, along with the lower Pokegama River, is also part of the Dwight's Point and Pokegama Wetlands State Natural Area. Red clay soils are the dominant soil type in the watershed. After rain events, the water is very cloudy and reddish due to this clay.

KIMBALL'S BAY is named after the Kimball family, who settled in Superior in the 1850s. The earliest mention of the name is in connection with a sawmill located on Connor's Point.

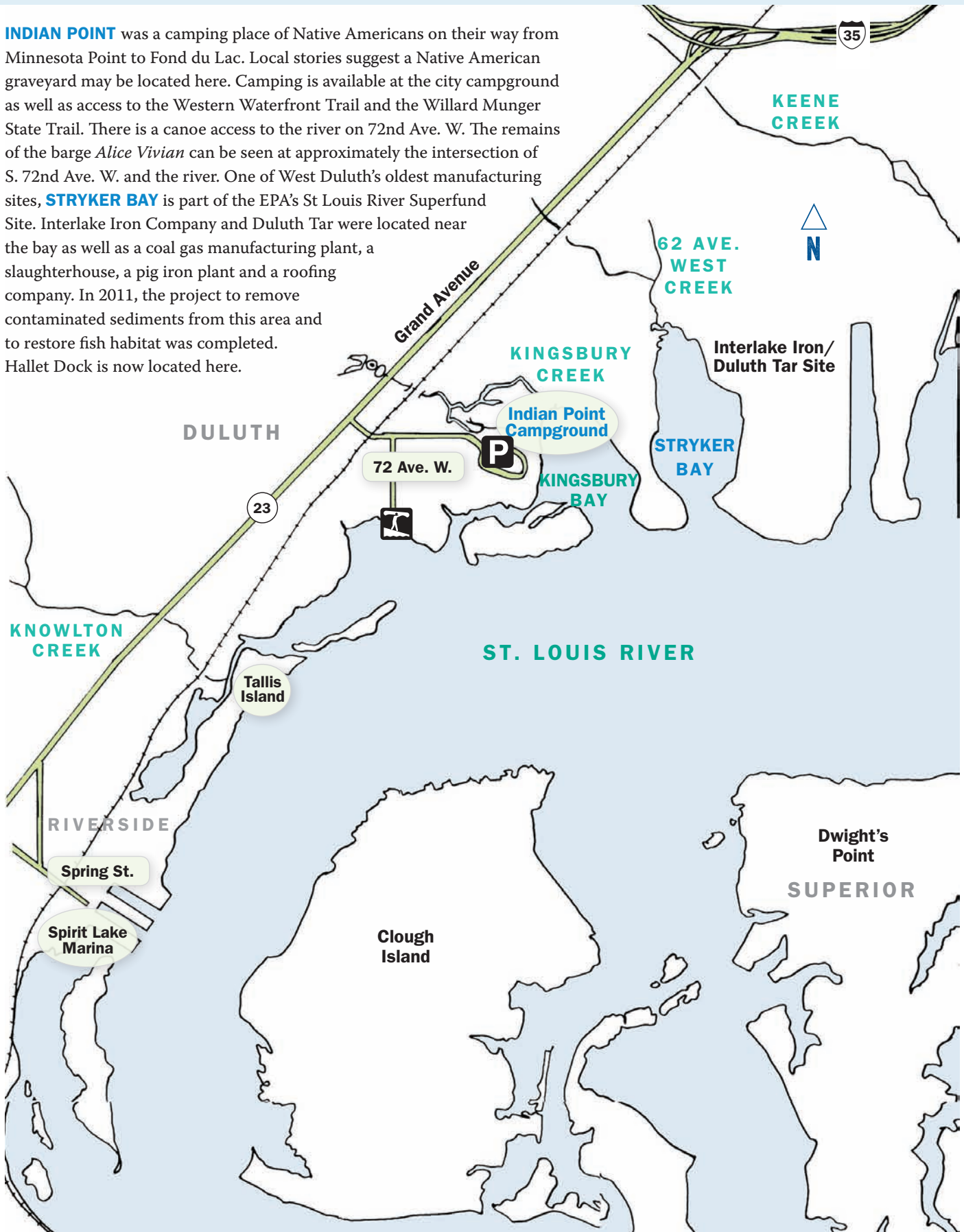
CHASE'S POINT is named after an early Superior family.



SUPERIOR,
WISCONSIN

INDIAN POINT & SUPERIOR MUNICIPAL FOREST

INDIAN POINT was a camping place of Native Americans on their way from Minnesota Point to Fond du Lac. Local stories suggest a Native American graveyard may be located here. Camping is available at the city campground as well as access to the Western Waterfront Trail and the Willard Munger State Trail. There is a canoe access to the river on 72nd Ave. W. The remains of the barge *Alice Vivian* can be seen at approximately the intersection of S. 72nd Ave. W. and the river. One of West Duluth's oldest manufacturing sites, **STRYKER BAY** is part of the EPA's St Louis River Superfund Site. Interlake Iron Company and Duluth Tar were located near the bay as well as a coal gas manufacturing plant, a slaughterhouse, a pig iron plant and a roofing company. In 2011, the project to remove contaminated sediments from this area and to restore fish habitat was completed. Hallet Dock is now located here.

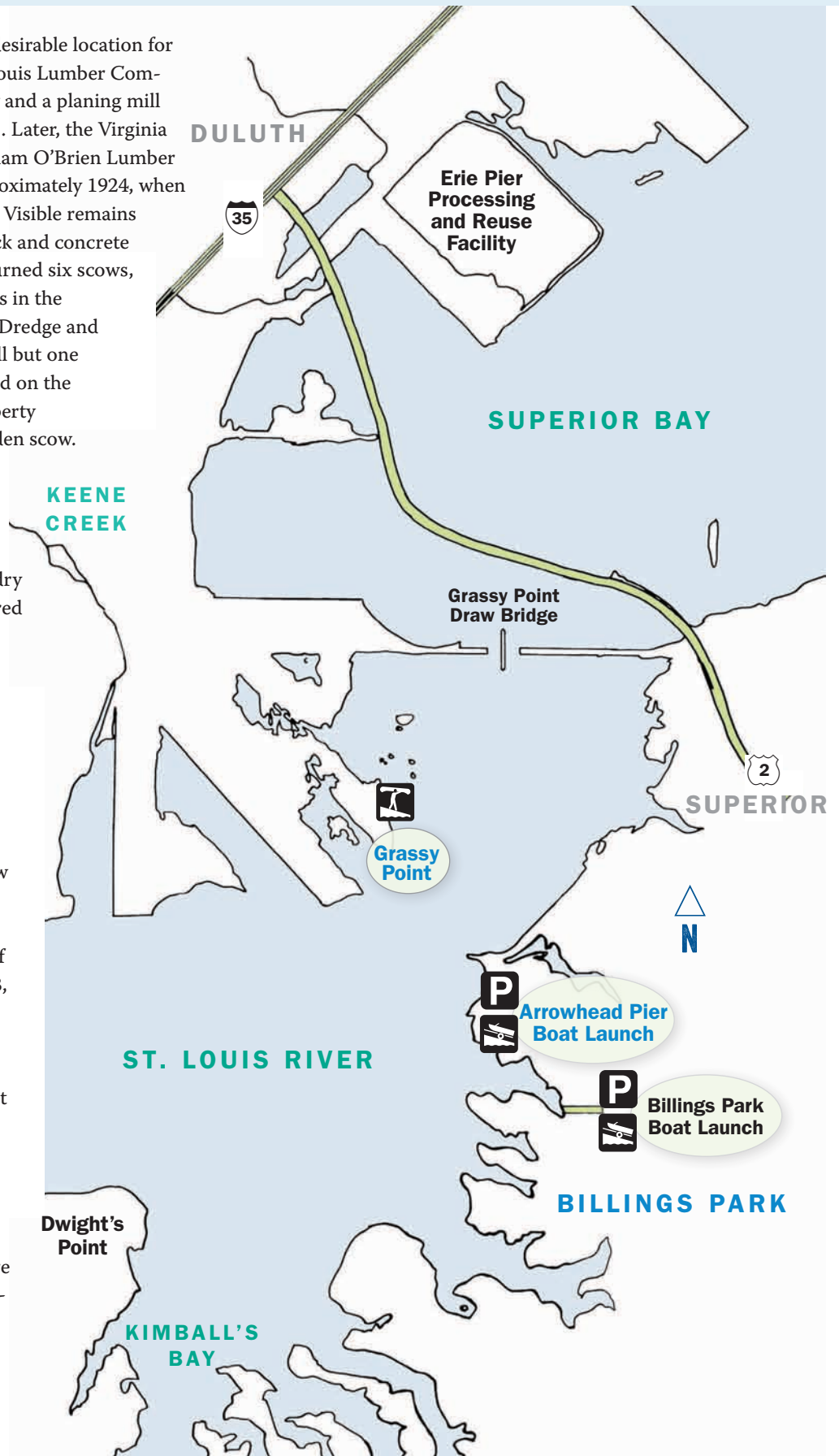


GRASSY POINT & BILLINGS PARK

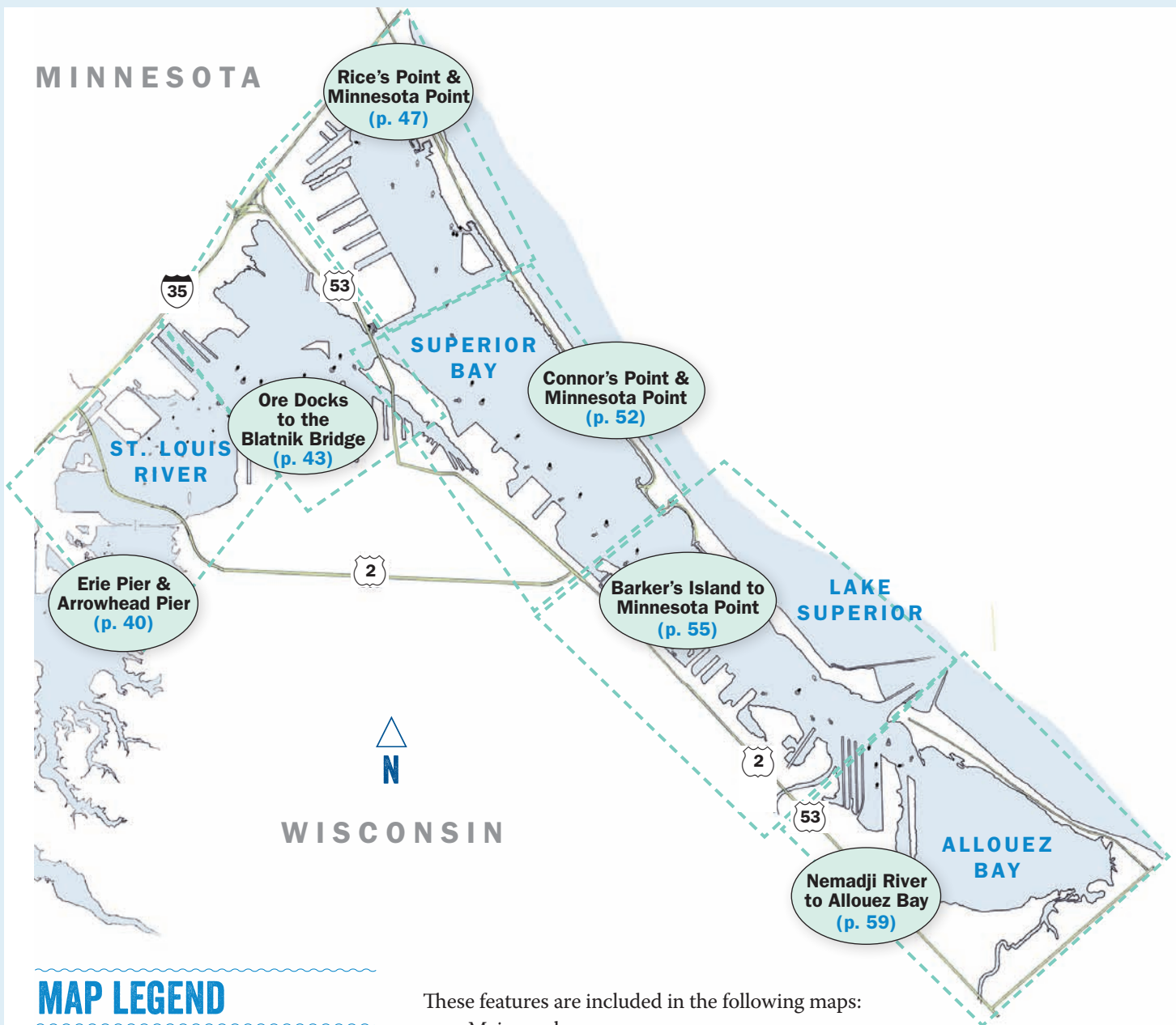
The **GRASSY POINT** parcel was a desirable location for sawmills as early as 1890. The St. Louis Lumber Company and Lesure Lumber Company and a planing mill were the earliest sawmill occupants. Later, the Virginia and Rainy Lake Company and William O'Brien Lumber Company operated mills until approximately 1924, when the last of the mills was shut down. Visible remains include wood pilings and some brick and concrete flooring. The 1918 Cloquet Fires burned six scows, a dredge and three historic tugboats in the Grassy Point parcel. The Northern Dredge and Dock Company of Duluth owned all but one of these shipwrecks. The slip located on the south area of the Grassy Point property contains the hull remains of a wooden scow. The rest of the slip is floored with wooden timbers and slabs.

BILLINGS PARK is the birthplace of the West Superior Iron and Steel Company (1887), a pipe foundry (1889), and a plant that manufactured

iron and steel for the railroads as well as parts and tools for a steel plate mill (1890). These companies were first owned by John D. Rockefeller and later by his rival, Andrew Carnegie. During the Steel Plant area's heyday, 400–600 workers were employed and a community of around 2,000 grew up here. In 1903, the "Steel Plant" area was officially renamed Billings Park in honor of Frederick Billings of Vermont who donated the property. At 60 acres, it is the largest park in Superior with two picnic areas, restrooms, and a trail along the river. There is a boat launch located at 21st Ave. (small fee). **ARROWHEAD PIER & BOAT LAUNCH** on Belknap Street is where the old Arrowhead drawbridge connected in Superior. A public boat launch (small fee) and parking are located here.



ST. LOUIS RIVER HARBOR OVERVIEW



MAP LEGEND

P Parking/Public Access



Boat ramp



Carry-in access



Railroad



Road



Land



Water

These features are included in the following maps:

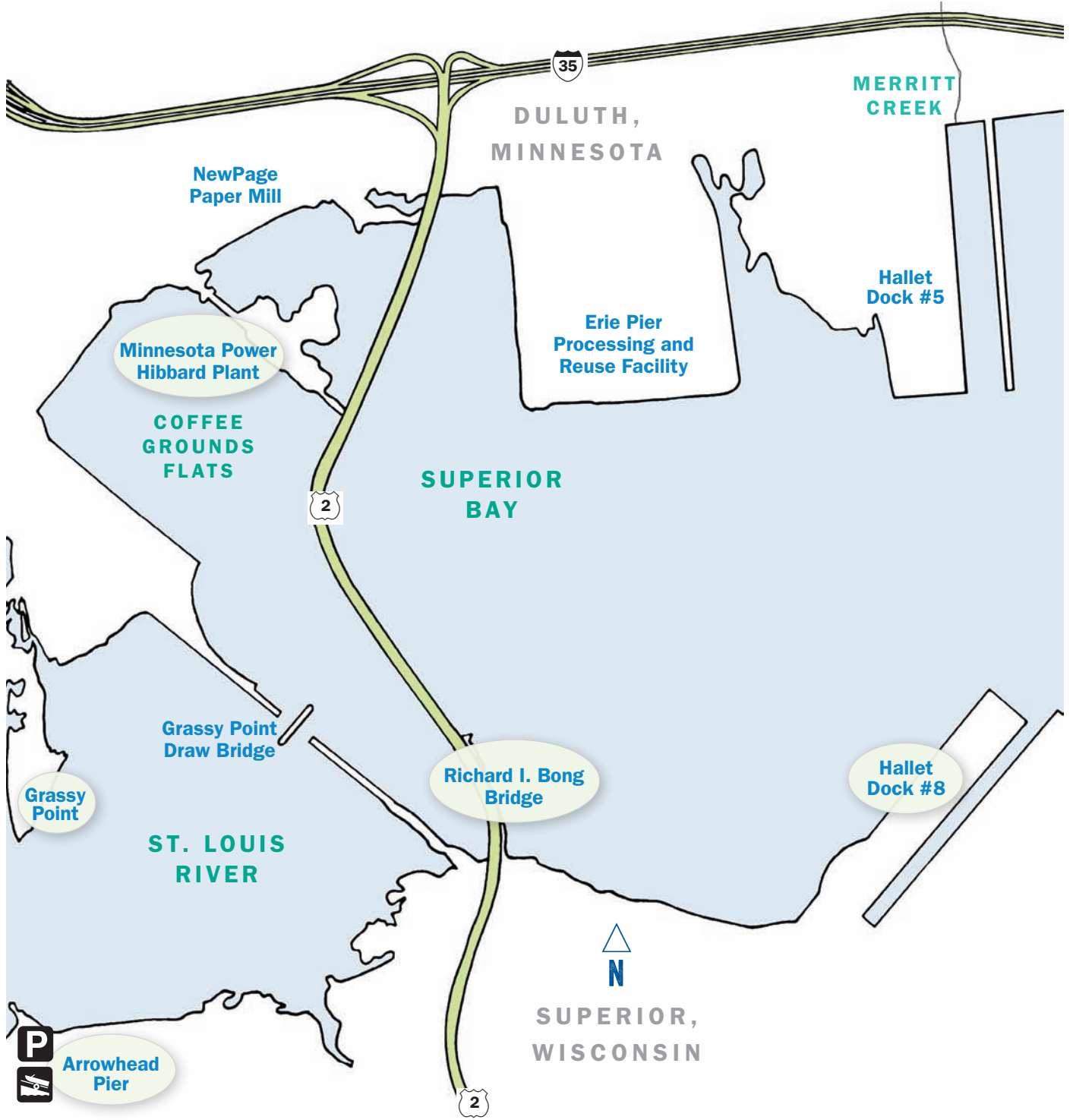
- Main roads
- River access points with boat launches and public parking
- Points of interest and history

These maps are not to be used for navigation purposes. They are for recreational use only.



MAP ORIENTATION: North is at the top of each page.

ERIE PIER & ARROWHEAD PIER



ERIE PIER & ARROWHEAD PIER

C. REISS COAL CO. receives shipments of dry bulk goods such as coal, limestone, and salt. The dock is on Grassy Point. **COFFEE GROUNDS FLATS** are named for the “coffee grounds” texture of the river bottom in this area, a result of activities of the lumber industry when wood waste was dumped into the water. Today’s wood fiber industries are more environmentally aware as demonstrated by the modern **NEWPAGE PAPER MILL** seen in the distance. NewPage is the top producer of glossy paper in the United States. The NewPage Recycled Pulp Mill located next door recycles nearly 1 million pounds of recovered paper each day. Electricity is generated at the **MINNESOTA POWER HIBBARD PLANT** by burning wood waste and other organic matter. **40TH AVE. W. RESTORATION PROJECT** is a “Remediation to Restoration” project started in 2012 as a partner-

ship between state and federal agencies. Contaminated sediments and wood waste from past industrial uses will be removed and fish and wildlife habitat will be restored. Sand and silt dredged from the river is processed at the **ERIE PIER PROCESSING AND REUSE FACILITY** and used in many local construction projects. The facility is owned by the Duluth Seaway Port Authority and operated by the U.S. Army Corps of Engineers. The area around Erie Pier and Hallett Dock #5 is a great place for spring bird watching. **HALLETT DOCK #5** links the heartland of North America through the ports of the Great Lakes and the St. Lawrence Seaway and facilitates the delivery of commodities by shifting their mode of transportation between land and water. Hallett Dock #5 handles much of the limestone, bentonite clay, salt, and fertilizer that move through the

Twin Ports. The Arrowhead Bridge once crossed the river near the **ARROWHEAD PIER**, carrying traffic between Superior and Grassy Point. The bridge was used from 1927 until 1984, when it was replaced by the Bong Bridge. Part of the Arrowhead Bridge remained on the Wisconsin shore and served as the Arrowhead Fishing Dock until 2010 when a new fishing pier and boat ramp were built. Constructed in 1887 and rebuilt in 1927, the **GRASSY POINT DRAW BRIDGE** was the second railroad bridge built in the Twin Ports. **RICHARD I. BONG BRIDGE** is a two-mile long bridge named for Richard Ira Bong of Poplar, Wisconsin. Dedicated in 1985, the bridge has a clearance of 124 feet and rises 210 feet above the surface of the water.

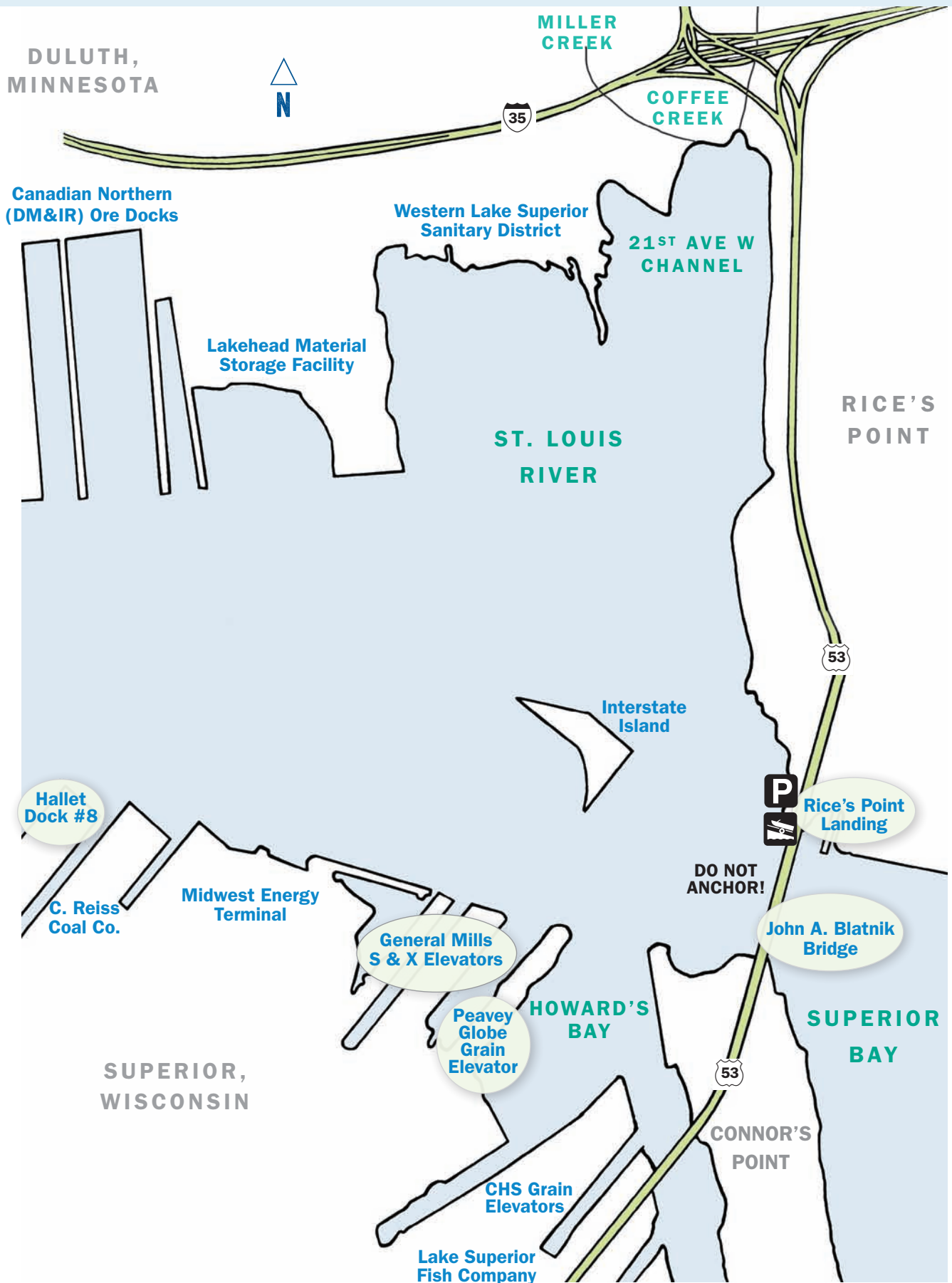
ORE DOCKS TO THE BLATNIK BRIDGE

Four timber docks were constructed between 1896 and 1906 by Duluth, Missabe & Northern Railroad for shipping iron ore. Around 1918, they were replaced with the first two steel docks in Duluth. The **CANADIAN NATIONAL (DM&IR) ORE DOCKS** remain the largest of their kind on the Great Lakes. Today, the Canadian National Railroad utilizes only one of these structures to load taconite onto ships and to unload limestone from ships. Tons of material can be stored at the **LAKEHEAD MATERIAL STORAGE FACILITY**, built in 1965 by the DM&IR. Limestone brought in by water is transported by rail to the Iron Range for use in making taconite pellets. The finished taconite pellets return here to await shipment to steel plants. The large light-colored mounds are limestone. The dark-colored mounds are finished taconite pellets. The silver-

colored domes on the west side of the bay mark the location of the **WESTERN LAKE SUPERIOR SANITARY DISTRICT (WLSSD)** wastewater treatment plant. WLSSD was created in the 1970s to address severe industrial and municipal water pollution problems in the lower St. Louis River. Today, WLSSD uses state-of-the-art technology to treat an average of 40 million gallons of wastewater per day. WLSSD also operates solid waste, yard waste, and household and small business hazardous waste disposal facilities at the 27th Avenue West site. Since WLSSD came on line in 1978, the condition of the St. Louis River has improved. Downstream of WLSSD, Miller Creek and Coffee Creek flow into the river at the **21ST AVE. W. CHANNEL**. In the spring, occasional migrating white pelicans may be found in this area among the large concentrations of waterfowl.

Over the next few years, Remediation to Restoration (R2R) projects will take place here to remove contaminated sediments and marine debris and restore quality wildlife habitat. **MIDWEST ENERGY TERMINAL** ships low-sulfur western coal primarily from Montana and Wyoming. The coal is loaded onto ships for transport to customers throughout most of the Great Lakes. Computers control the entire process of loading and unloading. This facility was constructed in 1976 by combining two slips and three docks to accommodate the loop track, stockpile storage area, and conveying equipment on 197 acres. **HALLETT DOCK #8** is an “incoming” dock that receives bulk commodities such as salt, coal, limestone and other miscellaneous products and ships them out via truck or rail. **GENERAL MILLS S & X GRAIN ELEVATORS** have a 12.7 million bushel

ORE DOCKS TO THE BLATNIK BRIDGE AREA

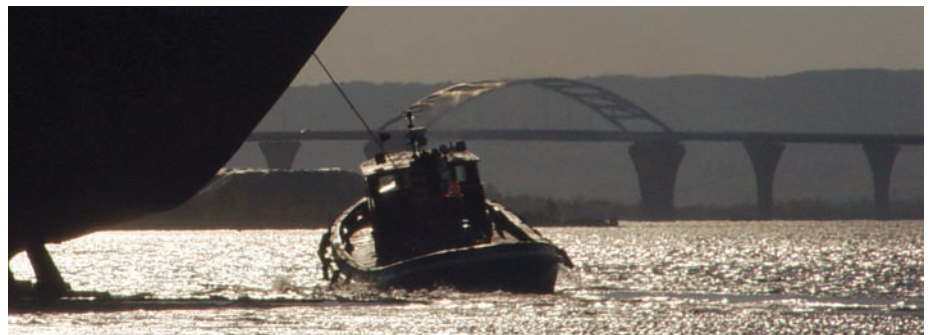


ORE DOCKS TO THE BLATNIK BRIDGE AREA

storage capacity. Elevator X was built in 1888, Elevator S in 1900; three annexes were built between 1909 and 1930. The **PEAVEY GLOBE GRAIN ELEVATOR** was constructed in 1887 at the foot of Tower Avenue. It is currently being dismantled. **CHS GRAIN ELEVATORS** (formerly Cenex Harvest States) were constructed starting in the early 1940s and finished in the early 1960s. They can store over 18 million bushels of grain, the largest capacity of any waterside grain terminal in North America. It's one of the few grain terminals in North America that can load two ships simultaneously. **LAKE SUPERIOR FISH COMPANY** was founded by Norwegian immigrants as Sivertson Fisheries in 1921. The company is still owned by the family. **INTERSTATE ISLAND** was created as the result of the construction and deepening of nearby navigation channels. Recently,

dredged materials have been added to the island to improve common tern nesting habitat. The Minnesota/Wisconsin state line bisects the land. The **JOHN A. BLATNIK BRIDGE** was built in 1961 to replace 19th century interstate bridges; it was named for Minnesota Congressman John A. Blatnik. **INTERSTATE BRIDGE FISHING DOCK**, the first bridge between Duluth and Superior, was built around 1885 to handle rail traffic between Rice's Point

and Connor's Point. The Interstate Bridge served as a toll bridge for pedestrians and vehicles in addition to rail traffic until it was replaced by the High Bridge. Part of the Interstate Bridge remains on the Minnesota shore for use as a fishing pier. **RICE'S POINT BOAT LAUNCH** is a public boat launch with portable toilets; parking is located under the Blatnik Bridge. **WARNING: There is a power cable crossing under the river at this point. DO NOT ANCHOR!**



© Diane Desotelle

RICE'S POINT & MINNESOTA POINT AREA

The Minnesota portion of **RICE'S POINT**, an old baymouth bar, was named after Orrin Rice who settled on the Point in 1855. He operated a ferry that ran between Rice's Point and Connor's Point for 15 years. Rice's Point was the site of many sawmills and grain elevators in the early days of Duluth. Here, steamers unloaded the equipment for Duluth's first railroad, the Lake Superior and Mississippi Railroad. **HOLCIM (US) INC.** is one of the nation's largest manufacturers and suppliers of cement and mineral components. The Duluth facility handles Portland Type I cement in bulk that comes by ship from Mississauga, Ontario and leaves by truck or rail cars. This facility was built in 1980, measures 284 feet from the ground and is the tallest building in the Duluth Superior and surrounding area. **CALUMET SUPERIOR, LLC VESSEL**

FUELING FACILITY is a fueling station for commercial ships. **ARTHUR M. CLURE PUBLIC MARINE TERMINAL & LAKE SUPERIOR WAREHOUSING**, also known as the "Port Terminal," offers storage and handling of general cargo. It has seven berths and two cranes with heavy lift capabilities. The **DULUTH SEAWAY PORT AUTHORITY** was created in 1955 by the Minnesota Legislature to foster regional maritime development and serve as an advocate for the port. Adjacent to the Clure Public Marine Terminal are **GARFIELD DOCKS C & D**. This 28-acre pier is used for additional storage of energy-related components. The **GREAT LAKES TOWING COMPANY** has been serving ports all around the Great Lakes including Duluth-Superior since 1899. Tugboats help the large ships navigate the harbor and are easy to recognize with a "G" painted on the

stacks, green hulls, red cabins. **AZCON CORPORATION** recycles scrap metal by preparing materials to fit the physical and chemical specifications of steel mills and foundries. Azcon has even cut up a retired ore carrier. **DULUTH STORAGE**, a grain storage facility, is owned by Ceres Global Ag Corp. Built in 1978, it's the most automated grain facility in the port. **NORTHLAND BITUMINOUS CORPORATION/NORTHLAND PIER** is where old asphalt and concrete from road projects is hauled to be crushed and recycled for new road construction material. Additional sand, gravel, limestone, and other aggregates arrive via ship. **DULUTH LAKE PORT** is a grain storage elevator operated by Ceres Global Ag Corp. Built in 1908, **GENERAL MILLS, INCORPORATED** is one of Duluth's oldest grain elevators still in operation, and has a 3.5 million bushel capacity.

RICE'S POINT & MINNESOTA POINT AREA



RICE'S POINT & MINNESOTA POINT

This facility ships grain and oilseeds. General Mills also has two grain elevators on the Superior side of the harbor for a combined capacity of 16.2 million bushels. The **DULUTH TIMBER COMPANY** was founded in 1985 to reclaim old growth timbers from buildings slated for demolition; they recycle the wood to provide custom millwork, beams and flooring for customers. The **GEORGIA-PACIFIC CORPORATION'S** Duluth plant produced industrial hardboard. The plant closed its operations in 2012. Future plans for the site are unknown. Cutler-Magner Company was founded in 1880 to supply lumber and cement. Two years after opening, the company joined the salt business. The firm remained a cement distributor until the mid-1980s when it sold the cement docks and silos to the Lafarge Corporation. The visible mounds are de-icing salt; **NORTH**

S. Irvin, the Vista Fleet as well as fishing charter vessels. The *Irvin* is a retired ore carrier that was the flagship of the U.S. Steel Great Lakes Fleet. This 630-foot-long ship carried ore from Minnesota to steel mills in Indiana, Ohio and Pennsylvania. It is now owned by the DECC and is operated as a museum with daily tours during the summer. Shops and restaurants are located in **CANAL PARK**. The St. Louis River Alliance office is located in the DeWitt-Seitz Marketplace, the tallest building in Canal Park. The Canal Park Marine Museum, operated by the U.S. Army Corps of Engineers, offers shipping schedules and information about the maritime history of the Twin Ports. French explorer Sieur du Lhut arrived at the head of Lake Superior in 1679, landing in the area known as "Little Portage," the spot where the **DULUTH SHIP CANAL** was later constructed. The canal was dug in 1870 to provide a second entrance to the Duluth-Superior Harbor. In 1874, a lighthouse was built at the entrance

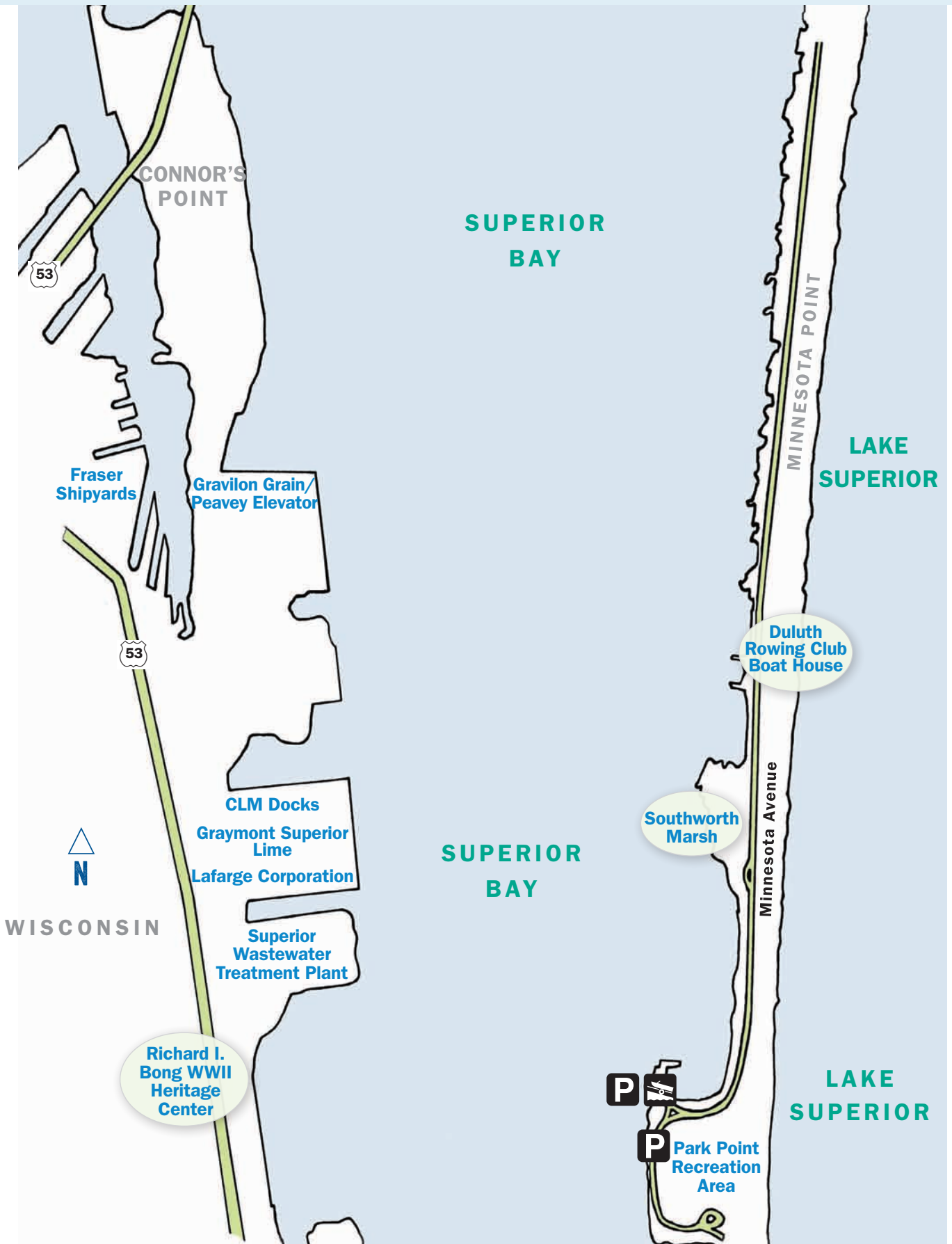
AMERICAN SALT COMPANY PLANT can stockpile up to 100,000 tons at this facility. Lafarge North America's Duluth plant is no longer in operation. In 2013, a new development plan for this site was underway. **LAFARGE CORPORATION** still operates a cement terminal in Superior. The decommissioned Coast Guard cutter *Sundew* has been docked in the nearby slip. The *Sundew* was built in 1944 in Duluth as a buoy tender and was decommissioned in 2004. It is now privately owned. Duluth's bayfront was once the site of maritime activities and working docks, but today, it is a focal point for community recreation and entertainment. **BAYFRONT PARK** hosts a variety of events throughout the year including the famous Bayfront Blues Festival each August. The grounds include a children's play area and a portion of the Lakewalk. There are also large flat

to guide ships into the canal. Today, a thousand vessels from around the world pass through each year. The residential community on Minnesota Point was literally cut off from the city after the Duluth Ship Canal was constructed in 1870. In 1905, an Aerial Ferry Bridge was erected to carry up to 350 people, two loaded wagons with horses, and a fully loaded street car across the canal in a suspended gondola. The bridge was re-outfitted in 1930 to incorporate a lift span. Today, the **AERIAL LIFT BRIDGE** roadway rises 138 feet in 55 seconds to allow boat traffic to pass underneath while vehicles wait. This waiting is known locally as being "bridged." **THE U.S. ARMY CORPS OF ENGINEERS' VESSEL YARD** provides moorage and support for the vessels of the USACE Floating Plant, which conducts repairs on navigational structure throughout the Great Lakes. In addition, research vessels such as the *Blue Heron* (owned by the University of Minnesota Duluth), the *L.L. Smith* (University of Wisconsin

boulders placed to create steps along the shore to provide fishing access. There is good angling here for northern pike in the summer. Since opening in 2000, the **GREAT LAKES AQUARIUM** has showcased the freshwater ecosystems of the Great Lakes including Lake Superior and the St. Louis River estuary. It features freshwater species from around the world and offers environmental education programs for all ages. **THE DULUTH ENTERTAINMENT AND CONVENTION CENTER (DECC)** opened in 1965. In addition to many conference rooms, the facility has an auditorium, a theater, and an ice rink. A wide variety of activities occur at the DECC including symphonies, concerts, quilt shows and curling tournaments. In 2010, the new Amsoil Area was added to the DECC complex, and is the home of UMD hockey. **MINNESOTA SLIP** is home to the *William*

Superior), and the *Lake Explorer* (Environmental Protection Agency) can often be seen moored at these docks. **LAKE-HEAD BOAT BASIN** is a privately owned marina that was previously an industrial site. The privately owned **DULUTH HARBOR COVE MARINA** was previously an industrial site and the former location of the Duluth Boat Club. The Marine Safety Unit Duluth is based at the **U.S. COAST GUARD STATION**, as well as other independent Coast Guard units such as a Search and Rescue Station and Aids to Navigation Team. The Buoy Tender/Cutter Alder is now stationed here as well. The **ARMY RESERVE BUILDING** is home to the 477th Medical Company. **HEARDING ISLAND** was created in 1935 from sand and silt dredged from the river channel. Originally called Harbor Island or Bird Island, it was renamed in 1962 in honor of William H. Hearing who first surveyed the St. Louis River. Hearing Island is a Colonial Bird Habitat and Wildlife Management Area and is a great site for bird watching.

CONNOR'S POINT/WISCONSIN & MINNESOTA POINT AREA



CONNOR'S POINT/WISCONSIN & MINNESOTA POINT AREA

The Hudson's Bay Company operated a fur trading post on **CONNOR'S POINT**. It was headed by Thomas Patrick Connor for whom the point was named. The first coal wharf in Superior was built at the end of Connor's Point in 1881 by the Lake Superior Coal & Iron Company. In 1892, there were 235 residential buildings, more than 15 storefronts, and two schools on Connor's Point. By 1895, more than 1,000 people lived on the Point. **HOWARD'S BAY**, also known as Howard's Pocket, was named for John D. Howard who owned the first sawmill in Superior. In the early 1900s, Howard's Bay was the location of shipyard operations that employed over 4,000 people. **FRASER SHIPYARDS** is the only remaining major shipyard in the Duluth-Superior Harbor. The facility includes two large dry docks. In the shipyard, boats undergo repairs

one Bong flew during the war. Competitive rowing has a long history in Duluth, with national and international champions in the 1910s and 1920s. The former boat club was located closer to the Canal. This site is the current home of the **DULUTH ROWING CLUB BOAT HOUSE**, which is still active in national and regional competitive rowing. **SOUTHWORTH MARSH**, the largest wetland found on Minnesota Point was named after Mira Southworth, a Minnesota Point resident who documented much of the Point's history through black and white photography. The marsh is located on land that was created in 1935 out of sand and silt dredged from the harbor. The vegetation communities that have developed include willow and alder thickets, balsam poplar stands and sedge meadows. The **PARK POINT RECREATION AREA** is a great place for a picnic. In addition to the picnic area and swimming beach, ballparks, restrooms, hiking trails and a boat ramp are available for public use.

and modifications such as lengthening or conversion to self-unloaders. **GAVILON GRAIN, LLC/PEAVEY GRAIN ELEVATOR** on Connor's Point was built in 1966 by the Chicago & Northwestern Railroad and acquired by the Peavey Company in the 1980s. Peavey pioneered the use of concrete as a fireproof method of storing grain. The 8.3 million bushel Connor's Point elevator uses a combination of concrete silos, steel storage tanks and flat storage for grain storage and handling. **GRAYMONT (WI) LLC SUPERIOR LIME DOCKS** is a limestone facility which can stockpile nearly 500,000 tons of limestone. Rotary kilns turn the limestone into quicklime and hydrated lime, which is used in many industrial processes from sugar production to water treatment. The Lafarge Corporation Dock is located here as well. The **LAFARGE CORPORATION** maintains

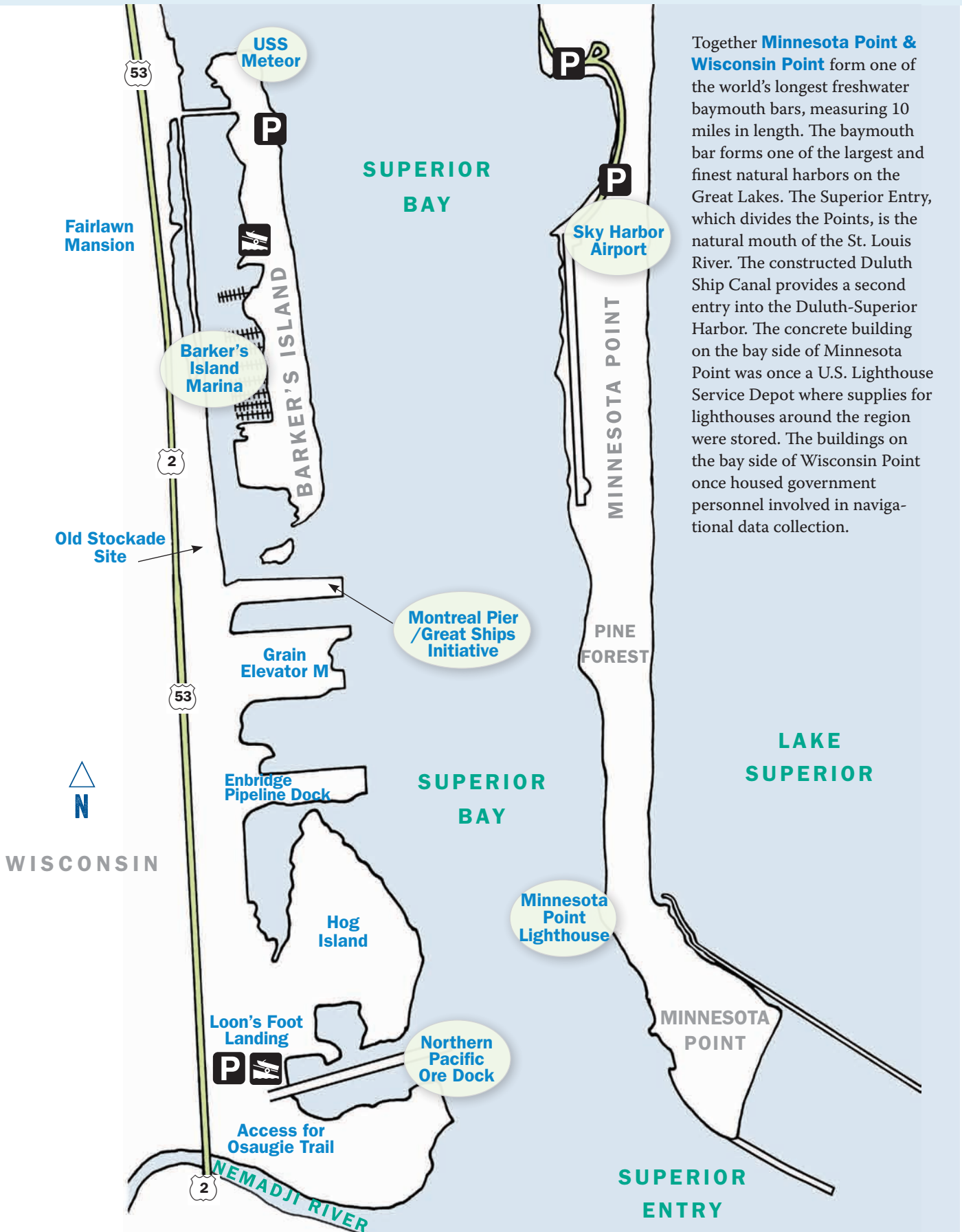
this cement terminal. **SUPERIOR'S WASTEWATER TREATMENT PLANT**, built in 1958, originally provided only primary treatment. In 1976, secondary treatment was added along with a 90 million gallon combined sewage overflow pond. When it rains, rainwater mixes with sewage in the combined sewers. This mixed wastewater is sent to the overflow pond to prevent problems with the biological treatment process in the main facility. Richard I. Bong, a World War II ace pilot from Poplar, Wisconsin, was awarded 26 medals, including the Medal of Honor. The **RICHARD I. BONG WORLD WAR II HERITAGE CENTER** was built to honor the memory of Major Bong and all the men and women of World War II who contributed to winning the peace. The Center contains WWII memorabilia as well as a restored Lockheed P-38 Lightning, similar to the

BARKER'S ISLAND

FAIRLAWN MANSION is a 42-room Victorian mansion built in 1890 by lumber baron Martin Pattison when he was mayor of Superior. It was an orphanage from 1920-1962, serving nearly 2,000 children. The home is now a museum that recalls the elegance and prosperity of Superior's early boomtown days. The **LAKE SUPERIOR NATIONAL ESTUARINE RESEARCH RESERVE (NERR)**, established in 2010, works to improve understanding of Lake Superior's freshwater estuaries and coastal resources and to address the issues affecting them through research, education, outreach and stewardship activities. Created in the early 1900s from material dredged from the adjacent channel, **BARKER'S ISLAND** currently has a private marina, a restaurant, a hotel, and a public boat launch. Visitors can also tour the *USS Meteor*, a whaleback ship built

in 1896. Captain Alexander McDougall's Twin Ports company designed and built the *Meteor* and other whaleback ships. The *Meteor* may be the only one of its kind remaining. The Seaman's Memorial, dedicated to the crew of the *Edmund Fitzgerald*, is located next to the *USS Meteor*. The *Fitzgerald*, with a crew of 29, set sail from Superior on November 9, 1975, carrying a full load of taconite. She sank at the eastern end of Lake Superior in a storm. **MONTREAL PIER/GREAT SHIPS INITIATIVE (GSI)** was established in 2006 as an innovative collaboration between industry, academia, federal agencies and non-governmental organizations whose objective is to end the problem of ship-mediated invasive species in the Great Lakes St. Lawrence Seaway System. The project's activities are centered at a world-class land-based ballast treatment testing facility. The

BARKER'S ISLAND TO MINNESOTA POINT



Together **Minnesota Point & Wisconsin Point** form one of the world's longest freshwater baymouth bars, measuring 10 miles in length. The baymouth bar forms one of the largest and finest natural harbors on the Great Lakes. The Superior Entry, which divides the Points, is the natural mouth of the St. Louis River. The constructed Duluth Ship Canal provides a second entry into the Duluth-Superior Harbor. The concrete building on the bay side of Minnesota Point was once a U.S. Lighthouse Service Depot where supplies for lighthouses around the region were stored. The buildings on the bay side of Wisconsin Point once housed government personnel involved in navigational data collection.

BARKER'S ISLAND TO MINNESOTA POINT

OLD STOCKADE was built in 1862 by the U.S. government to protect citizens of Superior. An historic marker and park benches mark the site today. Grain **ELEVATOR M** now stand on the northwest side of what was originally called Toledo Pier, one of the first piers constructed in the Twin Ports harbor. The original three wooden grain elevators that stood on Elevator M have been replaced by the two concrete elevators visible today. Hansen-Mueller Co. now owns these elevators. The Daisy Mill Grain Elevator stands on the site of the original Quebec Pier, the first commercial dock constructed on the waterfront in 1853. The historic brick house dates to 1893 and is a rare remnant of the once-thriving flour milling industry. In the early days of Twin Ports shipping, the **ENBRIDGE PIPELINE DOCK** was one of many that handled eastern coal,

the primary source of energy of the day. In the 1950s, it was used by Lakehead Pipeline Company to ship crude oil and petroleum products by boat. The **NORTHERN PACIFIC ORE DOCK** was used by the Northern Pacific Railway to transfer iron ore from trains to boats. The rail approach to the dock has been removed and the current owner of the structure is dismantling it. The **LOON'S FOOT LANDING** includes a public boat ramp with a large parking lot, a public restroom and a fish-cleaning station. A launch fee slip must be displayed in vehicles parked at the landing. The **OSAUGIE TRAIL** is a 5-mile trail along the Superior Bay from the Intersection of Hwy 2/53 to Moccasin Mike Road. It is suitable for walking, biking, in-line skating, and wheelchairs. There are numerous public access points all along this trail. **HOG ISLAND** was cre-

ated with materials dredged from the nearby navigation channel. Two structures near the island provide aid in navigating the Superior Bay Channel. Between 2003-2005, 60,175 tons of sediments contaminated with lead and other metals from historic use of the land by Murphy Oil, USA were removed from the Hog island/Newton creek inlet and disposed of in the Moccasin Mike landfill in Superior. It was the first time contaminated sediments were removed from the estuary and marks the beginning of ecological recovery in the area. The **NEMADJI RIVER** joins the St. Louis River just before the river flows out into Lake Superior. The rusty color of the Nemadji water is due to the red clay soils found throughout its watershed. **SKY HARBOR AIRPORT** and Seaplane Base has been in operation for over 50 years. Operated by the Duluth Airport Author-

ity, it has both a hard surface runway and water landing areas. Sky Harbor Airport is a "Point of Entry" and has U.S. Customs services on-call. Beyond the recreation area, the dunes of Minnesota Point are covered by an old-growth pine forest. The **MINNESOTA POINT PINE FOREST** provides excellent wildlife habitat and is a bird sanctuary. During the spring migration, many different species of warblers can be seen here. Blueberries are abundant in some areas, but beware of poison ivy. 18 acres are designated as a Scientific and National Area by the Minnesota DNR. The remains of **MINNESOTA POINT LIGHTHOUSE**, the first lighthouse constructed in the Twin Ports, can be seen on Minnesota Point. According to local legend, in foggy weather, when the light was not visible, lighthouse keeper R. H. Barrett would stand on the beach and blow on a long tin horn; the sound came to be known as "Barrett's cow." The lighthouse was used from 1859 to 1878, when the new lighthouse was constructed at the Superior entry.

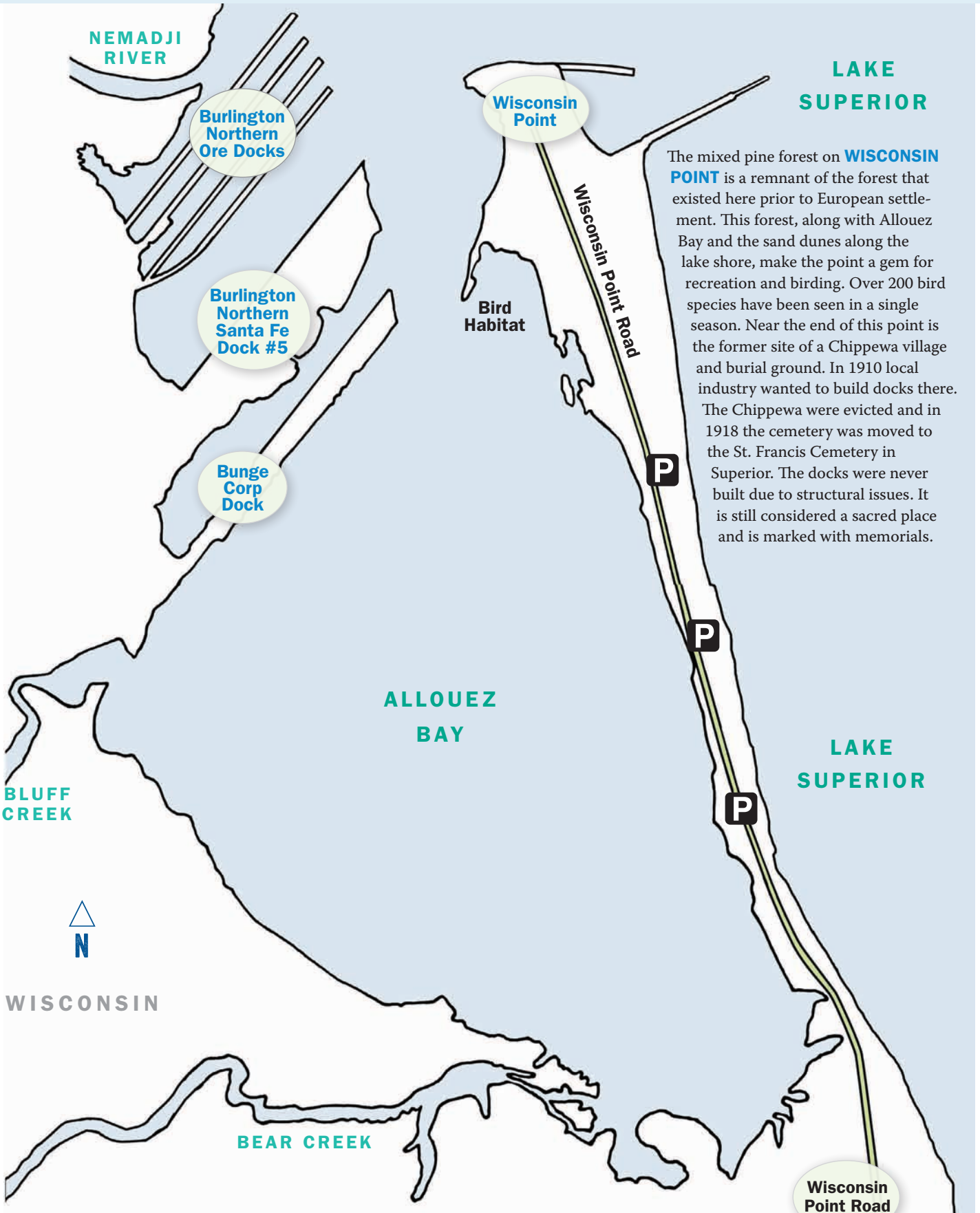
NEMADJI RIVER TO ALLOUEZ BAY

The first shipment of iron ore from the Duluth/Superior port was transported from the **BURLINGTON NORTHERN ORE DOCKS** in 1892. The docks you see were advertised as "The Largest Ore Docks in the World." The longest dock, at 2,244 feet, had 374 pockets that could hold ore from seven trains. Three of the four docks are still standing, but they are no longer in use. **BURLINGTON NORTHERN SANTA FE DOCK #5** facility rapidly loads processed taconite ore into ships. The taconite pellets arrive at the inland storage yard by train and are then transported to the dock by covered conveyer belt. The force created by ships backing up has deepened the channel to 45 feet in this area, 17 feet deeper than the main shipping channel. The Federal Navigation Channel ends near the **BUNGE DOCK**, the most easterly pier on the Superior

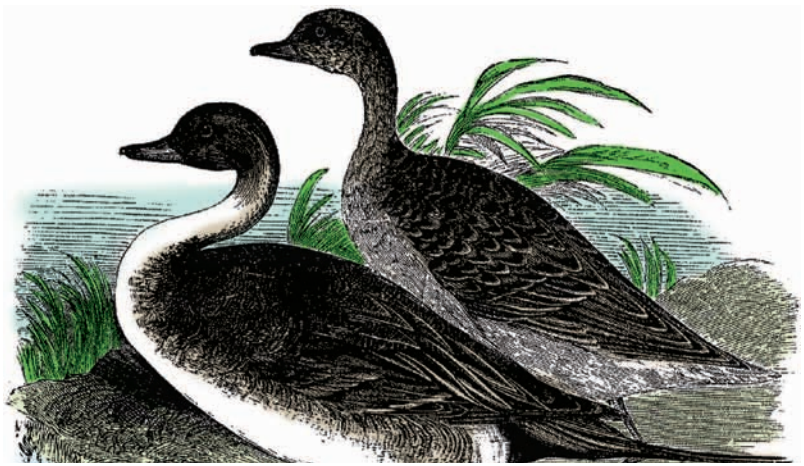
Bay. This dock is currently used by the U.S. Army Corps of Engineers for storage and by the Power Squadron for picnics. **ALLOUEZ BAY** is three to eight feet deep, which was the depth of much of the estuary before dredging began in the 1870s. The bay is named for French missionary Father Claude Allouez who followed the fur traders to the St. Louis River wilderness around 1655. Allouez Bay is an excellent area for bird watching. Habitat restoration efforts in this bay include wild rice plantings.



NEMADJI RIVER TO ALLOUEZ BAY



The mixed pine forest on **WISCONSIN POINT** is a remnant of the forest that existed here prior to European settlement. This forest, along with Alouez Bay and the sand dunes along the lake shore, make the point a gem for recreation and birding. Over 200 bird species have been seen in a single season. Near the end of this point is the former site of a Chippewa village and burial ground. In 1910 local industry wanted to build docks there. The Chippewa were evicted and in 1918 the cemetery was moved to the St. Francis Cemetery in Superior. The docks were never built due to structural issues. It is still considered a sacred place and is marked with memorials.



ST. LOUIS RIVER AREA ATTRACTIONS

For more information on area attractions and schedule of events visit www.visitduluth.com

SUPERIOR, WISCONSIN

Sailboats, Inc. 250 Marina Drive, (800) 826-7010. Learn to Sail Courses & Sailing Vacations on Lake Superior. www.sailboats-inc.com

S.S. Meteor Maritime Museum/Superior Public Museums, 300 Marina Drive, (715) 394-5712. The last of the whalebacks! www.superiorpublicmuseums.org

Captain J's Miniature Golf, 333 Marina Drive, (715) 394-4450. Located on historic Barker's Island, the Captain invites you to enjoy 18 holes of family friendly fun. www.captainjsminigolf.com

Richard I. Bong Veterans Historical Center, Belknap &

Highways 2/53, (888) 816-WWII (9944). A tribute to all those who fought and died, worked and waited during WWII. www.bvhcenter.org

Fairlawn Mansion Museum/Superior Public Museums, 906 East Second Street, (715) 394-5712.

This 42-room mansion recalls Superior's boomtown days. www.superiorpublicmuseums.org

DULUTH, MINNESOTA — Western Duluth Area

Lake Superior Zoo, 72nd Avenue West & Grand Avenue, (218) 730-4500. You'll find hundreds of animals and exotic species at the Lake Superior Zoo. www.lszoo.org

Lake Superior & Mississippi Railroad, 71st Avenue West & Grand Avenue (across from Lake Superior Zoo), (218) 624-7549. Don't miss

this gem of an excursion train just because it only runs on weekends. Features a 90-minute train ride filled with history, wildlife, and incredible scenery. Call ahead to confirm schedules. www.LSMRR.org

Western Waterfront Trail, Grand Avenue at 72nd Avenue West (across from the Zoo). A 3.5 mile path along the St. Louis River and is ideal for hiking, jogging, biking, snowshoeing and general sightseeing.

Munger Trail Bike Rental & Shuttle Service, 7408 Grand Avenue, (800) 982-BIKE. Bicycle, canoe, paddle boat rentals. Bicycles delivered to most Duluth area motels and hotels. Canoes, kayaks and paddle boats complimentary for Willard Munger Inn guests. www.mungerinn.com

Spirit Lake Marina and RV Park, 121 Spring Street, (218) 628-3578. Offering boat slips, RV spots and boat and bike rentals. www.spiritlakemarinarv.com

Spirit Mountain Adventure Park, 9500 Spirit Mountain Place, (800) 642-6377. Experience year-round adventure and outdoor family fun! www.spiritmt.com

Canal Park & Downtown Area

Lake Superior Maritime Visitor Center, (218) 720-5260; Boatwatchers Hotline, 24 hours in season, (218) 722-6489. Exhibits featuring commercial shipping activities on Lake Superior and in the Duluth-Superior Harbor. www.lsmma.com

Vertical Endeavors Indoor Rock Climbing Facility, 329 South Lake Avenue, (218) 279-9980. One of the Midwest's most impressive indoor climbing facilities. www.verticalendeavors.com

S.S. William A. Irvin Ore Boat Museum, 350 Harbor Drive, (218) 722-7876; (218) 727-0022. Tour the former flagship of the U.S. Steel's Great Lakes Fleet. www.decc.org/william-a-irvin

Vista Fleet Sightseeing & Dining Cruises, waterfront side of the (DECC) Duluth Entertainment Convention Center, 323 Harbor Drive (877) 883-4002. Experience the majestic beauty of Lake Superior aboard the Vista Fleet! www.vistafleet.com

Great Lakes Aquarium, 353 Harbor Drive, (218) 740-FISH (3474). Great Lakes Aquarium is located on the waterfront in Duluth, just off exit 256B on I-35. www.glaquarium.org

Playfront Park on the Bay. A unique children's playground open daily for children of all ages. Located inside Bayfront Festival Park at the base of 5th Ave West.

St. Louis County Heritage & Arts Center, The Depot, 506 West Michigan Street, (218) 727-8025, (888) 733-5833. Lake Superior Railroad Museum, St. Louis Historical Society, the Duluth Art Institute. www.duluthdepot.org

Lake Superior Railroad Museum, The Depot, 506 West Michigan Street. www.lsrmm.org

Park Point

Northern Breezes Sailing School, Harbor Cove Marina, (218) 260-2000. Learn to sail on beautiful Lake Superior and the Duluth Superior Harbor. Private sailing lessons and day and half day charters are also available on request. www.northernbreezesduluth.com

Lake Superior Helicopters, rides out of Sky Harbor Airport at 5000 Minnesota Avenue, #1, (218) 213-7095. Customizable and affordable helicopter tours for all ages. www.lakesuperiorhelicopters.com

CARLTON, MINNESOTA

Jay Cooke State Park, 780 Highway 210, (218) 384-4610. A great spot for hiking, skiing, camping or exploring along the St. Louis River. Programs and park visitor center available year-round. www.dnr.state.mn.us/state_parks/jay_cooke/index.html

Superior Whitewater Raft Tours/Sea Kayak Tours & Rentals, 950 Chestnut Avenue, located on the St. Louis River in Carlton, just 15 miles south of Duluth, (218) 384-4637. Professionally Guided Raft Tours. Explore the wet, wild and wonderful world of whitewater rafting! www.minnesotawhitewater.com



THE LAKE SUPERIOR NATIONAL ESTUARINE RESEARCH RESERVE

The Red River Banks Protection Area, the Superior Municipal Forest and Wisconsin Point are just part of a mosaic of public lands included in the Lake Superior National Estuarine Research Reserve (NERR), a partnership between the National Oceanic and Atmospheric Administration (NOAA) and the state of Wisconsin to study and protect Lake Superior's vital coastal and estuarine resources. Freshwater estuaries like this one provide vital natural and economic resources in the United States. The system of 28 National Estuarine Research Reserves nationwide support research, stewardship and education on behalf of these unique ecosystems. The Lake Superior NERR offers a wide range of research and public education opportunities at their facilities on Barkers Island in Superior.

This revision was made possible through the input of local boaters, residents, history experts and partner agencies, including:

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| Minnesota Sea Grant | Wisconsin Sea Grant |
| Minnesota Dept. of Natural Resources | Wisconsin Dept. of Natural Resources |
| Duluth Seaway Port Authority | Natural Resources Research Institute |
| Duluth Audubon Club | Fond du Lac Tribe of Lake Superior Chippewa |
| Minnesota Land Trust | Minnesota Pollution Control Agency |
| Zenith City Press | Lake Superior National Estuarine Research Reserve |

THANK YOU!

Every effort was made to be accurate as of the print date of this edition. Any corrections and suggestions for future editions can be emailed to slrcac@stlouisriver.org or visit www.stlouisriver.org and complete the "On the Water Guide" feedback survey.



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PROTECT, RESTORE AND ENHANCE



ST. LOUIS RIVER ALLIANCE



This project was funded in part by the Coastal Zone Management Act, by NOAA's Office of Ocean and Coastal Resource Management, in conjunction with Minnesota's Lake Superior Coastal Program.

Printed with contributions from:

