

WAABIZHESHIKANA



MARTEN TRAIL

INTERPRETIVE TRAIL MASTER PLAN

PRESENTED TO THE CITY OF DULUTH

MARCH 2021

Table of Contents

INTRODUCTION 4

STORY THREADS.....15

INTERPRETIVE APPROACH 25

INTERPRETIVE ELEMENTS..... 38

RIVER PLACES..... 49

IMPLEMENTATION101

APPENDIX..... 109



REPORT PREPARED BY

Urban Ecosystems: Landscape Architects, Alta Planning + Design, and Jim Roe Museum Planning, with Research by Christine Carlson, Artwork by Sarah Agaton Howes, and Ojibwe linguistics by Ricky Defoe.

Railroad Bridge over 88th Ave W. near Morgan Park, 2020, Samuel Geer

Acknowledgements

This plan recognizes the individuals and organizations who have an opportunity to work together to make this plan a reality. These stakeholders have helped select the stories and content behind the interpretive materials, and participated in the development of the project content.

The organizations listed here will have a shared responsibility for implementation of the plan, working together to honor the past and reveal the future.



Iron Oxide Puddle, 2020, Samuel Geer

CITY OF DULUTH

Mayor's Office
City Council
Parks and Recreation Staff
Parks Commission
Indigenous Commission
Historic Preservation Commission
Public Arts Commission
African Heritage Commission

FOND DU LAC BAND (FDL)

Natural Resources Group
Fond du Lac Arts Community

AGENCY PARTNERS

Minnesota Pollution Control Agency (MPCA)
US Environmental Protection Agency (USEPA)
MN Department of Natural Resources (MNDNR)
Western Lake Superior Sanitary District (WLSSD)

COMMUNITY PARTNERS

St Louis River Alliance (SLRA)
Cyclists Of Gitchee-Gumee Shores (COGGS)
Minnesota Land Trust (MLT)
Friends of West Duluth Parks and Trails (FWDPT)
Lake Superior & Mississippi Railroad (LSMRR)
Isaac Walton League (IWL)

UNIVERSITY OF MINNESOTA

University of Minnesota Duluth (UMD)
University of Minnesota Twin Cities (UMTC)

CONTRIBUTING STAKEHOLDERS

These stakeholders participated in the initial visioning and the development of our interpretive approach. These individuals provided feedback on initial presentations and/or shared resources to be referenced in the report.

Barb Huberty, MPCA
Anne Morris, MPCA
Melissa Sjolund, MNDNR
Pat Collins, MNDNR
Jill Hoppe, Fond du Lac
Wayne Dupuis, Fond du Lac
Reggie Defoe, Fond du Lac
Thomas Howes, Fond du Lac
Babette Sandman, Fond du Lac
Kris O'Neal, Duluth Experience
Kris Eilers, St Louis River Alliance
Daryl Peterson, Minnesota Land Trust
Bill Majewski, Morgan Park / St. Louis River Alliance
Carol Newkumet, Riverside Community Club
Mike Casey, Friends of West Duluth Parks & Trails
Aimee Brown, University of Minnesota Duluth, Archivist, Kathryn A. Martin Library Archives
Roxanne Gould, University of Minnesota Duluth
Vincent DeBritto, University of Minnesota TC, professor of Design Duluth Studio, at College of Design
Mike Casey, Friends of West Duluth Parks & Trails
Lisa Luokkala, Superior Hiking Trail
Janet Kennedy, City of Duluth
Eleanor Bacso, City of Duluth
Ben Van Tassel, City of Duluth
Carl Crawford, City of Duluth
Alicia Kozlowski, City of Duluth



INTRODUCTION

Perch Lake, 2020, Samuel Geer

Wayekwaa-Gichigamiing Head of the Lake

“OUR HOME here is in the right spot. There is no better place. We are safe here from any prowling bands. We don’t have to go out in the lake for fish. They swim up the river to us, and all we have to do is to take them out of the water. The weather is good here most of the year. When it gets cold in mid-winter, there are plenty of sheltered spots, and all sorts of dry wood is more easily found here than elsewhere. Where are white birch trees for bark more plenty? Where do the birds have softer feathers and where do the animals have richer, warmer furs? I would not live nor be contented in any other place. It’s grand here. If one goes to the East, he sails on the great lake for days, safe from all danger, seeing new lands and enjoying the fresh air. If one goes west he comes to a great river and no end of lakes full of rice. If he goes farther west he gets out of the forest and to a big prairie where herds of buffalo roam. If one goes south he finds a hundred streams full of beavers and some kinds of good small fish that don’t go into the lake. There are no end of maple trees for sap, and many sweet fruits that way. If one goes north he sees moose almost as easy to get as buffalo. There are many good spots for safe camps. So this is the center of all good things. Do not coax me to leave, for it would be a waste of breath.”

**Chief Biauswah
(Bayaaswaa, “Dry One”), 1720-1825**



“The Center of all Good Things”

-  Campsite
-  Burial Ground
-  Quarry
-  Trading Post
-  Sugar Camp
-  Mission
-  Portage Trail

Historic locations of Native American cultural sites overlain atop the current estuary and proposed Waabizheshikana trail, Marit McCluske, 2019

Waabizheshikana

Waabizheshikana: The Marten Trail, formerly the Western Waterfront Trail, is named in recognition of the Marten Clan of Lake Superior Ojibwe, who, more than 250 years ago, followed their westward migration along the North Shore of Lake Superior into Gitchigami-ziibi, called the St. Louis River estuary in English. Through generations, the descendants of those first arrivals and the families that followed, maintained their indigenous lifeways and especially their relationship to the water, plants, and animals of the estuary. The development of this interpretive plan has been guided, and inspired, by the values and worldviews of these indigenous communities.

In recent decades, the St. Louis River estuary has drawn the attention of outdoor enthusiasts, conservationists, and historians. The designation of the estuary as a Area of Concern (AOC) in 1987 has resulted in decades of environmental restoration projects, habitat and natural resource studies, and a series of comprehensive planning initiatives. The dramatic improvement in water quality and habitat as a result of these projects has led to growing community interest in the estuary.

With each endeavor, the estuary has gained a higher profile and heightened concern for its ecological future and cultural legacy.

Emerging from years of dedicated research, planning, and citizen activity, is a vibrant and comprehensive vision for the St. Louis River estuary. At the heart of this vision is a 7 mile long extension of the existing Western Waterfront Trail. Once completed, a 10-mile-long trail will provide a connected and accessible pathway from the Irving

Waabizheshikana will be a heritage trail experience that makes visible the ecology, history, and cultures of the region, celebrating the powerful and living beauty of the St. Louis River estuary, while instilling a sense of caring among the people who live and visit here.

neighborhood upriver to Jay Cooke State Park. A mini-master plan for the river corridor was adopted by the City of Duluth in 2019. **Waabizheshikana: The Marten Trail: A River Heritage Trail** represents the culmination of many years of city and regional planning efforts, and a far-reaching community engagement process. It lays out a riverfront trail in a series of seven new segments starting from the western end of the existing trail.

By renaming the trail in honor of the Marten Clan, the City of Duluth expressed its commitment to the cultural heritage of the region and pays respect to the Lake Superior Ojibwe and their past, present, and future relationship to the St. Louis River estuary.

In response to citizen feedback, the 2019 report also calls for a Trail Interpretive Plan that brings forward ecological stories and stories from the area's deep cultural heritage. This is that plan.



View of Fond du Lac, 1921, Louis Perry Gallagher Sr. University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Collections

Waabizheshikana

INTERPRETIVE VISION

The river called the St. Louis holds cultural memory and spiritual meaning for indigenous people going back thousands of years. It's been home to European immigrants and American migrants seeking livelihood and a place to start anew. It also has been a sustaining habitat for plants and animals in and out of the water. Today, everything visitors see along the trail has a history and holds a story worth hearing. No one narrative can hold these many legacies; this interpretive plan brings forward many cultural perspectives on the river's past, present, and future.

The St. Louis River Valley has seen transformative change over time. Some of that change—especially in the past 150 years—has degraded ecosystems and left great scars on the land and along the shoreline. Meanwhile, the swirling eddies and reflected sunlight seen in the water today haven't changed for thousands of years. This element of time represents yet another perspective from which visitors can learn about the river, its origins, and its people.

STORYTELLING ON THE TRAIL

The overarching purpose of this plan is to celebrate Gitchigami-ziibi, the St. Louis estuary, by creating an arts and heritage trail experience for a range of audience interests and backgrounds. This plan integrates artwork, historical accounts, and highlights from the natural world. It cultivates new ways of seeing the landscape from diverse and sometimes unexpected perspectives.

This plan identifies a flexible and connected network of places and experiences planned around the seven proposed trail segments. Since the segments will be built over time, as implementation resources allow, the interpretive elements are organized in a way that they will be ready for implementation concurrently with trail construction.

Proposed interpretive features are organized around a series of River Places. These landmarks are comprised of trailheads, overlooks, and pause points. Each could host future art, gathering spaces, or nature play areas. A set of interpretive elements—story poles, cairns, freestanding signs, and concrete inlays—have been designed from a materials palette drawn from the natural estuary and from products of the industries that made the city of Duluth. By telling the stories of the estuary with materials that are of the location, the interpretive elements are both true to their place and durable.

The combinations of materials, fabrication techniques, and cultural content described in this plan promise to further enrich storytelling along the Waabizheshikana. When people on the trail see Ojibwe plant and animal names engraved into steel, for example, they are seeing different cultures juxtaposed and joined together at the same time. Likewise, the merging of words and images respects the gifts of the natural world and the hard work and cultural contributions of Duluth's many residents through time. This vision honors the past while presenting a bold challenge for the future.

*Being naturalized to place means to live as if this is the land that feeds you, as if these are the streams from which you drink, that build your body and fill your spirit. To become naturalized is to know that your ancestors lie in this ground. Here you will give your gifts and meet your responsibilities. **To become naturalized is to live as if your children's future matters, to take care of the land as if our lives and the lives of all our relatives depend on it. Because they do.***

– Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*, 2013



Oliver Bridge, Samuel Geer

Nagaajiwanaang

“...The Ojibway and the Dakota formed an Alliance in 1679 at Fond du Lac at the outlet of the St. Louis River, in what would later be Minnesota. This was probably the largest diplomatic event among Indians observed - but not orchestrated - by Europeans, French explorers Nicolas Perrot and Daniel Greysolon, Sieur Du Lhut attended. Ultimately, the Dakota allowed the Ojibwe to hunt and settle on much of their territory east of the Mississippi River in Minnesota and Wisconsin. Through peaceful diplomacy, La Pointe, Chaquamegon Bay, Keneenaw Bay, Lac Courte Orielles, Lac du Flambeau, and Fond du Lac, became Ojibwe possessions after 1679. In return, the Ojibwe kept the Dakota well supplied with guns, knives, kettles, and other trade goods and sold Dakota Furs to the French. The Ojibwe assumed the lucrative role of middlemen in Dakota-French Trade”

Anton Steven Treuer, *Ojibwe in Minnesota, The People of Minnesota*, 2010



Manoomin - Wild Rice. Image from Fond du Lac: Head of the Lake by John Fritzen

Waabizheshi

American Marten *MARTES AMERICANA*

"The Creator remembered how the Earth's people had suffered in the past. He decided that the Earth's second people needed a system - a framework of government to give them strength and order. To do this he gave them the Odoodemiwan, the Clan System.

The Marten Clan served as the warrior clan for the people. They provided the force to protect the village at all costs from outside invaders. **They became known as master strategists in planning the defense of their people."**

Edward Benton-Banai, The Mishomis Book: The Voice of the Ojibway, 1988



Marten, John Koepke, 2020

PLANNING HISTORY & CONTEXT

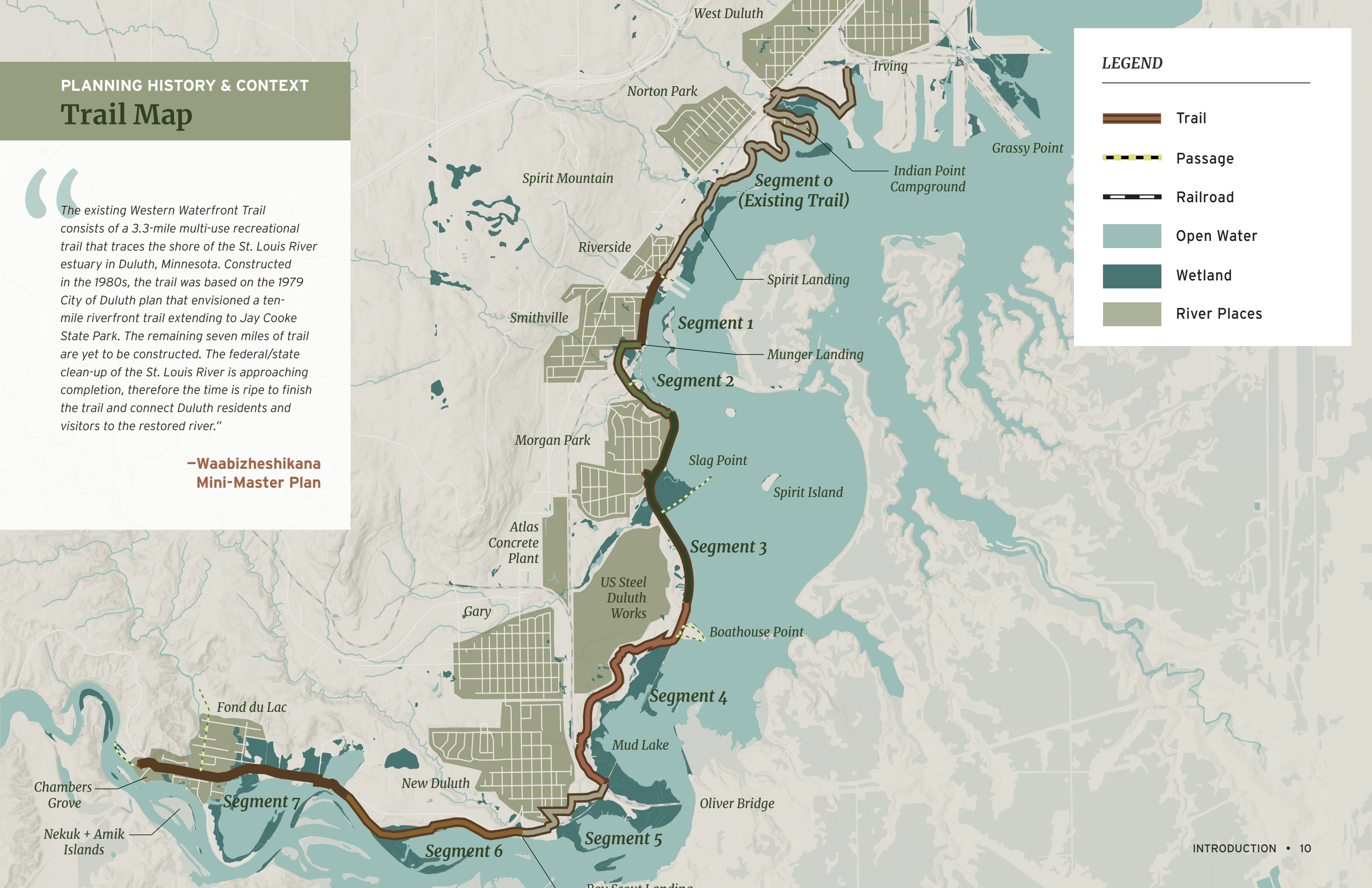
Trail Map

"The existing Western Waterfront Trail consists of a 3.3-mile multi-use recreational trail that traces the shore of the St. Louis River estuary in Duluth, Minnesota. Constructed in the 1980s, the trail was based on the 1979 City of Duluth plan that envisioned a ten-mile riverfront trail extending to Jay Cooke State Park. The remaining seven miles of trail are yet to be constructed. The federal/state clean-up of the St. Louis River is approaching completion, therefore the time is ripe to finish the trail and connect Duluth residents and visitors to the restored river."

**—Waabizheshikana
Mini-Master Plan**

LEGEND

- Trail
- Passage
- Railroad
- Open Water
- Wetland
- River Places



PLANNING HISTORY & CONTEXT

Waabizheshikana: Mini-Master Plan

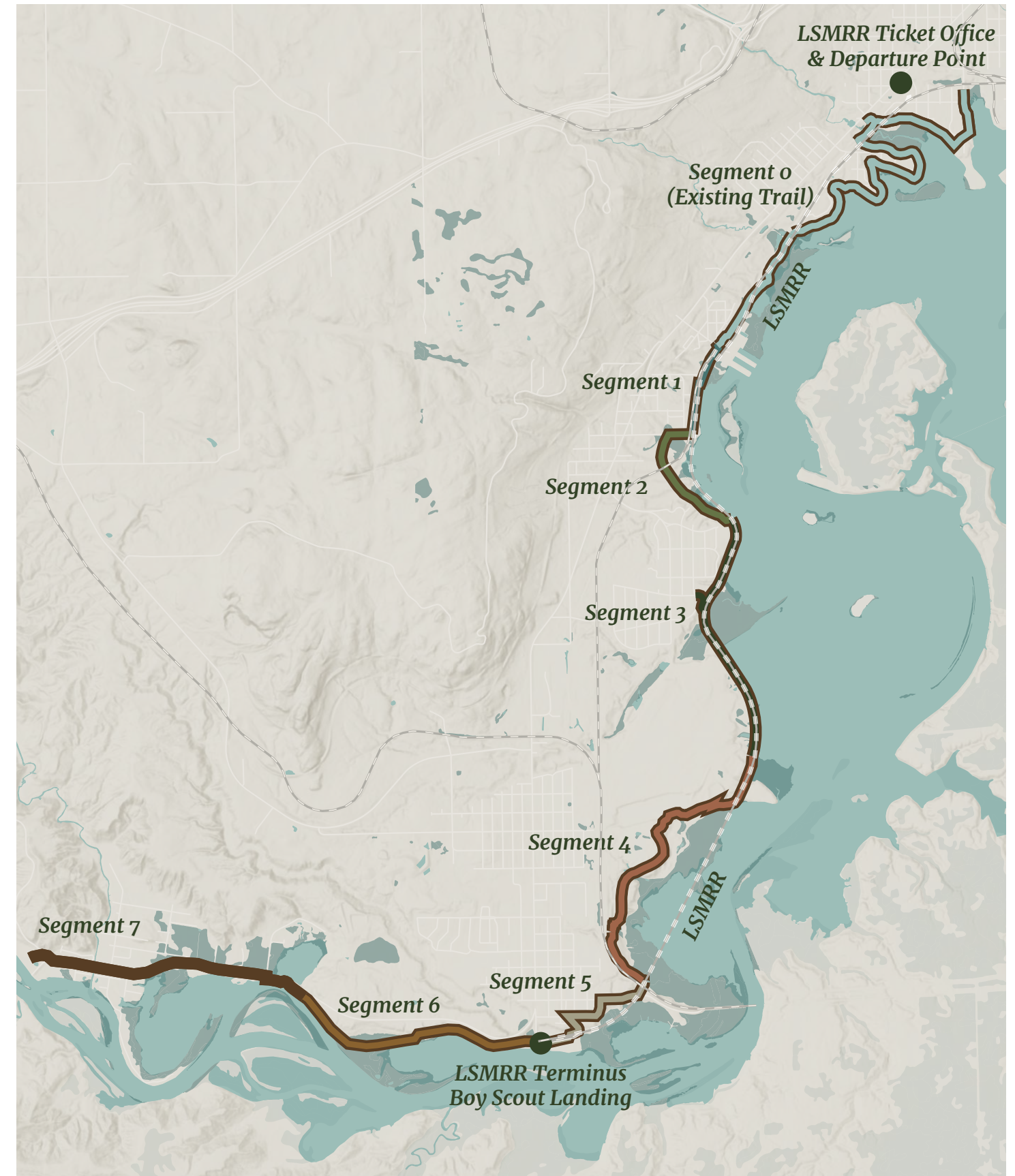
Waabizheshikana: The Marten Trail, a mini-master plan submitted in November 2019, changed the name of the Western Waterfront Trail to Waabizheshikana: The Marten Trail. The project team for this mini-master plan assembled a stakeholder group and conducted extensive mapping, research, and community participation to design the trail alignment and experience.

With input from various stakeholder groups, the planners arrived at a set of recommendations for future trail development that responds to existing structures, neighborhood connections, natural resources, and wildlife habitats.

The plan adds seven new trail segments that extend the trail to Fond du Lac, and can be planned and built out in sequence. The trail will share portions of its alignment with the Lake Superior & Mississippi (LSMRR) Excursion Train, and will receive new trailheads and park facilities improvements. This plan also established the need to implement a trail-wide interpretive program and developed specific goals for this report. This interpretive plan is built on the goals outlined in the mini-master plan.

MINI-MASTER PLAN INTERPRETIVE GOALS

- **Focus** interpretation at specific and key locations
- Have a **Variety** of interpretation features, varying from traditional story-telling panels, scenic overlooks for personal reflection, to local public art, and living history
- Include **Diverse Interpretive Themes**, the ecological richness of the estuary, history of the railroad, and the meaning of landscape protection and clean-up efforts
- **Celebrate & Recognize Anishinaabe Culture** and recognizing the Anishinaabe people are still living here, practicing traditions, and reinvigorating language and culture
- See the St Louis River Estuary from **Multiple Perspectives**



PLANNING HISTORY & CONTEXT

Shared Rail & Trail

The Lake Superior and Mississippi Railroad (LSMRR) will pair a historic excursion train with an artistic heritage trail, and the natural beauty of the St. Louis River, creating a destination experience.

The excursion train will be many visitors' first experience of the Western Waterfront. There are several narrow points along the train alignment where tight conditions create intimate situations between the train and pedestrians. The excursion train generally runs at slow enough speeds that there is not a major safety risk. This complicates the shared use of the trail in areas where the trail narrows or crosses wetland causeways. Occasionally, sections of the trail climb the river bluffs for a different perspective and proposed alignment.



Lake Superior & Mississippi Railroad Excursion Train, Steve Durrant

PLANNING HISTORY & CONTEXT

St. Louis River Water Trails Plan

This plan addressed the different ways that visitors can access the St. Louis River in small watercraft and enjoy a diverse array of paddling experiences. These experience zones include the quiet and intimate backwaters and tributaries as well as the big open water of Manidoo zaaga'igan (Spirit Lake) and the main channel. The Water Trail Plan enhances the experiential qualities of the river landscape as a way to organize visitor experiences. Waabizheshikana builds on this approach by identifying similar experience zones that exist along the Western Waterfront.

WATER TRAILS PLAN - OUTCOMES

- Identifies experience zones that **"feel"** a certain way based on the scale of the river and the qualities of the landscape
- Identifies **paddling routes** that visitors to the river can enjoy appropriate to their skill level and commitment.
- Delineates informal **beach landings** to be improved places to access & launch watercraft.
- Identifies necessary **infrastructure** and wayfinding signage to better enable visitors to access and enjoy the river.



Experience Zones – St. Louis River Estuary Water Trail Plan

PLANNING HISTORY & CONTEXT

Public Engagement

The development of this interpretive plan largely took place during the COVID-19 pandemic. This situation required a different approach to engagement because a traditional in-person process was not possible. As a result, nearly all of the stakeholder and community engagement took place remotely using Zoom, Social Pinpoint, and other online presentation tools. These approaches allowed project stakeholders and interested community members to review initial research and design materials produced by the consulting team and city staff and weigh in on important directions and existing interpretive resources.

This plan assembles stories from diverse project partners and allows them to tell stories in their own words. The plan's proposed interpretive elements will help visitors learn about the organizations working together to protect the river landscape.

STAKEHOLDER CONVERSATIONS

The interpretive approach outlined in this plan was developed as a result of initial conversations with key stakeholders from the Waabizheshikana Mini-Master Plan. Due to COVID-19, the project team did not conduct the public meetings in the format initially planned. Instead, the team held a series of individual conversations with project stakeholders who participated in the Mini-Master planning process. While some of the participants were agency staff members who are part of the Area of Concern Program, others were neighborhood group members, business owners, activists, or local historians who brought a unique perspective to the conversation. These conversations and the research they inspired, shaped the development of the interpretive framework.

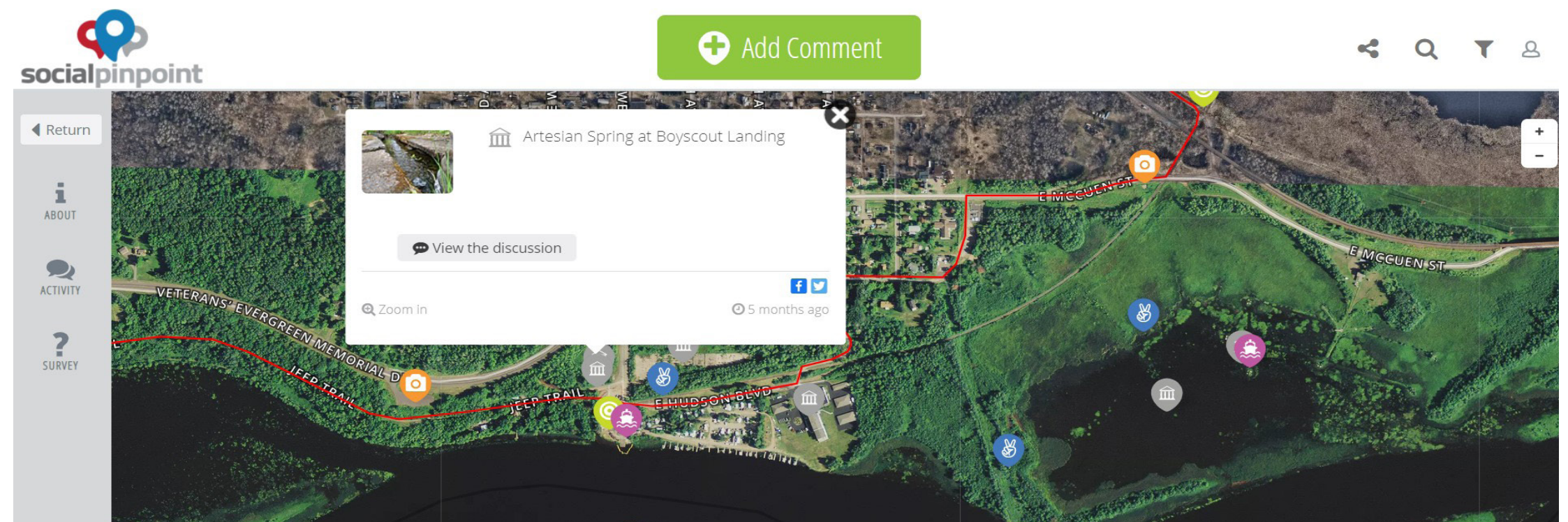
PUBLIC & CITY PRESENTATIONS

A draft version of this interpretive plan and a fifteen minute presentation were presented to members of the general public who attended two public workshops that took place online during December 2020 - February 2021. The materials were then formally shared with a range of city commissions, project stakeholders, and elected officials for feedback after the initial draft plan had been completed in November and again in February.

The project report was developed to a rough draft level of detail before it was shared with the larger public. The design team used this approach because the subject matter and interpretive design process required thoughtful iteration. This allowed community members to weave many diverse stories within the report's narrative structure and provide input that influenced the plan.

SOCIAL PINPOINT

Social pinpoint is an online interactive mapping tool that allows visitors to geolocate comments about the proposed interpretive plan. Visitors can share photographs with the team that tell stories or demonstrate unique qualities of places that exist along the entire estuary. The project team used Social Pinpoint with the initial group of project stakeholders to help focus attention on important places along the waterfront. This tool was selected because it was not possible to assemble a larger group of stakeholders to tour of the trail corridor. Likewise, the Social Pinpoint tool was also shared with the general public to allow them to share input during the comment periods in December and February.



Social Pinpoint, Geotagged photograph and comments.

A person wearing a grey t-shirt, a red apron, and a black cap is walking away from the camera on a dirt path through a forest of birch trees. The trees have white bark and green leaves. The path is surrounded by tall grass and other vegetation. The sky is overcast.

STORY THREADS

Big Stories That Shaped This Place

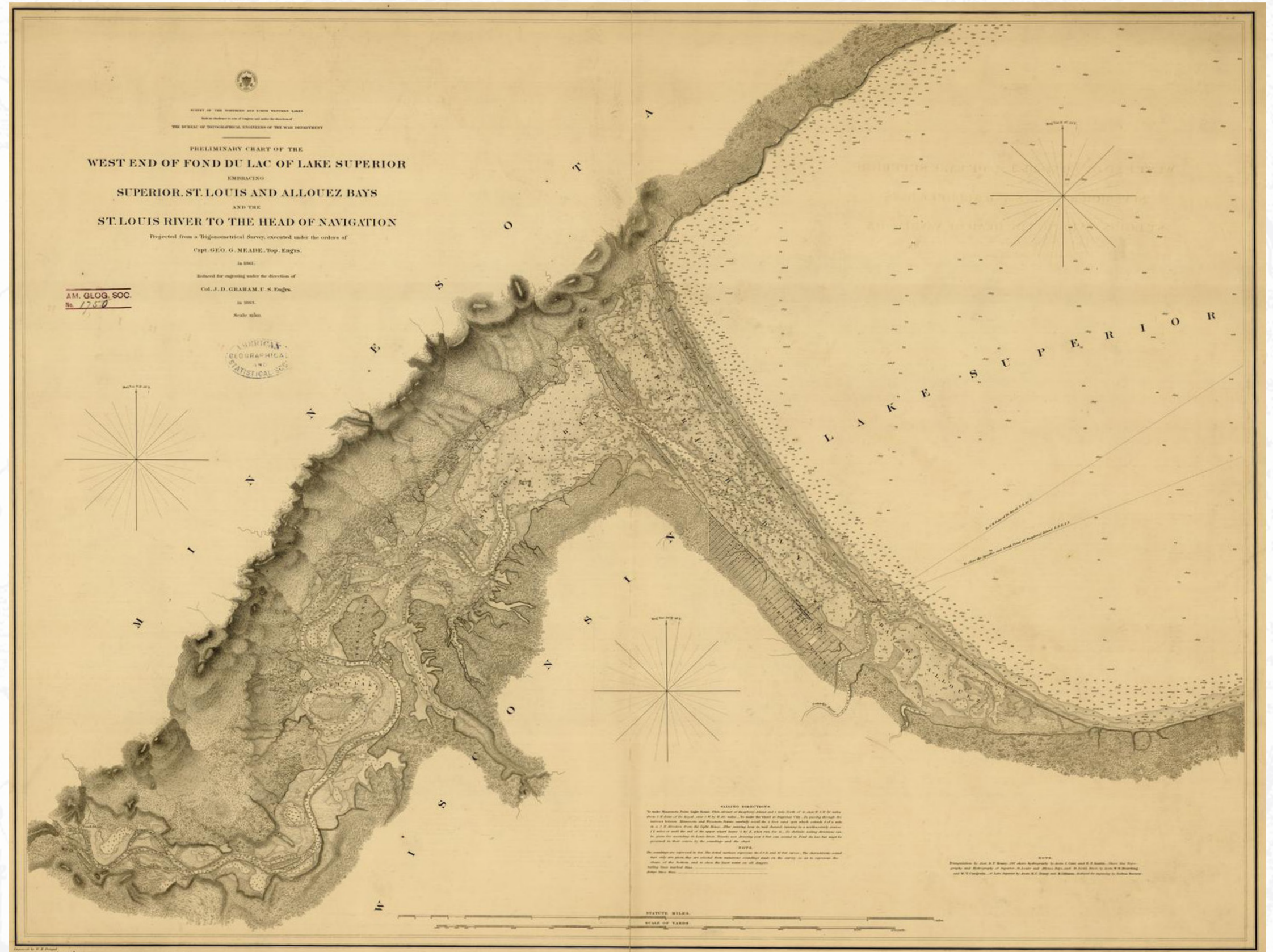
Slag Point, 2020, Samuel Geer

Story Threads

These are the big stories that connect people and places throughout the river corridor. They overlap and intersect with each other in time and place. These stories will be told from the perspective of the people who lived and worked in Duluth and bring into focus how the river has changed over time.

These stories take place along the length of the estuary and emerge from this sublime and beautiful river, which has inspired people to come here for millenia. From the great migration of the Anishinaabe people, to the fur trade, and the treaties that claimed this land for the United States, this is a landscape of deep significance to the people who live here.

These stories are also told in the dramatic transformations wrought on this landscape over time. The plan explores how the landscape has changed as it was crossed by glaciers, dredging barges, and railroads. This plan tells the stories of speculators who made and lost fortunes in the sandstone quarries of Fond du Lac and the taconite veins of the Iron Range. It recognizes the immigrants who worked in the mills, refineries, ports, and ships. Exhibits will recall the era when riverboats carried visitors to the end of navigable waters. It recognizes the impact of industrial pollution and the concerted efforts of community members to clean up and restore the river ecology. These story threads connect the past, present, and future and intersect in key places in the landscape.



Navigational chart of the St. Louis River Estuary. 1863 U.S. Lake Survey

The Natural Estuary

The natural riches of the estuary have made this place a destination since time immemorial. This story thread recognizes the flowing river, the geology of the valley and the many plants and animals that live in this place as spirits with the potential to bring together the diverse project stakeholders.



Basalt and Greywacke Outcroppings near Jay Cooke State Park, 2020, Samuel Geer

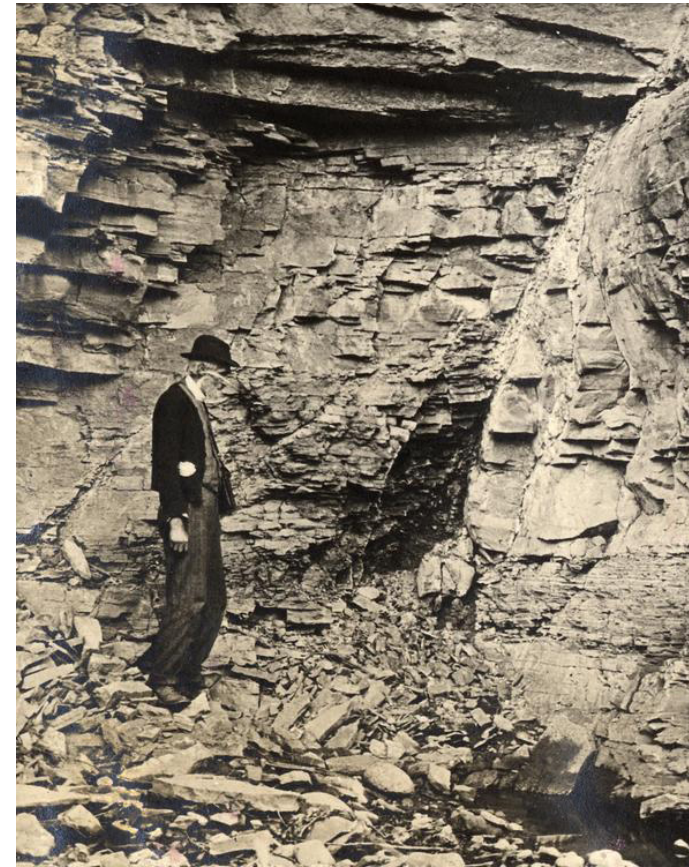
GEOLGY AND HYDROLOGY

The ancient geology of Lake Superior's north shore emerged from an ancient mountain range that has been eroding over billions of years. 1.8 million years ago, the midcontinental rift filled with sedimentary rock, serving as a bedrock basin for the great lakes region. Archaeological evidence indicates that prehistoric human settlements existed along the shorelines of glacial Lake Duluth, which once sat at the same elevation as Skyline Parkway. Twelve thousand years ago, the Laurentide Ice Sheet scoured out the sedimentary rock and meltwaters from the glacial lakes reshaped the landscape around Duluth. The draining glacial lakes carved today's river channel over the waterfalls and rapids in Jay Cooke State Park and eroded the brownstone cliffs along the meandering riverbanks.

The landscape has been shaped by human hands through the dredging of channels, filling of wetlands, and construction of docks and piers. The construction of artificial islands and breakwaters have expanded and perforated the natural sandbars of Minnesota and Wisconsin Point on Lake Superior. Now, ongoing habitat restoration and remediation projects are reshaping the environment to restore estuary health.

WILDLIFE AND ECOLOGY

The St. Louis River is a hub of biodiversity and is a critical ecological corridor for many species. The bays and tributaries along the western waterfront historically have been a spawning ground for many species of fish. They continue to be a flyway and nesting area for more than 170 migratory and wading bird species. This rich ecology has attracted people and wildlife since prehistoric times.



Chambers' Quarry, 1881, University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Collections



Wajiwing / Ely's Peak, a remnant of the ancient mountain range which has eroded over millions of years, east of Gary, 2020, Samuel Geer



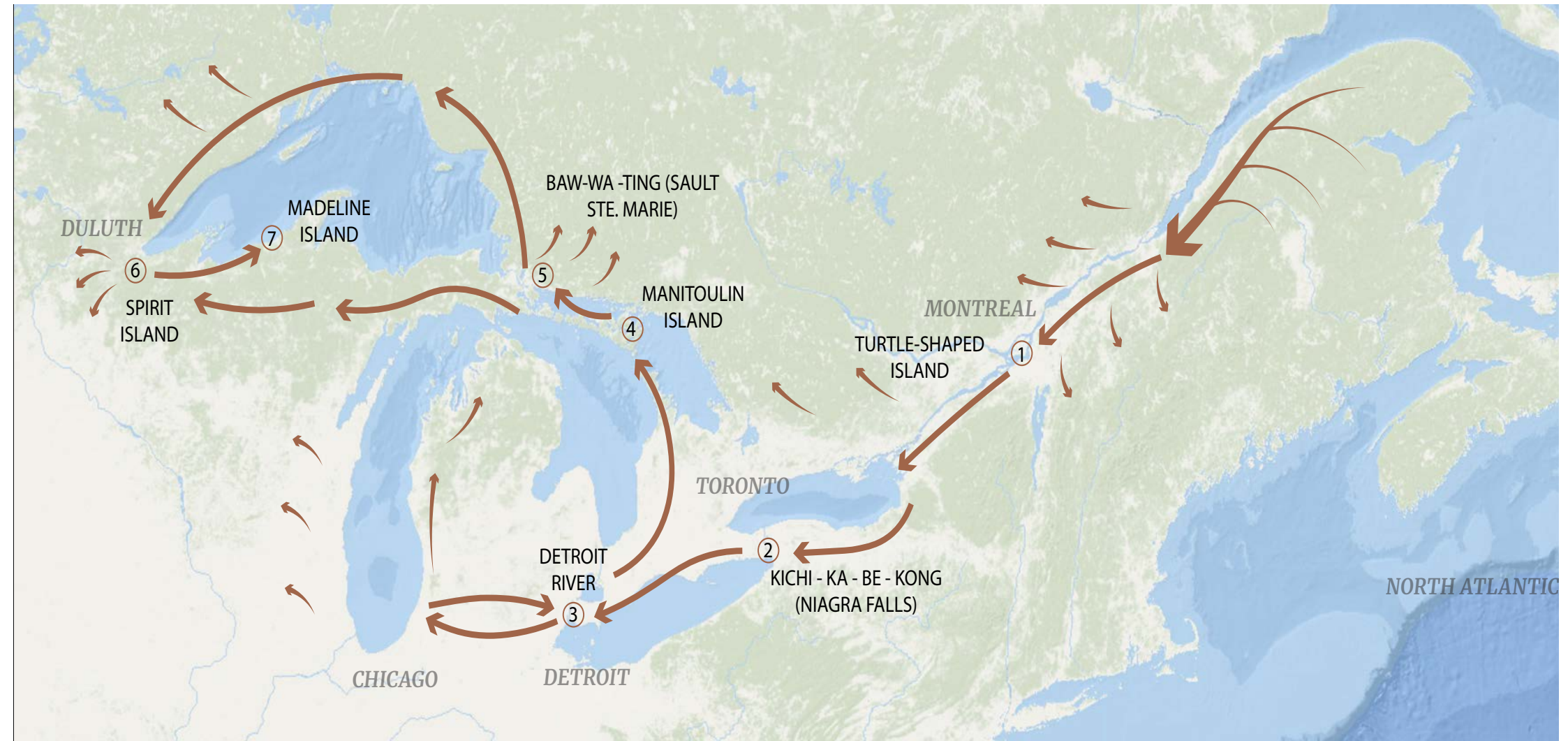
Islands, backwaters, and causeways on the St. Louis River, 2020, Samuel Geer

Great Migrations

SETTLEMENT AND DISPLACEMENT

The great migration of the Anishinaabe people took place over hundreds of years; they traveled and fought their way from the lands beside the North Atlantic to the upper midwest, the place where the food grows on water. This migration was driven by a prophecy to seek a turtle shaped island where the food grows on water. There were seven major stopping points along their journey. Multiple bands split up to travel in different directions. The sixth stopping point was at Manidoo minis (Spirit Island) in the estuary. Here, those traveling along the north side of Lake Superior rejoined those who followed the southern shoreline. The Ojibwe people fought and lived beside the Dakota, even as Western traders and settlers began arriving in increasing numbers. Treaties negotiated by the United States ended this conflict, but also seized most of the Minnesota landscape for European settlers, displaced the Native people to reservations, and systematically attempted the erasure of their lifeways.

The arrival of highways, railroads, and the construction of harbors at Duluth and Superior opened the resources of Northern Minnesota to the larger world at a new scale that led to industrial expansion and a boom in immigration to Duluth. Neighborhoods grew up around the factories along the waterfront. As in many places, African Americans, Native Americans, and Southern/Eastern European immigrants faced intense discrimination and often lived in segregated communities that grew beside the planned company towns. To this day, people migrate to Duluth to work hard and build a better life.



Great Migration of the Anishinaabe People, 2020, Dakota Carlson (Adapted from Edward Benton-Banai, *The Mishomis Book: The Voice of the Ojibway*, 1988)



A view of Duluth, Minnesota; overlooking Park Point; taken December, 1870, Library of Congress

Global Connections

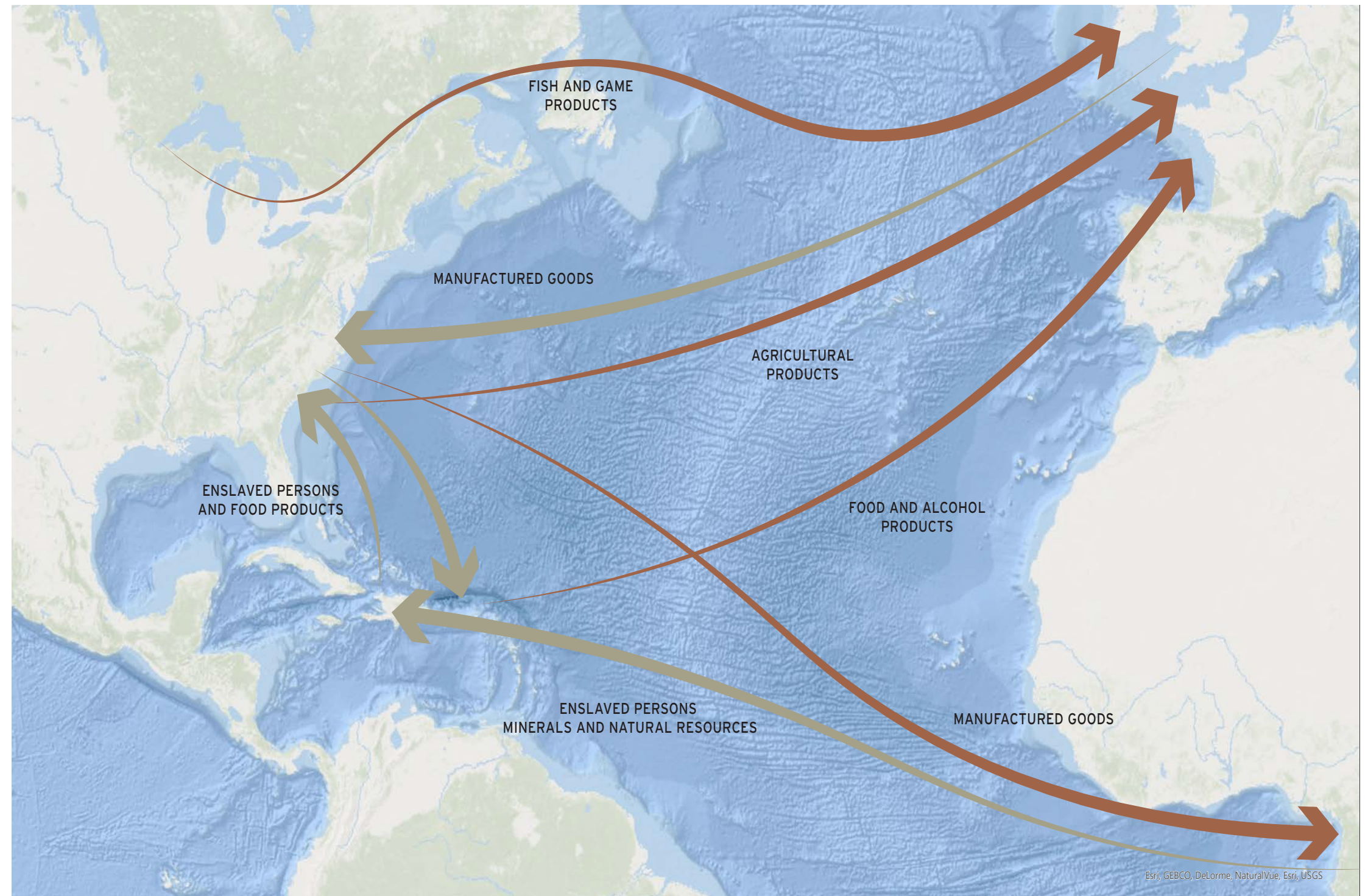
EXTRACTION & EXPORT: 1600-1800

The Western Waterfront has been home to a wide variety of Industries whose fates are largely tied to expansions and contractions of a large and evolving global marketplace.

The fur trade was a major driver of European exploration and settlement in the upper midwest. From around 1600-1850, Native American people and Voyageurs trapped furs to trade for imported guns, liquor, and manufactured goods. This changed the balance of power in the region, It enabled European colonization, principally by the claiming of land, as well as harvest and mineral rights through treaties and encroachment by the US government and private interests.

The opening of the Iron Range and the arrival of railroads in Duluth created the opportunity for Duluth to become an export hub for ore, lumber, flour, and other manufactured goods. The opening of a canal allowed for a major shipping and commercial fishing port to be develop by the end of the 19th century. The metal fabrication industries continued to grow throughout the 20th century. The US Steel Duluth Works became the largest employer in the city by the 1930s. The shipbuilding industry boomed in response to global demand during World Wars I & II, but then faded away as demand fell and labor costs rose.

Duluth has been through many booms and busts over the years, and each has left its mark on the riverfront.

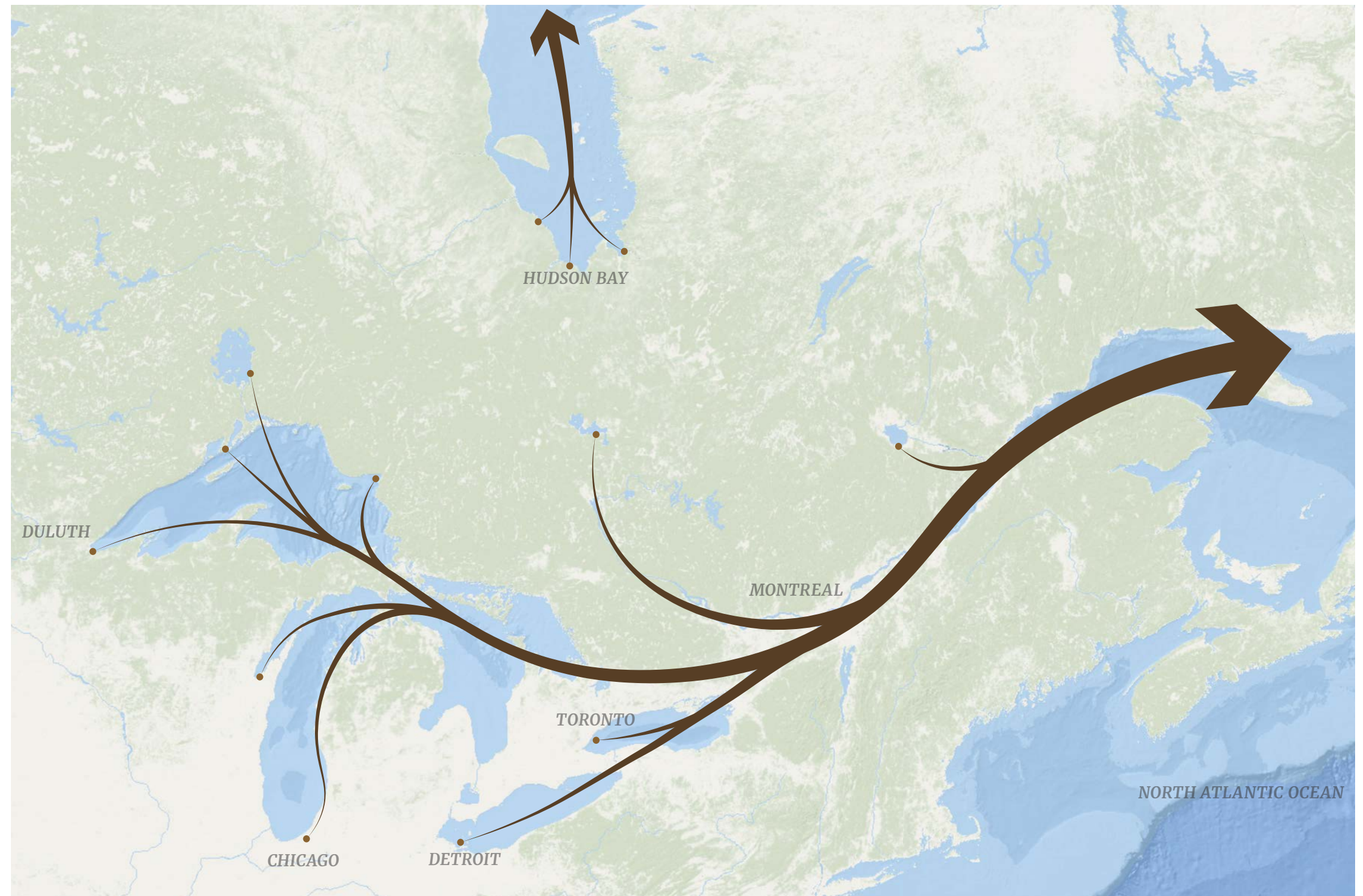


Global Trade Routes 1600-1800. (Adapted from National Geographic)

The Fur Trade

CULTURAL CROSSROADS: 1679–1850

Until the 1850s, beaver felt hats were expensive heirlooms that signified one's status in European society. As a result, beaver were hunted to extinction in Europe and became the first major natural commodity exported from the American landscape. For centuries, the fur trade was a major driver of European exploration, settlement, and trade in the Upper Midwest. First the French, then British, and ultimately the Americans assumed control over the fur trade. Over the centuries, this led to the development of an integrated economy in which Native Americans and voyageurs traded pelts for processed goods such as tools, weapons, food, and liquor. This industry drove the creation of the first transcontinental trade routes across North America, until the completion of the railroads and the popularity of silk from Asia reduced the demand for beaver pelts, leading to the decline of the industry. The collapse of the fur trade economy, the taking of lands through treaties, and the creation of reservations dramatically impacted native lifeways as widespread European settlement accelerated in the Upper Midwest.



Major Fur Trade Routes around 1755, Dakota Carlson (Adapted from *The Fur Trade*, by Juen & Nassaney, 2012)

City of Industry

INDUSTRIAL DEVELOPMENT: 1850–1977

The roads, rails, factories, and harbors of Duluth and Superior drove the growth of these twin ports. Visitors can view these vital infrastructures where they exist along the western waterfront. Between 1870 and 1900, Duluth transformed from a small village into a conduit through which the raw and manufactured materials of Minnesota could flow.

The arrival of the railroad, opening of the ship canal, and the development of the Iron Range precipitated the emergence of Duluth as an industrial center and shipping hub. The port, steel plants, and the massive ore docks built along the shores of the estuary in the early 20th century allowed grain from the Twin Cities and minerals from the Iron Range to be shipped to the east. Lumber from the north woods could be processed in riverside mills as warehouses sprang up to store the industrial surplus. Industrial growth led to a demand for new labor, resulting in a surge of immigrants arriving from eastern and northern Europe and other parts of the world.

New planned communities grew around the mills and factories over the course of the 20th century as old industries faded and new ones emerged. In 1972, the closing of the US Steel Duluth Works signaled the end of one era for the city. The next era for the city has involved reinvention, economic diversification, and Duluth's growing popularity as a destination for outdoor recreation and as a gateway to the north shore of Lake Superior. This plan also recognizes the contributions of African Americans to the history and contemporary presence of diverse cultures in western Duluth.



United States Steel Mill, Duluth, Minnesota, 1956. Image courtesy of University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.

Treaties & Reservations

1826–PRESENT

The 19th century saw the rapid expansion of the United States into the Western Territories of North America. The seizure of the land which is now Minnesota was largely achieved through a series of treaties that first established access to mineral and lumber extraction rights. Ultimately, they established the tribal reservations that exist today and forced the Dakota and Ojibwe peoples from their ancestral lands. Subsequent treaties forced native people towards westernized lifestyles, fostered dependency, and severed connections with their traditional lifeways.

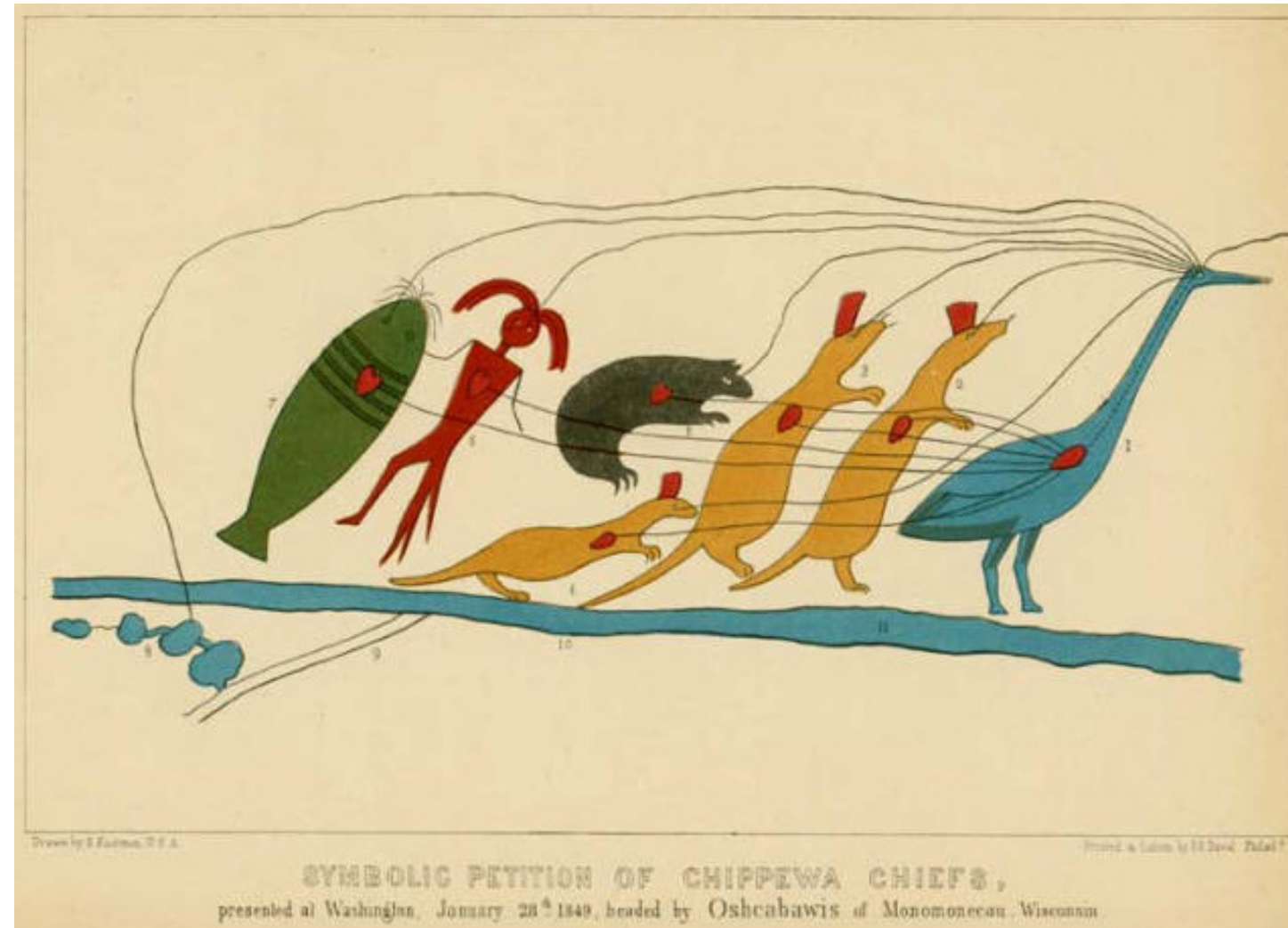
The Indian Removal Act, signed by President Andrew Jackson in 1830, authorized the government to remove any Indian nations east of the Mississippi River in exchange for reservation lands to the west. In 1850, President Zachary Taylor signed a removal order to displace the Wisconsin Ojibwe into reservations in Minnesota. In 1849, a delegation of chiefs went to Washington and met with James Polk to protest their displacement. He refused to listen to them. Alexander Ramsey, the territorial governor of Minnesota, forced the Ojibwe to receive their guaranteed annuities at Sandy Lake. In 1850, Minnesota's failure to deliver resulted in more than 400 Ojibwe people starving to death over the winter.

In 1852, Gichi-weshki (The Great Beginner), also known as Chief Buffalo, led another delegation to Washington to protest the taking of the remaining Ojibwe lands in Wisconsin. The delegation met with President Millard Fillmore. These efforts resulted in the treaty of 1854, which while ceding much

of Minnesota to the US Government, resulted in permanent recognition of the Great Lakes Nations and reservations. The treaties also established specific rights for native peoples in the ceded territories. These rights are upheld by the Treaty Authorities of the sovereign tribal nations, who to this day defend the rights of tribal members to maintain their traditional lifeways.

The privilege of hunting and fishing, and gathering the wild rice, upon the land, rivers, and the lakes of the territories ceded, is guaranteed to the Indians, during the pleasure of the President of the United States.

- Treaty of 1854



Above: Anishinaabeg Ceded Lands in Minnesota

Left: Artist's representation of an image carved on a birch bark scroll, which was carried to Washington by the Ojibwe delegation in 1849. Originally printed in Henry Rowe Schoolcraft's *The History of the Indian Tribes of the United States, Historical and Statistical Information Respecting the History, Condition, and Prospects of the Indian Tribes of the United States*, (Philadelphia, 1851)

Remediation & Restoration

CLEANUP AND RENEWAL: 1972–PRESENT

A century and a half of industrial activity and land alteration has led to long term environmental consequences for the river and its surrounding landscape. The effluent draining into the river for most of the 20th century made the river a toxic environment for people and wildlife. It wasn't until the Clean Water Act (1972) that the cleanup of the river began. The creation of the Western Lake Superior Sanitary District in 1978 was an important step in reducing sewage flows into the river.

The St. Louis River has been listed as an Area of Concern (AOC) since 1987, when the USA and Canada made the Great Lakes Water Quality Agreement. Many diverse organizations are committed to addressing the beneficial use impairments that limit uses of the river in order to delist the AOC sometime after 2025. The coordinating agencies for the AOC are the MN Pollution Control Agency, the MN Department of Natural Resources, the WI Department of Natural Resources, and the Fond du Lac Band of Lake Superior Chippewa, while many other organizations such as the St. Louis River Alliance and the MN Land Trust, have helped develop implementation solutions.



Oil Sheen on Spirit Lake and the US Steel Duluth Works, 1977, United States Environmental Protection Agency

Seven Fires Prophecy

FACING THE FUTURE

The same prophecy that led the Ojibwe people to migrate to this area, portends an existential crisis in which humanity must either learn to live respectfully, and in tune with the natural world, or face extinction.

This story poses a thought provoking challenge for the current moment in time. As a species, humanity faces a rite of passage. 21st century worldviews must adapt to a changing planet and build more resilient lifeways. This interpretive plan is about attuning visitors to the power and majesty of this landscape and cultivating a broad respect and commitment to care for the river. By recognizing the spirit of the river and respecting the plants and animals that help sustain us, humanity must learn how to adapt to uncertainty and survive.

The St. Louis River and Lake Superior will face new changes as a result of global warming and extreme weather events, but their resiliency will be critical for biodiversity and human survival in the Great Lakes Region.

In the time of the Seventh fire, a new people will emerge to retrace their steps to find what was left by the trail. It is at this time that the light skinned race will be given a choice between two roads. If they choose the right road, then the seventh fire will light the eighth and final fire. An eternal fire of peace, love, brotherhood and sisterhood. If the light skinned race makes the wrong choice then the destruction they brought with them will come back to them and bring suffering and death to all the Earth's people.

Edward Benton-Banai, *The Mishomis Book: The Voice of the Ojibway*, 1988



Fire Pit. Janis LaDouceur, 2020



INTERPRETIVE APPROACH

Creating Access & Cultivating Appreciation

Rolling Stock, 2019, Steve Durrant

Interpretive Plan Structure

This plan begins by considering the big stories that need to be told about Gitchigami-ziibi. It then describes the experiential model that welcomes visitors and builds depth over time. The interpretive approach describes storytelling methods and interpretive elements. It also specifies the artwork, content, and delivery in a built form. The implementation chapter describes the potential costs, phasing, and best practices for constructing the project.



Trail Audiences

The following audiences were identified specifically to help the design team develop an interpretive approach that will be meaningful to these diverse stakeholders. This list considers visitors with diverse needs and interests whose connection with place will grow through repeated visits to the trail.

Duluth area neighbors and local visitors

Making the trail safe, convenient, and low nuisance for neighbors and residents.

Indigenous residents, some with ancestral ties to this place

Foregrounding Native American language, worldviews, and lifeways and valuing indigenous perspectives.

Recreational visitors with a range of abilities and interests

The Western Waterfront has abundant recreational opportunities for land and water based recreation.

Families with children and other multi-generational groups

The interpretive elements are designed to prompt conversation and storytelling as a way of sharing knowledge.

Regional and national tourists

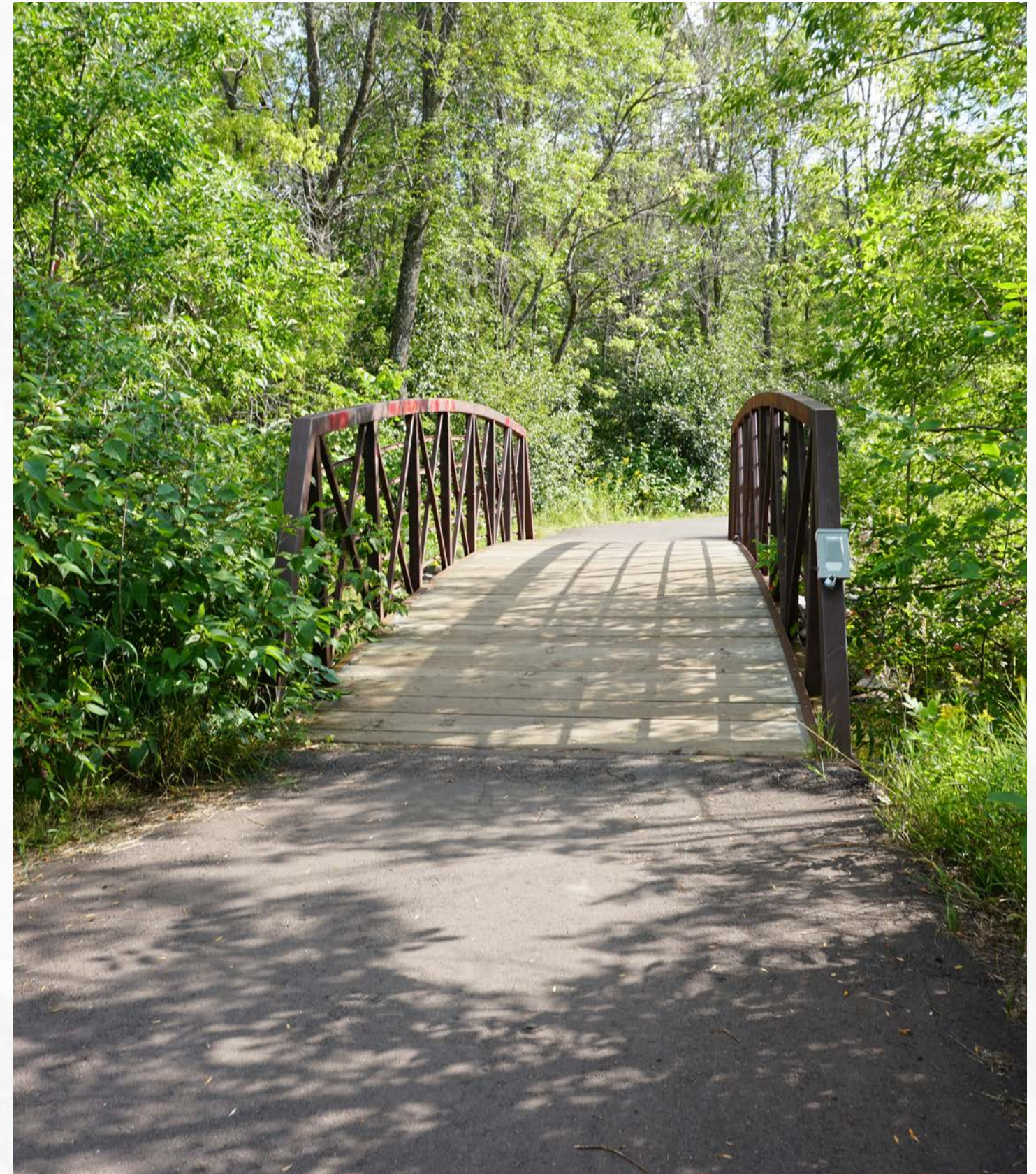
The beautiful landscape and interpretive experiences along the trail can help attract global visitors to Duluth and the North Shore.



Lake Superior & Mississippi Railroad Excursion Train, 2019 Steve Durrant

Visitor Experience Goals

- Visitors will feel **WELCOME** and able to experience trail amenities with ease and comfort
- The interpretive elements will **REVEAL** experiences, incorporate existing interpretive resources, and help people to see the landscape in new ways
- Trail experiences will provide literal and multiple **PERSPECTIVES** and diverse cultural viewpoints
- Visitors will experience interpretive elements through a range of **SENSES**. viewing, reading, physical interaction, and sensory immersion
- Diverse experiences will prompt trail visitors to **RETURN**, consider environmental change over time, and imagine the past and future in space
- The trail will curate opportunities for visitors to learn from wildlife and observe the landscape and build awareness and **RESPECT** for the natural world

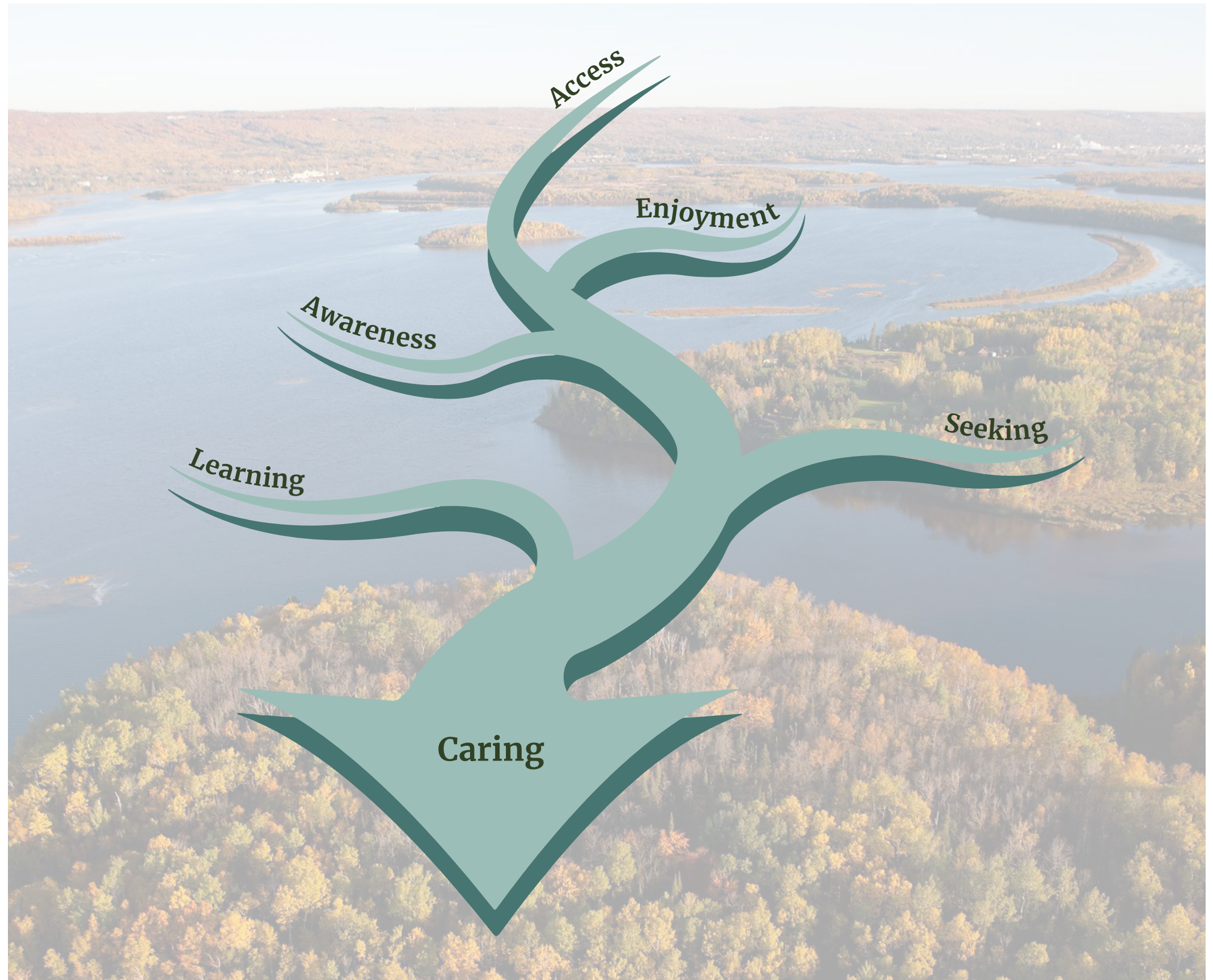


Kingsbury Creek Bridge, 2020, Steve Durrant

Experience Confluence

GITCHIGAMI-ZIIBI

The St Louis River can be seen as a confluence of experiences. Like a river that grows wider with each tributary that joins it, the heritage experience becomes richer over time as repeat visits reveal new depths of understanding and appreciation for the landscape. This reflects different levels of experience that start with simply being able to access the trail and enjoy its amenities and builds to a deeper awareness of the history and ecology of the estuary through repeat visits. This experience model allows for people from all walks of life to visit the trail and appreciate it regardless of age or level of ability. To have these learning experiences, there must first be suitable access to the trail and ways for visitors to discover the power of this unique landscape.



Spirit Island + Spirit Lake, Richard Hamilton Smith, The Nature Conservancy

Levels of Experience

ACCESS

Being able to easily find and access the trail is an essential prerequisite for all other goals. These places enable people to find the trail, park, gather, rest, and observe the landscape. Example amenities include wayfinding signage, parking, restrooms, and attention to universal access.

ENJOYMENT

Being able to enjoy the riverfront on a sensory level and to safely explore the corridor encourages repeat visits. It encourages a sense of discovery, and greater awareness of the wildlife, history, and geology of the river. The beaches, gathering spaces, seating elements, and overlook points along the waterfront are important spaces for visitors to enjoy.

AWARENESS

These elements let people know something is there by making the invisible visible. They connect specific places to larger stories and help the visitor see these themes taking place along the estuary. This plan uses interpretive landmarks, freestanding signs, cairns, and forms imprinted on concrete. These are opportunities to share a story.

SEEKING

These experiences involve active exploring of new places and making deeper observations about the landscape. Visitors pursue their own interests and can spend time exploring the trail. Example experiences include: outdoor recreation, urban exploration, fishing and boating, and nature observation.

LEARNING

Learning experiences begin on the trail, but are continued through individual research and motivated learning. The content can be delivered as images, stories or in-person conversation and teaching. The trail presents opportunities to learn about local geology, river hydrology, former industries and in particular to learn about Anishinaabe language, culture, and history.

CARING

The culminating experiences are the reciprocal gestures of respect given by the community to the larger service of the estuary and its inhabitants. These elements include spaces for public artwork, habitat restoration, pollution prevention, and acts of community service.



Beach Overlooking Spirit Island, 2020, Samuel Geer



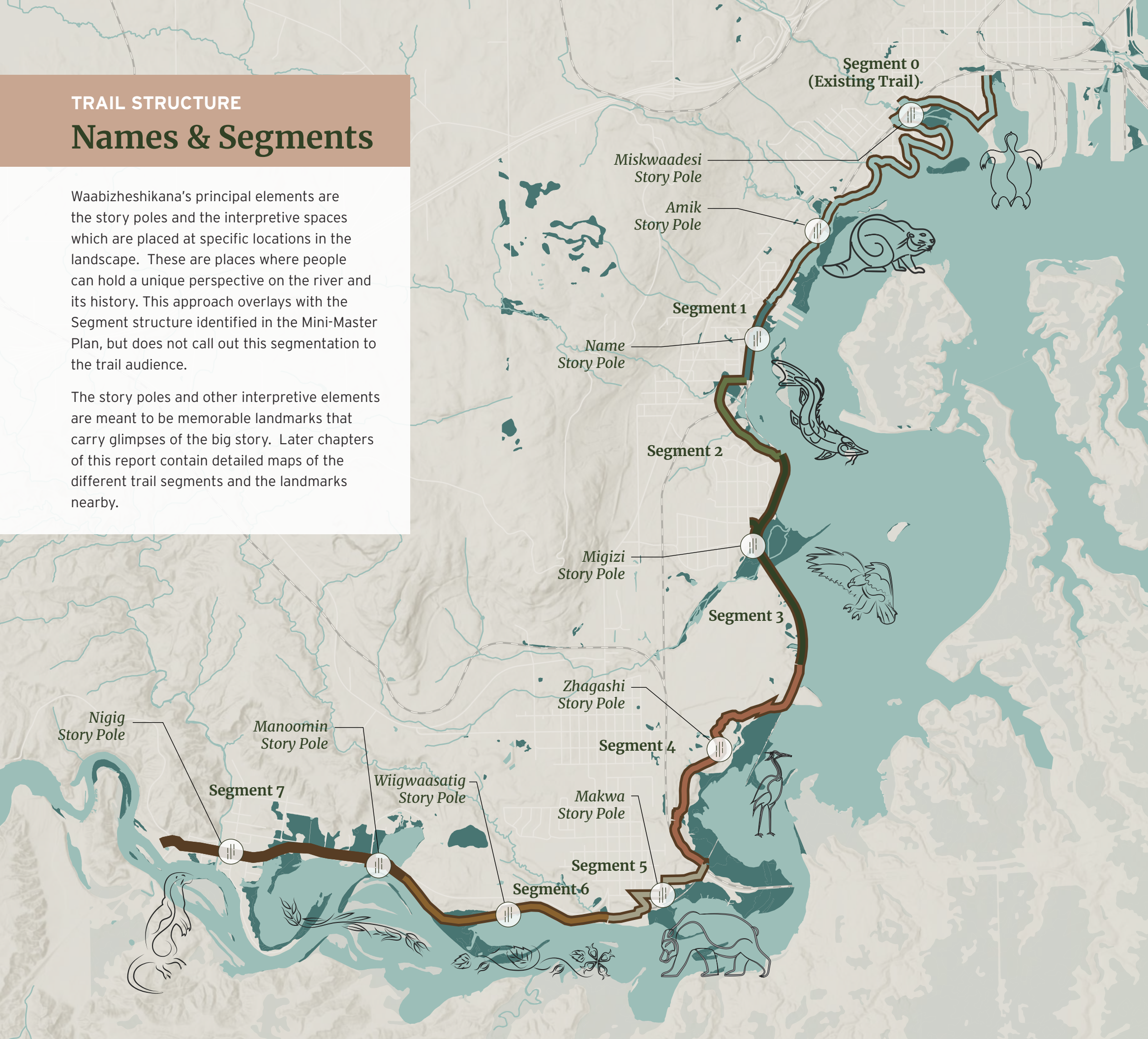
Slag Point, 2020, Samuel Geer






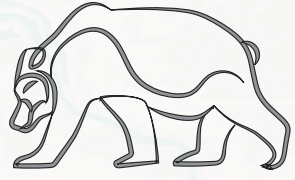



TRAIL STRUCTURE

Names & Segments

Waabizheshikana's principal elements are the story poles and the interpretive spaces which are placed at specific locations in the landscape. These are places where people can hold a unique perspective on the river and its history. This approach overlays with the Segment structure identified in the Mini-Master Plan, but does not call out this segmentation to the trail audience.

The story poles and other interpretive elements are meant to be memorable landmarks that carry glimpses of the big story. Later chapters of this report contain detailed maps of the different trail segments and the landmarks nearby.

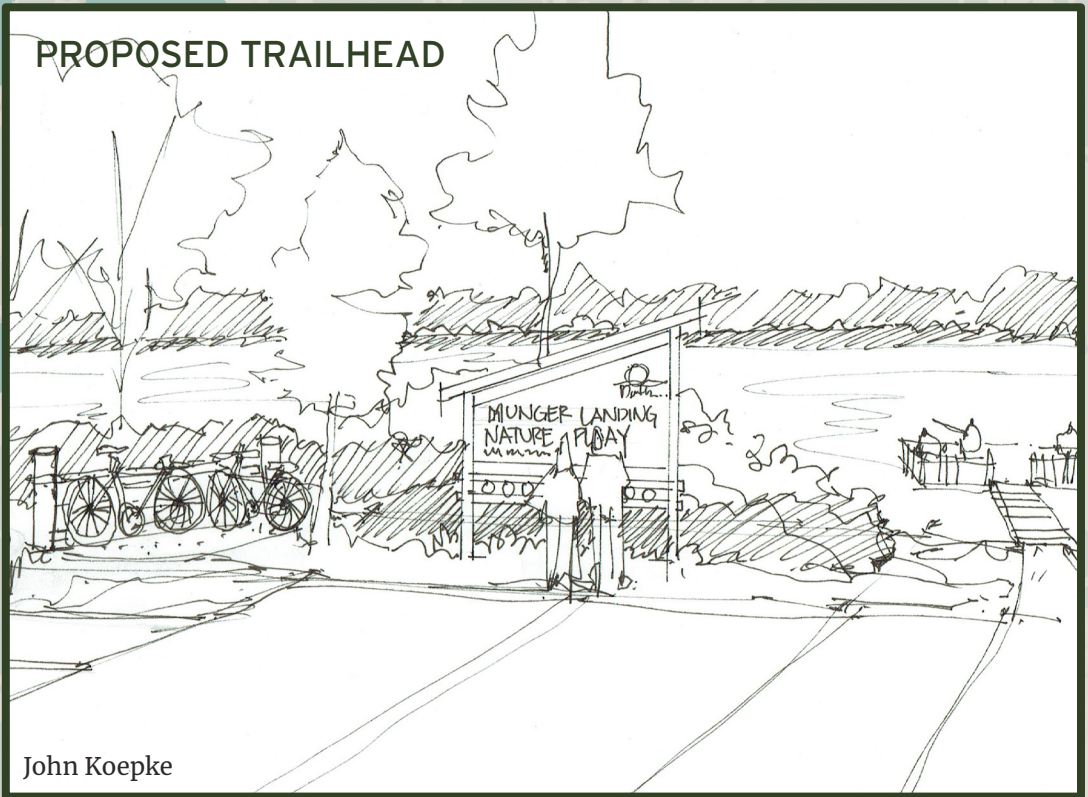


	Miskwaadesi PAINTED TURTLE
	Amik BEAVER
	Name STURGEON
	Migizi BALD EAGLE
	Zhagashi GREAT BLUE HERON
	Makwa BLACK BEAR
	Wiigwaas PAPER BIRCH
	Manoomin WILD RICE
	Nigig RIVER OTTER

TRAIL STRUCTURE

Trailheads & Landings

Trailheads incorporate amenities such as parking, boat launches, bathrooms, water fountains, and city wayfinding signage. They are the principal way that visitors to the trail will arrive and begin their experience on the trail. There are existing trailheads that can be enriched by thoughtful improvement to their current amenities. The pause points identified along the trail are typically located at these major areas, to improve the park amenities feel more welcoming to visitors.



John Koepke

TRAIL STRUCTURE

Pause

A Pause is a welcoming place to rest, reflect, speak, and listen. They are inspired by the resting places along the portages that once crossed the falls of the St. Louis. This plan calls for the creation of circular gathering spaces at major trailheads, boat landings and other points along the trail. Beyond recommending the circle as a unifying form, this plan does not specify the site placement or program these spaces in detail. The design of these spaces has the potential to vary depending on the need and discretion of the designer. The existing dancing circle at Chambers Grove is an example of a pause along the trail, as is the proposed Welcome Space to be built at the historic cemetery at Nagaajiwanaang Jiibakyakiing near Mission Creek.

These pauses will be located at boat launches, trailheads, and places where the spirit of the landscape can be felt and appreciated. They will provide a welcoming public space for people to gather along the waterfront.

Nagaajiwanaang
Jiibayakiing
Welcome Space

Chambers Grove
Dancing Circle

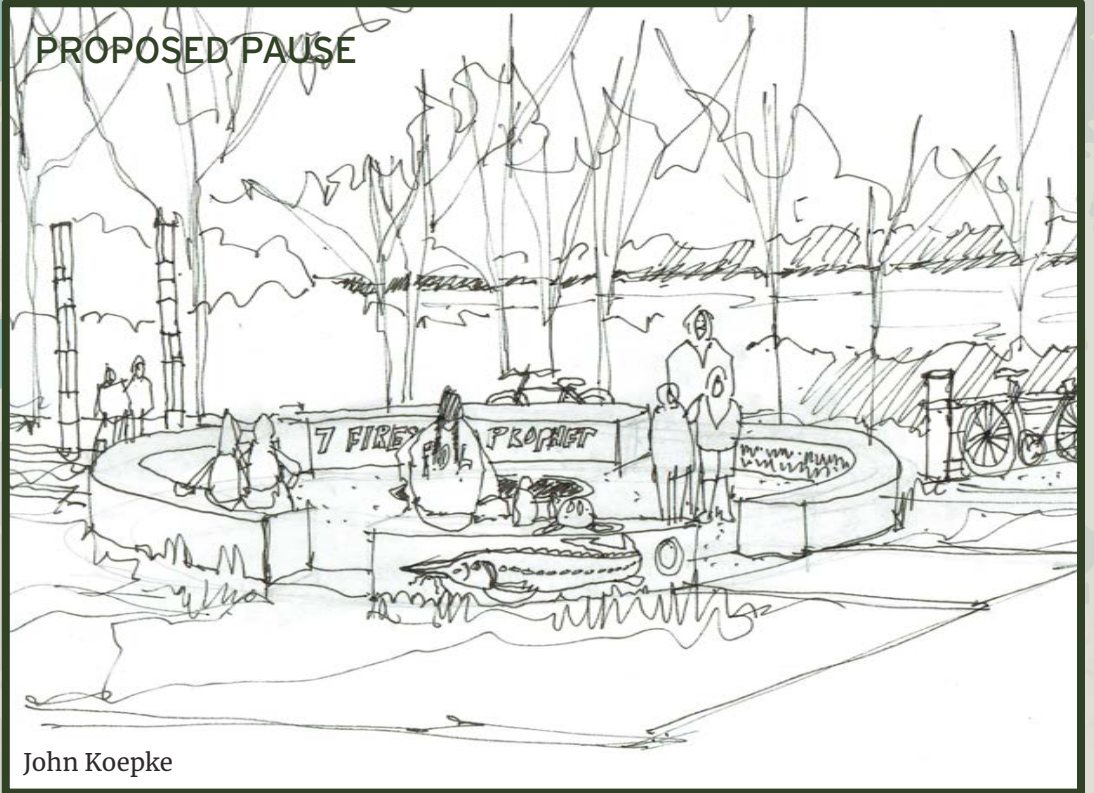
Mud Lake
Pause

Boy Scout Landing
Pause

Indian Point Pause

Spirit Landing Pause

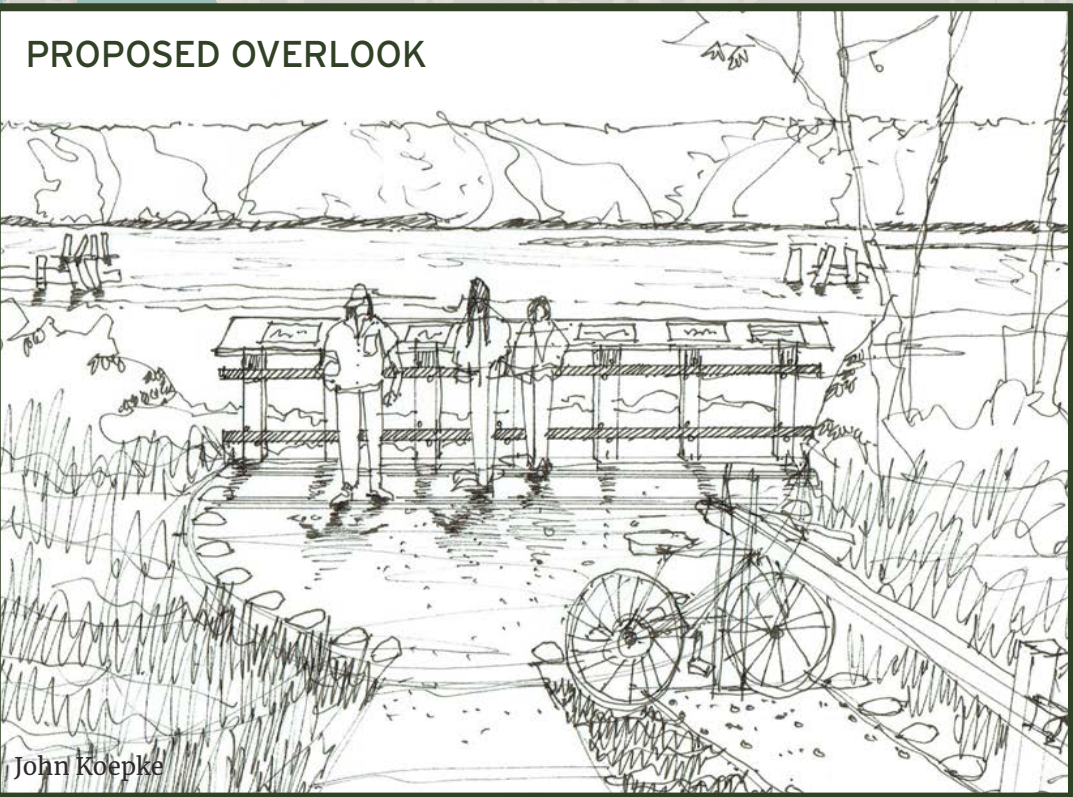
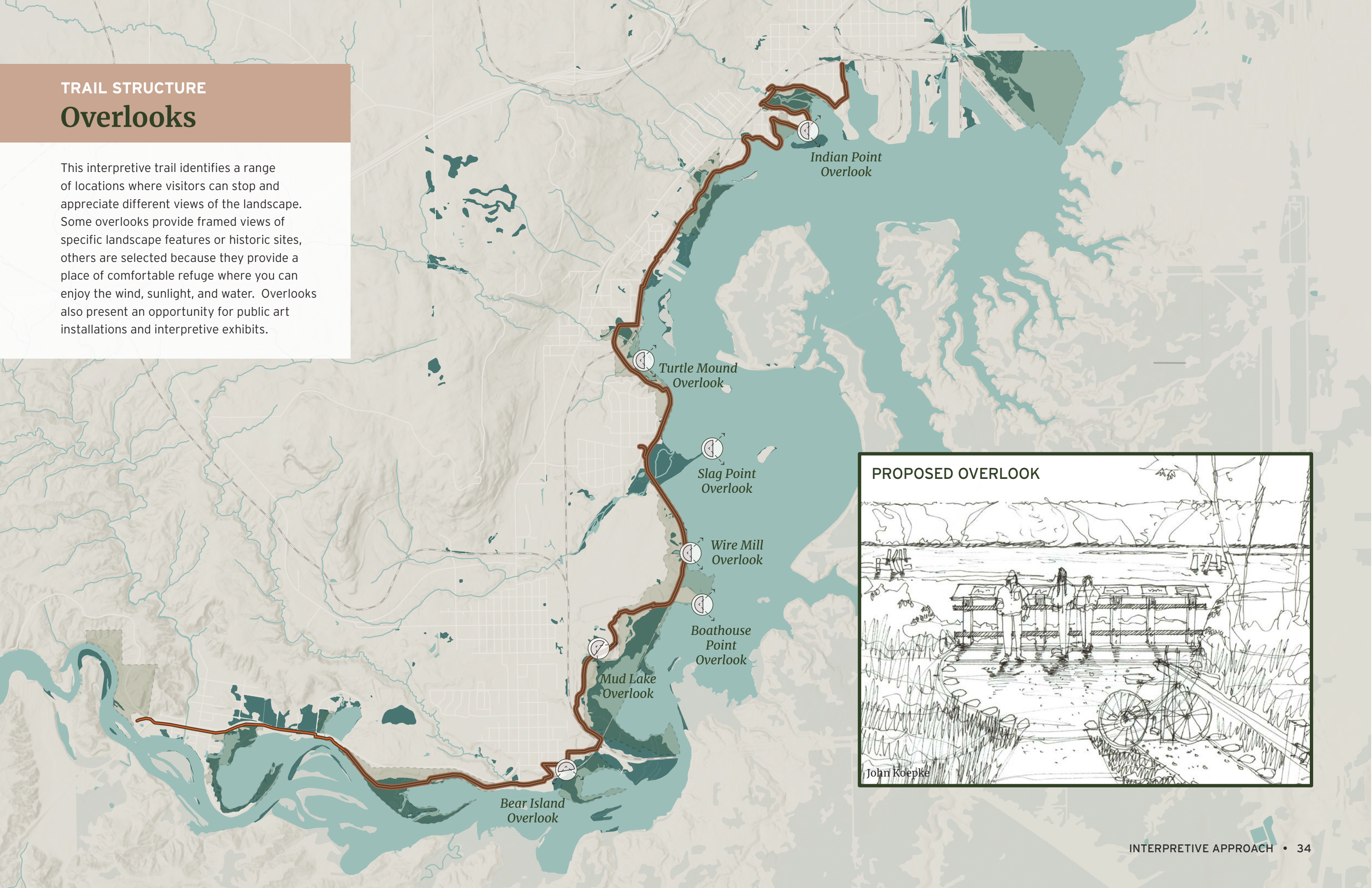
Munger Landing
Pause



TRAIL STRUCTURE

Overlooks

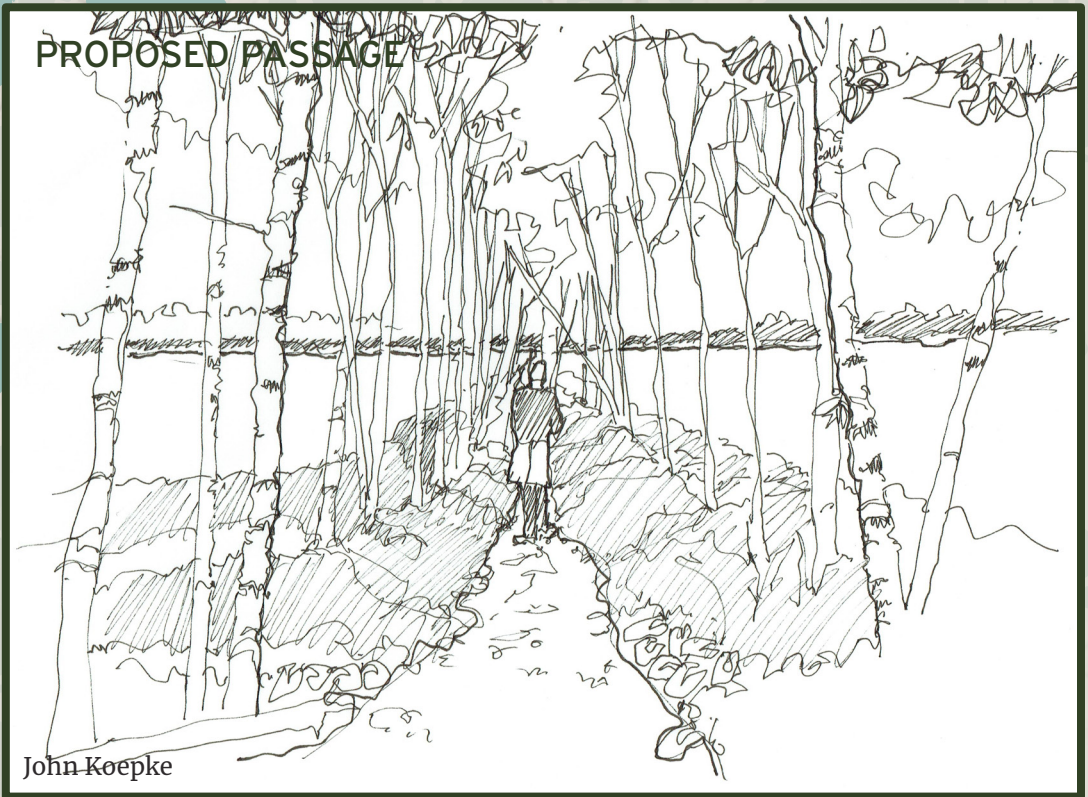
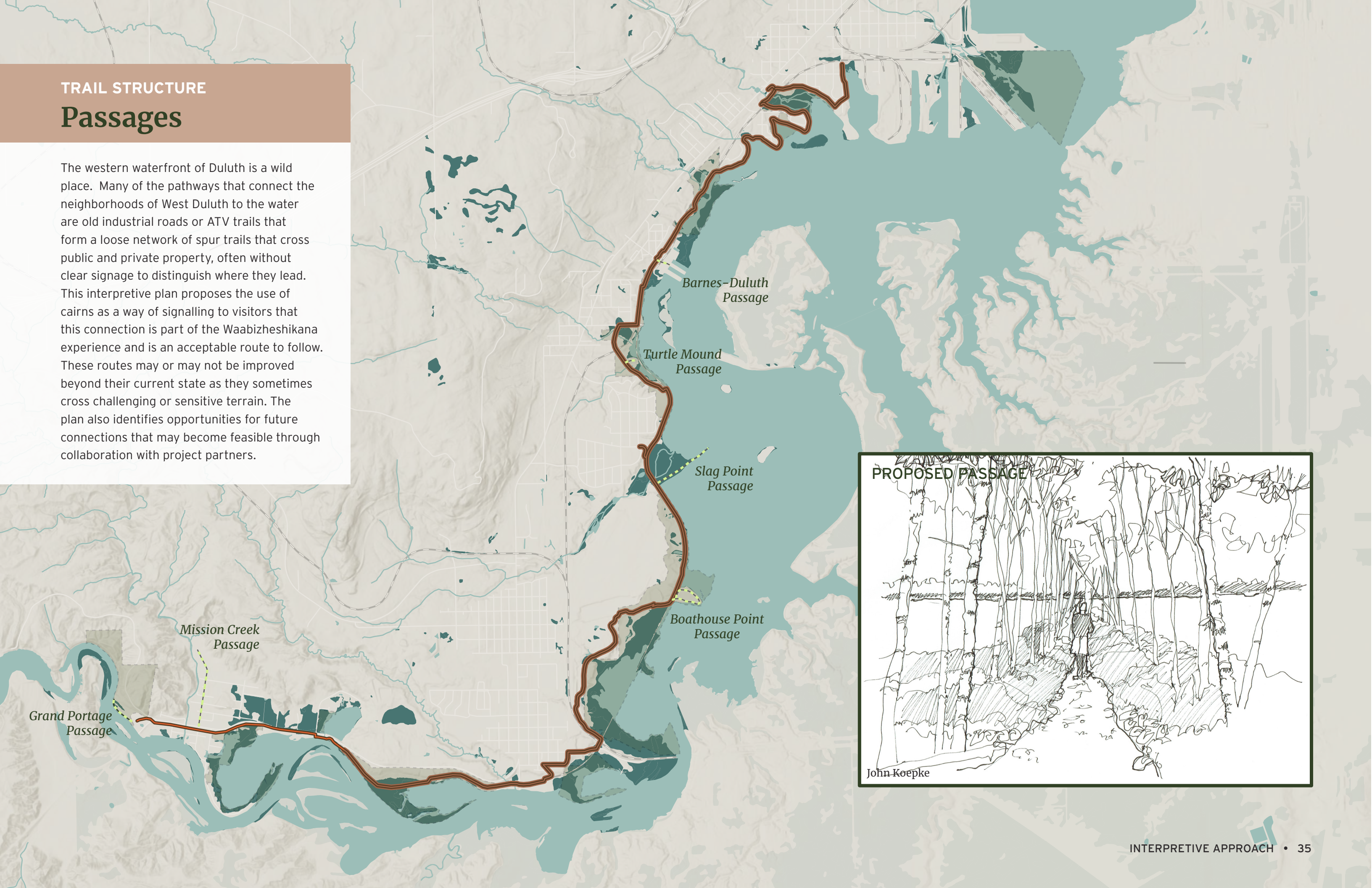
This interpretive trail identifies a range of locations where visitors can stop and appreciate different views of the landscape. Some overlooks provide framed views of specific landscape features or historic sites, others are selected because they provide a place of comfortable refuge where you can enjoy the wind, sunlight, and water. Overlooks also present an opportunity for public art installations and interpretive exhibits.



TRAIL STRUCTURE

Passages

The western waterfront of Duluth is a wild place. Many of the pathways that connect the neighborhoods of West Duluth to the water are old industrial roads or ATV trails that form a loose network of spur trails that cross public and private property, often without clear signage to distinguish where they lead. This interpretive plan proposes the use of cairns as a way of signalling to visitors that this connection is part of the Waabizheshikana experience and is an acceptable route to follow. These routes may or may not be improved beyond their current state as they sometimes cross challenging or sensitive terrain. The plan also identifies opportunities for future connections that may become feasible through collaboration with project partners.



TRAIL STRUCTURE

Beaches

One of the major priorities established in the Mini-Master plan was to improve the number of places where visitors of all abilities could comfortably access the waterfront along the trail. These beach areas are suitable places to put in small watercraft, gather shells and driftwood, and enjoy passive waterfront experiences. These areas generally will require some improvement to make them suitable for public use and are not intended for swimming.

Chambers Grove Beach

Perch Lake Beach

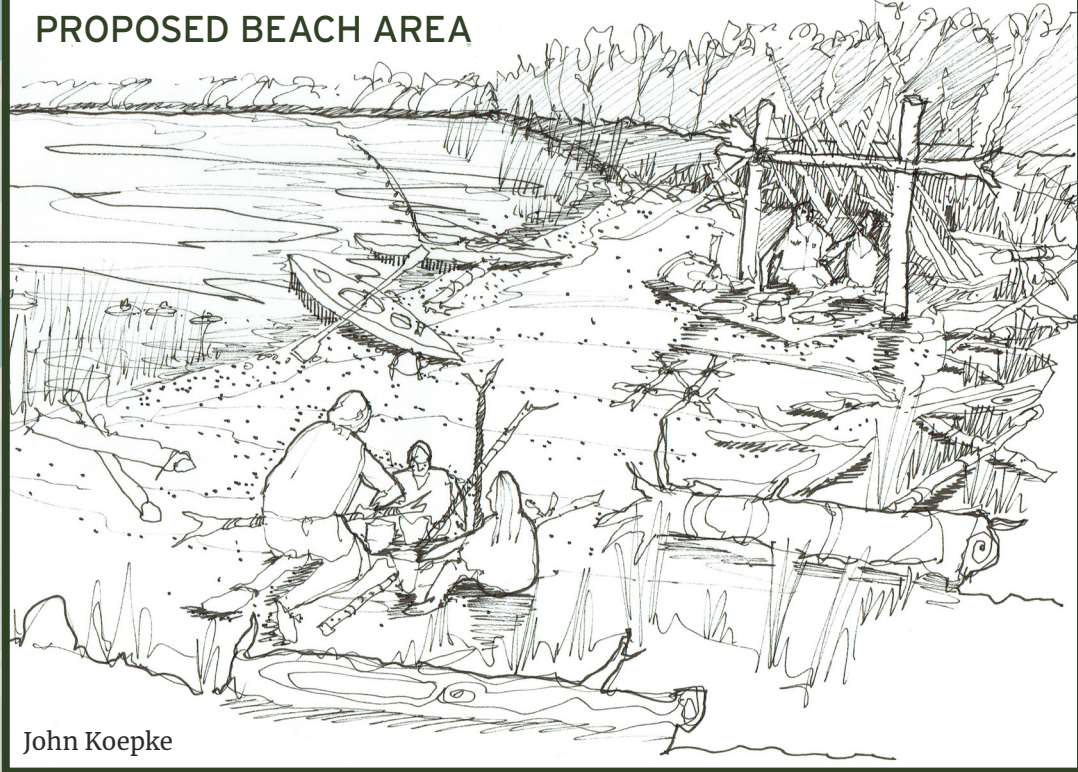
Boy Scout Landing Beach

Morgan Park Beach

Munger Landing Beach

Spirit Landing Beach

Indian Point Beach



John Koepke



INTERPRETIVE ELEMENTS

Creations That Tell Stories

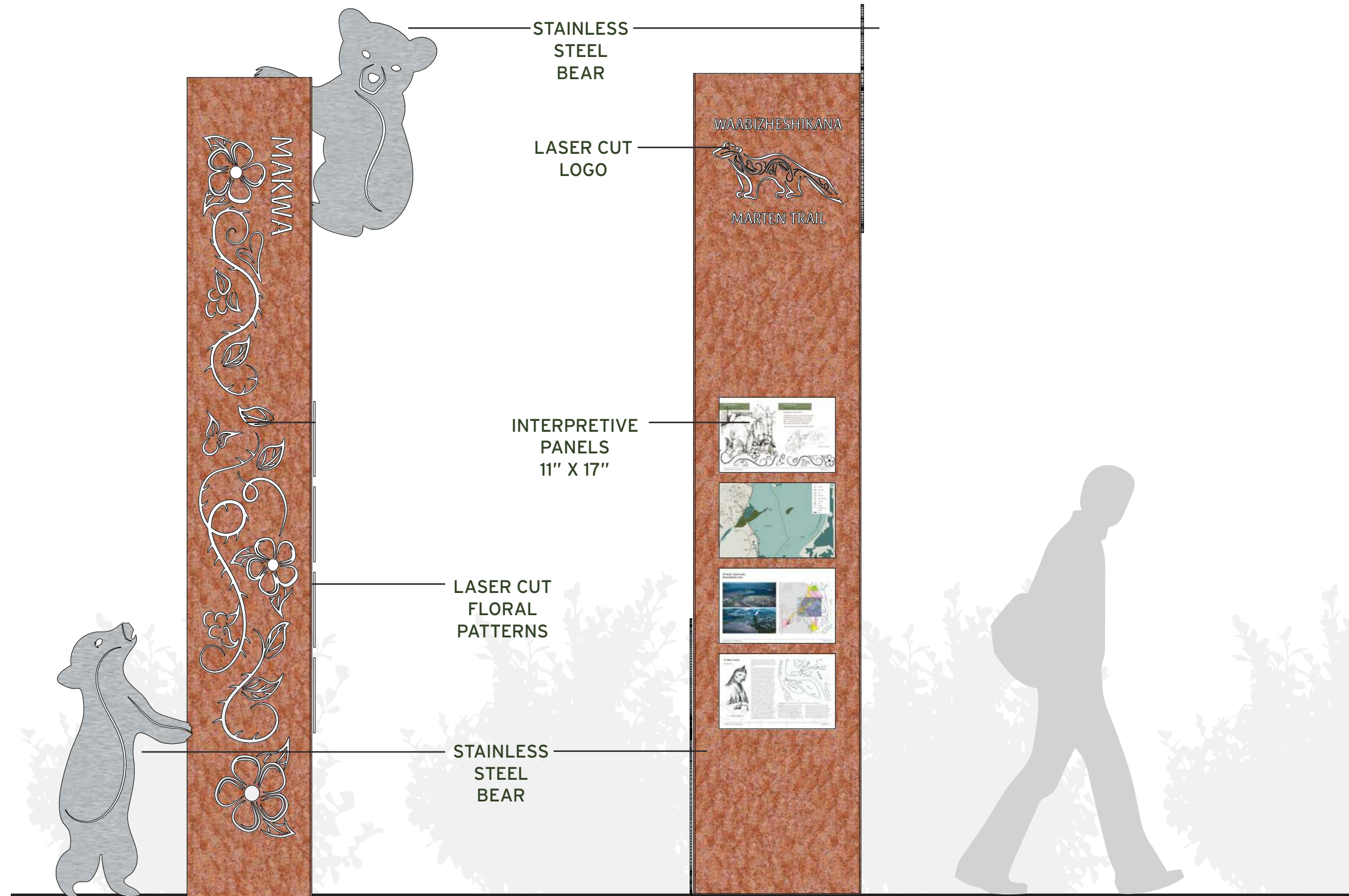
Story Poles

STORY POLE EXPERIENCE

Each story pole is unique and bears the Anishinaabemowin (Ojibwe Language) name of a plant or animal trail guide from the St. Louis River estuary. The recognition of this language and its ongoing revitalization adds an important marker for the Native American cultural presence in the St. Louis River estuary.

The animals are cut from stainless steel and portray them as they often act in the wild. The poles are located away from the main trailheads and access points so that visitors come upon them as they travel down the trail. Each story pole is accompanied by accent elements that provide additional interpretive context such as native plantings, found industrial relics, or stones that reflect the local geology.

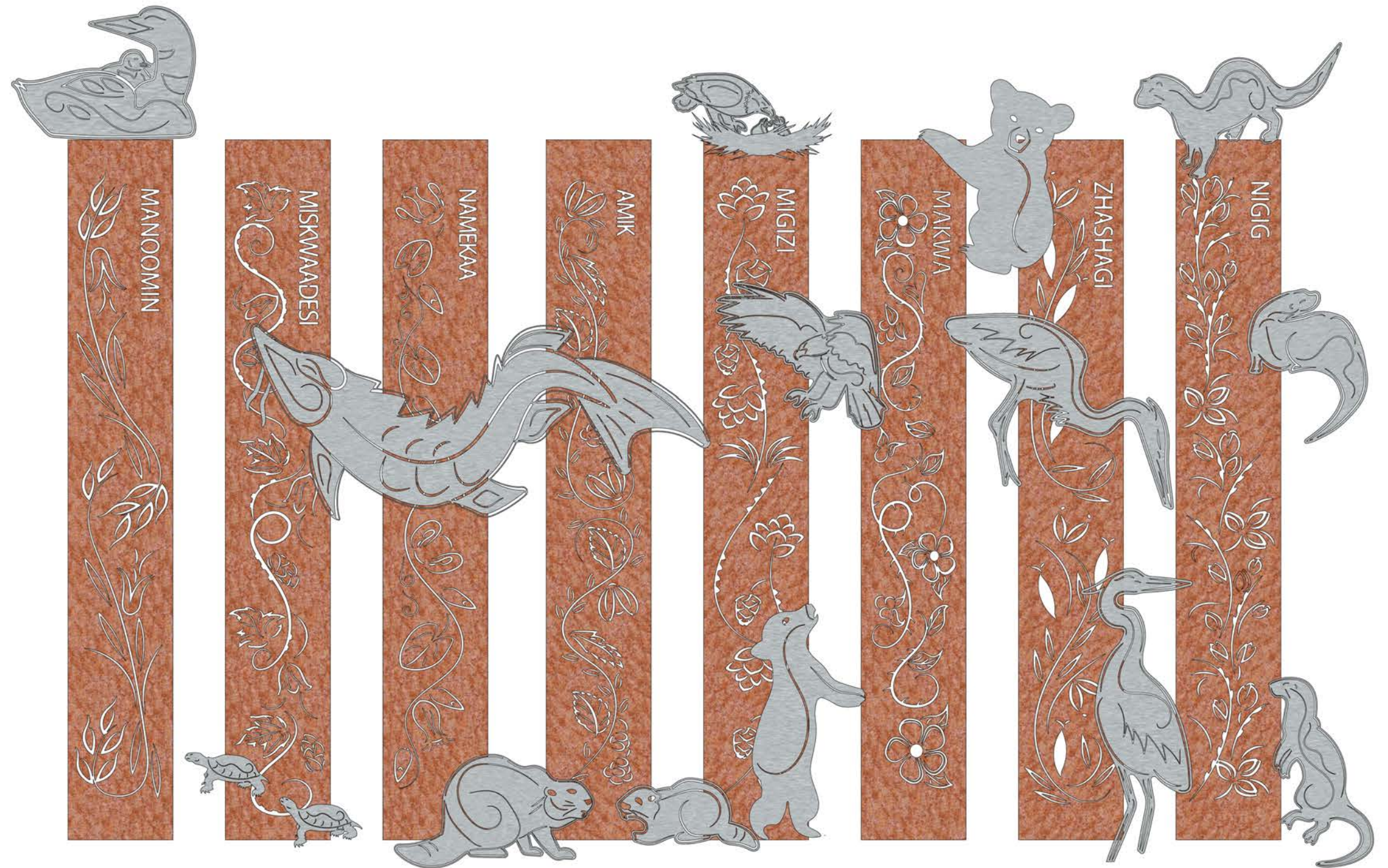
Steel is a material that recognizes the local significance of the metals industry. It is also a flexible and affordable frame for interpretive elements. The engraving is an expression of cultures joining together, the sharing of stories and ideas, and working to adapt to an uncertain future. The merging of these forms respects the gifts of the natural world and the hard work and cultural contributions of Duluth's many residents. This vision is respectful of the past and presents a bold challenge for the future. The recognition of different perspectives provides an opportunity to learn from the landscape. Humanity must learn to see the world in new ways to face the challenges of the 21st century.



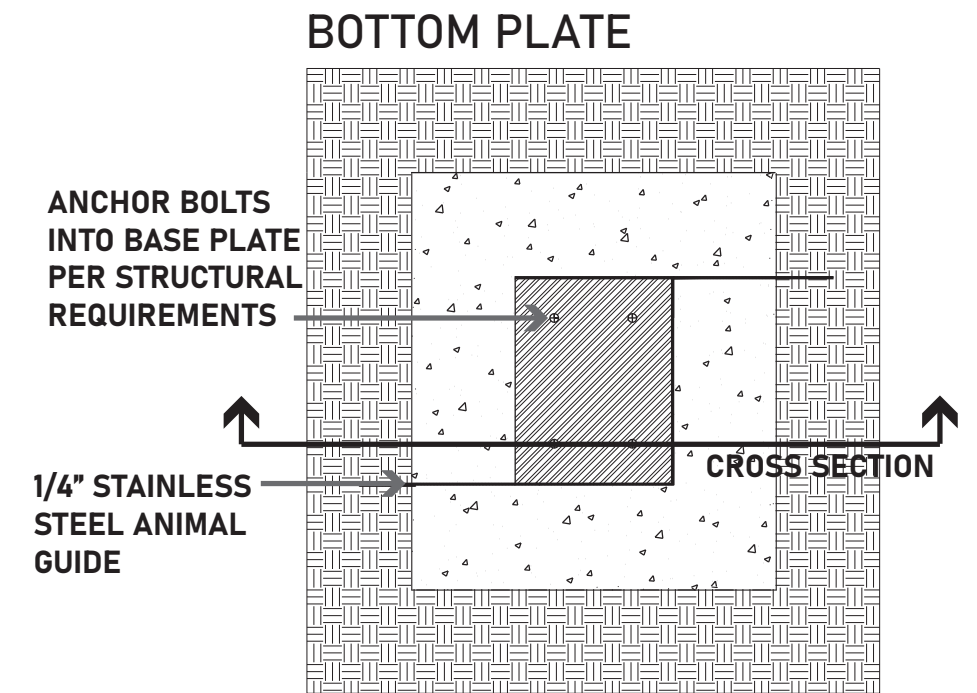
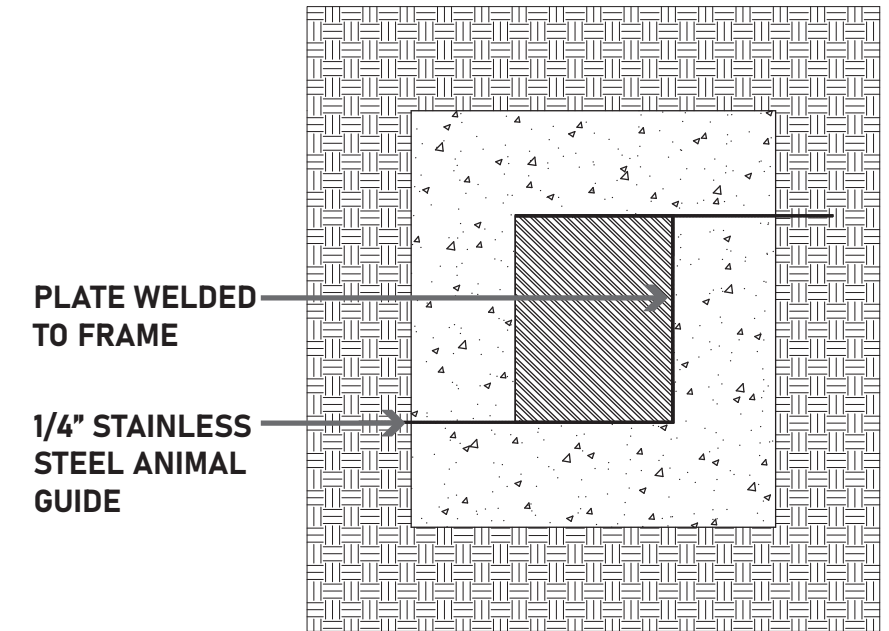
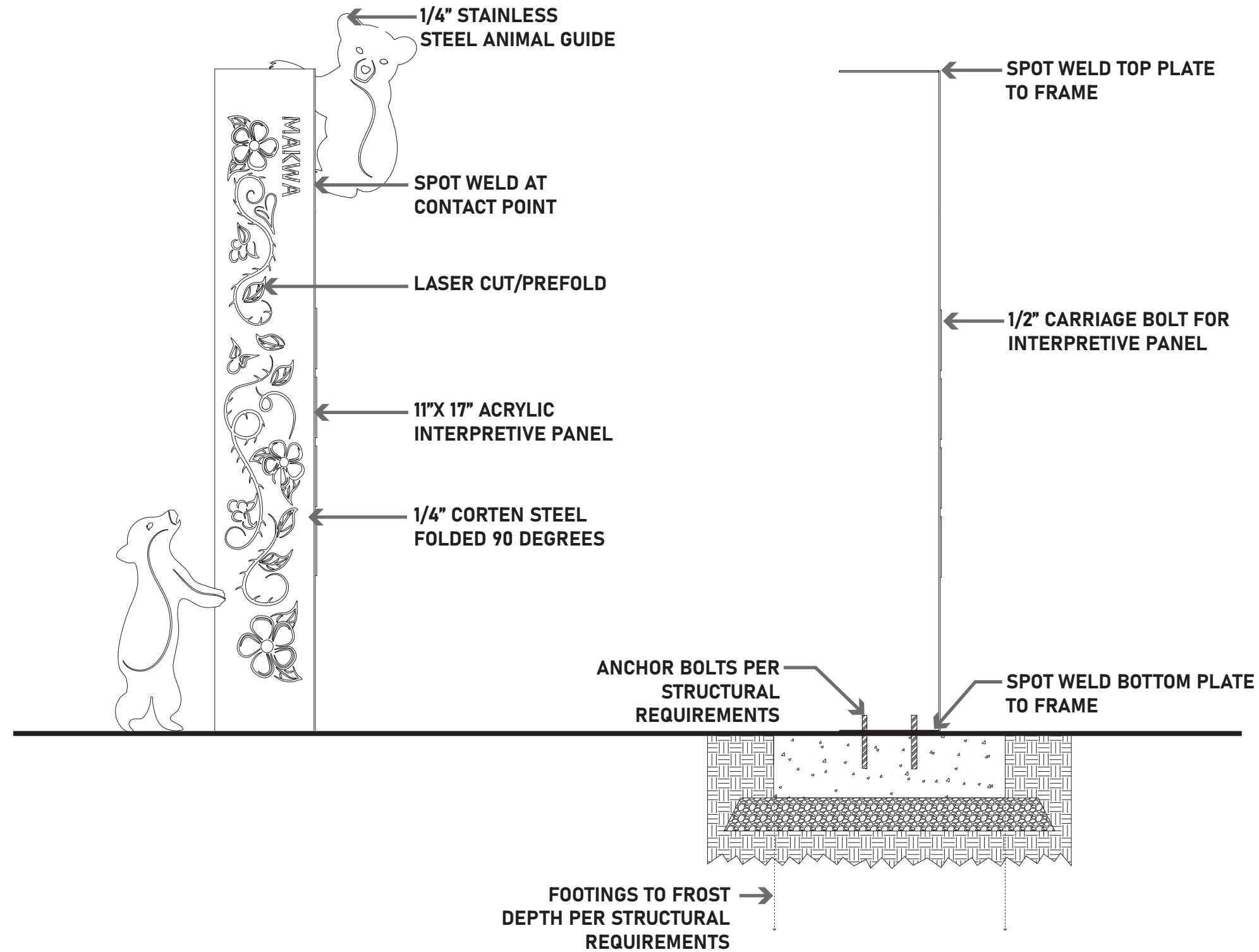
Plant & Animal Guides

The plants and animals that are featured on the story poles represent a diversity of species that visitors may encounter either in Duluth, or elsewhere on the North Shore. The specific species were selected because of their presence within the estuary. The story poles are sited in locations where visitors have the potential to encounter the animals in the wild. Some, such as Bears, Martens, and Sturgeon may be rare to encounter in this area, but they have great significance in Native American culture and are emblematic of the region. These animals will be laser cut from stainless steel so that they reflect light and contrast with the corten steel of the story poles.

The plants are represented by the floral patterns cut into the steel on the side panels of the story pole. These portray the leaves, flowers, and fruits of the plants. Where feasible, the story poles will be accompanied by plantings of the species in question, such as white pine, cedar, raspberry, and maples. These provide visitors with a visual reference that will attune them to the presence of these plants throughout the corridor.



Story Poles



People of the Estuary

This plan tells the stories of the people who have lived and worked in West Duluth. The western waterfront has often been overlooked in major histories. The stories of Duluth's industrialists and politicians are well known, as the streets, major landmarks, and neighborhoods are named for them. This plan will highlight women's stories, Native American stories, immigrants, stories of Black Americans, and people of mixed ancestry. This plan celebrates the people who have labored to make Duluth the city it is today. The stakeholders and other members of the community are called upon to help identify people of the estuary whose stories need to be told.

KIDS MUST GIVE UP THEIR JOBS

All Young People of School Age
Will Be Forced Back to
Class Rooms. 9-1-1912
DNT

STATE FACTORY LAWS
WILL BE ENFORCED

Lame Excuses Not to Be Tole-
rated by Authorities After
Schools Open.

Duluth News Tribune - 9-1-1912



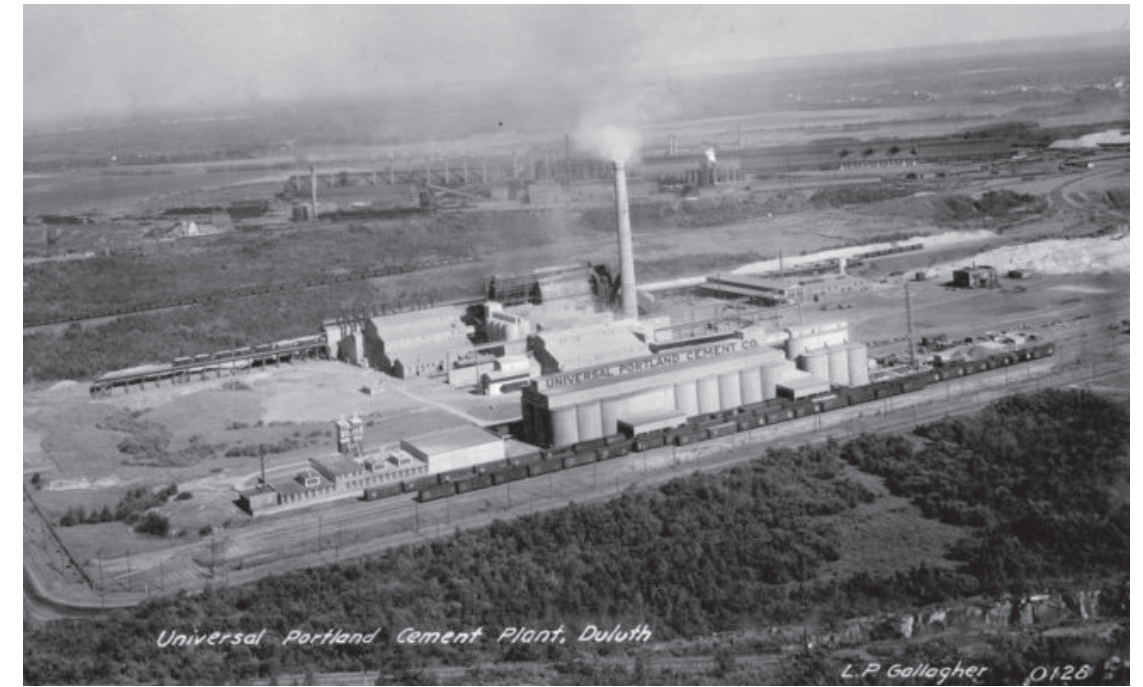
New Duluth Boys - Personal Collection of Christine Carlson

Lifeways

Some panels recognize the cultures that exist within the estuary and the lifeways that sustained them, respecting the hard work of generations of people who have shaped this river, city, and landscape. These include a celebration of traditional Native American practices such as the harvesting of wild rice and the inhabiting of spring sugar bush camps to make maple sugar. It recognizes the generations of anglers who have enjoyed fishing on the river, and the lives people have built harvesting lumber and minerals from the North Shore. It celebrates the industrial heritage of Duluth and the communities which grew up around the US Steel Duluth Works, Universal Portland Cement Plant, and McDougall-Barnes Shipyards.



The Riverboat Chicora - 1915 - Personal Collection of Christine Carlson



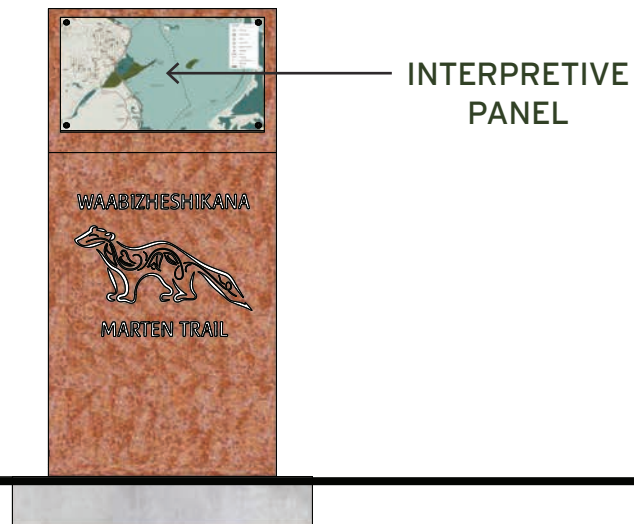
Universal Portland Cement Plant, taken prior to 1930, Duluth, Louis Perry Gallagher Sr. University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Collections



View of Fond du Lac, 1921, Louis Perry Gallagher Sr. University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Collections

Freestanding Sign

These signs will typically be located at overlooks or other points of interest along the trail. The sign will have a single interpretive panel containing a map, historic photograph, or story that is relevant to the visitor's current location and viewshed. These freestanding signs can be sponsored by local groups with an interest in commemorating specific stories, individuals, and local histories. Their placement is not specifically defined in this plan, as this will result from future stakeholder efforts and collaborations.



Cairns

As visitors experience different portions of the trail, the cairns they encounter are filled with materials that are of the landscapes along the trail. These materials include brownstone from the historic quarries of Fond du Lac, taconite, limestone, and slag (steel waste by product) from the US Steel Plant, and waste granite + rubble from the demolished historic buildings of Duluth that were used as fill material for railroad causeways. These materials are plentiful, durable, and not precious, making them a thematic way to orient visitors to the natural and man-made geology of the place.



Brownstone Cairn

CAIRN MATERIALS

The cairns all share a steel ring to identify them as part of the Waabizheshikana experience, and will be offset from the trail to prevent accidental collisions or other potential hazards. These cairns are not intended to replace the more conventional wayfinding markers identified by the City of Duluth.



Brownstone



Minnesota Jasper



Granite Salvage



Basalt



Slag

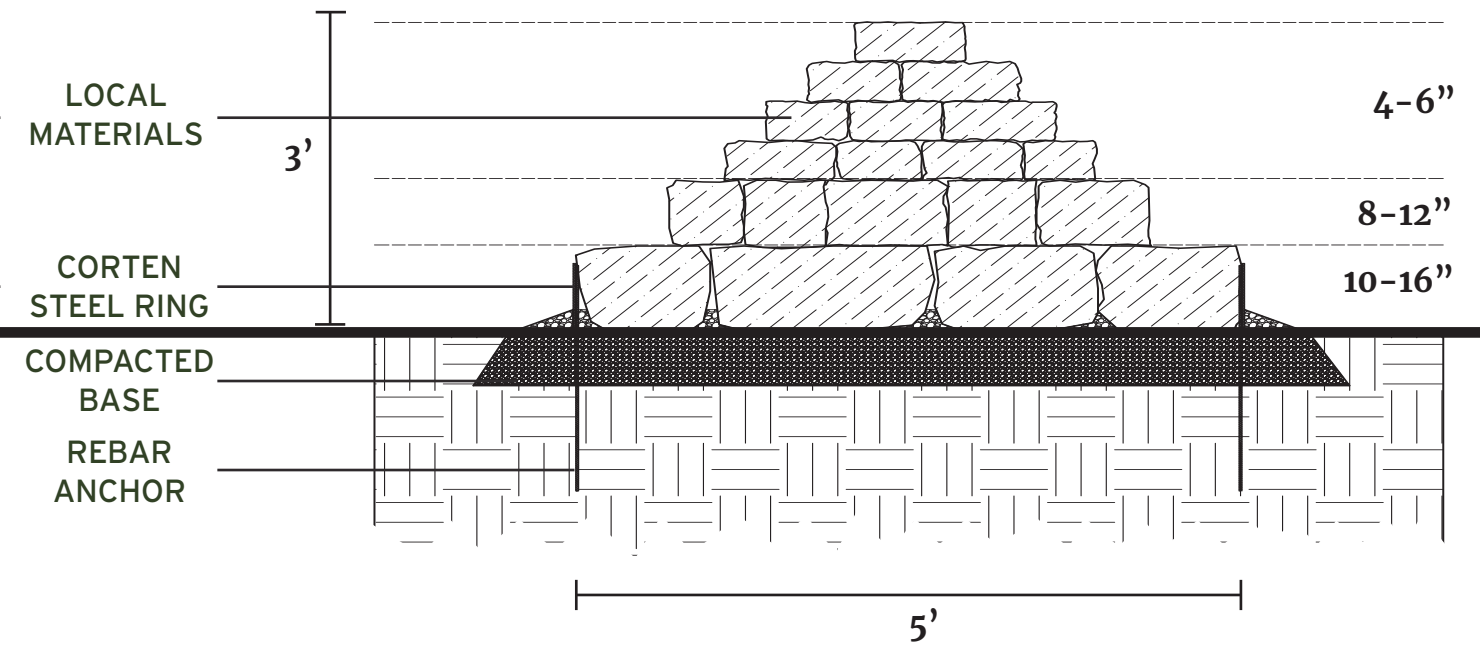
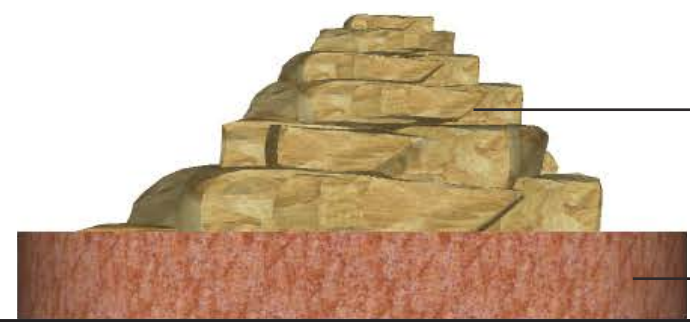
Cairns

CAIRN PLACEMENT

Cairns mark important intersections where spur trails and neighborhood connections meet the trail. They act as waypoints along the trail and invite visitors to follow passages off the trail and explore the larger context of the waterfront. The City of Duluth can coordinate the installation of these cairns when the trail planners feel it is appropriate to invite visitors to access the spur trail or passage in question.

CAIRN CONSTRUCTION

The Cairns will be stacked and mortared, with the larger materials forming the base of the assembly, then tapering up to the top of the cairn. The Corten steel ring would be formed of two rolled steel halves, welded together and anchored into the ground with rebar.



Concrete Inlays

Imprinting words and images into concrete as a storytelling device will engage visitors as they ride along the trail or occupy the spaces along Waabizheshikana. The advent of 3D printing / laser cutting technology opens up the possibility of easily creating custom imprints that can be pressed into freshly poured concrete as part of new park infrastructures or interpretive elements. These elements and their placement are not specified in this plan, but represent a technique that can be used to add interest, texture, and content to the landscape when new concrete flatwork is being poured. Below are some examples of techniques that can be applied when there is opportunity.

ANIMAL + PLANT PATTERNS

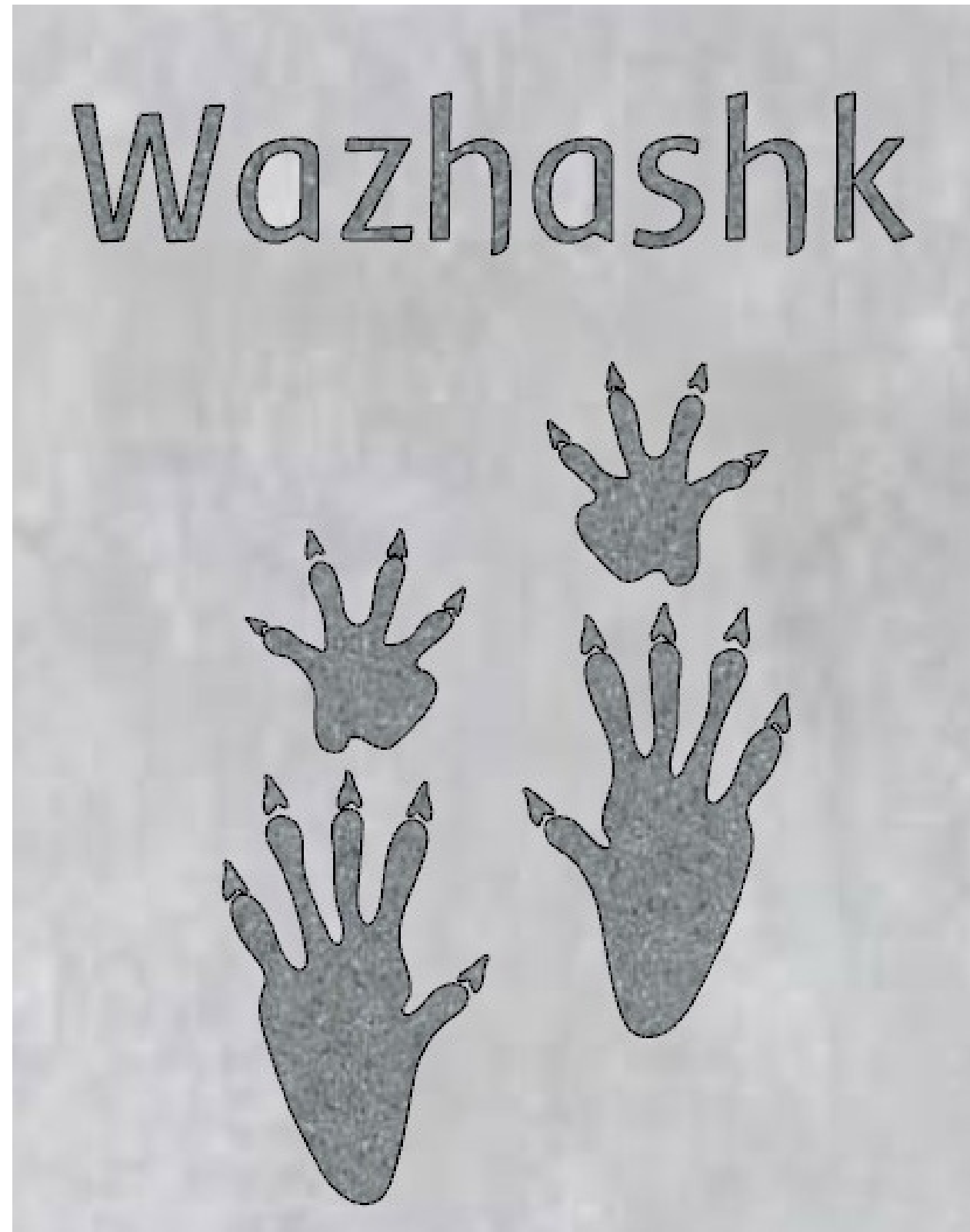
Animal tracks, and plant patterns can be imprinted on the concrete, to add character and information.

WATER CROSSINGS

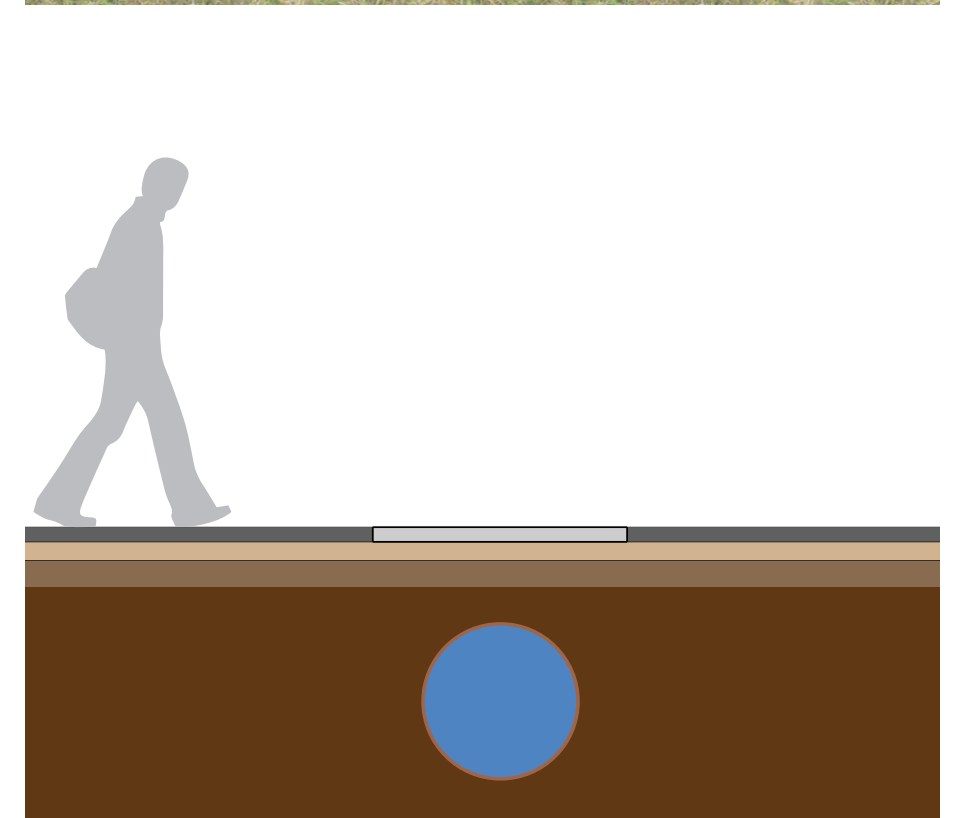
This technique would be used at the crossing points of the many creeks that flow into the St Louis River and typically cross the trail in unmarked culverts. This placemaking technique would name the creek for visitors as a wayfinding device to mark progress along the trail.

STORIES OF THE NORTH WOODS

Snippets of text from old news stories can refocus the attention of visitors to the forgotten history or stories of a site.



Wazhashk – Muskrat Paw Prints – Sarah Agaton Howes



Water Crossing

Logotypes & Graphics

MANY STORIES

The interpretation along Waabizheshikana has a shared visual identify that connects the diverse array of story threads that wind through the estuary.

LOGO

The logo is a unifying element for the different installations associated with the interpretive trail. It portrays a marten. Inside the marten, the curling lines evoke the winding path of the river and its diverse plants and wildlife. It also embodies the wild spirit of the river that flows through all who exist beside its waters.

FONTS

This plan identifies a hierarchy of font styles that will be used on the interpretive signage and in this plan that is distinct from the standards established by the City. These font standards are in the appendix.

MATERIALS PALETTE

The materials palette for the interpretive elements along Waabizheshikana is inspired by the natural and man made elements found throughout the St. Louis River estuary. These materials include the driftwood that accumulates on the riverbanks, the plants that grow, and the diverse layers of geology that calve off the hillsides. It also includes the relics and byproducts of centuries of industry in the form of material stockpiles, ruined industrial buildings, and remnant landforms.

These materials are authentically of the place and inspired the design team to creatively seek ways of integrating them into the interpretive plan.

The beauty, availability, and durability of the found materials that are present throughout the estuary make them cost effective, ubiquitous, and hardened against vandalism and theft.

COLOR PALETTE

The color palette for the signage and landscape has a muted earth tone that matches the colors of the plants, animals, earth, and water along the river. This helps give a unifying theme to all of the interpretive assets.

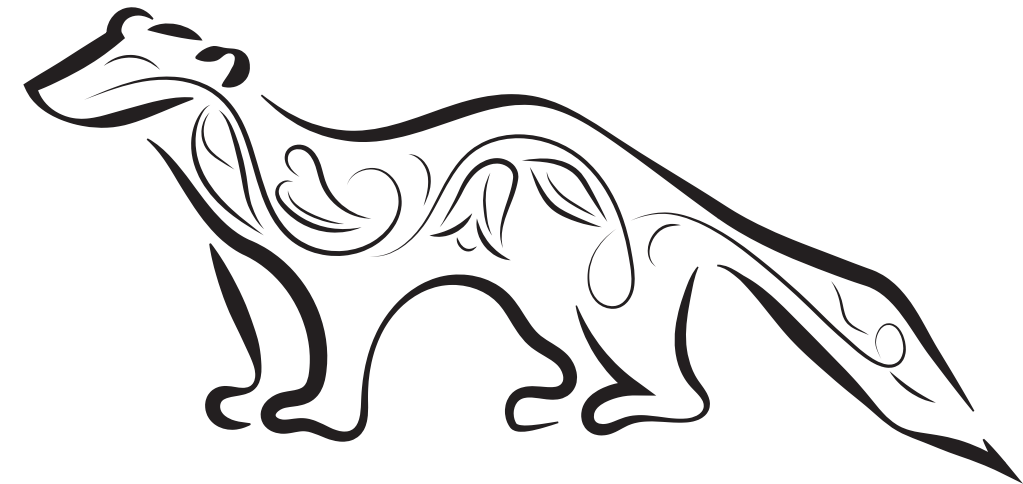
INDUSTRIAL MATERIALS

Duluth is a city of stone, metal, and aggregates, harvested from the earth and forged in the steel mills, factories, and shipyards, The use of regional stones and aggregates, rolled steel, and concrete as components recognizes the people who labored to mine ore and process steel. They are the same materials as the railroads and ships they built to carry it out to the larger world. These materials are durable enough to withstand the ravages of nature and honor the industrial heritage of Duluth.

PHOTOGRAPHS AND ILLUSTRATIONS

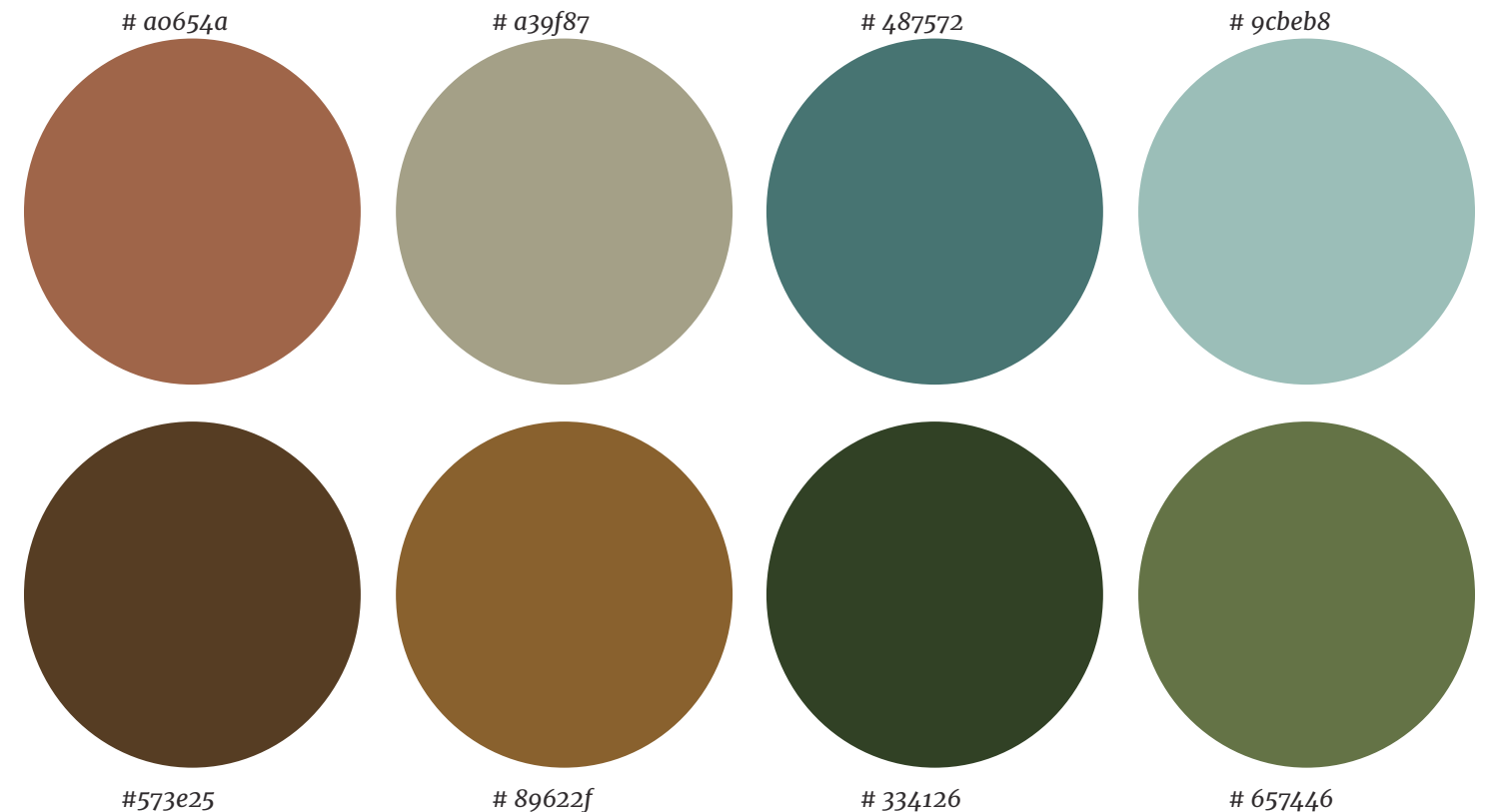
These images provide a window into the lives and landscapes that existed along the river corridor. Typically presented alongside primary source material and reference information, these images will speak for themselves and inspire conversation and exploration on the part of the viewer.

WAABIZHESHIKANA



MARTEN TRAIL

Logo



Color palette with RGB Number

A sepia-toned photograph of a rocky riverbank, likely the St. Louis River, with a map overlay. The map shows topographical contours and a river path. The text is centered over the image.

RIVER PLACES

Finding History on the Ground

Falls on the St. Louis River beside Jay Cooke State Park, 2020, Samuel Geer

TRAIL STRUCTURE





River Places

One of the central experiential goals of Waabizheshikana is to help visitors attune themselves to the place they currently occupy. The trail connects a network of meaningful places to create a coherent and flexible set of linked experiences. These nodes generally fall into categories that appear in multiple places along the trail. Each place type has essential characteristics, but may also embody some aspect of the different story threads that run through the estuary.

In some cases these places already exist, and only require wayfinding to orient visitors towards them. Other places must be improved or constructed as part of the build out of new trail segments. These places are delineated from the larger landscape by naming them, marking them on the map, or telling their story in place.









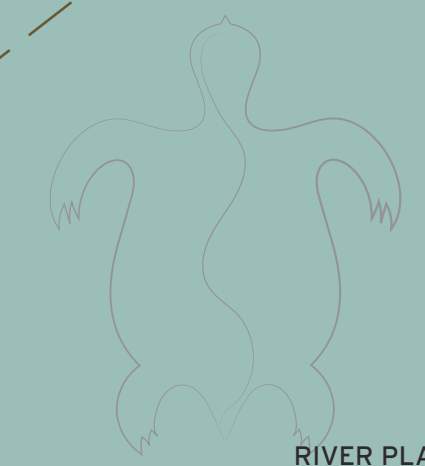
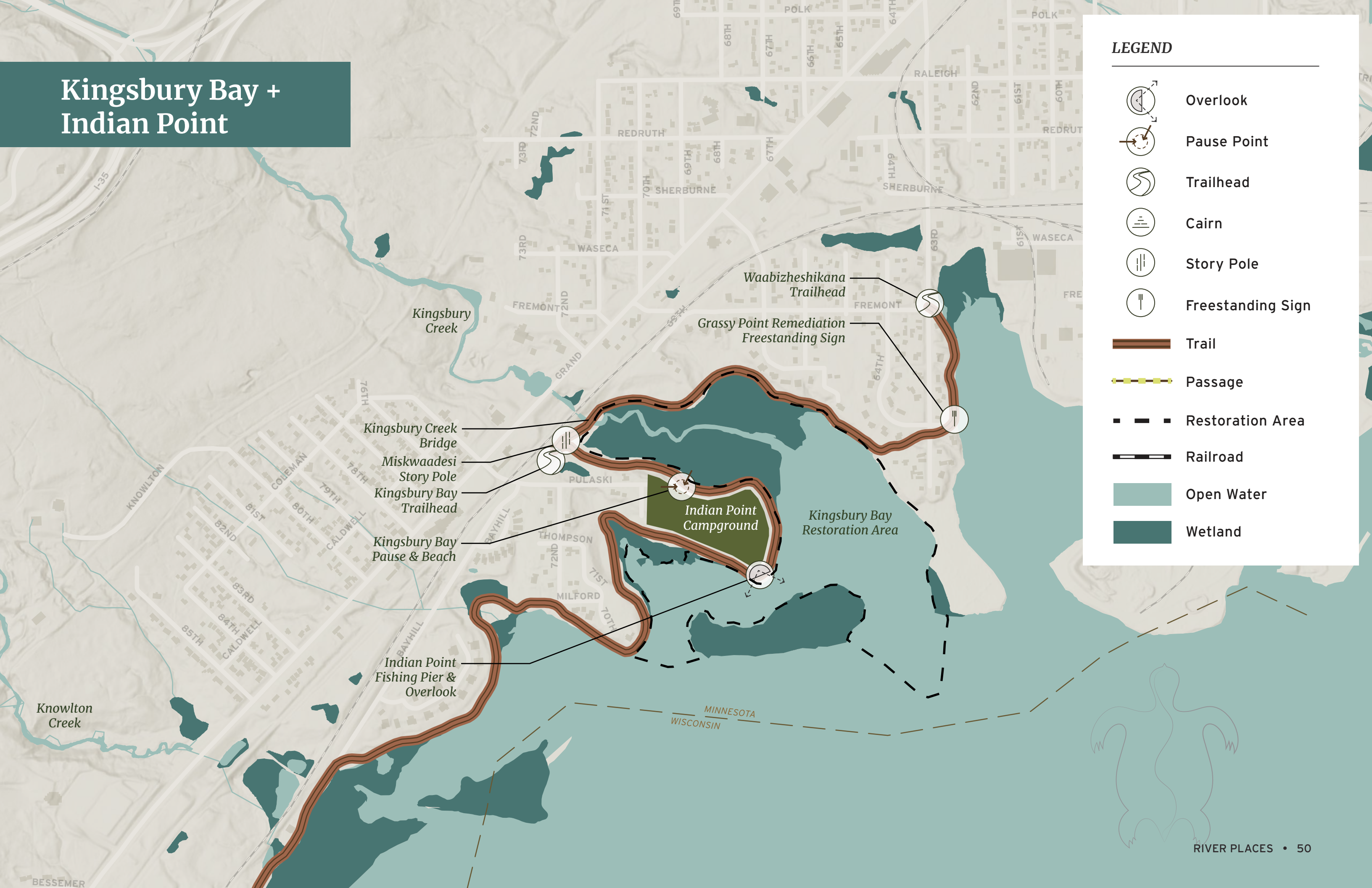
LEGEND

-  Overlook
-  Pause Point
-  Trailhead
-  Cairn
-  Story Pole
-  Freestanding Sign
-  Trail
-  Passage
-  Remediation Area
-  Railroad
-  Open Water
-  Wetland

Kingsbury Bay + Indian Point

LEGEND

-  Overlook
-  Pause Point
-  Trailhead
-  Cairn
-  Story Pole
-  Freestanding Sign
-  Trail
-  Passage
-  Restoration Area
-  Railroad
-  Open Water
-  Wetland



STORY POLE

Miskwaadesi *TURTLE*



SUGAR MAPLE PLANTING

ANIMAL PROFILE

AREA MAP

RIVER PLACES

PEOPLE OF THE ESTUARY

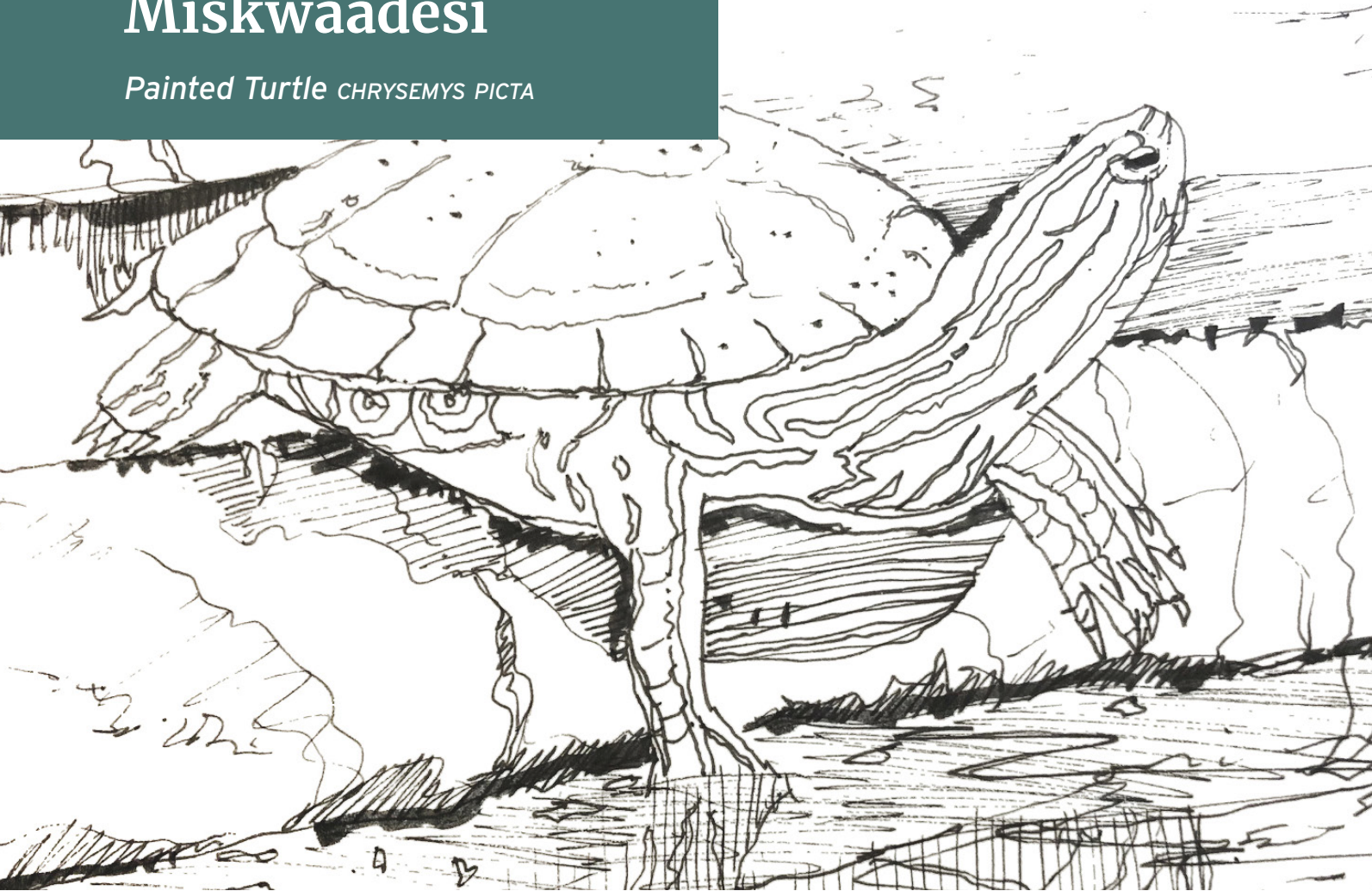
STAINLESS STEEL TURTLE

LAKE SUPERIOR DRIFTWOOD LOGS

ANIMAL PROFILE

Miskwaadesi

Painted Turtle *CHRYSEMYS PICTA*



Miskwaadesi, 2020, John Koepke

PLANT PROFILE

Ininaatig

Sugar Maple

ISKIGAMIZIGANING - SUGAR BUSH CAMP

Making maple syrup is an ancient Native American tradition, taught to European settlers as a way to survive the harsh northern winters. Each spring, Ojibwe families will gather at Iskigamiziganing, the Sugar Bush Camp, to make Maple Syrup. In the springtime, when the nights are below freezing and the days above, families tap the trees to harvest the sweet sap and boil it down to make syrup and maple sugar cakes.

“We treat that maple syrup with respect. The same as we would wild rice. If you burn some, if you spill it, if you waste any unintentionally, you got to do a little tobacco ceremony for that because it’s a gift from the Creator.”

- Larry “Amik” Smallwood



Ininaatig - Sarah Agaton Howes

Kingsbury Bay + Indian Point

KINGSBURY BAY RESTORATION

This restoration work, completed in 2021, removed accumulated sediment that led to shallow wetlands dominated by invasive cattails around the outlet of the creek. By removing them, the bay has been returned to an open water habitat suitable for fish spawning and over-wintering. This work was funded by the federal Great Lakes Restoration Initiative and the state Outdoor Heritage Fund.

INDIAN POINT BEACH AND PAUSE

The mini-master plan calls for the creation of a beach landing for small watercraft and the placement of the new fishing pier off Indian Point. This collection of elements will be anchored by a pause point oriented south towards Spirit Island.

INDIAN POINT CAMPGROUND

Indian Point Campground currently remains an active campground for visitors to the Western Waterfront.

MANIDOO-WAJIWING (SPIRIT MOUNTAIN)

The Spirit Mountain Recreation Area is just north of this area is a sacred site for the Ojibwe and also a major tourist destination for skiing and outdoor use.



Kingsbury Bay Restoration Before & During. Top: 2017, Treaty Authority. Bottom: 2020, MNDNR

People of the Estuary

Western Waterfront to Waabizheshikana

The Western Waterfront Trail plan was made in 1979, when the city had the opportunity to acquire abandoned rail lines from the Burlington Northern Santa Fe Railroad and repurpose them as a trail. The proposed trail would follow the waterfront from West Duluth to Fond du Lac. 3.3 miles of trail were built in the 1980's, with much of the work done by those on government assistance as part of the Jobs Program under Mayor John Fedo. The trail shares an alignment with the Lake Superior & Mississippi Excursion Railroad for part of its length. It was renamed Waabizheshikana, the Marten Trail in 2019 to honor Ojibwe heritage in the estuary. When completed, the last 6.8 miles of trail will improve waterfront access to recreational amenities alongside restored habitat, pollution remediation, and interpretive elements.



Existing and Proposed Trail Segments and LSMRR Excursion Rail Line

I said to each of them, “My name is Babette Budrow and I want that trail job.”

I showed up every day for five days and talked to everybody in the city office. On the fifth day, the guy called me over, and he assigned me to the crew. . .



We worked all summer. We cleared the bushes and trees and put down the gravel through the woods. The crew that built that trail was a mix, African Americans, Natives, single moms, but we were all like a family. We helped each other claw our way to a better life.“

Babette Sandman (formerly Budrow), reflecting on her experience constructing the existing segment of the trail. She was hired by the Mayor's Program in 1985 to work on a seasonal crew which built the segment of trail from Kingsbury Bay to Riverside.

Spirit Landing - Riverside



LEGEND

-  Overlook
-  Pause Point
-  Trailhead
-  Cairn
-  Story Pole
-  Freestanding Sign
-  Trail
-  Passage
-  Restoration Area
-  Railroad
-  Open Water
-  Wetland



STORY POLE
Amik BEAVER



SPECKLED ALDER PLANTING

STAINLESS STEEL BEAVERS

DRIFTWOOD PILES

ANIMAL PROFILE

AREA MAP

RIVER PLACES

PEOPLE OF THE ESTUARY

ANIMAL PROFILE

Amik

North American Beaver *CASTOR CANADENSIS*



Amik, 2020, John Koepke

PLANT PROFILE

Wadoop

Alder

Speckled alder is a small tree growing to a height of about 12 feet and is found along stream edges, rivers, swamps, and lakes... In traditional medical practices speckled alder was used for several treatments. An infusion of bark was used for anemia, a compound decoction of inner bark was taken as an emetic, a compound decoction of root was used as a wash or compress for sore eyes, or was mixed with powdered bumblebees and taken for difficult labor... In addition, the inner bark was used to make a red dye.

- Plants Used by the Great Lakes Ojibwe, GLIFWC



Wadoop - Sarah Agaton Howes

Spirit Landing

SPIRIT LANDING TRAILHEAD AND PAUSE

The mini-master plan calls for a beach landing for small watercraft in this area. This area will include the placement of a pause point that overlooks the beaver dams that exist along the backwater beside this landing.

KNOWLTON CREEK

Knowlton Creek is a cold water trout stream that had been damaged by urban development and the 2012 flood, when severe erosion caused bank collapse along the creek. Work completed in 2017 included restoring portions of the stream channel and adjacent wetlands, and removing accumulated sediment



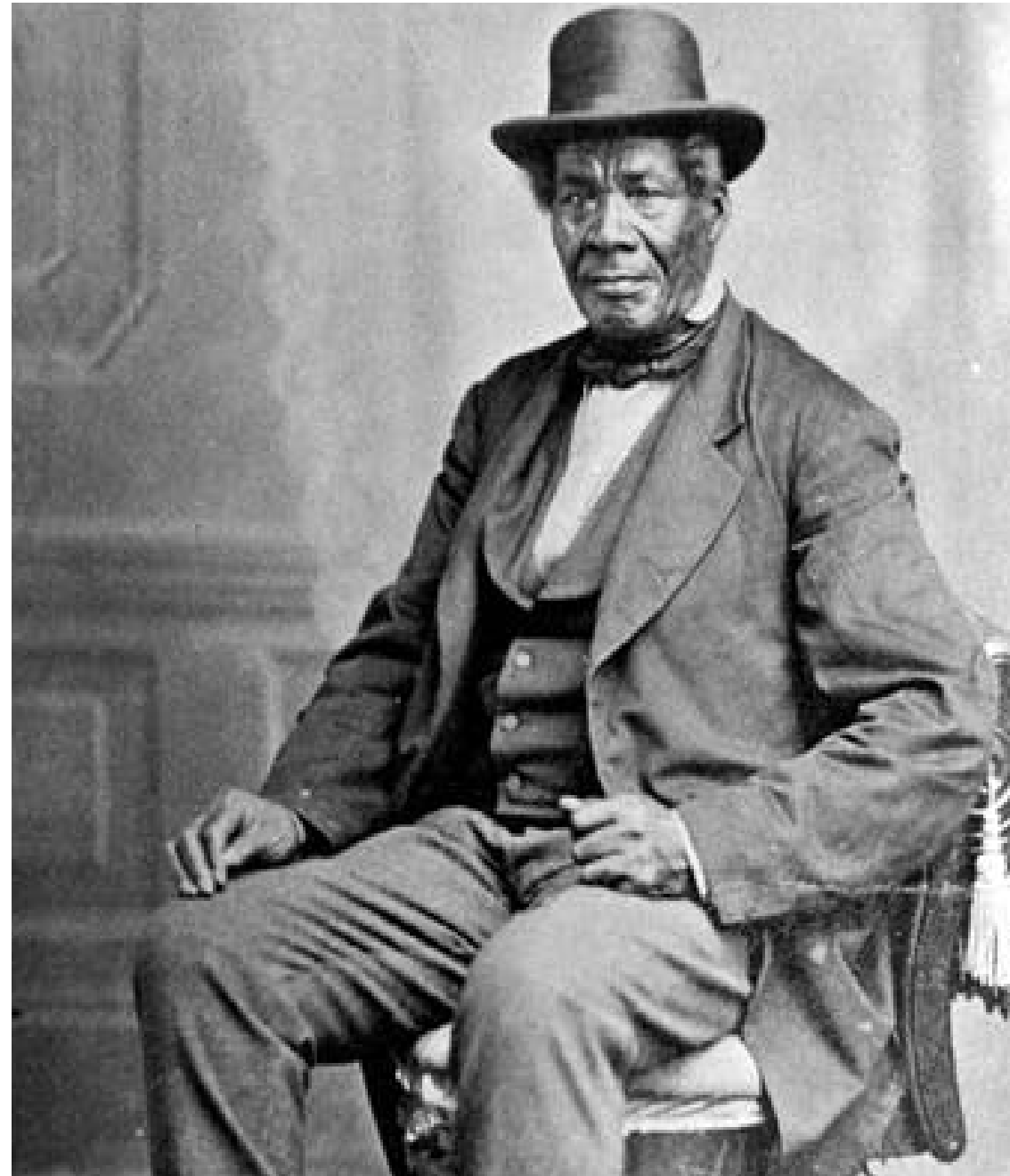
Spirit Landing and Knowlton Creek, 2020, Samuel Geer

The Bonga Family

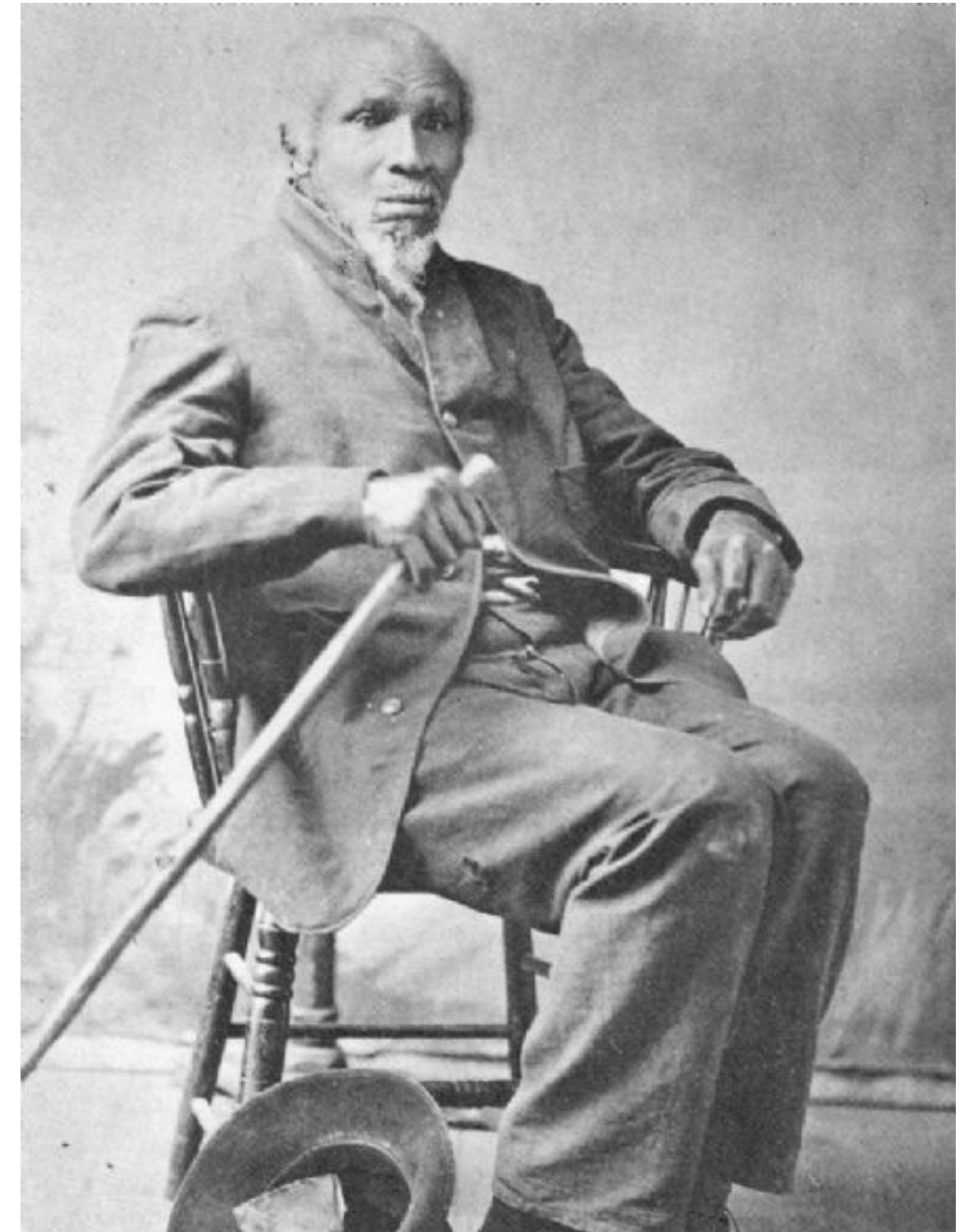
"Much has been written about this famous African American and Ojibwe family and many mistakes repeated. Sometimes the name was written as Bungo but I will use Bonga for this story. Stephen Bonga's grand-parents are Jean and Marie-Jeanne Bonga who were slaves from the West Indies and both were born in 1750. Stephen Bonga's father is Pierre Bonga, also known as Mukdaweos (Makade-Wiiyaas) and was born about 1771. He was the first African American to stay in the Lake Superior area. He later married an Ojibwe woman called Ojibwekwe Ikwe who was born in 1814.

I will write mostly about Stephen Bonga who was born around Superior in June of 1799. Stephen's father had two sisters living in Montreal. As a young man, this was where he was sent to be educated for the Presbyterian ministry but he was not ordained. In 1823-24 Stephen and brothers George and Jack were working for the American Fur Company up at Grand Portage. Stephen also traded in the border lakes regions of northern Minnesota and western Ontario in 1827 and 1833. Stephen Bonga and his family lived in Wisconsin at Pokegama Bay. Pokegama means a bay at one side of the river. This bay is across the St. Louis River from Smithville and Riverside."

- Christine Carlson, Stephen Bonga and Family, Nahgahchiwanong Dibahjimowinan, March 2011.



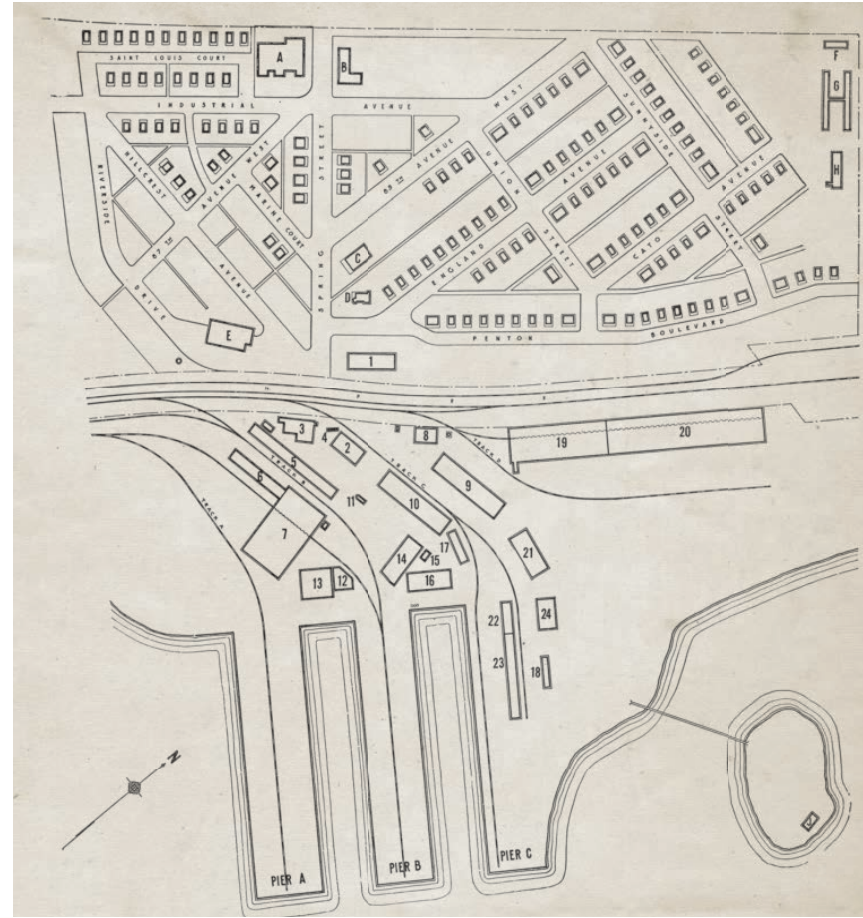
George Bonga, 1870, Alfred Zimmerman, Minnesota Historical Society



Stephen Bonga, 1870 -Wisconsin Historical Society

Riverside

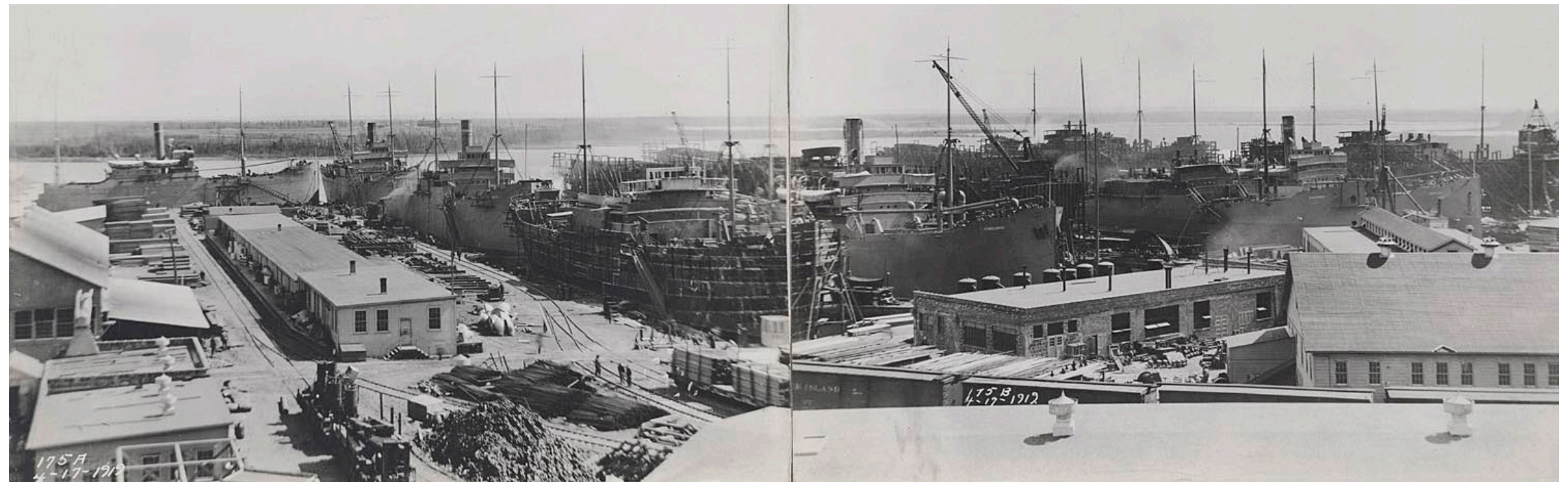
Riverside was a planned community built to house workers for the rapidly expanding shipbuilding industry during World War I. The community was designed by Duluth architect Arthur Hanford following the principles of the City Beautiful Movement. This development is organized around Spring Street, which served as a central access point. The owners of the shipyard invested in community amenities, such as district utilities, street car service, as well as schools, a hotel, and a small commercial district. After World War I, the demand for new ships dropped and during the Great Depression, the neighborhood was ultimately sold to private owners.



LIFEWAYS Shipbuilding

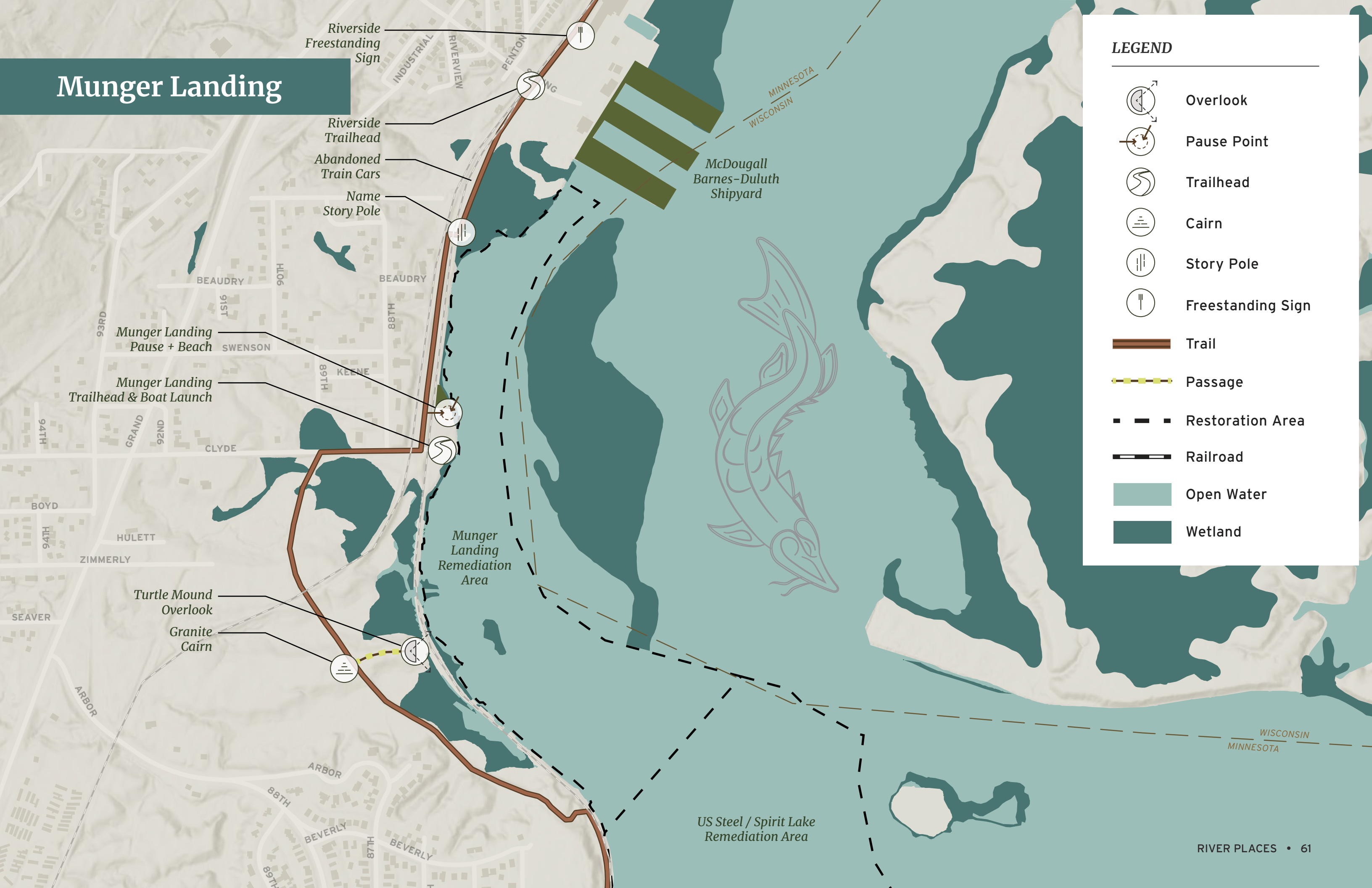
The Barnes-Duluth Shipyard (formerly McDougall Duluth Ship Builders, Inc) was in operation from 1917 until 1945 when the site was converted into a Marina. The primary purpose of the shipyards was producing ships for the Allied war efforts in both World Wars. Today, the site is occupied by the Spirit Lake Marina & RV Park, but visitors to the bait shop located there can find many historic photograph and learn about the history of the Shipyard.

Riverside and McDougall Duluth Shipyards, Matthew Lawrence Daley, Duluth's Other Company Town: The McDougall-Duluth Company, Riverside, and World War I Shipbuilding, 2013



Riverside Shipbuilding. 1919 - University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Collections

Munger Landing



Riverside Freestanding Sign

Riverside Trailhead

Abandoned Train Cars

Name Story Pole

Munger Landing Pause + Beach

Munger Landing Trailhead & Boat Launch

Turtle Mound Overlook







Granite Cairn

McDougall Barnes-Duluth Shipyard

Munger Landing Remediation Area

US Steel / Spirit Lake Remediation Area

LEGEND

-  Overlook
-  Pause Point
-  Trailhead
-  Cairn
-  Story Pole
-  Freestanding Sign

-  Trail
-  Passage
-  Restoration Area
-  Railroad
-  Open Water
-  Wetland

STORY POLE

Name (Na-May) *STURGEON*

STEEL STURGEON

ANIMAL PROFILE

AREA MAP

RIVER PLACES

LIFEWAYS

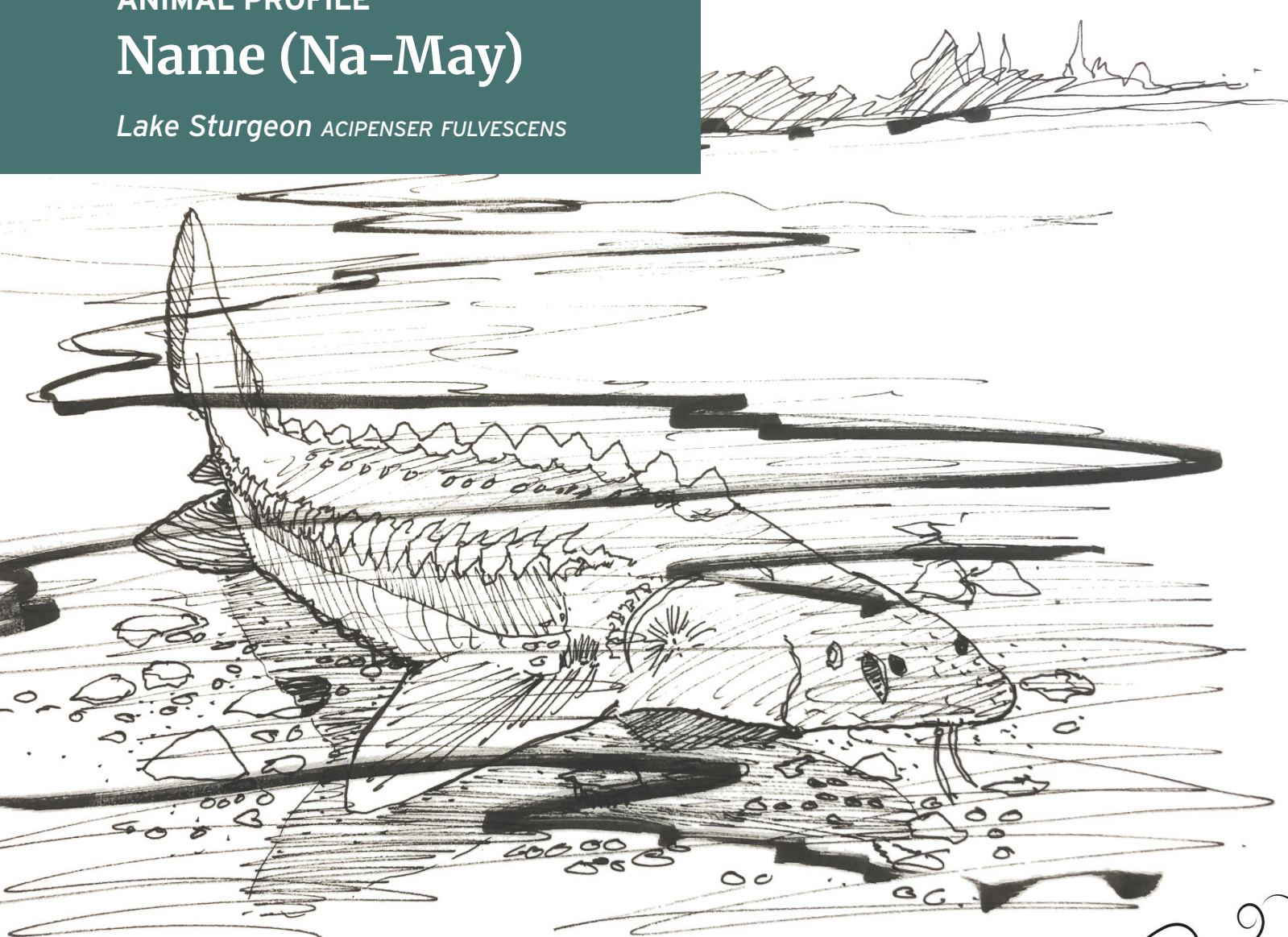
GRANITE SALVAGE
SEAT BENCHES

OSTRICH FERN PLANTING

ANIMAL PROFILE

Name (Na-May)

Lake Sturgeon *ACIPENSER FULVESCENS*



Name - John Koepke

PLANT PROFILE

Akandamoo

American Water Lily *NYMPHAEA ODORATA*

The white water lily is easily recognized by its large and very fragrant flower, which is white with yellow stems in the center. Growing in ponds and other quiet waters, white water lily has large, floating, rounded leaves that are purplish underneath with a notch at the stem. The leaves and flowers of this water lily were eaten as greens.

- Plants Used by the Great Lakes Ojibwe, GLIFWC



Akandamoo - Sarah Agaton Howes

Munger Landing

TURTLE MOUND SCULPTURE

The Anishinaabe people refer to North America as Miskwaadesi minising (Turtle Island) in reference to their creation story of North America. There is an opportunity to commemorate this legend by building an earthwork that recalls the form of the turtle's shell. The top of the shell contains thirteen segments that represent the number of times the moon orbits the earth in a year and the twenty eight days of each lunar month.

ABANDONED TRAIN CARS

There are a number of abandoned train cars that are stranded alongside the trail between Riverside and Munger Landing. These found objects along the trail provide an opportunity to examine the rolling stock up close.

TYOVAEN OPISTO - WORK PEOPLE'S COLLEGE

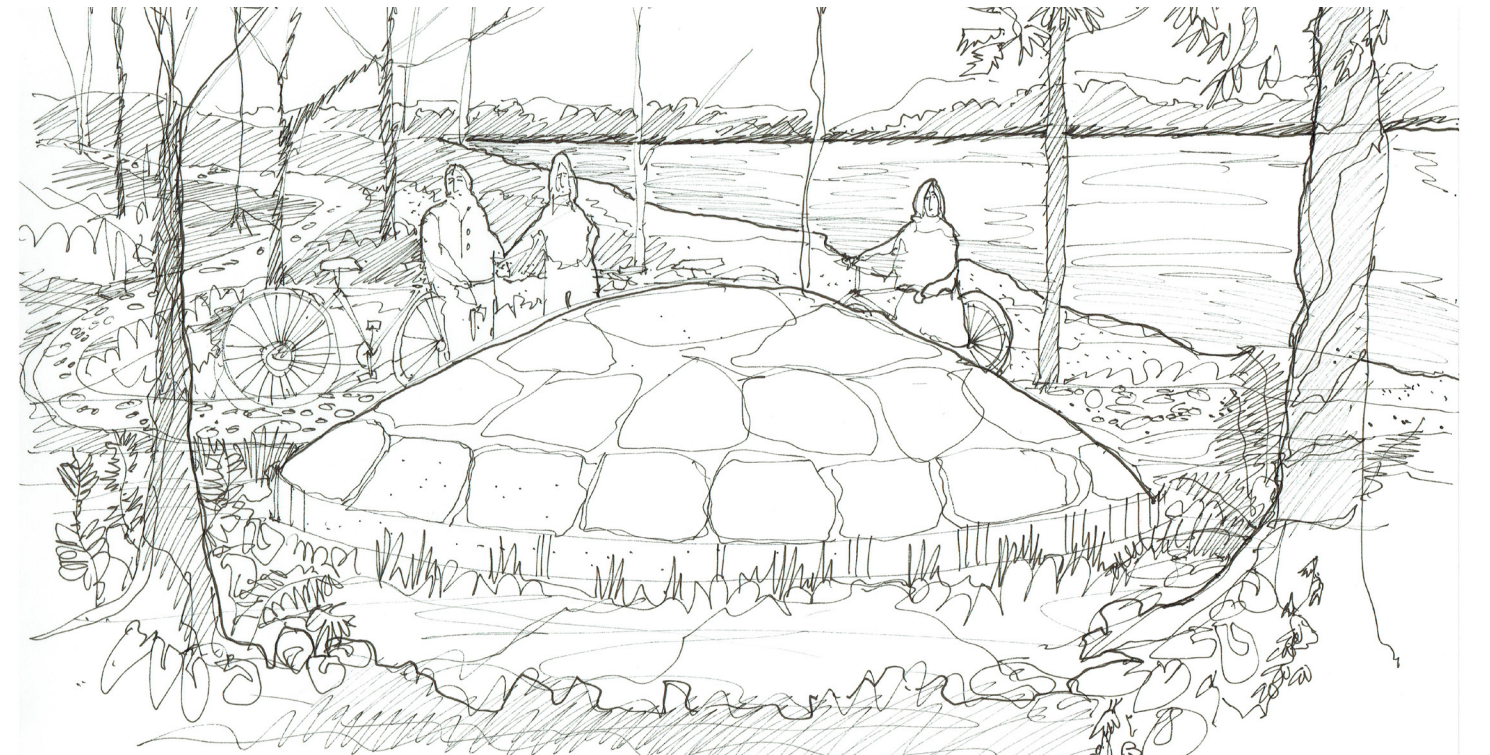
This was a high school and college located in Smithville that taught socialist theory and Finnish language studies in addition to conventional education. Founded in 1903, it was run by the Finnish Socialist Federation and Socialist Party of America to teach workers socialist organizing tactics to the many Finnish workers emigrating to Minnesota and working in the lumber and shipping industries.



Rolling Stock, 2020, Steve Durrant



TYOVAEN OPISTO - Advertisement



Turtle Mound, 2020 John Koepke

LIFEWAYS

Fishing on the River

There is an Ojibwe story about how Wenabozho, cultural hero of the Anishinaabe, who was gifted with a twisted rod of cedar that allowed him to catch all the fish that he could possibly want. According to the legend, he filled his canoe with more than he could possibly need and in doing so angered the Great Sturgeon, causing the great flood.

Fishing and boating on the St. Louis River are popular recreational activities and have been a draw for visitors to the Western Waterfront. In addition, commercial fishing was one of the first industries to thrive in the Duluth/Superior Area.

Anglers can catch walleye, catfish, northern pike, muskellunge, small mouth bass, black crappie and lake sturgeon in the streams and backwaters of the river. The St. Louis River is one of the most biologically productive areas of the Great Lakes.

Currently, there are consumption advisories about eating some St. Louis River fish, depending on their level of mercury and PCBs. Recent remediation efforts have helped to reduce these levels in the estuary.



Name, 2020, Sarah Agaton Howes



Namekaa: Many Sturgeon, 2020 John Koepke













FISHING STORIES

"In 1867 one day my mother saw an Indian in a canoe going up and down the bay around the islands along the edge of the swamp, sometimes moving fast sometimes very slow. He did not seem to be paddling. She was watching him and in the afternoon she saw the Indian paddle in to the big portage, jump out from his canoe, run across the portage with a line in his hand. She went over there and found he had pulled a sturgeon that weighed 127 lbs. I saw the hook that caught the fish and it was a very large hook. The Indian said he had the bait there several days before he caught the fish. After he hooked the fish he found he could not do anything with it. He had to let the fish pull the canoe whenever it wanted to until the fish got tired out so that he could paddle the canoe and lead the fish, which he did, and landed his canoe at the portage. After the fish was weighed my father bought several slices of the fish and it was nice eating."

Pioneer Richard E. Carey's Fish Story - from Douglas County Historical Society

Morgan Park & Spirit Lake

LEGEND

-  Overlook
-  Pause Point
-  Trailhead
-  Cairn
-  Story Pole
-  Freestanding Sign
-  Trail
-  Passage
-  Restoration Area
-  Railroad
-  Open Water
-  Wetland



STORY POLE
Migizi BALD EAGLE



STEEL EAGLES

ANIMAL PROFILE

AREA MAP

RIVER PLACES

RIVER PLACES

WHITE PINE PLANTING

MINNESOTA
FOLDED JASPER
BOULDERS

ANIMAL PROFILE

Migizi

Bald Eagle *HALIAEETUS LEUCOCEPHALUS*



Migizi, John Koepke

PLANT PROFILE

Zhingwaak

White Pine *PINUS STROBUS*

The Manidoo (Spirit) who had killed the brother of Wenabozho, cultural hero of the Anishinaabe, was the chief of the water monsters, who lived on a big island up the stream. . . Wenabozho heard a voice speaking to him. It told him to use the claw of the kingfisher for his arrow and, when he was ready to shoot the Water Monster, not to shoot at the body, but to look for the place where the shadow was and shoot him there because the shadow and the soul were the same thing. On sunny days, the monster laid out in the sun to warm itself. . .

Wenebojo then traveled up the stream until he came to the island where the chief of the water monsters was lying in the sun. He shot into the side of the shadow. The manido rose up and began to pursue Wenebojo who ran with all his might, looking for a mountain. He was also pursued by the water, which kept coming higher and higher. At last, he found a tall pine, high up on a mountain, and climbed it. Still the water continued to rise halfway up the tree.

The Woodland Indians of the Western Great Lakes by Robert E. Ritzenthaler and Pat Ritzenthaler, 1983.



Zhingwaak - Sarah Agaton Howes

Manidoo-minis Spirit Island

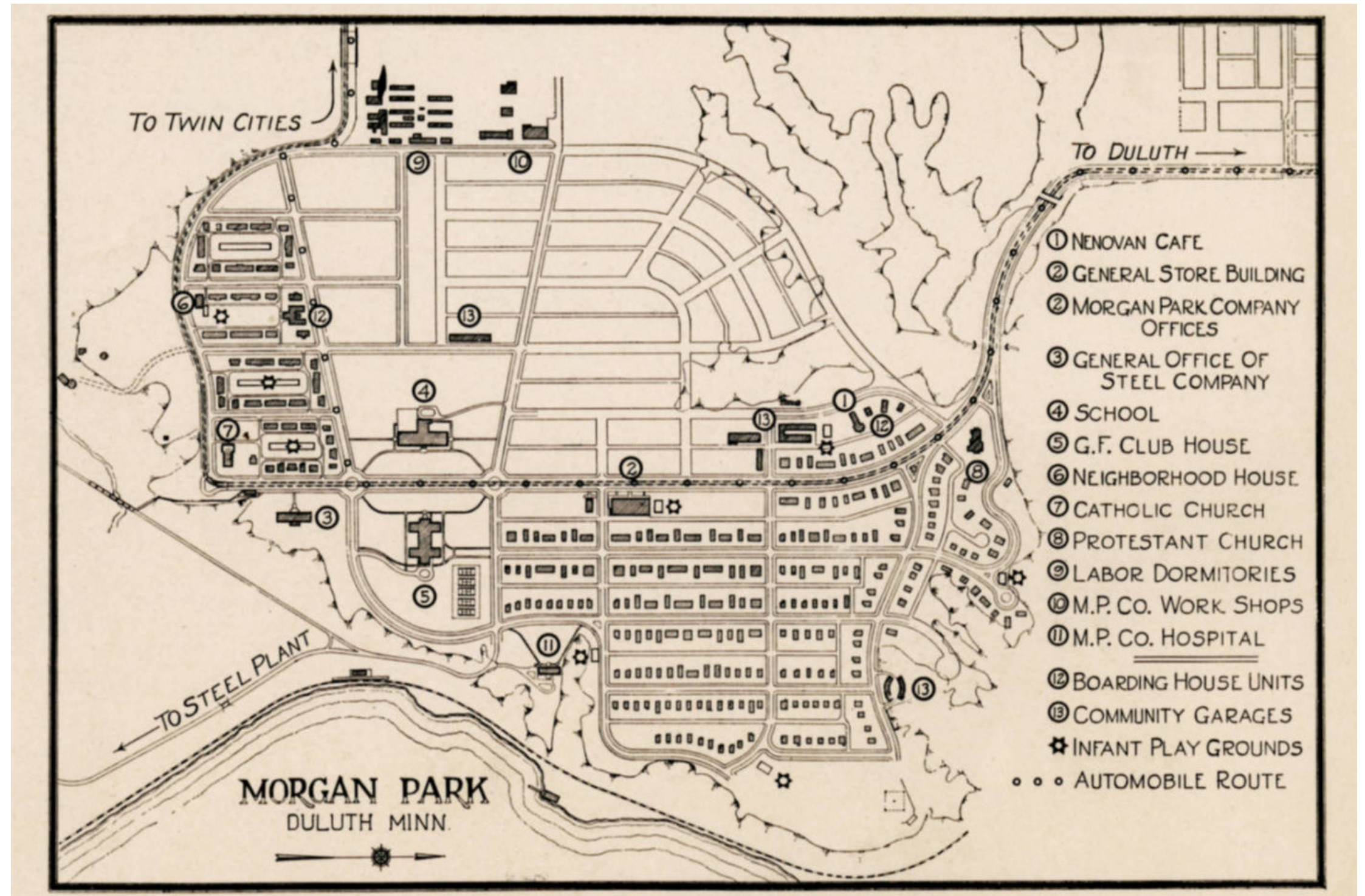
This small island that sits in the center of Spirit Lake has great significance as the sixth stopping place during the great migration of the Anishinaabe people. During the migration, two groups split at Sault Ste. Marie, with one traveling along the northern shore of Lake Superior and the other traveling along the south shore. The two groups re-united here in the place where “the food grows on water.” The Manoomin (Wild Rice) grew in the backwaters of spirit lake aroujnd the turtle shaped minis (island) foretold in the prophesy. After losing the island in the Treaty of 1854, the Fond du Lac band purchased it from a private seller in 2011 and have since invested in its ongoing protection and restoration.



Spirit Island + Spirit Lake, Richard Hamilton Smith, The Nature Conservancy

Morgan Park

Morgan Park is a planned community that was built in the early 1900's to house workers at the nearby US Steel Duluth Works. The community was owned and operated by a subsidiary of US Steel and only employees of the company were able to live there until 1933 when the community was deeded to the City of Duluth. The neighborhood is an excellent example of a Company Town, whose history is documented in depth in Arnold Alanen's book *Morgan Park: Duluth, U.S. Steel, and the Forging of a Company Town*.



Map of Duluth: Morgan Park - University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Collections

Slag Point

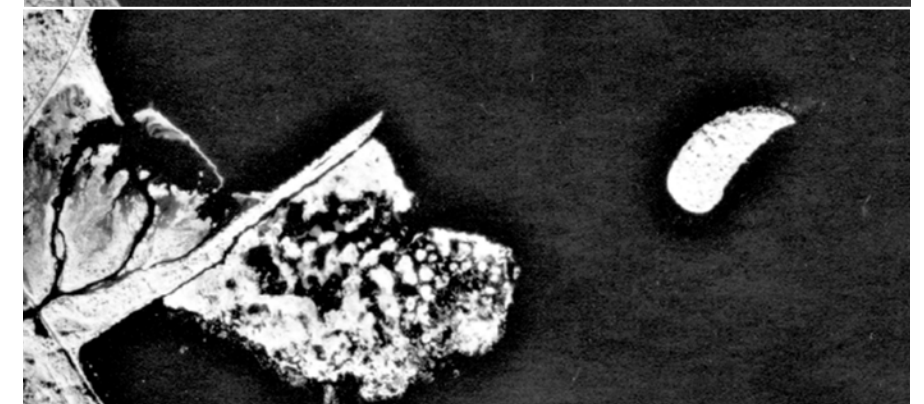
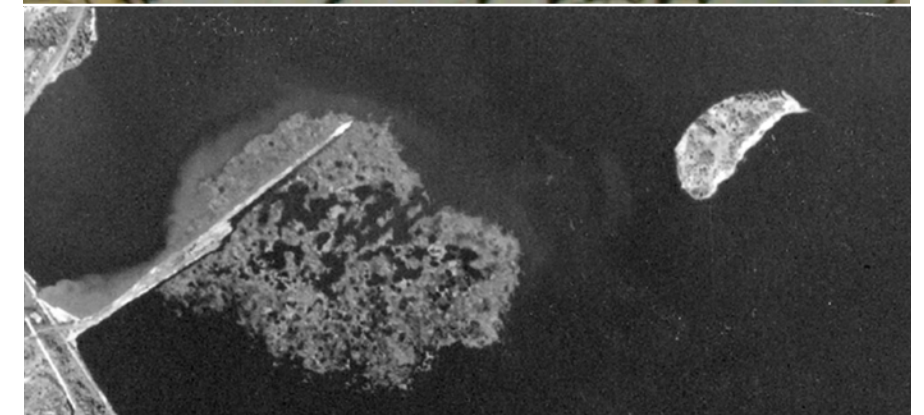
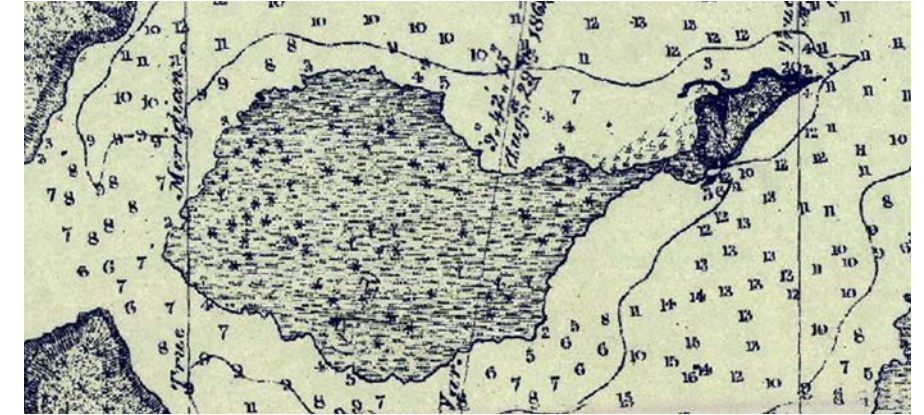
Initially constructed to facilitate the loading and unloading of materials from river barges, this jetty was built with slag waste from the steel manufacturing process. It currently sits just above the water line and forms the southern enclosure of a marshy wetland at the mouth of US Steel Creek. The proposed remediation plan for the aquatic portion of the U.S. Steel site would involve building a contained disposal facility in this area. This will raise the elevation by approximately five feet so that this area could serve as a new waterfront park space. From the tip of Slag Point, visitors are able to have 360 degree views of the surrounding river landscape.



Slag, 2020, Samuel Geer



Slag Point near Morgan Park, 2020, Samuel Geer



Spirit Island and Slag Point Evolution 1863-1967, Borchert Map Library, UMN Twin Cities

US Steel / Spirit Lake Remediation Area

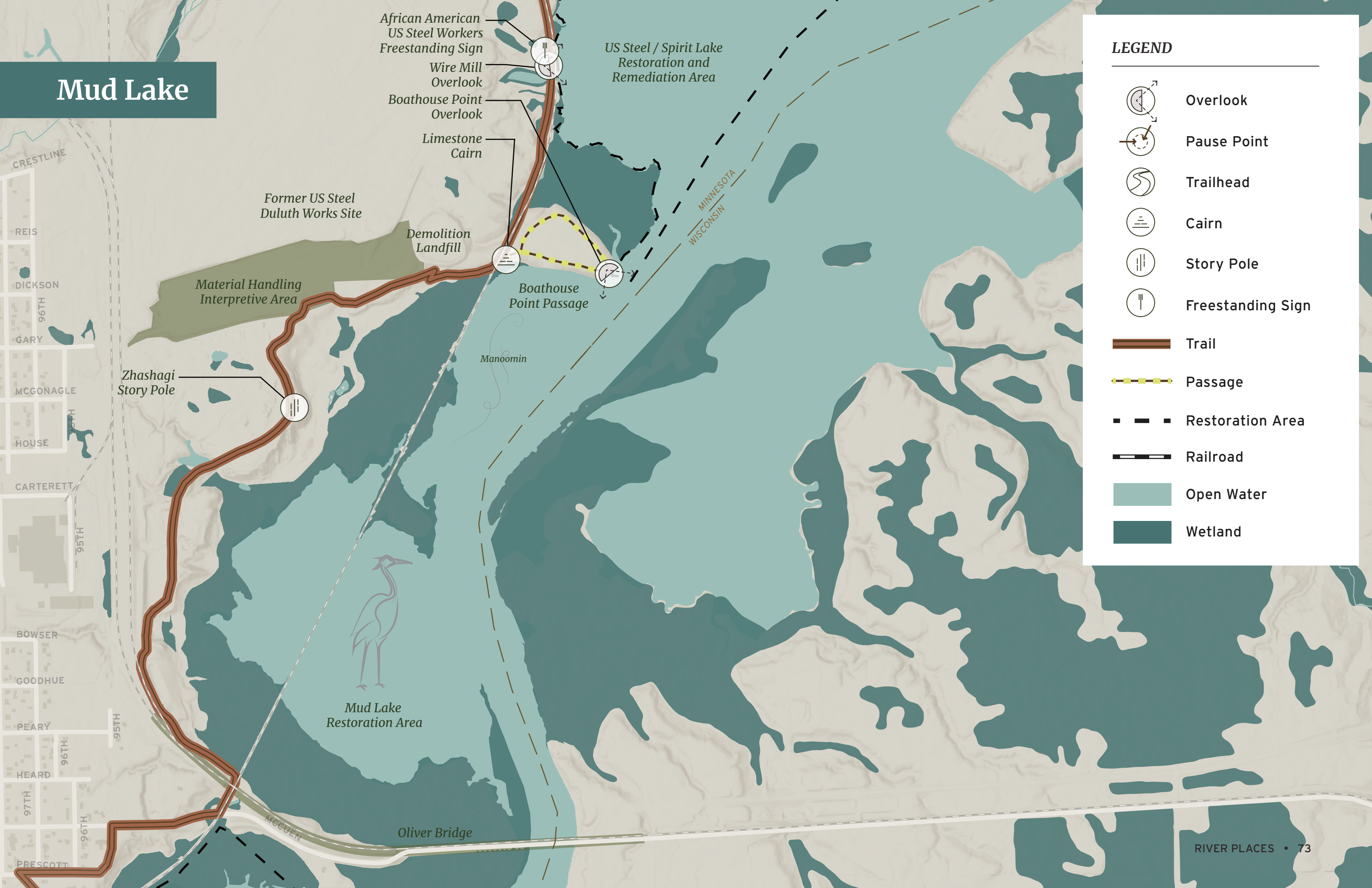
“Historically, U.S. Steel’s Duluth Works plant released a variety of pollutants into the western part of Spirit Lake, including polycyclic aromatic hydrocarbons (PAHs), lead, copper and zinc. The U.S. Environmental Protection Agency and U.S. Steel are funding remediation efforts that will include removal of about 770,000 cubic yards of contaminated sediment with, placement in on-site confined disposal facilities, and capping of about 117 acres of less-contaminated sediment. Additionally, new, open water habitat will be created and fish spawning habitat will be restored. After this work is completed, the City of Duluth or others may create trails, access points, or viewing locations.”

– St. Louis River Area of Concern: Addressing the Loss of Fish and Wildlife Habitat. MPCA Storymap



Riverfront Park Plan for Spirit Lake Contained Disposal Facility, 2019, Waabizeshikana Mini-Master Plan

Mud Lake



LEGEND

- Overlook
- Pause Point
- Trailhead
- Cairn
- Story Pole
- Freestanding Sign
- Trail
- Passage
- Restoration Area
- Railroad
- Open Water
- Wetland

STORY POLE

Zhashagi GREAT BLUE HERON



SLAG PILES

STAINLESS STEEL
BLUE HERON

ANIMAL PROFILE

AREA MAP

RIVER PLACES

LIFEWAYS

CATTAILS

ANIMAL PROFILE

Zhashagi

Great Blue Heron *ARDEA HERODIAS*



Zhashagi - John Koepke

PLANT PROFILE

Apakweshwayag

Common Cattail *TYPHA LATIFOLIA*

“Apakweshkwayag (cattails) are often common along wetlands bordering rice lakes. The introduced narrow-leaved cattail (*Typha angustifolia*) grows in deeper water than the native common cattail (*Typha latifolia*), making it more likely to compete with wild rice. It also hybridizes with common cattail, producing hybrid cattail (*Typha x glauca*), which is more aggressive than either parent. The potential long-term effects of narrow-leaved and hybrid cattail on wild rice populations remains to be seen.

Manoomin: Past, Present & Future: An old friend faces new threats, 2008, Great Lakes Indian Fish and Wildlife Commission (GLIFWC)



Apakweshwayag - Sarah Agaton Howes

Mud Lake

OLIVER BRIDGE

Initially constructed in 1916, this was one of the first double decker bridges built in the United States. The lower deck of the bridge incorporated a segment that could swing to allow the passage of the larger riverboats that made their way up to Fond Du Lac.

DEMOLITION LANDFILL

This landform overlooking Azhashkiikaag-zaaga'igan (Mud Lake) was constructed to dewater the wood waste dredged from the backwater bays of the St. Louis River. The scale of the space and level of soil compaction have prevented the regrowth of trees in this area.

BOATHOUSE POINT OVERLOOK

At the north end of Mud Lake, Boathouse Point rises sharply above the river, a remnant rocky outcropping revealed by the erosion of the river. A rustic trail loop will lead to a series of informal lookout spaces that give visitors excellent views of the surrounding landscape.



Oliver Bridge, 2020, Samuel Geer



Slag Dump, and Demolition Landfill near Mud Lake and the US Steel Duluth Works, 2020 Samuel Geer

LIFEWAYS

Habitat Restoration

MUD LAKE RESTORATION

The alignment of the Lake Superior and Mississippi Railroad track crosses Mud Lake via a long causeway. Mud Lake was once a bay connected to the river. However, the constrained flow through a single opening in the causeway has resulted in loss of habitat quality in parts of Mud Lake due to the lowered exchange of water and sediment.

The causeway dividing Mud Lake is owned by the City of Duluth, which decided to retain it for continued railroad use. Conceptual restoration plans call for creation of a new opening at the north end of the causeway to improve flows, restoring sheltered bay hydrology, improve the wetland communities, and increasing deep water habitat. This area remains prime habitat for a diverse bird assemblage and the trail will make this area more accessible for naturalists. Restoration efforts are currently in the design phase and are based on extensive public involvement to develop conceptual designs.

MUD LAKE TRAILHEAD & PAUSE

The creation of a new trailhead off McCuen Street will incorporate a Pause gathering space, a new fishing pier, as well as new parking and trail amenities. These amenities will improve the access to the trail for visitors from Wisconsin and provide an ideal location from which to observe the wildlife. This location is owned by the Burlington Northern Santa Fe Railroad and the City may not be able to acquire this space.



Mud Lake, 2020, Samuel Geer

Material Transfer Area

The future redevelopment of the US Steel Duluth Works site is planned for new industrial use. This area contains the ruins of the large material handling wall running east/west across the site. It once held the raw materials used in the steel making process. Remnants of these materials can be found in the remaining soils and debris piles.

This space and the trail along the edge of the bluff could immerse visitors in the industrial history of the site. This could help bring to life the labor intensive process of making steel, as well as the residual environmental impacts that resulted from decades of dumping waste products into the river.













Material Transfer Yard, 2019, Dakota Carlson

RAW MATERIAL PILES

Raw Material Piles, US Steel Duluth Works, Minnesota Pollution Control Agency

Boy Scout Landing



- LEGEND**
-  Overlook
 -  Pause Point
 -  Trailhead
 -  Cairn
 -  Story Pole
 -  Freestanding Sign
 -  Trail
 -  Passage
 -  Restoration Area
 -  Railroad
 -  Open Water
 -  Wetland

STORY POLE
Makwa *BLACK BEAR*



STAINLESS STEEL
BLACK BEAR

ANIMAL PROFILE

AREA MAP

RIVER PLACES

LIFEWAYS

RASPBERRY PLANTING

MILLED TIMBER BENCH

ANIMAL PROFILE

Makwa

Black Bear *URSUS AMERICANUS*



Makwa, 2020, John Koepke

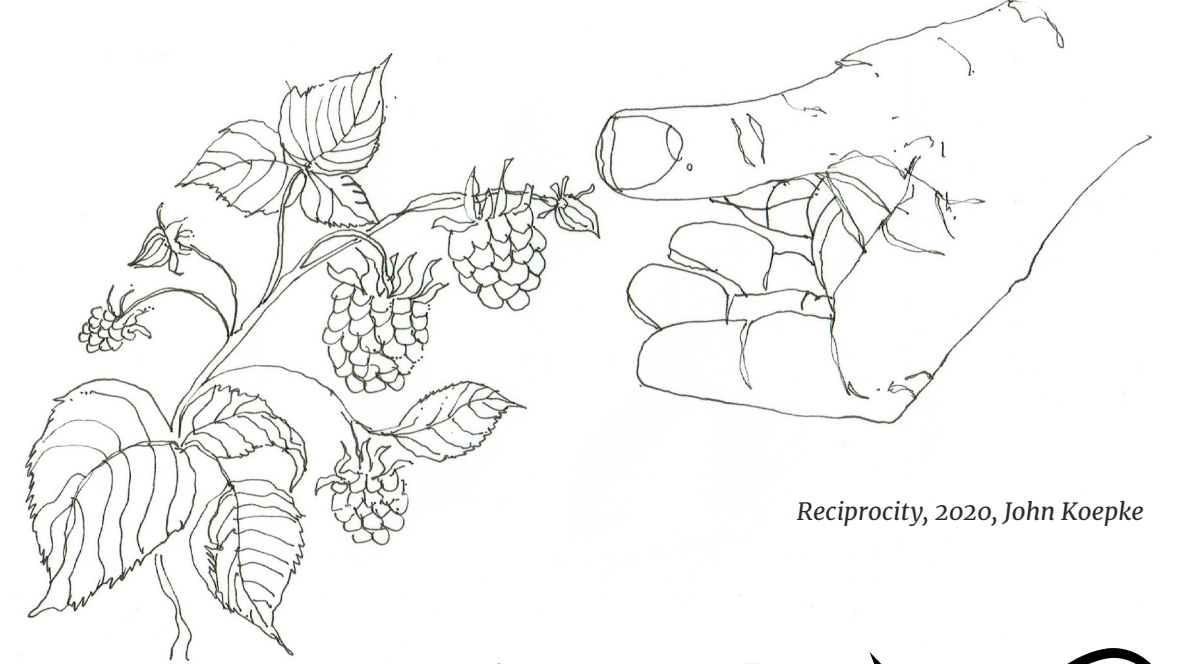
PLANT PROFILE

Miskomin

Red Raspberry *RUBUS IDAEUS*

Red Raspberry grows in open areas, waste areas and often comes in after a burn...The root was used to treat dysentery, measles, and stomach pain. The sweet juicy berries were used as a food source and seasoning for medicines.

Plants Used by the Great Lakes Ojibwe, GLIFWC



Reciprocity, 2020, John Koepke



Miskomin - Sarah Agaton Howes

Boy Scout Landing

CONCRETE CISTERN

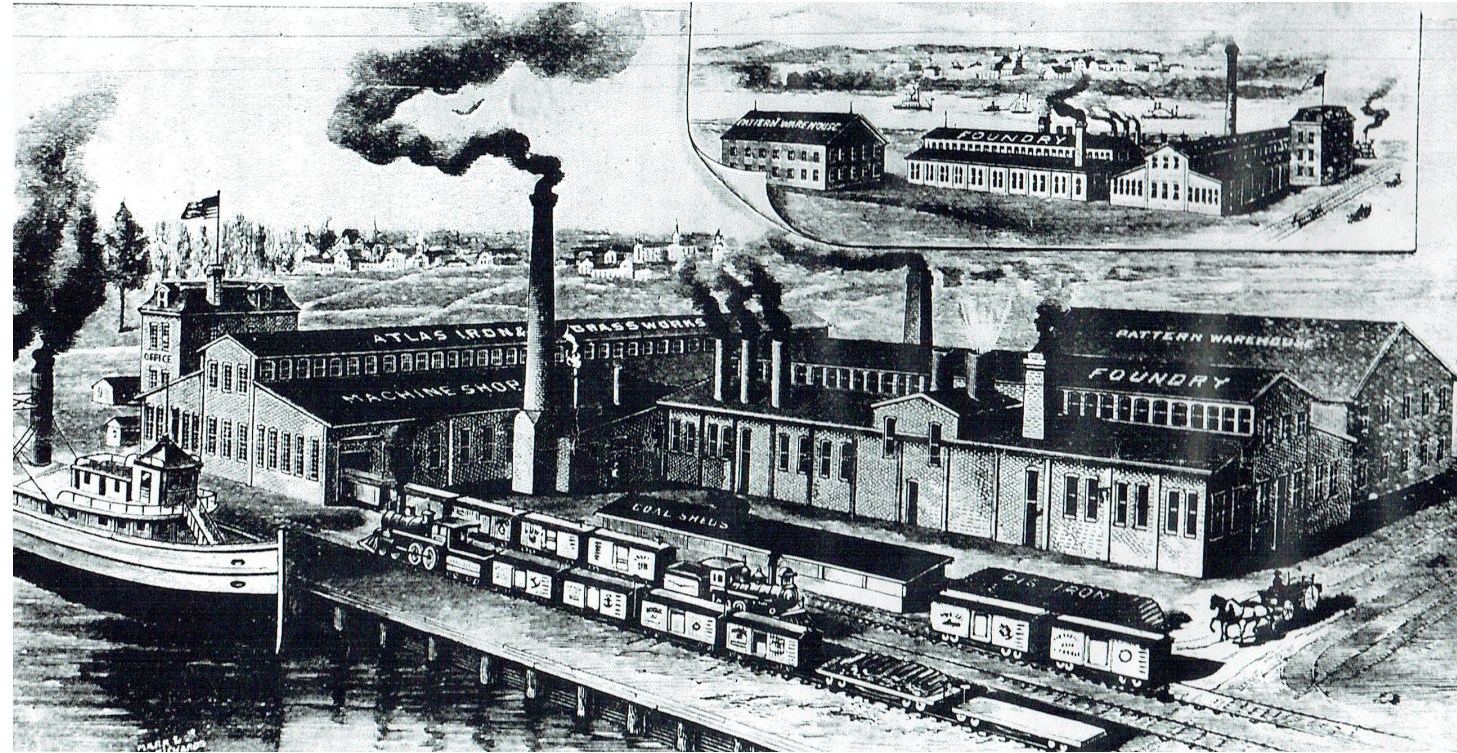
This large concrete cistern is the largest visible remnant of the industrial history of the area around Boy Scout Landing. Surrounded by a wetland and an artesian spring, this landmark speaks to the heavy industrial history of the area.

NEW DULUTH INDUSTRIAL AREA

First built in the 1890s, this factory complex was an early employment destination for the community members in New Duluth. Originally a brass foundry, it later transitioned to become a refrigerator factory. Little remains of the former factory complex beside the concrete slab that was once the factory floor. This landing was once the home of multiple factories and mills, including a paint factory, which has been adapted into condominiums.

NEW DULUTH RAILROAD DEPOT

This is the end of the line for the LSMRR Excursion rail and is also the site of the historic railroad depot. The site includes operational rail switches and the remnants of the historic New Duluth train depot which once stood in this location.



Atlas Brass and Ironworks – Duluth Weekly Herald – November 11, 1891



Concrete Cistern, 2020, Samuel Geer



Train tracks near Boy Scout Landing, 2020, Samuel Geer

LIFEWAYS

Milling on the River

LUMBER MILLS ON THE ST. LOUIS

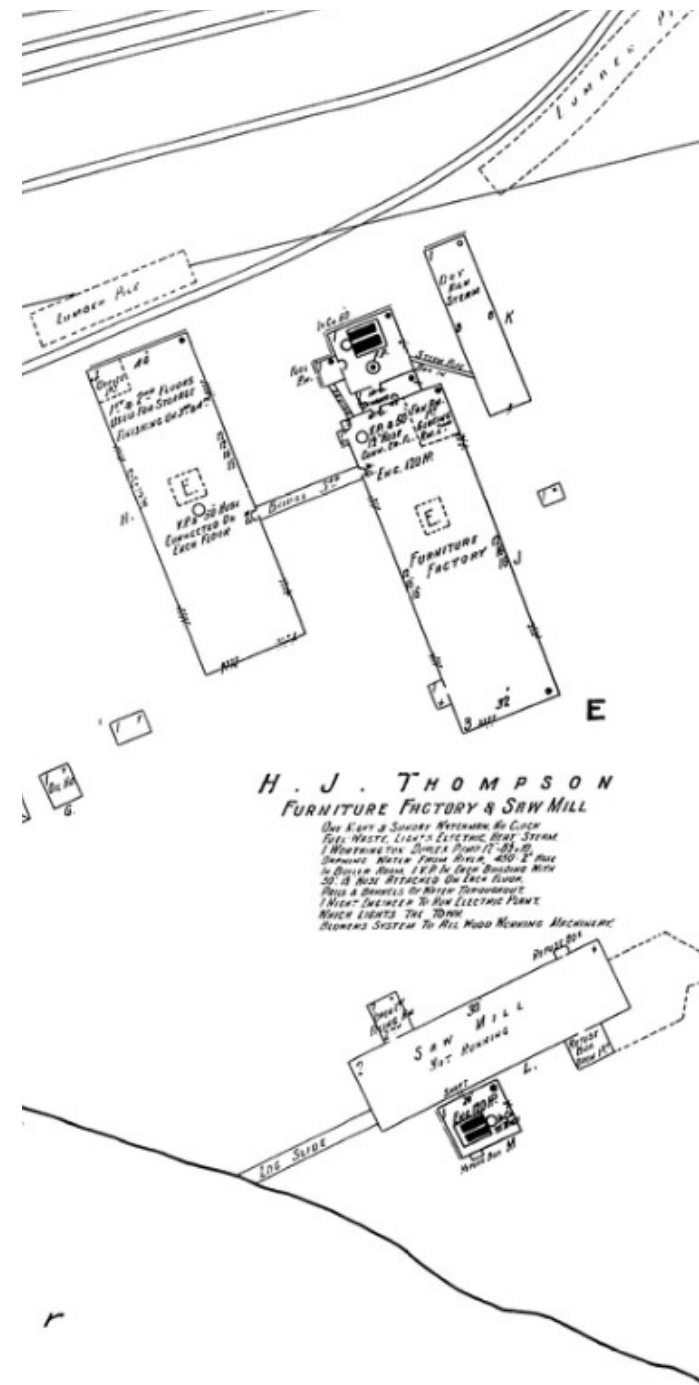
Despite copper prospecting driving the initial north shore land claims after the Treaty of 1854, the lumber industry was able to establish a rapid foothold on the riverside. Henry Wheeler built the first lumber mill in Oneota in 1855, and the industry continued to grow over the second half of the 19th century. By 1902, the peak year for Duluth's Lumber Industry, 20 Million board feet of lumber was being processed in Duluth annually. The H.J. Thompson factory and other saw mills dumped their wood waste and sawdust in backwaters like Radio Tower Bay. Around 1911, the lumber industry in Duluth declined; the North Woods were largely cleared of old growth forest and major lumber operations moved to the pacific northwest.

RADIO TOWER BAY RESTORATION

Two mills were located in this bay in the late 1800s. The bay was once enclosed by a railroad line built on pilings to cross the water. The mill dumped waste wood and sawdust into the bay, which led the bay to fill with sediment and invasive cattails. The restoration effort removed tons of this woody debris to create new open water habitat and shallow wetland restoration.

RADIO TOWER FOOTINGS

The footings of what was the earliest radio tower built in Minnesota remain in place in what was once known as Cedar Bay.



H.J. Thompson Furniture Factory + Saw Mill. Sanborn Map Company. Duluth, MN, 1909. Courtesy of the Borchert Map Library, University of Minnesota Libraries.



Radio Tower Bay - Milling Waste Prior to Restoration. Image Courtesy of the St. Louis River Alliance

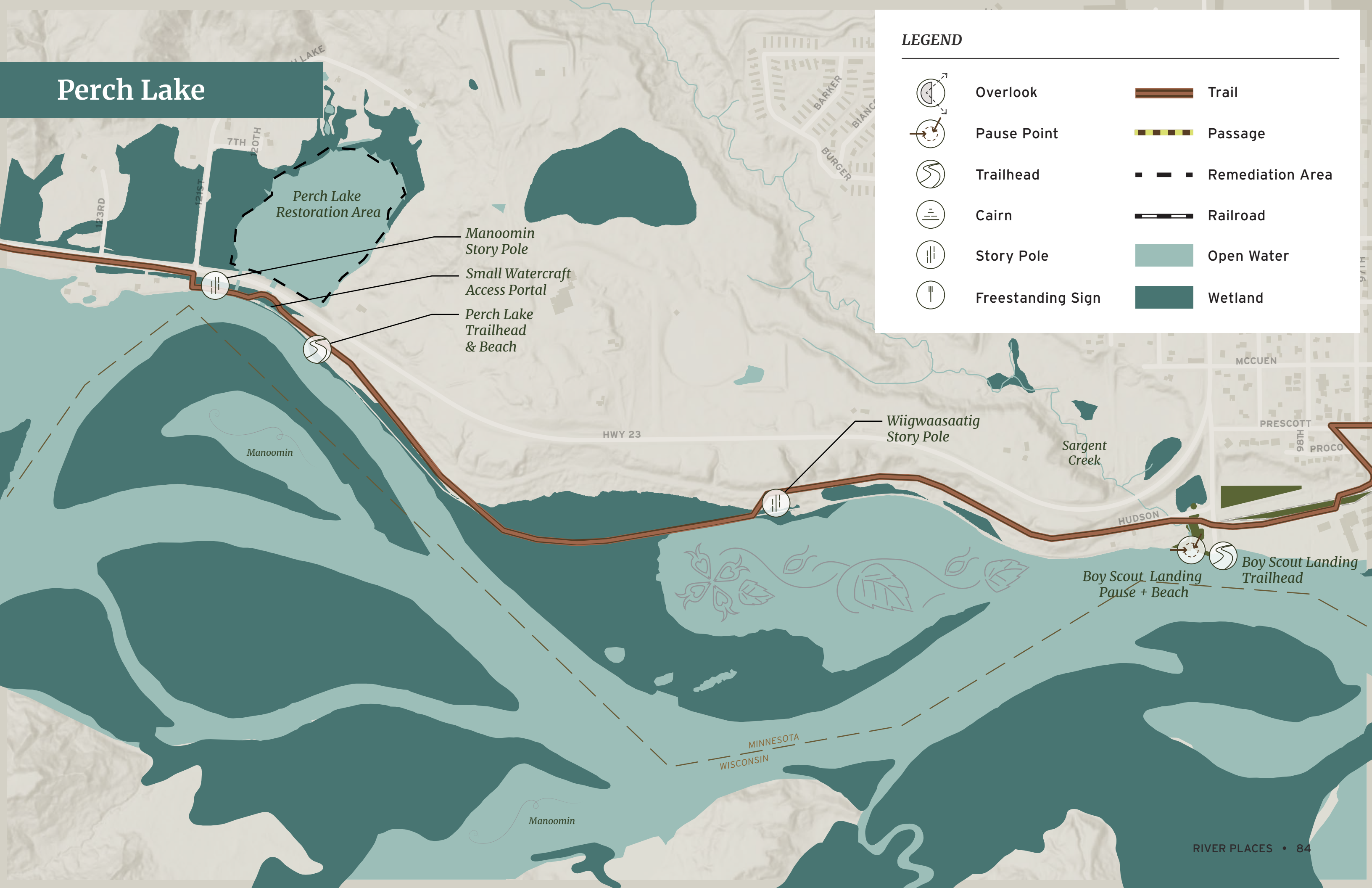


Lumberjacks and river log drive on St. Louis River, near Duluth, Minnesota, 1888. Digitally enhanced image courtesy of University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.

Perch Lake

LEGEND

- | | | | |
|--|-------------------|--|------------------|
| | Overlook | | Trail |
| | Pause Point | | Passage |
| | Trailhead | | Remediation Area |
| | Cairn | | Railroad |
| | Story Pole | | Open Water |
| | Freestanding Sign | | Wetland |



STORY POLE

Wiigwaasaatig *PAPER BIRCH*

STAINLESS
STEEL DEER



ANIMAL PROFILE

AREA MAP

RIVER PLACES

LIFEWAYS

STAINLESS
STEEL WOLF



MILLED WOOD
BENCH



SKALLY LINE
RAILROAD EXAMPLE



PLANT PROFILE

Wiigwaasaatig

Paper Birch *BETULA PAPYRIFERA*

LIFEWAYS

Birch Harvest

The Lake Superior Ojibwe have used paper birch bark to make everything from wild rice winnowing baskets to birch bark canoes that could carry more than 2 tons of cargo. The Ojibwe continue these traditions today. As pressure increased on the forest resources of the Upper Great Lakes in the late 20th century, the Ojibwe became concerned about the long-term viability of the paper birchbark resources.

The Ojibwe, and other Native American tribes of the Upper Midwest, signed treaties with the U.S. Government in 1836, 1837, 1842, and 1854. In those treaties, they ceded land in northern Michigan, Wisconsin, and Minnesota to the U.S. Government, but the tribes retained hunting, fishing, and gathering rights in the region. To help implement these retained rights on national forests in the ceded territories, member tribes of the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) who entered into a memorandum of understanding with the U.S. Forest Service. This agreement allows for regulating the harvest of nontimber forest products (including paper birch bark) following standardized protocols and provides mechanisms for tribes to participate in the drafting of National Forest management plans and of U.S. Forest Service research project proposals.

– US Forest Service, *Paper Birch (Wiigwaas) of the Lake States, 1980–2010*

Wiigwaasaatig – Sarah Agaton Howes



When Wenabozho, cultural hero of the Anishinaabe, finally reached Thunderbird’s home, he asked, “Please share the warmth inside your home. I am cold and lost. I will only stay a little while, for I must be on my way.”

The Thunderbird agreed and allowed Wenabozho to enter his home. Inside, Wenabozho saw the fire and waited until Thunderbird looked away. Then, Wenabozho quickly rolled in the fire and took off running toward his home with the fire on his back!

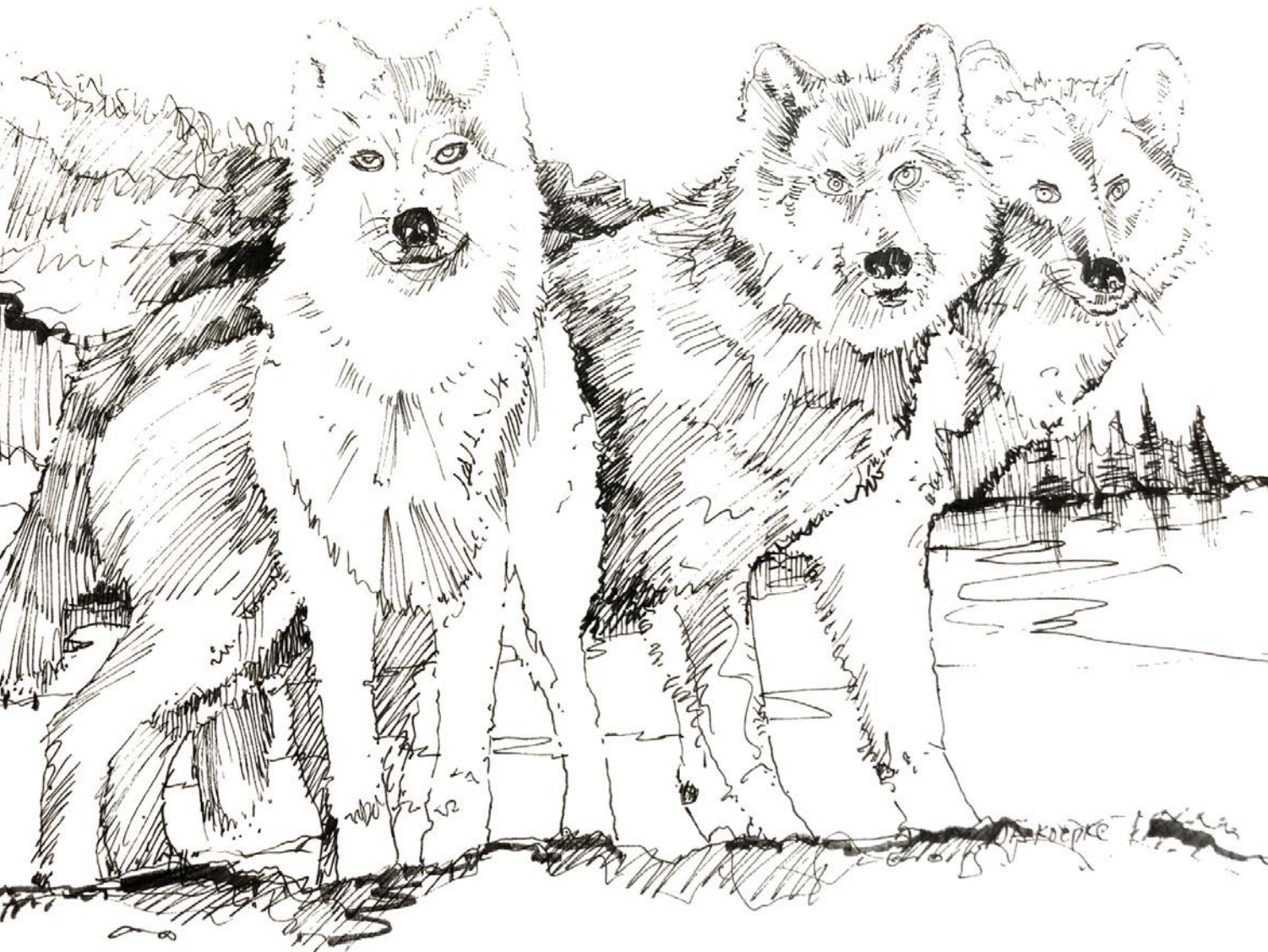
Thunderbird flew behind Wenabozho throwing lightning flashes at him! Wenabozho grew tired and yelled for someone to help him. “Wiidookawishin! (help me!)” he cried.

Then Wiigwaasaatig, the birch tree, spoke. “Come, hide beside me my brother. I will protect you.” Like a waaboozoons (little rabbit), he hid beneath the tree while Thunderbird flashed and thundered, angry that Wenabozho had stolen the fire. The lightning bolts missed Wenabozho every time but they hit Wiigwaasaatig. Dark burn marks scarred the white bark of the tree. That is why the birch tree now has burn marks on its bark.

Adapted from *How the Birch Tree Got Its Burns*, an Ojibwe legend retold by Aurora Conley

ANIMAL PROFILE
Ma'iingan

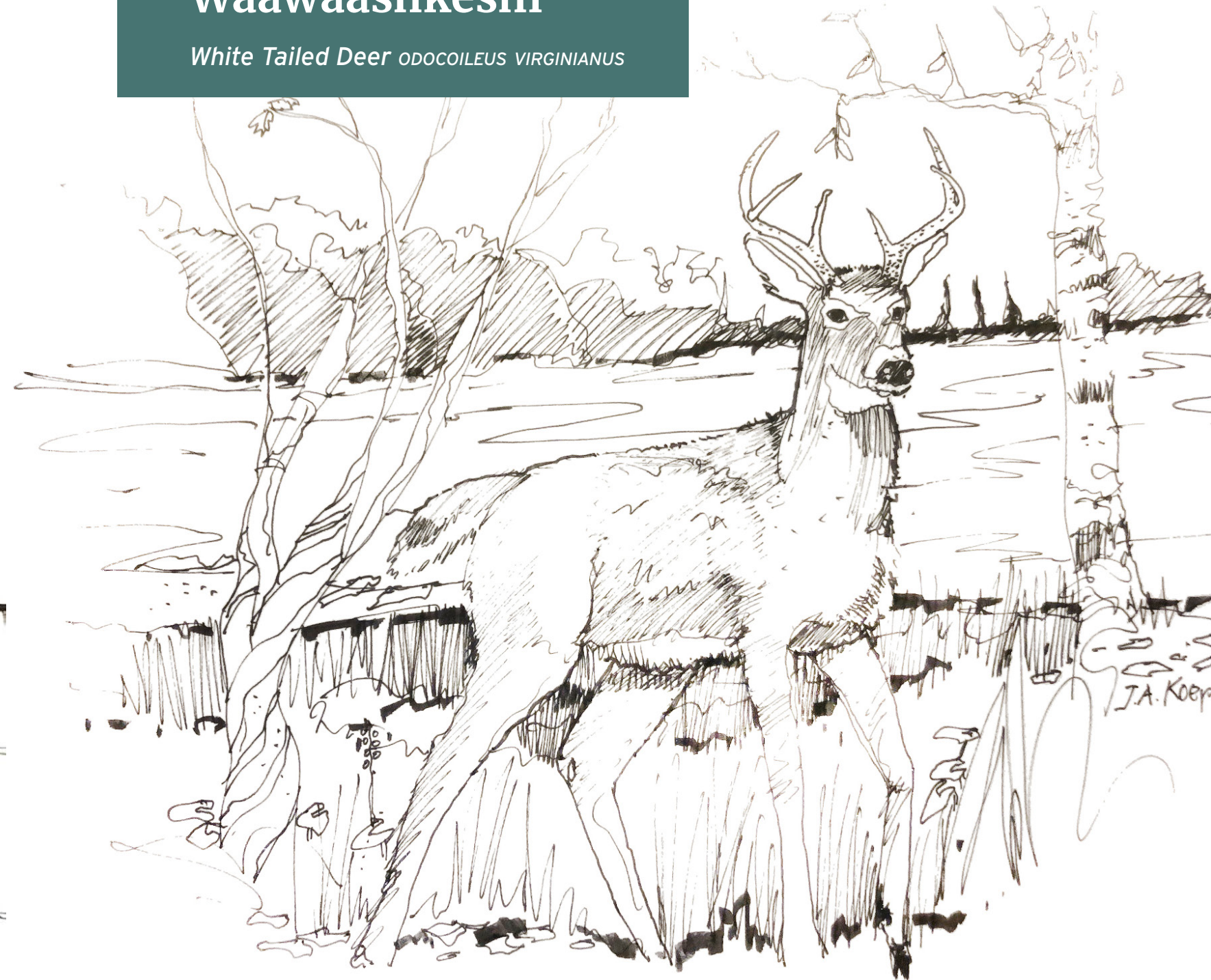
Gray Wolf *CANIS LUPUS*



Maingan, 2020, John Koepke

ANIMAL PROFILE
Waawaashkeshi

White Tailed Deer *ODOCOILEUS VIRGINIANUS*



Waawaashkeshi, 2020, John Koepke

Backwaters and Abandoned Rails

LIFEWAYS

Water Pollution in the St. Louis River

The St Louis River is one of 43 Great Lakes Areas of Concern where tremendous clean up and restoration efforts are underway to improve environmental quality in the river. This includes the reach of the river that runs from Cloquet to Lake Superior. The river has five remaining beneficial impairments: beach closings and body contact restrictions, restrictions on dredging, loss of fish and wildlife habitat, degradation of bottom-dwelling plants and animals, and fish consumption advisories. Many local, state, federal and tribal partners are addressing these impairments, coordinated by four agencies: the Fond du Lac Band of Lake Superior Chippewa, the MN Department of Natural Resources, the MN Pollution Control Agency, and the WI Department of Natural Resources. Visitors can learn more about these remediation efforts at the Minnesota Pollution Control Agency's website for the St. Louis River Area of Concern.

RIVER PLACES

The Skally Line

The remnants of the LSMRR line that once ran through Jay Cooke State Park to Saint Paul can be found along the trail in this stretch of the river.

“The (railroad) section from Thomson to Fond du Lac, known as the Skally Line is of special interest. Being close to the river, it presented many spectacular views of the wild river with its numerous waterfalls and rapids and was a high point of a train trip over the line... Old photographs show the small wood burning locomotives in use at that time and the high wooden trestles that were necessary to cross the deep ravine... The section from Thomson to Fond du Lac operated until 1894 when the largest trestle was destroyed by fire and the Skally line was terminated”

- John Fritzen, The History of Fond du Lac and Jay Cooke Park, 1978 -



St. Louis River at Fond du Lac, 1888, University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Collections



Remnant Train Line near Fond du Lac, 2020, Samuel Geer

STORY POLE

Manomin *WILD RICE*

STAINLESS
STEEL LOON

ANIMAL PROFILE

AREA MAP

RIVER PLACES

LIFEWAYS

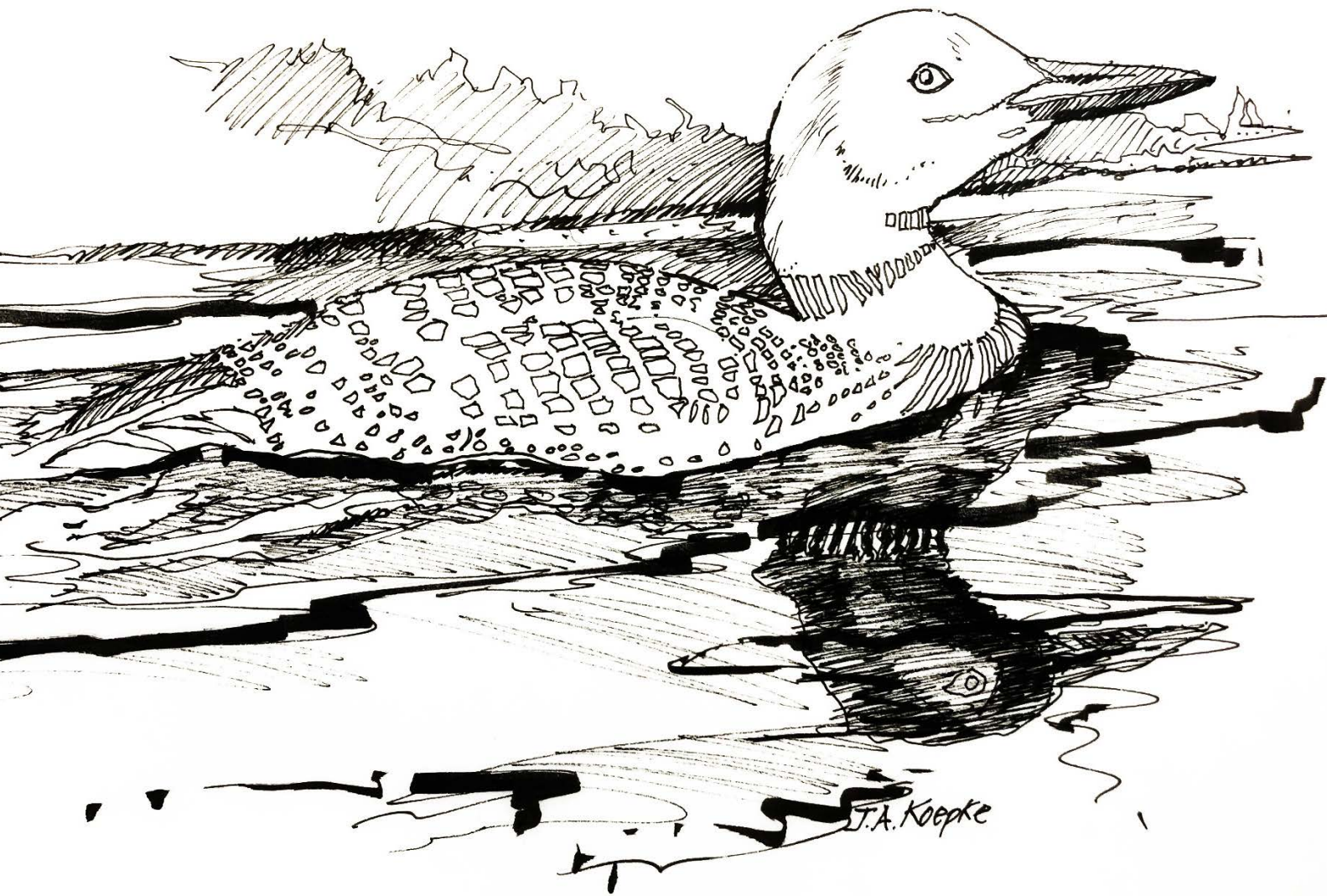
WILD RICE
OVERLOOK

GEOLOGY OF
THE ESTUARY

ANIMAL PROFILE

Maang

Loon



Maang, 2020, John Koepke

ANIMAL PROFILE

Wazhashk

Muskrat *ONDATRA ZIBETHICUS*



Wazhashk, 2020, John Koepke

PLANT PROFILE

Manomin

Wild Rice

LIFEWAYS

Manomin–Wild Rice

WILD RICE RESTORATION

Manomin, or wild rice was known to the Ojibwe as “the food that grows upon the water” but is more than just a food for consumption. It was a gift from the Creator, Gizhe Manidoo, included at ceremonies, funerals, and at the graves of loved ones. It is also a food source and bountiful habitat for fish and wildlife. The St. Louis River estuary once had thousands of acres of wild rice. Today, only a few isolated pockets of wild rice exist in the entire river estuary. as industrial development, and clearcutting have nearly eradicated it. Wild rice seeding is now taking place over 275 acres in suitable bays in the backwaters of the river.

MANOOMINIKWIN (RICING)

“One evening Wenabozho, cultural hero of the Anishinaabe returned from hunting, but he had no game. As he came towards his fire, there was a duck sitting on the edge of his kettle of boiling water. After the duck flew away, Wenabozho looked into the kettle and found wild rice floating upon the water, but he did not know what it was. He ate his supper from the kettle, and it was the best soup he had ever tasted. Later, he followed in the direction the duck had taken and came to a lake full of manomin. He saw all kinds of duck and geese and mudhens, and all the other water birds eating the grain. After that, when Wenabozho did not kill a deer, he knew where to find food to eat.”

LaDuke, W. (2000) Food for Life: Wild Rice Moon



Manomin – Sarah Agaton Howes

Photo by Peter M. Dziuk

Water Protectors

NATIVE WOMEN & WATER WALKS

The mission of the Indigenous Women Water Sisterhood (IWWS) is to use the collective traditional and spiritual knowledge of Indigenous peoples to raise awareness about and to take actions to improve and protect the sacred Lake Superior watershed. The IWWS is comprised of Indigenous elders, scholars, scientists, community workers, students, and allies who envision a healthy and sustainable Mother Earth where the sacredness of water is respected and honored.

IWWS works to understand regional environmental stressors and work with traditional ecological knowledge keepers, western scientists, educators, and community organizers to problem solve the water issues faced by the Lake Superior watershed.



Indigenous Women Water Sisterhood Logo

Perch Lake

PERCH LAKE RESTORATION

Aatawemogwegokokaaning (Perch Lake) was once a backwater bay of the river that was cut off when Highway 23 was constructed. A single, small culvert is its only connection to the river. The exchange of water and oxygen between the lake and river is reduced, resulting in organic matter accumulation, sedimentation, and eutrophication of the lake over time. Low dissolved oxygen in the water makes Perch Lake poor fish habitat. The proposed restoration will increase the river-lake connection by adding a second, larger, opening under the highway. Excavating excess sediment and organic matter will restore coastal marsh habitat and increase deep, off channel habitat for fish.

PERCH LAKE TRAILHEAD AND BEACH

The addition of parking, bathrooms, a universally accessible trailhead, and waterfront beach access will make this location suitable for visitors looking to launch watercraft or explore the backwaters and wild rice restorations in this wild stretch of the river.



Perch Lake Site Plan – Waabizheshikana Mini-Master Plan

Fond du Lac

LEGEND

- | | | | |
|--|-------------------|--|------------------|
| | Overlook | | Trail |
| | Pause Point | | Passage |
| | Trailhead | | Remediation Area |
| | Cairn | | Railroad |
| | Story Pole | | Open Water |
| | Freestanding Sign | | Wetland |



STORY POLE
Nigig RIVER OTTER



ANIMAL PROFILE

AREA MAP

RIVER PLACES

LIFEWAYS

STAINLESS
STEEL OTTER

BROWNSTONE
DRY STACK WALL

WHITE CEDAR PLANTING

ANIMAL PROFILE

Nigig

River Otter *LONTRA CANADENSIS*



Nigig - John Koepke

PLANT PROFILE

Giizhik

White Cedar *THUJA OCCIDENTALIS*

Giizhik, or cedar, is one of the four sacred medicines of the First Nations Peoples. The leaves are removed from the stems and separated into small pieces, which are used in many ways. When burned as a smudge, it acts as a purifier, cleansing to the area in which it is burned and emitting a pleasant scent.

Plants Used by the Great Lakes Ojibwe, GLIFWC



Giizhik - Sarah Agaton Howes

Historic Fond du Lac & Chambers Grove

TREATIES OF 1679, 1826 AND 1847

The Treaty of 1826 was signed at the American Fur Company Trading Post. The treaty was intended to end fighting between the Ojibwe and Dakota peoples, to enable greater access for US trading interests, and provide the US government with partial mineral rights to the Minnesota Landscape. The Treaty of 1847 was also signed at Fond du Lac. However, it is often overlooked; it ceded a smaller portion of land than the more extensive Treaty of 1854 that was signed at LaPointe, Wisconsin.

AMERICAN FUR COMPANY OUTPOST

The American Fur Company, owned by John Jacob Astor, was a major destination for Native Americans, voyageurs, and international traders for generations. As the end of navigable waters, this was an important destination and gateway to the grand portage which allowed passage to the west. The decline in demand for furs and the arrival of the railroad and highways reduced the importance of Fond du Lac as a destination. Historic Park sits at the end of 133rd Street, and contains a stone with a plaque commemorating the Fur Post and the treaties signed here. Now the backwater wetland, which once was once a harbor for small watercraft has silted in and has become a cattail marsh. A replica of the trading post was built by the Civilian Conservation Corps in Chambers Grove in 1933 and stood until the mid-1960s.

NAGAAJIWANAANG JIIBAYAKI HISTORIC FOND DU LAC CEMETERY

Christine Carlson, a local historian, has written extensively about the historic cemeteries at Fond du Lac. There were two cemeteries located on the bluff overlooking the American Fur Company Outpost, one for Christians and one for Native Americans. The cemetery has been disturbed many times over the past two centuries, first by the railroad in 1889, when some of the bodies were moved to the nearby Roussain Cemetery. Then again during the construction of Highway 23 in 1921 + 1937. The LSMRR Rail Depot once stood at the end of 133rd Street, just above the central cemetery. The fourth major disturbance was made by the Minnesota Department of Transportation in 2017 and the damage is still in the process of being repaired. The cemetery will be protected by a stone enclosure and include an interpretive welcome circle to tell the story of the Cemetery. Upon completion of the restoration work, ownership of the land will be returned to the Fond du Lac Band.



Proposed Welcome Space – Nagaajiwanaang Jiibayaki – Historic Fond du Lac Cemetery

Historic Fond du Lac & Chambers Grove

BIAUSWAH (BAYAASWAA) BRIDGE

The Biauswah Bridge is named for an Ojibwe chief and his son who both shared the name. The father exchanged himself as a captive after his son was captured by a rival band. The father was tortured and killed, but they honored his sacrifice and let his son go. His son took his name and in time, helped lead his people back to this area. The bridge is named for them in honor of all Native American warriors and those who have served in the US Military. A small sign is located beside the entrance to the bridge.

THE QUARRIES OF FOND DU LAC

The Fond du Lac area was home to three different quarries that mined and processed brownstone, a sedimentary rock formed by sand deposits left when this area was at the bottom of Glacial Lake Duluth. This area was annexed by the City of Duluth in the late 1800s because of the lucrative quarry operations.

RIVERBOAT LANDINGS

Fond du Lac had been a popular recreational destination for tourists traveling from Duluth, accessible by a short train excursion or Riverboat trip up the river. Upon arrival, visitors could visit multiple dance halls, hotels, campsites, and picnic areas and an ideal environment for fishing and recreational boating. There were once three different boat landings, including one on Neku Island that existed to serve a hotel and dance hall.



View of Fond du Lac, MN. 1904 - University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Collections

Mission Creek & Grand Portage

MISSION CREEK PASSAGE

Visitors that follow this route along 131st street will walk past the Mission Creek Bridge, the historic location of Reverend Ely's mission and school, the remnants of the Fond du Lac Winter Sports complex, and the Mission Creek Quarry. The need to convey stone out of the quarry was the original reason for the realignment of creek in 1893. Flood damage has resulted in the need for stream re-meandering and restoration work. This passage also connects to a trailhead for the Superior Hiking Trail.

GICHI-ONIGAMI - GRAND PORTAGE PASSAGE

Before roads and rails connected Duluth, the Grand Portage was the best passage to the west since one could follow the river west to other navigable water bodies. There is an opportunity to create a trail passage from Chambers Grove that connects to the historic Grand Portage, but this will require additional forensic landscape analysis and navigating property access across multiple jurisdictions. This is a potential trail connection that can also connect to the Duluth Traverse Trail. Visitors would pass birds nests, restored spawning grounds for sturgeon, and the Fond du Lac Dam.

GREAT STURGEON SCULPTURE

An opportunity exists for a sculpture of a great sturgeon to recognize the giant size that these fish can reach and also the Native American legends about the Great Sturgeon. This could be located at the Chambers Grove beach and restoration area.



Chambers' quarry at Fond du Lac, 1881. University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.

PEOPLE OF THE ESTUARY
Ozhigwan

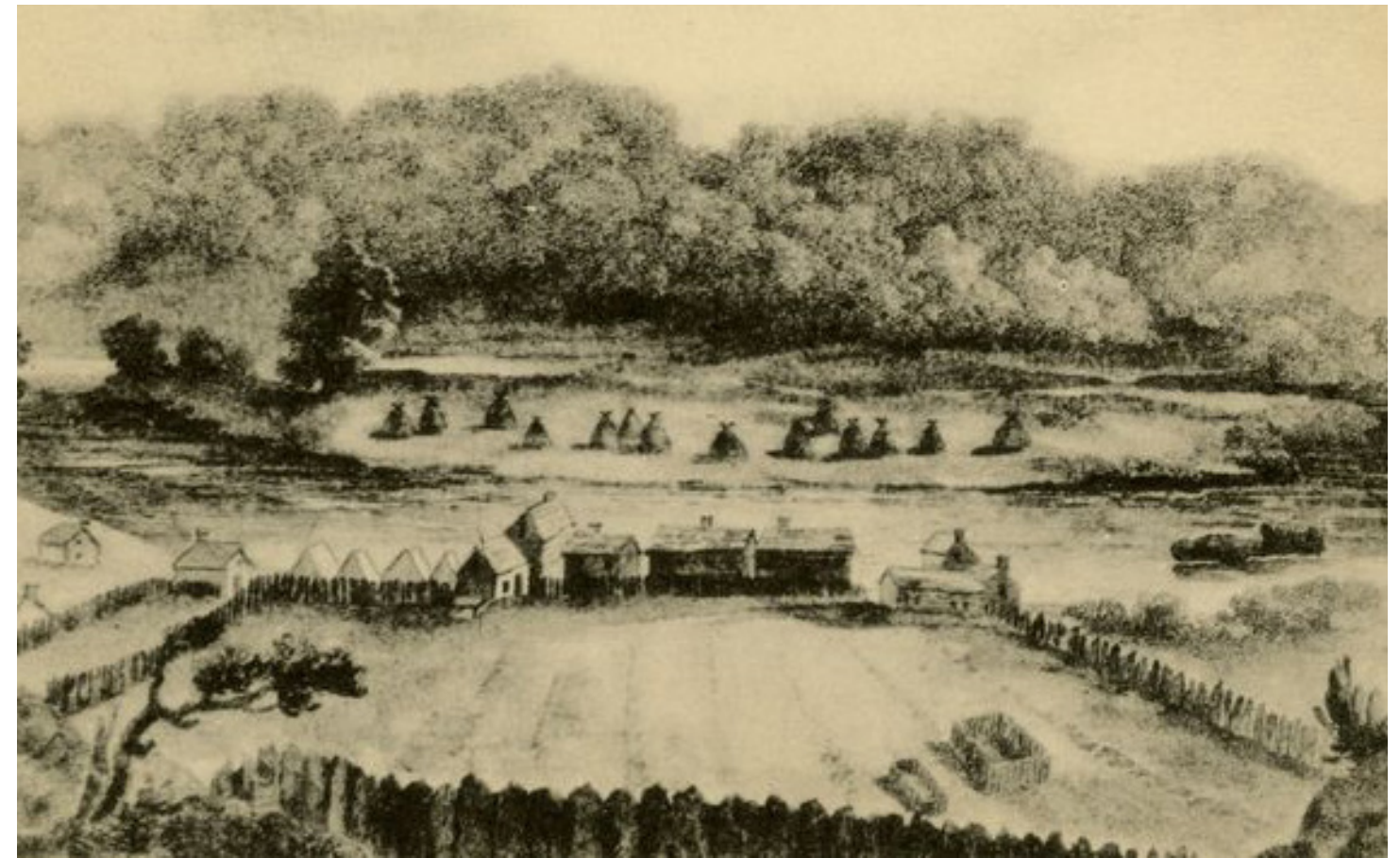


O-SHEE-GWUN.

NEKUK + AMIK ISLANDS

There was formerly a Native American village and gardens that were located on these two islands near Fond du Lac. In 1826 there was an old woman about sixty years old who lived on the island in Fond du Lac. Thomas McKenney, then Superintendent of Indian Affairs, heard about this woman and went to talk with her through an interpreter. The following is part of his diary from July 31, 1826.

"Having understood that there was a woman in one of the lodges on the island, who had, when a child, been scalped, and never having seen a head after the scalp had been taken from it I concluded last night to cross over to the island and ascertain if I could, her history and the circumstances attending her misfortune. About 9 o'clock accompanied by the interpreter and Mr. Agnew, I crossed over and entered a large oval lodge, in which were about twelve or fourteen Indians, lying around it, and the remains of two fires, one at each end, about which were half a dozen dogs. Two or three of the Indians were sitting up, smoking. We sat down, when the interpreter told the Indians that their Father, from towards the rising sun, had come to pay them a visit. To the usual answer "egh" was added, "We are glad to see him, and that he does not hate our lodge" - the meaning of which is that I respected their lodge. I directed the interpreter to inquire if there was not an old woman there who when young, had been scalped by the Sieux (Dakota)? "I am that person," said this woman. I asked her if she would tell me the circumstances attending her misfortune. After some consultation among themselves, I was told that her cousin, an old man present, who was at the battle, would tell me, and if he omitted any things she would make up the deficiency. He proceeded as follows - "Five lodges of our band were near the falls of Chippeway river, (in the direction of



The American Fur Trading Post, 1826 - St Louis County Historical Society

Prairie du Chien, I believe,) having gone there hunt. Altogether, men, women and children, we numbered about sixty. We had killed a deer, and built a fire early in the morning, about day to cook it. The old woman's mother went out to get some water-there was snow on the ground, not thick, but frozen-and she heard the Sieux (Dakota) crawling towards the tent - when soon after, their whole number, about one hundred, rushed down from a height and fired into the lodges. The battle became general. Fifteen Chippewa warriors were killed, all of them except three, and these held out until noon. The old woman, (then a girl about fourteen years of age) having an off in a fright, was pursued by a Sieux (Dakota), who caught her and tied her, and was about to carry

her off as a captive and slave - when another Sieux (Dakota) came up at the moment and struck her in the back with his war club, and stabbed her with his knife, and she fell - at the same moment a knife was applied to her throat, when she exclaimed, "they are killing me" - at that instant she heard the report of a rifle-and heard nothing more. Towards night she felt some person toke her by the arm. On opening her eyes, she knew it to be her father."

- The Diary of Thomas McKenny - 1826



IMPLEMENTATION

Installation and Upkeep

Implementation Partners

The implementation of the trail's interpretive elements will involve coordinated efforts by the City of Duluth and other organizations with an interest in the estuary. Funding for this work may come from public and private sources at the local, state, federal, and tribal levels and fundraising assistance will be needed. Organizations that may be recruited to sponsor interpretive elements could include:

- Duluth Public Works Department
- Duluth Indigenous Commission
- Duluth African Heritage Commission
- Duluth Natural Resource Commission
- Riverside Community Club
- Morgan Park Community Club
- Fond du Lac Community Club
- Fond du Lac Band of Lake Superior Chippewa
- Friends of Western Duluth Parks and Trails
- Minnesota Land Trust
- Minnesota Department of Natural Resources
- Environmental Protection Agency
- US Steel Corporation
- Minnesota Pollution Control Agency
- Lake Superior and Mississippi Railroad (LSMRR)
- St. Louis River Alliance
- US Army Corps of Engineers
- Indigenous Womens' Sisterhood
- MN and Duluth Audubon Societies
- St. Louis County Historical Society



Causeway across Mud Lake, 2020, Samuel Geer

Site Design

SITE PLACEMENT

The specific siting and placement of the interpretive elements and their associated spaces is intentionally left high-level. It is paramount that these poles be individually placed and designed to fit into the surrounding context. As of this writing, the trail alignments and parks improvements remain schematic, so it is not practical to precisely locate the specific story poles. In general, the story poles are intended to exist alongside the trail in suitable public land. The size of the pull off and its configuration relative to the trail is left flexible to allow for site specific design intent to govern placement and infrastructure decisions.

SURFACING

Gravel surfacing will be the typical standard for most areas along the trail.

VIEWSHED AND HABITAT PROTECTION

The story poles are intended to be landmarks, but should be carefully sited to prevent intruding on important viewsheds, damaging critical habitat, or conflicting with other site planning requirements. These are highly contextual decisions that must be addressed as part of the trail design process. It may also be desirable to clear viewsheds through the dense vegetation to improve the experience of overlooks and areas intended for human inhabitation.



Story Pole and Interpretive Elements

Elements of Place

PLANTINGS

The planting approach recommended for this plan is minimal, but does specify the planting of regionally appropriate and culturally significant plantings near the story poles. These plantings should be low maintenance and naturalistic in quality, using a restoration approach consistent with how these species are being re-established elsewhere in the estuary.

FOUND MATERIALS

The assemblies for the interpretive elements on this project are intentionally rustic in their construction. They involve harvesting of stone, driftwood, rubble and, debris. These materials can generally be sourced by harvesting them in collaboration with a relevant project partner.



Plant Communities, 2020, Samuel Geer

Fabrication

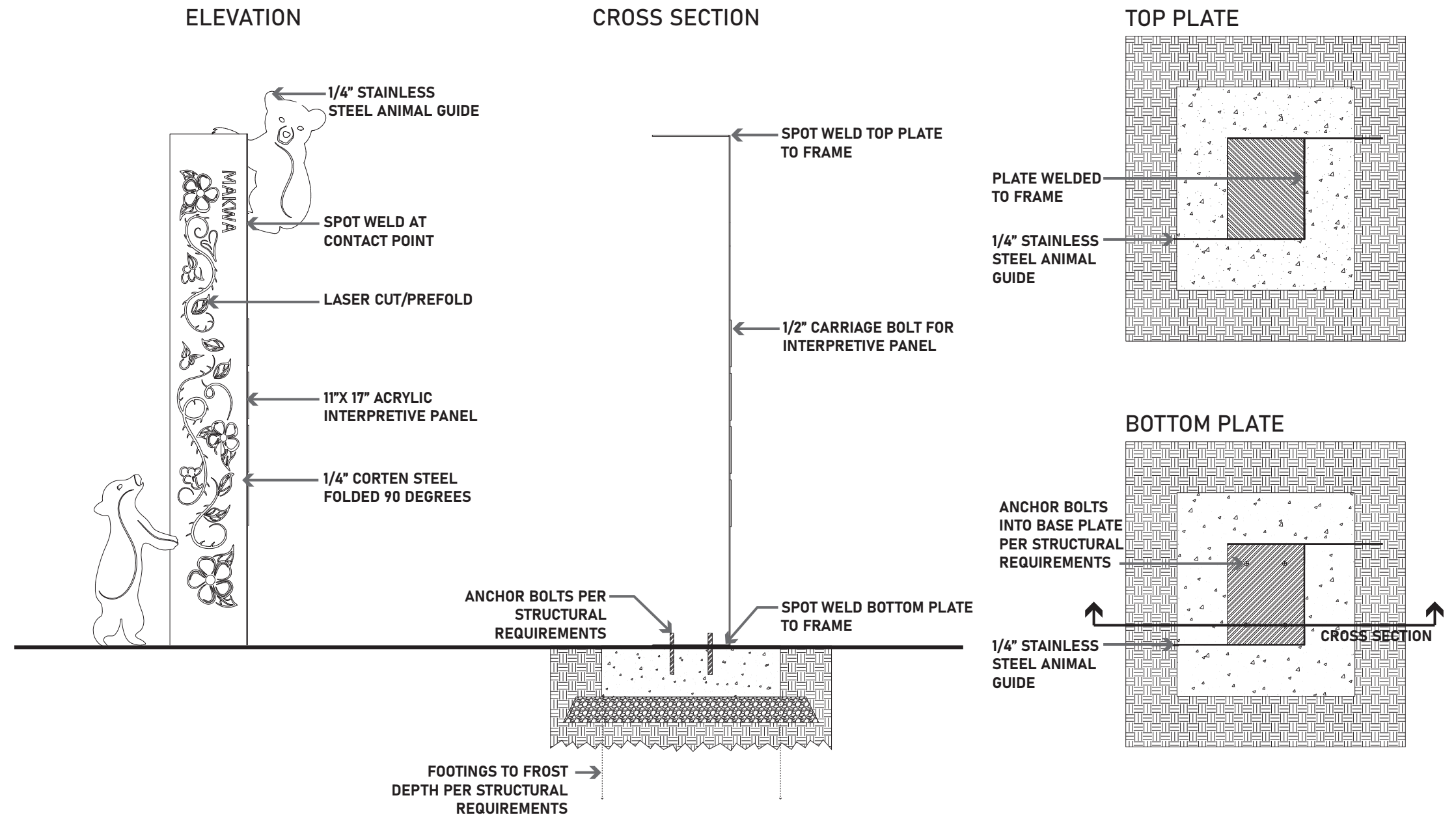
FABRICATION & METALWORK

Steel is used as the primary signage material for this interpretive plan because of its durability, cost, and cultural significance. If possible, the steel should contain ore from Minnesota. This approach requires custom metalwork and fabrication, but promises to provide durable long term assemblies that can be easily repaired if damaged or vandalized.

The story poles are designed with a base dimension of 5' x 10', a standard sheet size for 1/4" thick sheet steel. The artwork for these panels can be laser cut while flat, and then folded to the final shape before the top and bottom plates are welded onto the structure. This minimizes waste and keeps the necessary metalwork simple and minimal. The story poles are tall and will require a significant subgrade footing structure to anchor them in place, meaning a structural engineer should review each installation plan. Similar to the story poles, the freestanding sign is a similarly folded metal structure that mounts similar panels. The cairn rings are designed to be made from two halves of a rolled steel circle welded together and then anchored into the ground with rebar. These assemblies are intentionally rustic and hardened to prevent theft or impact damage.

CAD AND ART ASSETS

The necessary CAD files and interpretive artwork assets are available from the City of Duluth and can be used as needed when the trail segments are ready to be built.



Storypole assembly detail

Artwork & Community

ARTISTIC COLLABORATION

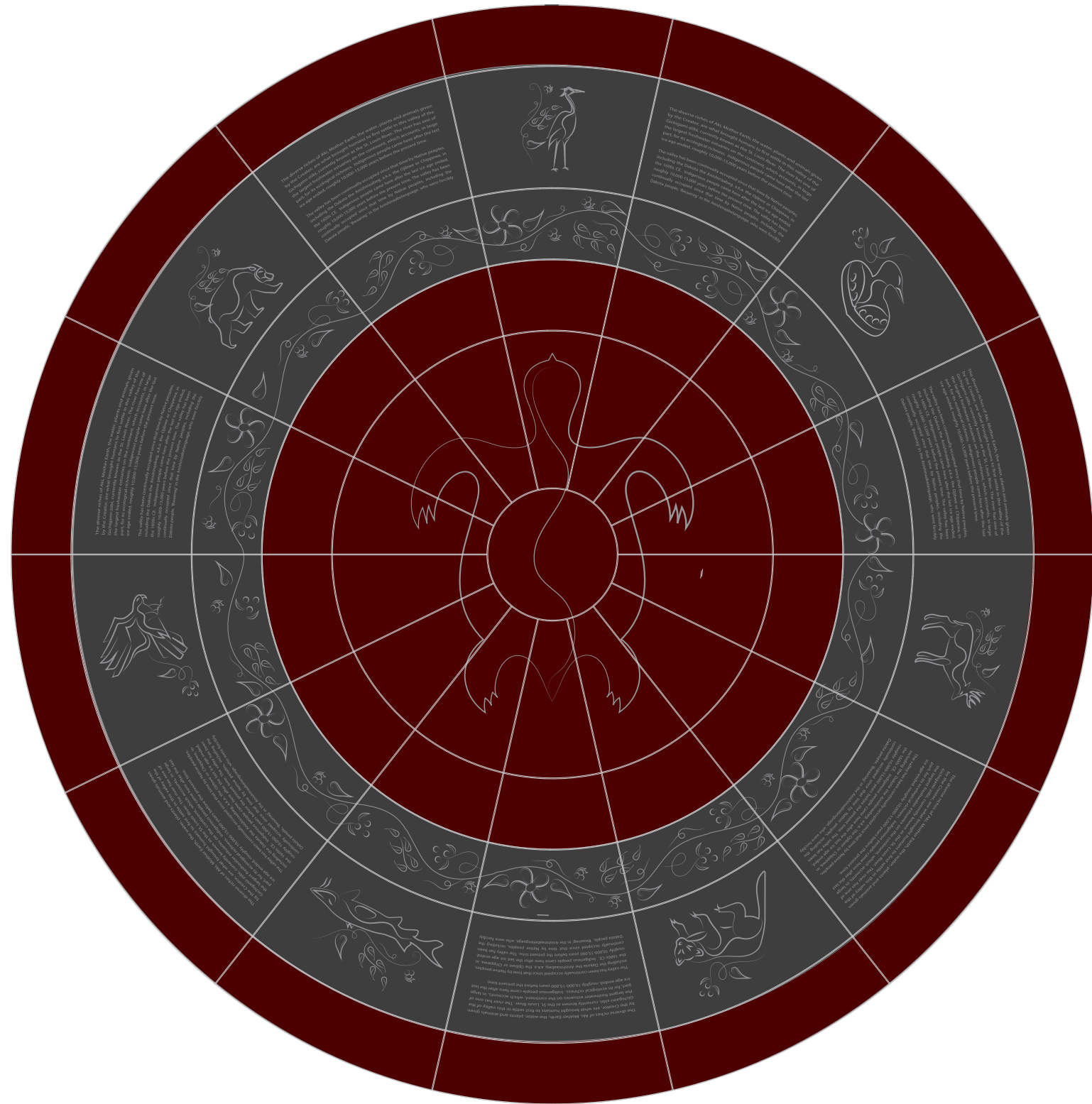
This plan identifies specific locations that offer opportunities for sculpture, landform creation, murals, and other artwork. These are important opportunities to tell stories and collaborate with artists on the placement, style, and content of the artwork. They cannot be overly scripted. Based on site observation and collaboration with members of the Fond du Lac Band's Natural Resource group, the project team has identified a few locations that could be suitable locations for sculptures or monuments. However, opportunities for these installations exist in many places along the trail.

This plan is open ended to allow diverse groups to advocate for their interests or portray their community history, site freestanding signs, and help fundraise for project implementation. Groups may apply to the Duluth Public Arts Commission with proposals for Freestanding Signs or Public Art installations.

It is a priority of the City of Duluth that this artwork prioritize the portrayal of diverse groups of people who are underrepresented in public art and historical interpretation.

MOUNDS & EARTHWORKS

This plans call for the creation of new beaches, trail alignments, and overlooks with seating elements and structures to house the interpretive elements. These places are excellent opportunities for arts and cultural interpretation that emerge from the people and its place.



Naagaajiwanaang Jiibayaki – Historic Fond du Lac Cemetery Welcome Space Memorial, 2020.

Opinion of Costs

This plan contains the essential information and necessary design standards to fabricate the interpretive assemblies of the plan. The details and precise locations are schematic to allow the trail designer discretion with site placement and installation during construction planning.

The approximate estimated costs for the interpretive elements shown are based on typical designs, but could vary widely depending on the specific site design, materials, fabrication, and construction team. These costs are based on the design team's experience and the anticipated fabrication and installation methods described previously in the interpretive elements.

Below is the opinion of costs for the total interpretive project. These numbers are broken out in detail in the project roster.

Estimated Total Budget

Segment	Budget
Segment 0	\$145,000.00
Segment 1	\$54,700.00
Segment 2	\$40,000.00
Segment 3	\$63,900.00
Segment 4	\$59,900.00
Segment 5	\$55,900.00
Segment 6	\$81,800.00
Segment 7	\$74,900.00
Estimated Project Budget	\$576,100.00

Story Pole	Description	Cost
Site Layout Plan	Precise siting of Story Pole within final Site Plan	\$1,200.00
Corten Story Pole	Metal Fabrication and Laser Cutting	\$4,500.00
Frost Footing (24" x 60")	Includes Sonotube, Concrete Labor, and Mounting Hardware	\$1,500.00
Equipment Costs	Skid Steer and Auger Rental	\$1,000.00
Delivery	All Logistics and Delivery	\$2,000.00
Interpretive Panels x 4	iZone - 11" x 17" x ½" Exterior Matte Panel + Hardware	\$1,000.00
Installation Labor	Assembly of all Components	\$3,500.00
Stainless Steel Animals	Metal Fabrication and Laser Cutting	\$1,000.00
Frost Footing (16" x 60")	Includes Sonotube, Concrete Labor, and Mounting Hardware	\$500.00
Elements of Place	Unique Site Features (Driftwood, Natural Stone, Etc)	\$2,000.00
Plantings	Trees or Shrubs	\$1,500.00
Surfacing + Restoration	Gravel Pad Expansion and Site Restoration	\$1,000.00
Regular Maintenance	Graffiti Removal, Gravel Replenishment	\$800.00
0-10 Year Upkeep Costs	Panel Replacement, Metal Fabrication / Replacement	\$2,200.00
10-20 Year Upkeep Costs	Panel Replacement, Metal Fabrication / Replacement	\$2,200.00
Opinion of Cost		\$25,900.00

Freestanding Sign	Description	Cost
Corten Freestanding Sign	Metal Fabrication and Laser Cutting	\$600.00
Delivery	All Logistics and Delivery	\$500.00
Interpretive Panel	iZone - 11" x 17" x ½" Exterior Matte Panel and Hardware	\$300.00
Installation Labor	Assembly of all Components	\$600.00
Frost Footing (16" x 60")	Includes Sonotube, Concrete Labor, and Mounting Hardware	\$500.00
Surfacing + Restoration	Gravel Pad Expansion and Site Restoration	\$200.00
Regular Maintenance	Graffiti Removal	\$500.00
0-10 Year Upkeep Costs	Panel Replacement	\$400.00
10-20 Year Upkeep Costs	Panel Replacement	\$400.00
Opinion of Cost		\$4,000.00

Cairn	Description	Cost
Corten Ring (5' Diameter)	Metal Fabrication and Rebar Anchors	\$600.00
Cairn Fill Material	Stone, Slag, etc and masonry glue	\$800.00
Installation Labor	Metal Fabrication and Rebar Anchors	\$600.00
Delivery	All Logistics and Delivery	\$600.00
Surfacing + Restoration	Gravel Pad Expansion and Site Restoration	\$200.00
Regular Maintenance	Media Replenishment / Graffiti Removal	\$200.00
0-10 Year Upkeep Costs	Media Replenishment / Masonry Repairs	\$500.00
10-20 Year Upkeep Costs	Media Replenishment / Masonry Repairs	\$500.00
Opinion of Cost		\$4,000.00

Project Roster

Seg	Element	Name	Budget	Elements of Place	Interpretive Panels	Implementation Guidance	Contact Person	Email
0	Story Pole	Miskwaadesi	\$20,700.00	Lake Superior	Plant & Animal Guide - Miskwaadesi / Ininaatig	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Driftwood Logs x 2	Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
				Stainless Steel Turtles x 3	Lifeways - Kingsbury Bay Restoration	Finalize Panel Contents with DNR / MPCA / FDL Band	Melissa Sjolund, DNR	melissa.sjolund@state.mn.us
				Maple Planting	People of the Estuary - Wabizheshikana	Reach out to Morgan Park Community / St. Louis River Alliance	Bill Majewski	bsmajewski@aol.com
	Freestanding Sign	Grassy Point	\$3,800.00		Grassy Point Remediation	Design to be developed by the MPCA	Barbara Huberty, MPCA	barbara.huberty@state.mn.us
Artwork	Thunderbird	\$36,000.00		Legendary Spirit Sculpture: Thunderbird	Proposed Sculptural Installation at Indian Point Campground	Duluth Public Arts Commission, FDL Band	sam@urbanecosystemsinc.com	
Pause	Indian Point	\$30,000.00			Design to be developed as part of the Site Design / Trail Engineering	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com	

0	Story Pole	Amik	\$20,700.00	Driftwood Piles	Plant & Animal Guide - Amik / Wadoop	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Stainless Beavers x 2	Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
				Alder Planting	Riverside Shipyards	Finalize Panel content with Spirit Lake Marina & RV	Charlie Staudahar	Charlie@spiritlakemarinarv.com
					People of the Estuary: The Bonga Family	Finalize Panel content with Nahgahchiwanong Dibahjimowinan	Christine Carlson	history48@frontiernet.net
	Pause	Spirit Landing	\$30,000.00			Design to be developed as part of the Site Design / Trail Engineering	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
Freestanding Sign	Riverside Trailhead	\$3,800.00		Historic McDougall Barnes - Duluth Shipyard Photograph	Finalize Panel Contents with Spirit Lake Marina & RV	Charlie Staudahar	Charlie@spiritlakemarinarv.com	

1	Story Pole	Name	\$20,700.00	Granite Salvage	Plant & Animal Guide - Name / Akandamoo	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Stainless Sturgeon	Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
					Lifeways - Fishing on the St. Louis River	Finalize Panel Contents with DNR	Melissa Sjolund, DNR	melissa.sjolund@state.mn.us
					River Places - Munger Landing	Finalize Panel Contents with DNR / MPCA / FDL Band	Barb Huberty, MPCA	barbara.huberty@state.mn.us
	Cairn	Granite Cairn	\$4,000.00			Granite to be sourced from Architectural Salvage		sam@urbanecosystemsinc.com
Pause	Munger Landing Pause	\$30,000.00			Design to be developed as part of the Site Design / Trail Engineering	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com	

Seg	Element	Name	Budget	Elements of Place	Interpretive Panels	Implementation Guidance	Contact Person	Email
2	Artwork	Turtle Mound	\$40,000.00		Legendary Spirit: Turtle Island	Proposed Sculptural Installation at Turtle Mound Overlook	Duluth Public Arts Commission, FDL Band	sam@urbanecosystemsinc.com

Project Roster

Seg	Element	Name	Budget	Elements of Place	Interpretive Panels	Implementation Guidance	Contact Person	Email
3	Story Pole	Migizi	\$25,900.00	Mary Ellen Jasper Boulders	Plant & Animal Guide - Migizi / Zhingwaak	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Stainless Steel Eagles (2) + Nest	Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
				Pine Planting	River Places - Morgan Park	Finalize Panel content with Nahgahchiwanong Dibahjimowinan	Christine Carlson	history48@frontiernet.net
					River Places - Manidoo zaaga'igan (Spirit Lake)	Finalize Panel content with Fond du Lac Band / US Steel	Wayne Dupuis, Fond du Lac Band	WayneDupuis@fdlrez.com
	Cairn	Slag Cairn	\$4,000.00		Connect to Blackmer Park Passage	Source from US Steel Slag Dump Brownstone	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
	Cairn	Slag Cairn	\$4,000.00		Connect to Slag Point Passage	Source from US Steel Slag Dump Brownstone	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
	Pause	Morgan Park	\$30,000.00		Circular Gathering Space at Morgan Park Overlook or Slag Point	Incorporate a circular gathering space into the park design	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
4	Story Pole	Zhashagi	\$25,900.00	Slag Remnants	Plant & Animal Guide - Zhashagi / Apakweshwayag	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Stainless Steel Crane	Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
					River Places - Industrial Ruins	Finalize Links & Panel Contents with City of Duluth, US Steel, and Port Authority	Jeff Stollenwerk, Duluth Port Authority	jstollenwerk@duluthport.com
					River Places - Mud Lake	Finalize Panel Contents with DNR	Melissa Sjolund, DNR	melissa.sjolund@state.mn.us
	Pause	Mud Lake	\$30,000.00			Design to be developed as part of the Site Design / Trail Engineering	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
	Cairn	Limestone Cairn	\$4,000.00			Source from Fond du Lac Brownstone	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
5	Story Pole	Makwa	\$25,900.00	Milled Wood Benches	Plant & Animal Guide - Makwa / Miskomin	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Stainless Steel Bears (2)	Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
				Raspberry Planting	Lifeways - Milling on the River	Finalize Panel Contents with DNR	Melissa Sjolund, DNR	melissa.sjolund@state.mn.us
					River Places - Boy Scout Landing	Finalize Panel content with Nahgahchiwanong Dibahjimowinan	Christine Carlson	history48@frontiernet.net
	Pause	Boy Scout Landing	\$30,000.00		Circular Gathering Space near Beach. Replace Existing Stormwater	Design to be developed as part of the Site Design / Trail Engineering	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com

Project Roster

Seg	Element	Name	Budget	Elements of Place	Interpretive Panels	Implementation Guidance	Contact Person	Email
6	Story Pole	Wiigwaasaatig	\$25,900.00	Railroad Tracks and Spikes	Plant Guide - Wiigwaasaatig	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Birch Planting	Animal Guides - Ma'iingan / Waawaashkeshi	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Stainless Steel Wolf	Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
				Stainless Steel Deer	Lifeways - Water Quality	Finalize Panel Contents with DNR / MPCA / FDL Band	Barb Huberty, MPCA	barbara.huberty@state.mn.us
Pause	Perch Lake	\$30,000.00		Circular Gathering Space at Parking Lot Overlook.	Design to be developed as part of the Site Design / Trail Engineering	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com	
6	Story Pole	Manoonmin	\$25,900.00	Geology of the Estuary	Plant Guide - Manoomin	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Stainless Steel Loon	Plant & Animal Guides - Maang / Wazhashk	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
					Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
					Lifeways / Native Women Water Protectors	Finalize Panel content with Roxanne Gould	Roxanne Gould, University of Minnesota	goul0069@umn.edu
7	Story Pole	Nigig	\$25,900.00	Brownstone Walls	Plant & Animal Guide - Nigig / Giizhik	Finalize Language Content with FDL Language Program	Ricky Defoe, Fond du Lac Band	ricky.w.defoe@gmail.com
				Steel Otters (3)	Context Map	Update to Reflect Trail Alignment + Updated Design Elements	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
					River Places: Historic Fond du Lac	Finalize Panel content with Nahgahchiwanong Dibahjimowinan	Christine Carlson	history48@frontiernet.net
					People of the Estuary: Ozhighwan	Finalize Panel content with Nahgahchiwanong Dibahjimowinan	Christine Carlson	history48@frontiernet.net
	Cairn	Brownstone Cairn	\$4,000.00		Grand Portage Trail	Source from Fond du Lac Brownstone	City of Duluth - Design Consultant	sam@urbanecosystemsinc.com
	Artwork	Great Sturgeon	\$45,000.00		Legendary Spirit: The Great Sturgeon	Proposed installation in the water or near water's edge in Chamber's Grove.	Duluth Public Arts Commission, FDL Band, DNR	sam@urbanecosystemsinc.com



APPENDIX

References

BOOKS

Alanen, Arnold, *Morgan Park: Duluth, U.S. Steel, and the Forging of a Company Town*. 2007

Edward Benton-Banai, *The Mishomis Book: The Voice of the Ojibway*, 1988

Christine Carlson, *Wa ye kwaa gichi gaaming Fond du Lac: End of Great Body of Water & A Visual Feast*, 2000

Martin Case, *The Relentless Business of Treaties: How Indigenous Land Became US Property*. 2018 Minnesota Historical Society Press

Matthew Lawrence Daley, *Duluth's Other Company Town: The McDougall-Duluth Company, Riverside, and World War I Shipbuilding*. 2013, Minnesota Historical Society Press

Tony Dierckins and Maryanne C. Norton, *Lost Duluth: Landmarks, Industries, Buildings, Homes and the Neighborhoods in Which They Stood*, 2012

Tony Dierckins, *Duluth: An Urban Biography*, 2020, Minnesota Historical Society Press

John Fritzen, *Fond du Lac: Head of the Lake*, 1978

James Meeker, Joan Elias, and John Heim, *Plants Used By The Great Lakes Ojibwe*. 1993, Great Lakes Indian Fish and Wildlife Commission (GLIFWC)

Robert E. Ritzenthaler and Pat Ritzenthaler, 1983. *The Woodland Indians of the Western Great Lakes*

Anton Steven Treuer, *Ojibwe in Minnesota, The People of Minnesota*, 2010 Minnesota Historical Society Press

Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*, 2013

William W. Warren, *History of the Ojibway People*. Reprint. St. Paul, MN: Minnesota Historical Society Press, 1984

WEB RESOURCES

How the Bear Lost its Tail, an Ojibwe legend retold by Jerry Smith

How the Birch Tree Got Its Burns, an Ojibwe legend retold by Aurora Conley

Christine Carlson, "Stephen Bonga and Family," Nahgahchiwanong Dibahjimowinan (Stories from Fond du Lac), March 2011

Manoomin: Past, Present & Future: An old friend faces new threats, 2008, Great Lakes Indian Fish and Wildlife Commission (GLIFWC)

Assets

This contains the interpretive exhibits that will reside on each of the story poles. These will be available to the City in a digital format that will allow staff to edit the materials to match the changing context of the project as it is implemented. Artwork, CAD assets, and details for fabrication have been provided to the City of Duluth Parks Department.

