

Managing the Water of Our People: The Mni Wizipan Wakan (Sacred Water Bundle Project)



Faith Spotted Eagle, Brave Heart Society

Dr. Joseph Robertson, Mato Ohitika Analytics LLC

Stephen Lester, Center for Health, Environment & Justice

Judith LeBlanc, Native Organizers Alliance

Water Bundle Project Update

September 17, 2021

Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project



Project History

The Mni Wizipan Wakan (Sacred Water Bundle) project was born from the dreams of two Ihanktonwan (Yankton Sioux) elders and their concerns about inherent indigenous rights to land and water, as well as environmental restoration, conservation, and preservation.



Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project



Project History

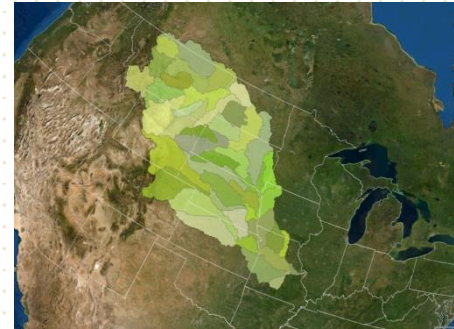
The 2016 movement against the Dakota Access Pipeline (DAPL) that rose up in support of the Standing Rock Sioux Tribe and the Oceti Sakowin Camp was the most impactful Native-led social movement since the 1970s and brought together the prayers and organized people power which gave life and urgency for the creation of the Mni Wizipan Wakan Project.



Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project

Project History

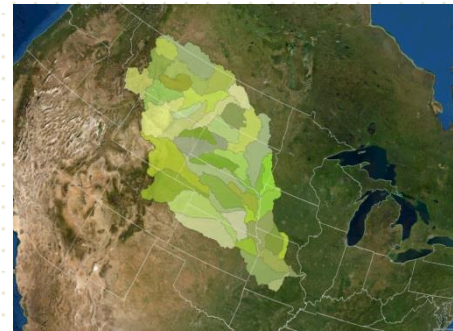
The project builds on the



momentum of the unprecedented solidarity and unity in defense of tribal sovereignty to protect sacred sites, and the Missouri River Basin (MRB) for whom over 17 million people live, work and play along the shore of the largest river in the United States.



Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project

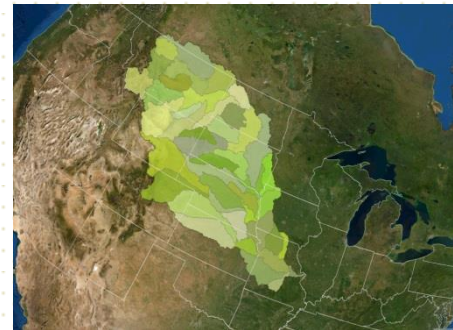


Project Abstract:

The Missouri River Basin is a threatened bioregion due to unmitigated abuse by extractive fossil fuel industries, aided and abetted by federal and local government policies and actions which deny sovereign and inherent Native rights to manage land and water resources.



Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project



Project Abstract:

The strategy of this project is to empower tribal governments and grassroots Native communities of the Missouri River Basin (MRB) to restore traditional Native practices of water and land management. Currently, there are 29 Tribes that reside in the Missouri River Basin.

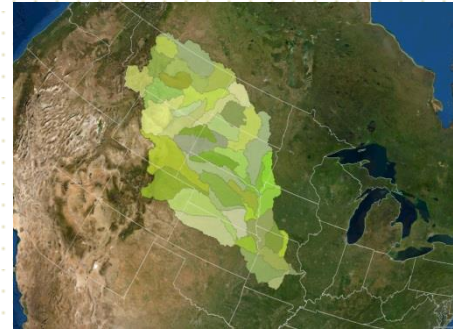


Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project

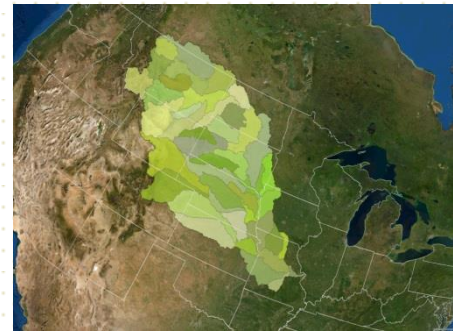
Project Abstract:

We have been creating a

unique database of geographic, social, and natural scientific information and related maps that incorporate Indigenous Wisdom (Traditional Ecological Knowledge) with Western Science.



Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project

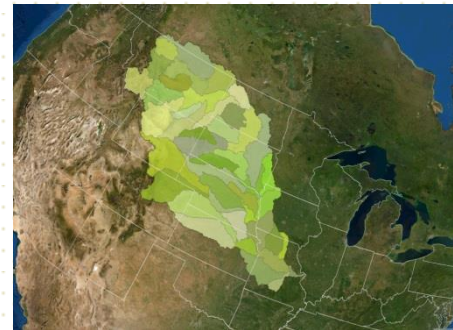


Project Abstract:

We will identify specific multiple small-scale project opportunities by using this collected data in order to engage federal and local government agencies in co-management of land and water resources and TEK practices.



Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project



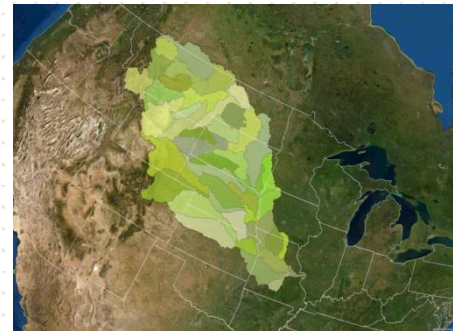
Project Abstract:

Working with tribal entities

and using Native community-based research, public education, trainings and community organizing, the project will build popular support for alternatives to fossil energy dependency, oppose the KXL Pipeline and begin to re-indigenize the landscape and water management toward a restoration of the Missouri River Basin as a bio-reserve.



Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project

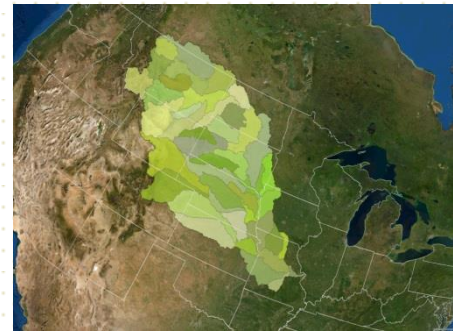


Purpose:

The long-term goal of this project is to create both political support and a legal basis for joint tribal-federal government co-management of the landscape and hydroscape in order to mitigate climate change health concerns as well as food production & energy sovereignty.



Cultural Bioregions of the Ihanktonwan Mni Wizipan Wakan (Sacred Water Bundle) Project



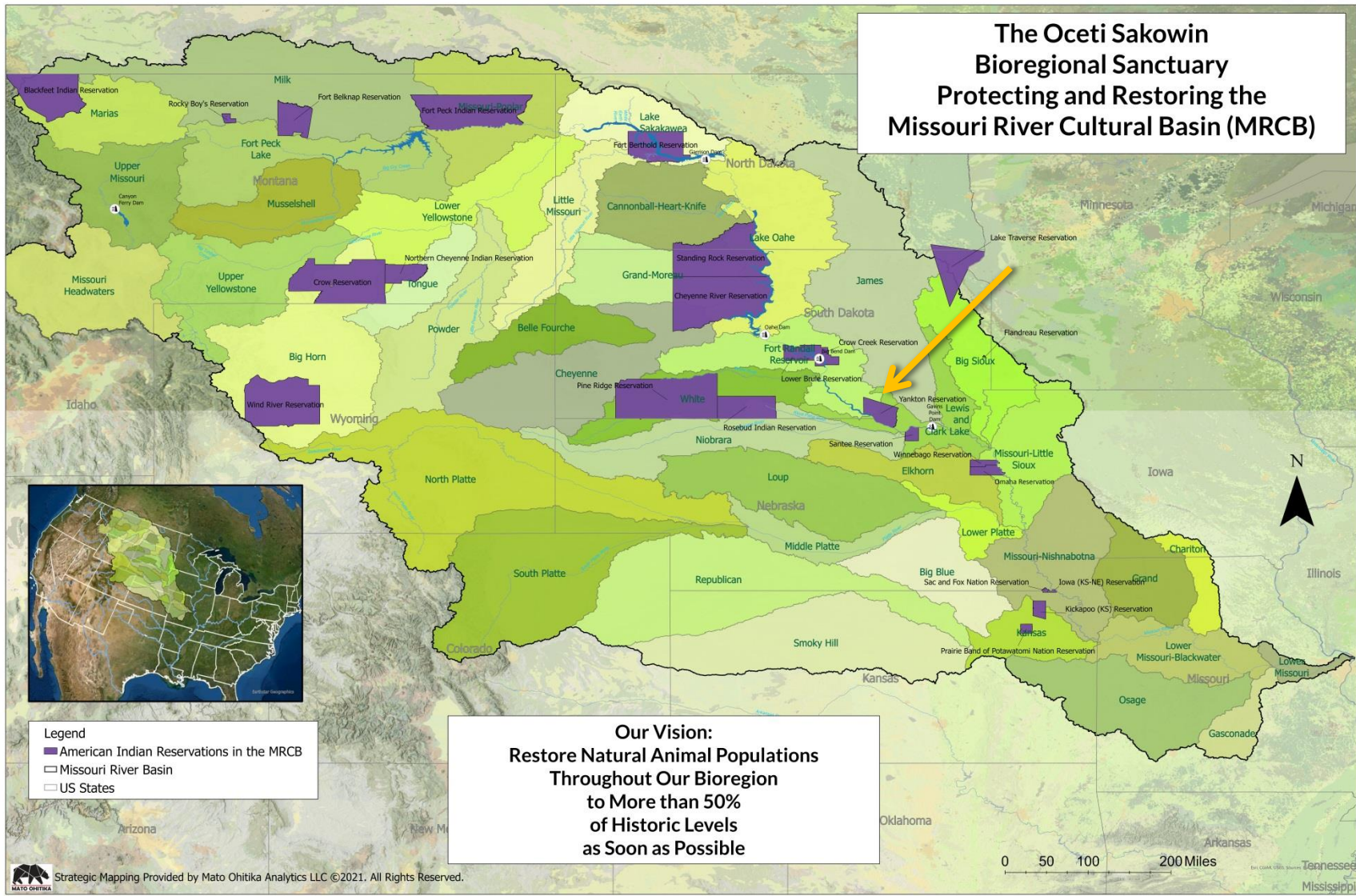
Purpose:

In addition, using this knowledge to empower all tribal governments and grassroots Native communities of the Missouri River Basin to restore traditional Native practices of water and land management



Cultural Bioregion of the Ihanktonwan In The Missouri River Cultural Basin

**The Oceti Sakowin
Bioregional Sanctuary
Protecting and Restoring the
Missouri River Cultural Basin (MRCB)**



- Legend**
- American Indian Reservations in the MRCB
 - Missouri River Basin
 - US States

**Our Vision:
Restore Natural Animal Populations
Throughout Our Bioregion
to More than 50%
of Historic Levels
as Soon as Possible**

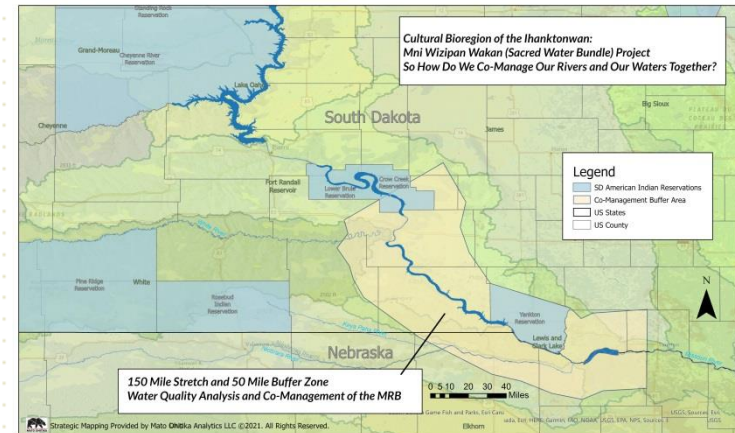
MRB & Grass Roots Meets Data Science & Data Sovereignty

We have identified a 150 mile stretch of the Missouri River in SD, from Lower Brule Bottoms to Yankton, SD.

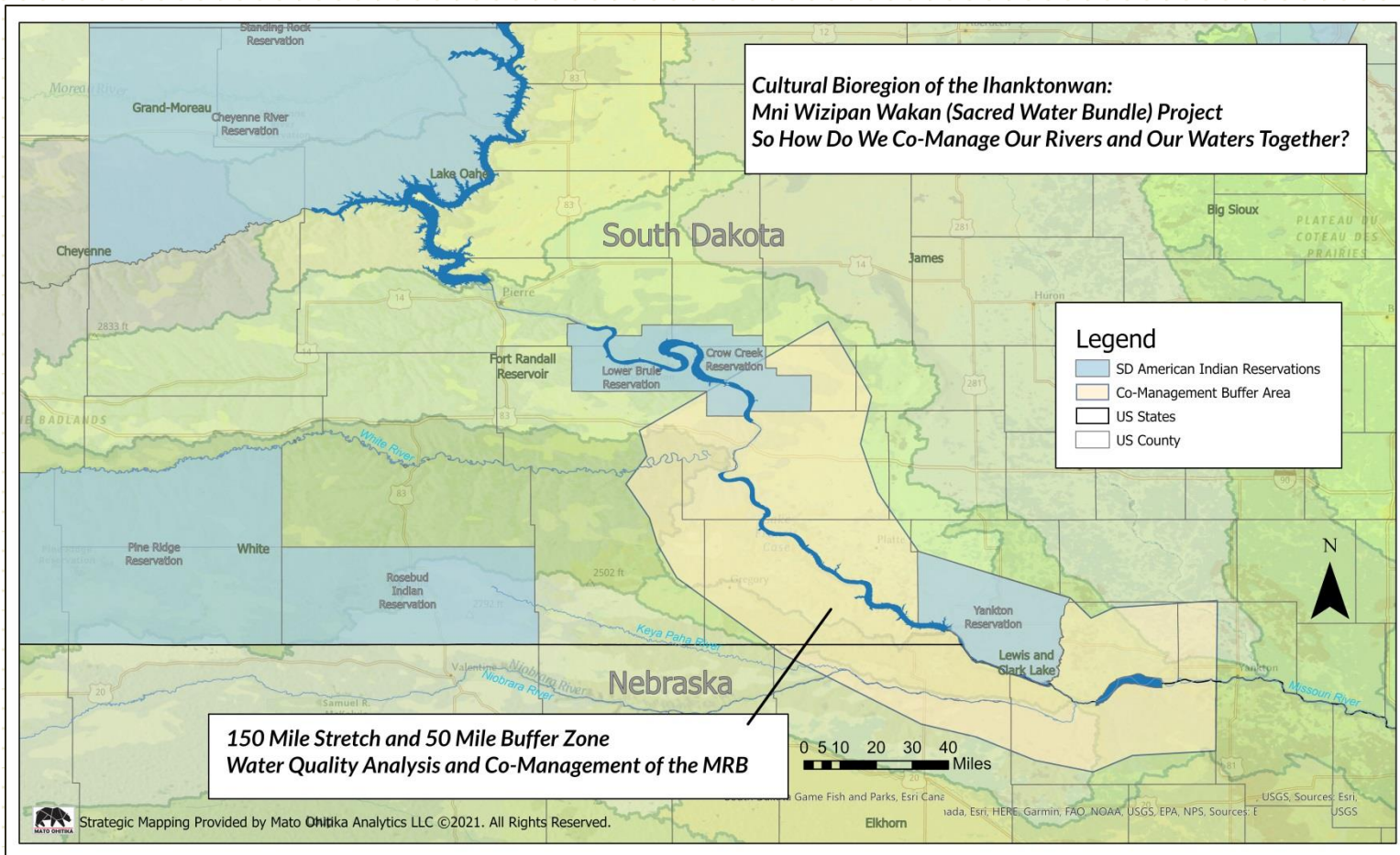
This stretch of the river is located in

the inherent, treaty and reservation boundaries of the Ihanktonwan Dakota, or Yankton Sioux.

This includes a 59 mile stretch of the river that is preserved in its natural state. The outer boundaries of this focus are in the Missouri River Basin Watershed.



MRB & Grass Roots Meets Data Science & Data Sovereignty



Mni Wizipan Wakan Project Goals

Overall Goal: To reestablish sovereign, inherent, spiritual, legal traditional water rights to protect the Missouri River Basin in cooperation with leadership and the people of the Ihanktonwan

Secondary Goal: Develop a comprehensive set of water codes to establish regulatory power on treaty water and affiliated lands

Long Range Goal: Is to strive for co-management of the Missouri River from Lower Brule to Yankton, SD or Sioux City, IA for ten years or more.



Brave Heart Society Water Talks

Brave Heart has Hosted a Series of “Water Talks” which has Assisted in:

- Establishing protocols for collecting tribal ethnographic information.
- Survey/document culturally significant landscape and hydroscape.
- Gather existing data in libraries, archived materials, USGS and other sources that become known through this process.
- Identify key tribal, state and federal sources of information.
- Establish system to store data, establish categories, etc.



Brave Heart Society Water Talks

Brave Heart has Hosted a Series of “Water Talks” which has Assisted in:

- Create technical and online capacity for mapmaking for virtual water atlas with appropriate software and hosting, etc.
- Ethnobotanical survey of gathering, fishing and hunting sites.
- Creating governance training about water
- Develop water codes to assert sovereignty over water
- Develop water codes by understanding tribal separation of powers and governance strategies



Stakeholders & Partners

The Mni Wizipan Wakan Project has Many Partner Circles:

“Yuwita Mani” Circle, ‘The Big Five’.

Translation: *Walking Together*

- Lead Tribe: Ihanktonwan Dakota / Yankton Sioux
(elected leadership & grassroots)
- Brave Heart Society
- Treaty Committee
- Business & Claims Committee
- Constitution Committee
- Elder’s Committee



Stakeholders & Partners

The Mni Wizipan Wakan Project has Many Partner Circles:

“Yuwita Mani Wawokiya” Circle, Spiritual, Cultural, Scientific, Specialized Consultants.

Translation: *Knowledge Helpers*

- Dr. Joseph Robertson, Data Scientist
- Stephen Lester, Toxicologist
- Judith Leblanc, Native Organizer Trainer
- Dr. Jennifer Veilleux, Geographer / Hydrologist
- Wes Martel, Elder and Tribal Water Code Developer
- Yankton Tribal Historic Preservation Officer, Kip Spotted Eagle
- Dr. Brook Spotted Eagle, ABD Anthropologist, U of WA.
- Tribal Water Department / EPA Directors or Designated Tribal Representatives



Partnership with Mato Ohitika Analytics LLC

Dr. Robertson is an enrolled member of the Sisseton Wahpeton Oyate of the Lake Traverse reservation. Dr. Robertson's data sovereignty framework seeks to democratize data for the community's benefit by responsibly bridging science and culture.

Dr. Robertson's work in the grass roots space and broader initiatives covers a wide range of data science topics such as water protection & water quality testing, Murdered and Missing Indigenous Women (MMIW) issues, and Indigenous AI for language preservation.

He serves as the project coordinator and leads the scientific teams.



Mato Ohitika Analytics LLC



Partnership with Wes Martel of the Wind River Community

The Brave Heart Society has partnered with Wes Martel, an Elder of the Eastern Shoshone and Northern Arapaho Bands of the Wind River Reservation.

Wes has been focused on providing the project support with governance training & education, water code research and development, and community outreach .



Partnership with the Center for Health, Environment and Justice (CHEJ)

Stephen Lester is a renowned toxicologist (Love Canal) and serves as the science director of CHEJ.

Stephen has been coordinating water quality standards, water testing protocols, and provides a wealth of expertise in environmental justice issues in partnership with the Brave Heart Society.

Stephen also leads an active team of interns that assist Dr. Robertson & BHS with the scientific inquiries needed for the Mni Wizipan Wakan Project.



Partnership with Tufts University's Data Science & Geospatial Services

The Brave Heart Society has also partnered with Kyle Monahan (Senior Data Scientist) of Tufts University with the help of CHEJ to create water quality initiatives for managing the Missouri River.

Kyle has been quintessential in providing GIS & data science support in the water quality data collection and mapping of the MRCB.

Tufts Team(from left): Kyle Monahan, Senior Data Scientist & Oliver Nguyen, Junior Data Scientist.
(Other current and former interns not pictured)



Current Mni Wizipan Wakan Project Portfolio

Overall Water Bundle Project Objectives:

Prepare a **co-management plan** for the Missouri River Bioregional watershed that will restore traditional Native practices of water and land management.

This is accomplished by the communities, the scientists, and tribal leaders working together.

Let's look at a few of the things currently happening in the Mni Wizipan Wakan Project space.



Mni Wizipan Wakan Project Mind Map

Mni Wakan Wizipan

(Sacred Water Bundle)

Traditional Cultural Knowledge & Property of the Dakota

Archaeological: Cultural Landscape
 Scientific: Cultural Bio-region of Missouri River Watershed
 New Age/Federal/State: Traditional Ecological Knowledge
 Water Management: Watershed Ecosystems

SETTING OF PROJECT:

We have identified a 150 mile stretch of the Missouri River in SD, from Lower Brule Bottoms to Yankton, SD. This stretch of the river is located in the inherent, treaty and reservation boundaries of the Ihanktonwan Dakota, or Yankton Sioux. This includes a 59 mile stretch of the river that is preserved in it's natural state. The outer boundaries of this focus are in the Missouri River Basin Watershed.

"Yuwita Mani" Circle, translation: Walking Together

Lead Tribe: Ihanktonwan Dakota/Yankton Sioux (elected leadership & grassroots)
 1. Brave Heart Society
 2. Treaty Committee
 3. Business & Claims Committee
 4. Constitution Committee
 5. Elder's Committee

The big FIVE

Stakeholders
 Or
 Characters

"Ahokpa Naji" Tribal Water Board which remains to be formalized in a developmental organizing process of selection and approved by the tribe's governing entity and will be the body that oversees the eventual management of the Mni Wizipan Wakan Water Bundle on the tribal level, to be institutionalized on the long term.

• **Oceti Sakowin Partners** These are Dakota/Lakota bands of the 7 Council Fires that are located adjacent to us in the Cultural Bioregion that will be impacted and invited to partner with this 10 year management development plan.
 1. Lower Brule Sioux Tribe, elected leadership body and traditional Society, Wicovi Un Tipi
 2. Rosebud Sioux Tribe, elected leadership
 3. Oglala Sioux Tribe, elected leadership, water department
 4. We envision that in two years a REGULATORY/MANAGEMENT TEMPLATE will be developed with the cooperation of these tribes, so that we can move forward inviting OTHER members of the Oceti Sakowin all the way up and down the Missouri River Basin, even cooperating with intertribal water codes to compliment each other's efforts in protecting the river.

"Yuwita Mani Wawokya" Circle, spiritual, cultural, scientific, specialized consultants.

Translates to knowledge helpers

1. Dr. Joseph Robertson
2. Stephen Lester, Toxicologist
3. Judith Leblanc, Native Organizer trainer
4. Dr. Jennifer Veilleux, Geographer/hydrologist
5. Wes Martel, elder and Tribal Water Code Developer
6. Yankton Tribal Historic Preservation Officer, Kip Spotted Eagle
7. Flandreau Santee Sioux Tribal Historic Preservation Office, Monte Loeffler
8. Brook Spotted Eagle, ABD Anthropologist, U of WA
9. Tribal Water Department/EPA Directors or designated tribal reps.

- Challenges of Problems**
1. Federal disregard for tribal sovereignty and inherent rights to surface, ground and surplus water per Winter's Rights.
 2. Government manipulation of CONSULTATION to INTENTIONALLY DELETE inherent rights, Standing Rock situation is the best failed example.
 3. Erosion of water security, tribal safety and reproductive justice by intrusion of pipelines and pesticides that have standards designed to benefit farmers, not the public, least of all already vulnerable populations.

- Solutions**
1. Continue work of Tribal Water Code development guided by 20 year tribal water consultant and water developer, Wes Martel of the Wind River reservation. Tribes must attain REGULATORY POWER in order to assert SOVEREIGNTY.
 2. Continue developing 10-year Mni Wizipan Strategic Plan to ATTAIN CO-MANAGEMENT OF A 150 mile stretch of the Missouri River with the Army Corps for regulatory and decision making impact.
 3. The two previous solutions will utilize a political and legal basis to assert the role and right of tribes to restore INDIGENOUS MANAGEMENT APPROACHES which are historical.
 4. Create a MISSOURI RIVER CULTURAL BIOREGION in the WATERSHED of the Missouri River; that will initiate environmental and cultural restoration, conservation and preservation of this MRCB.

5. Utilize DATA SOVEREIGNTY

To statistically analyze and preserve all developments in our work plan, including mapping efforts, surveys (plant cultural and water), research, findings, recommendations, meetings and management tools developed.

6. Continue to convene culturally based WATER TALKS, to create a safe space for stakeholders to learn, develop their skillset and become active supporters of this effort.

7. Continue to facilitate spiritual, cultural and scientific experts (a Dream Team) to teach the skillsets necessary for the stakeholders to embrace Cultural BioRegional management.

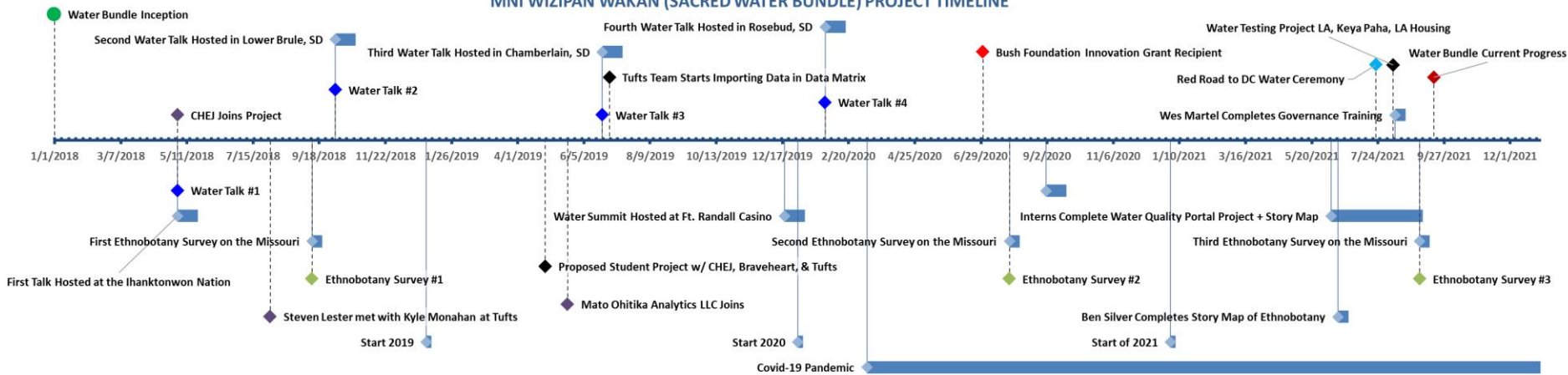
8. Involve tribal leaders and grassroots in a united effort to achieve Indigenous Co-Mangement of the MRCB.

9. Continue to provide arenas for skill development in COMMUNITY ORGANIZING, CONFLICT RESOLUTION AND PEACEMAKING AND BASIC COMMUNICATIONS METHODS TO ENSURE EVENTUAL INSTITUTIONALIZATION OF THIS MOVEMENT FOR SOLID WATER RIGHTS PROCUREMENT.



Mni Wizipan Wakan Project Timeline

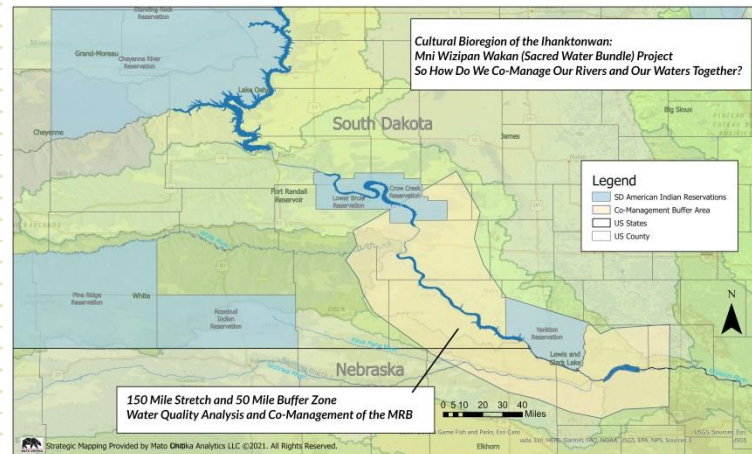
MNI WIZIPAN WAKAN (SACRED WATER BUNDLE) PROJECT TIMELINE



Current Mni Wizpan Wakan Project Portfolio

Currently the Scientific Team has been working on the following:

- *Continued Development of a Data Matrix of Pollution Sources & Water Quality Sites*
- *Continued Development of Maps of the Bioregion Target Buffer Area*
- *Use this Data to Inform Decisions in Water Management*
- *Create Map Series and WebGIS Examples of the Work*
- *Advanced GIS Mapping*
- *Treaty Mapping for Understanding Sovereignty*
- *Water Testing Protocols & Field Work*
- *Drone Mapping and Inventory of Cultural Sites*

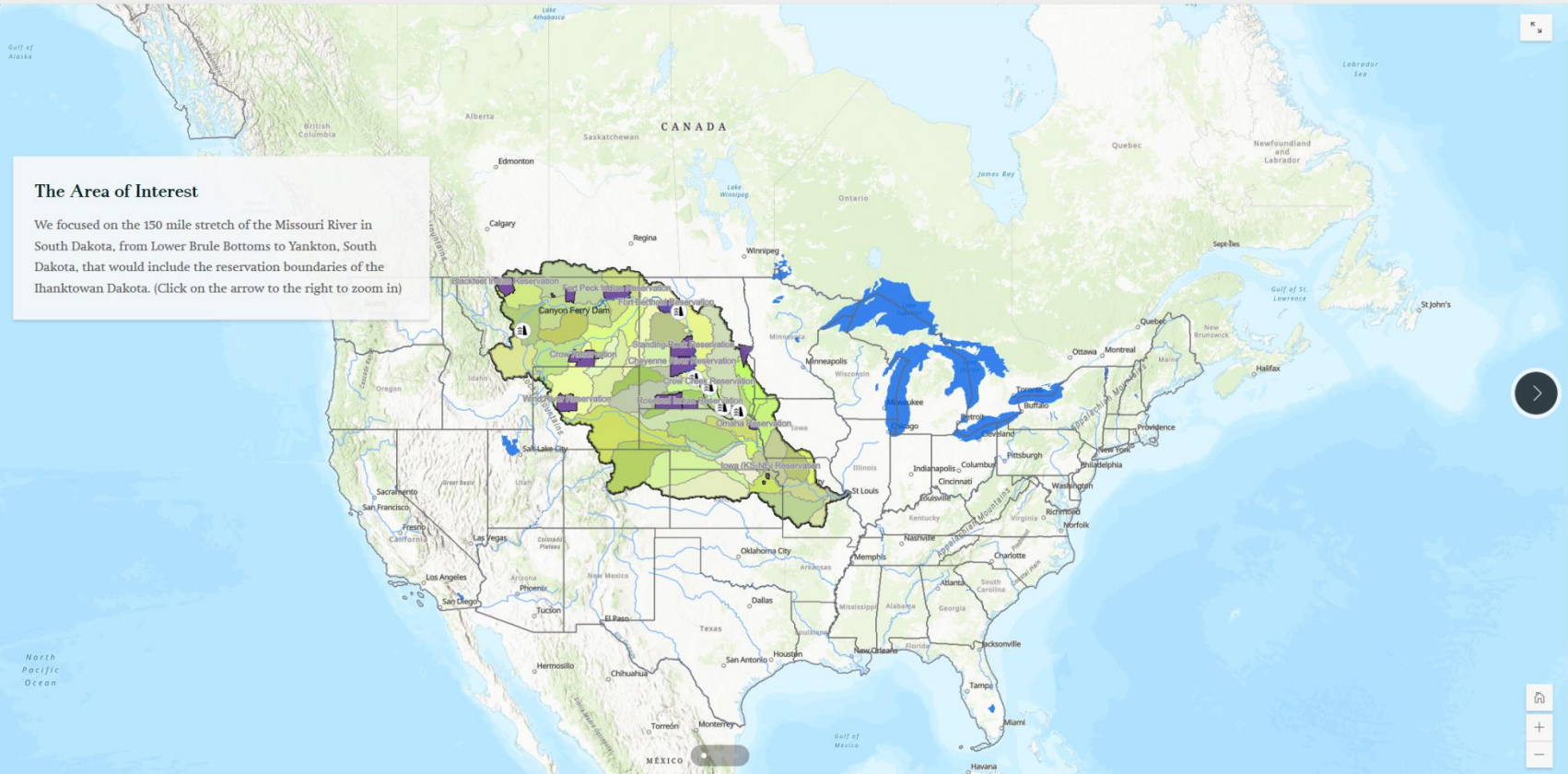


Current Mni Wizpan Wakan Project Portfolio

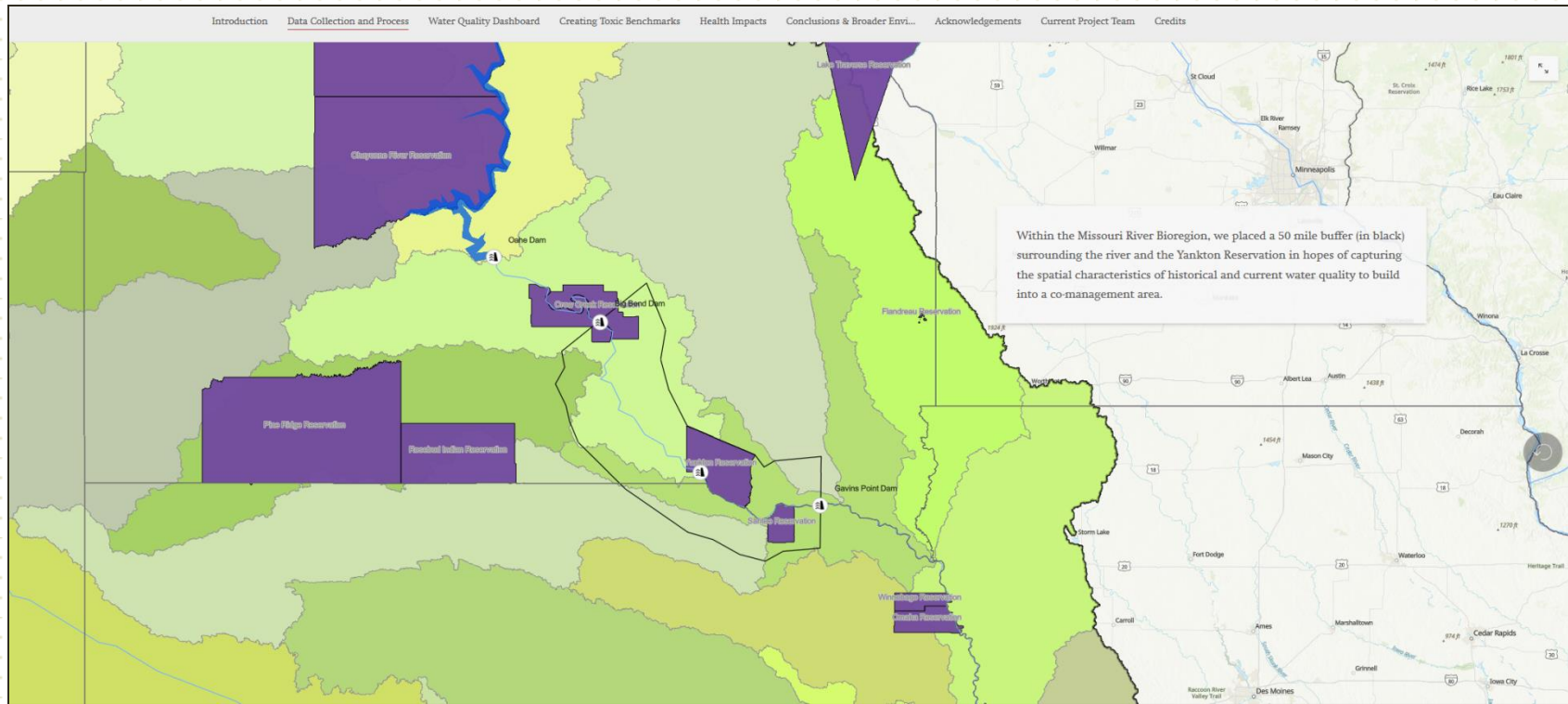
Introduction Data Collection and Process Water Quality Dashboard Creating Toxic Benchmarks Health Impacts Conclusions & Broader Envi... Acknowledgements Current Project Team Credits

The Area of Interest

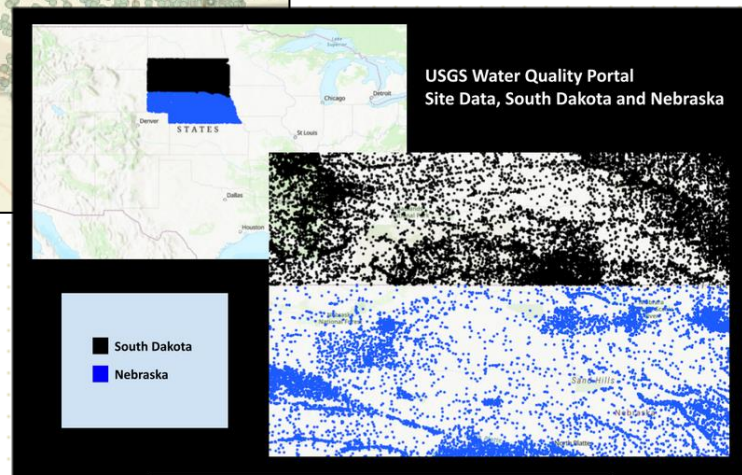
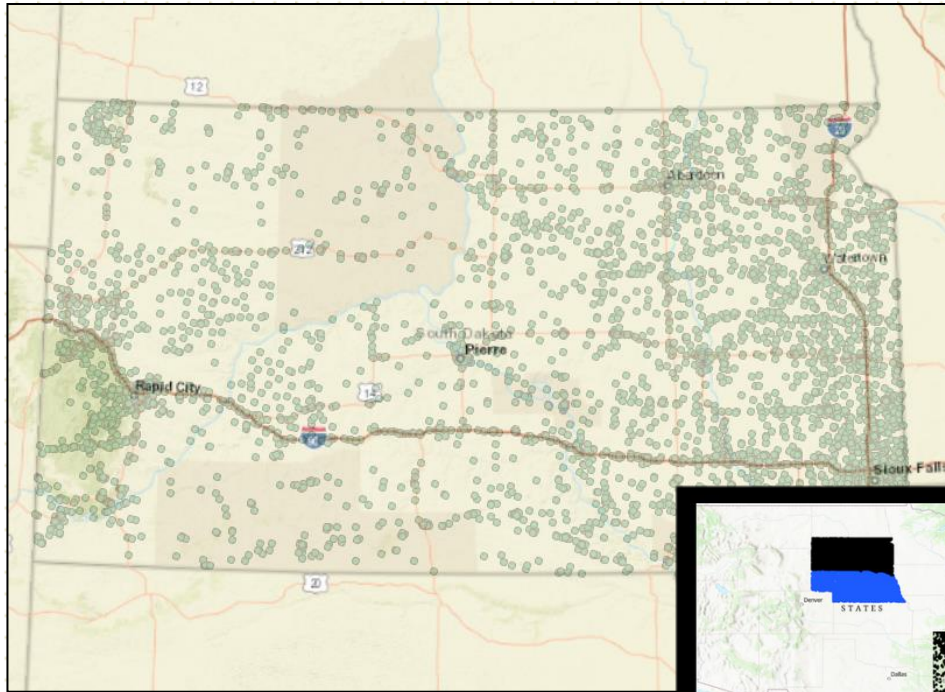
We focused on the 150 mile stretch of the Missouri River in South Dakota, from Lower Brule Bottoms to Yankton, South Dakota, that would include the reservation boundaries of the Ithantwona Dakota. (Click on the arrow to the right to zoom in)



Current Mni Wizpan Wakan Project Portfolio



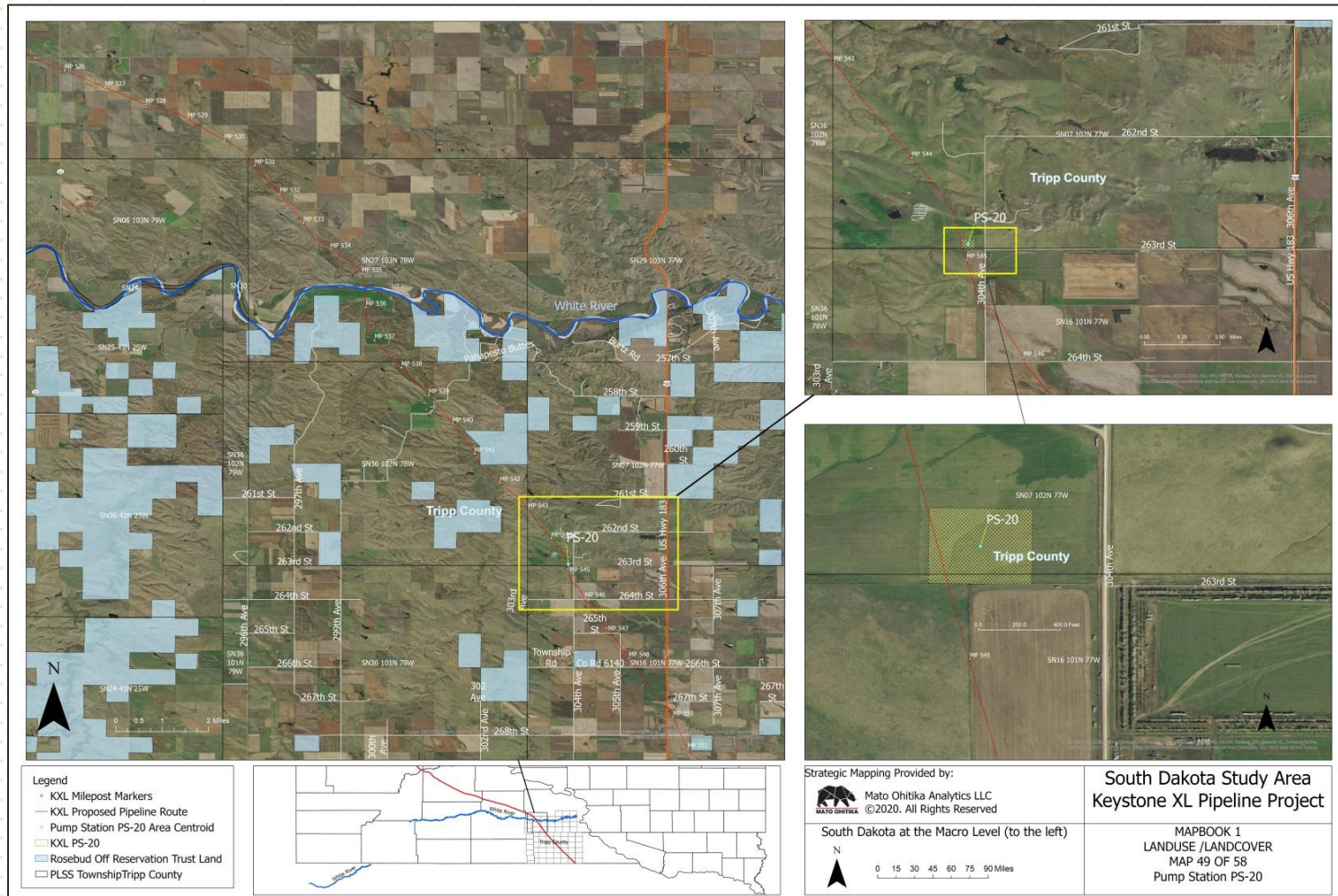
Current Mni Wizpan Wakan Project Portfolio: Creating Maps of Pollution & Water Quality Sites



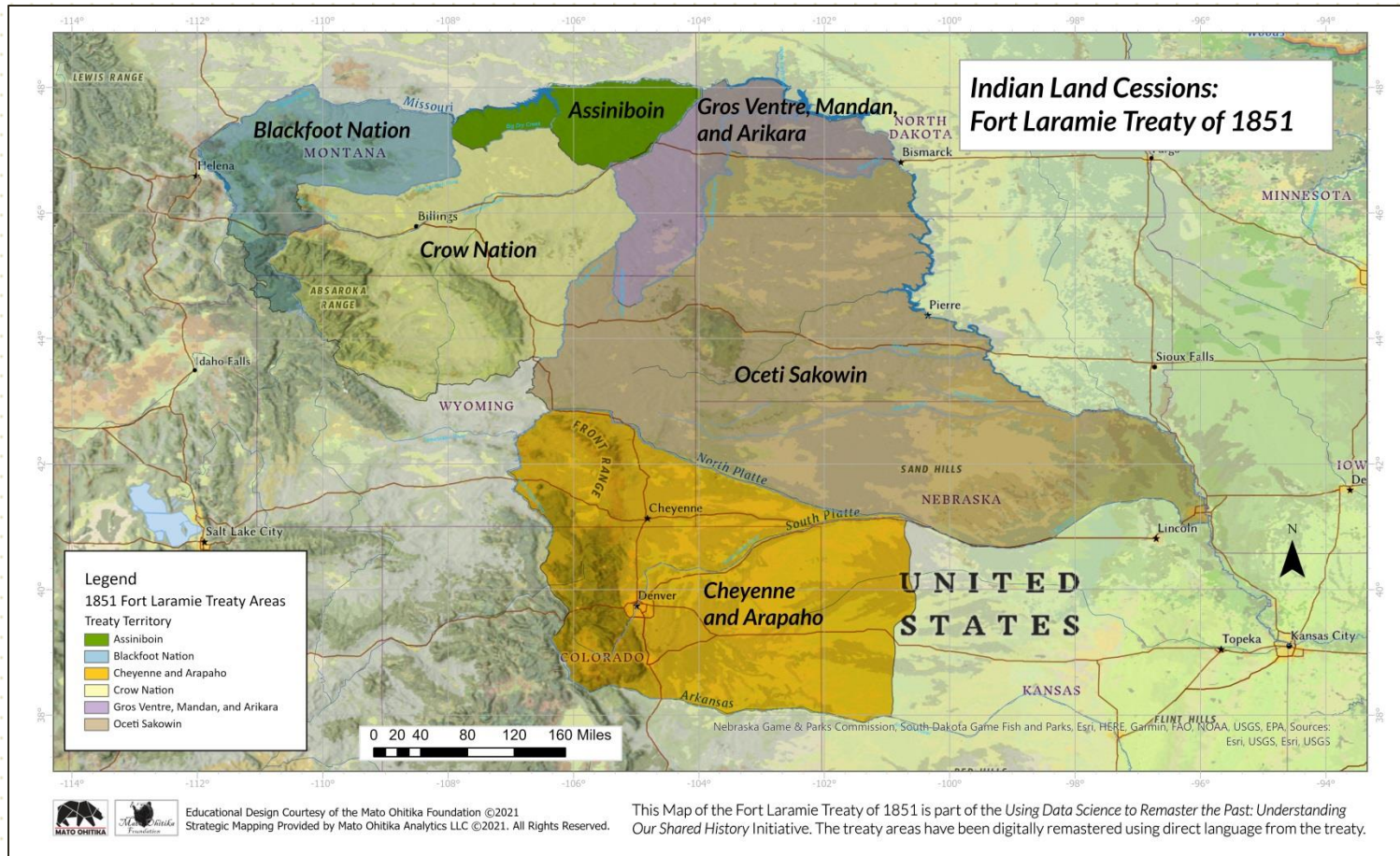
Images of millions of points collected for South Dakota and Nebraska from Water Quality Portal.



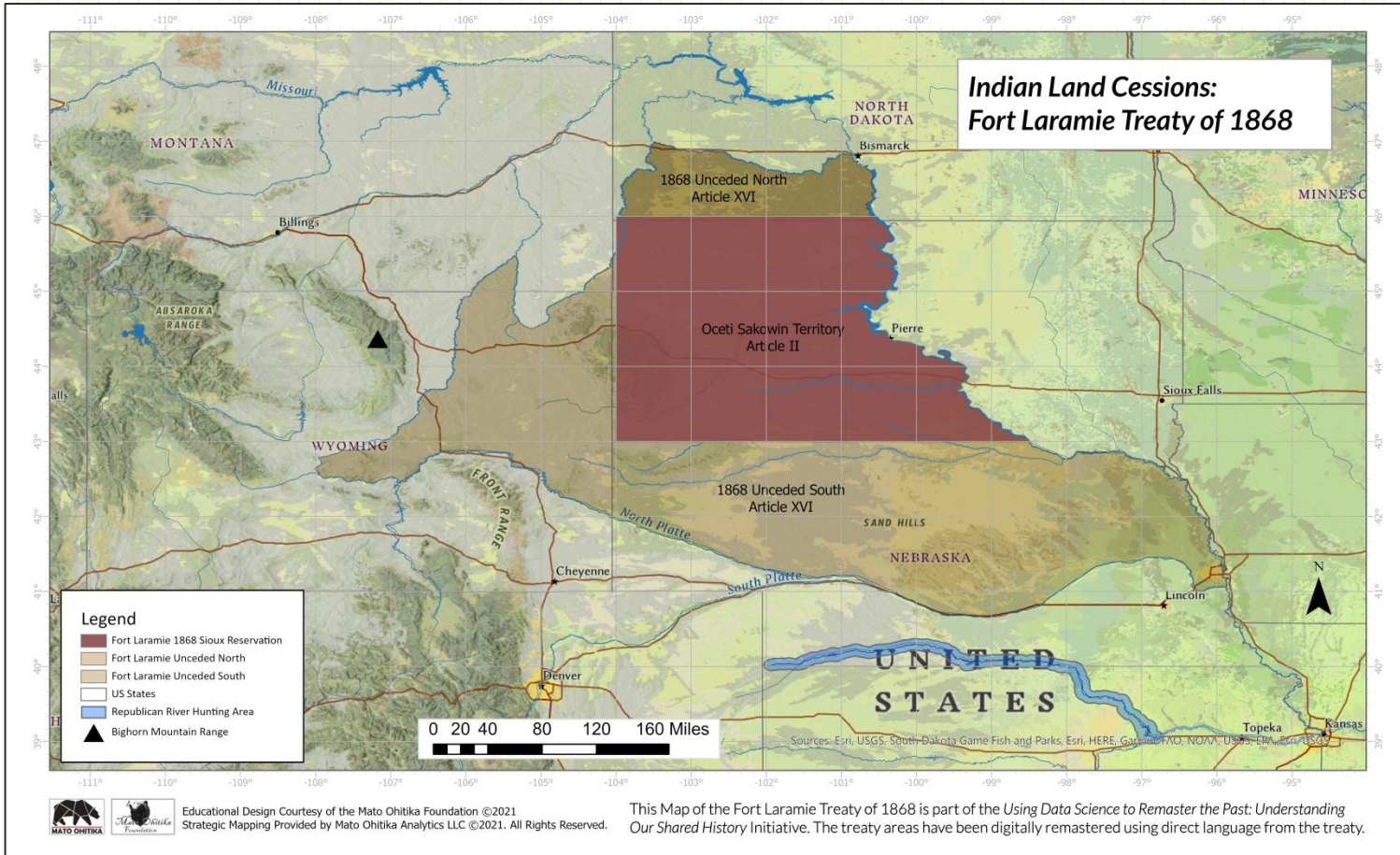
Current Mni Wizpan Wakan Project Portfolio: Advanced GIS Water Testing of KXL Route (2019)



Current Mni Wizpan Wakan Project Portfolio: Treaty Mapping

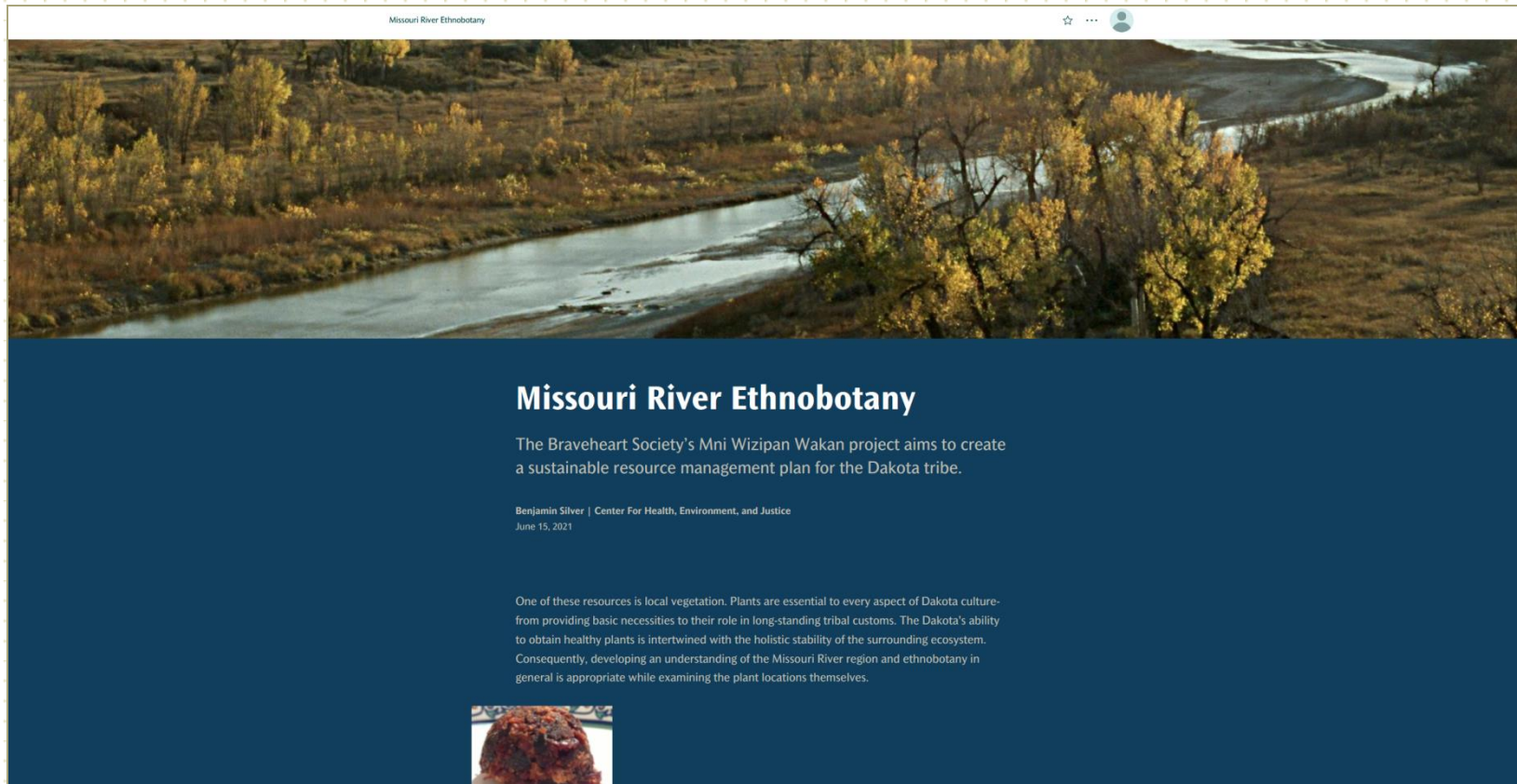


Current Mni Wizipan Wakan Project Portfolio: Treaty Mapping



Other Mni Wizipan Wakan Project Items

Ethnobotany Study Areas Along the Missouri River using ArcGIS Story Maps:



The screenshot shows a web browser window displaying an ArcGIS Story Map. At the top, the title "Missouri River Ethnobotany" is visible. Below the title is a large, scenic photograph of a river winding through a landscape with trees in autumn colors. The main content area has a dark blue background with white text. The title "Missouri River Ethnobotany" is prominently displayed. Below it, a paragraph describes the project's goal: "The Braveheart Society's Mni Wizipan Wakan project aims to create a sustainable resource management plan for the Dakota tribe." The author and date are listed as "Benjamin Silver | Center For Health, Environment, and Justice" and "June 15, 2021". A second paragraph discusses the importance of local vegetation to Dakota culture. At the bottom left of the story map, there is a small inset image of a traditional bannock.

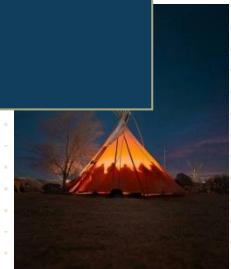
Missouri River Ethnobotany

Missouri River Ethnobotany

The Braveheart Society's Mni Wizipan Wakan project aims to create a sustainable resource management plan for the Dakota tribe.

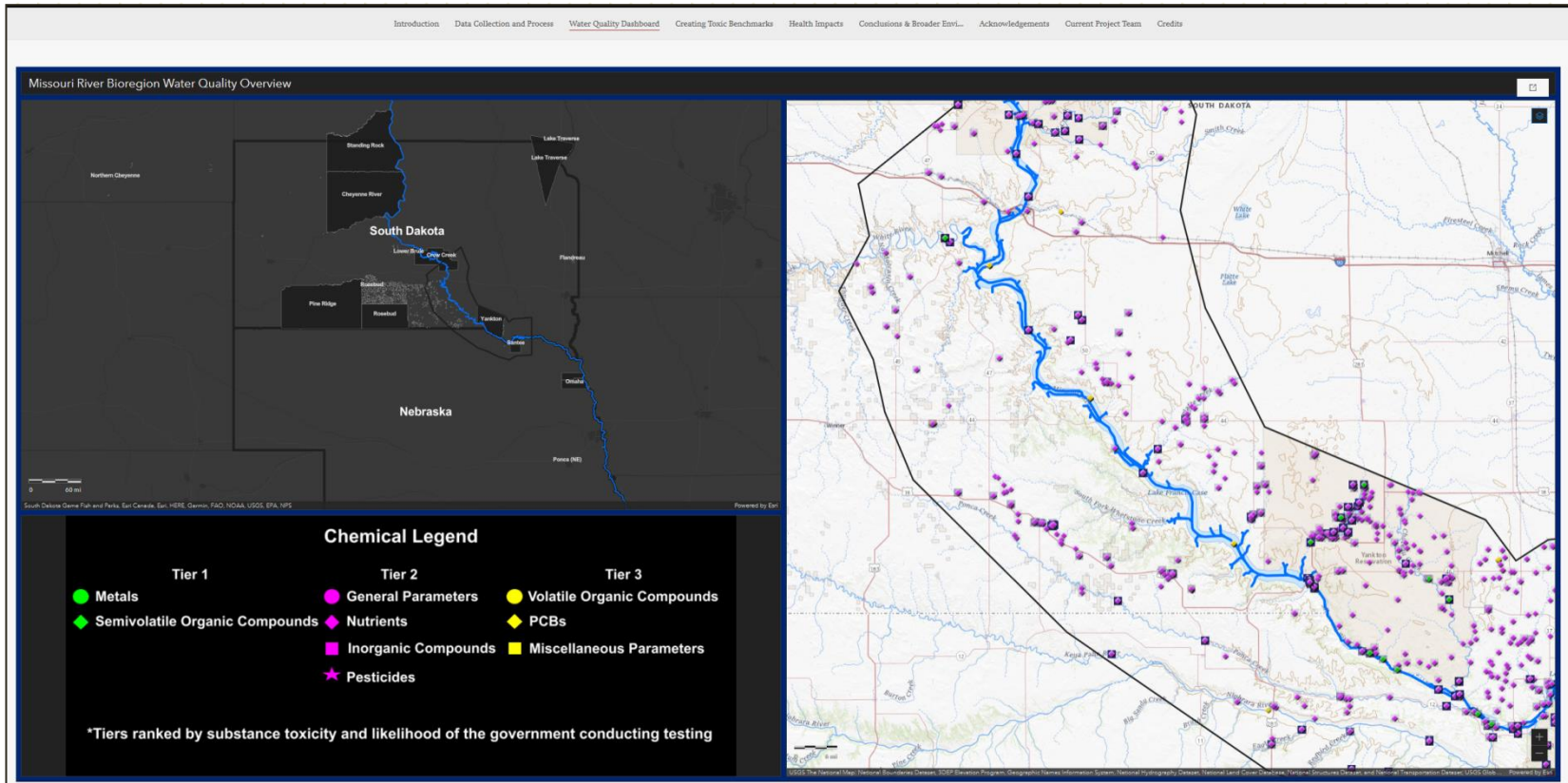
Benjamin Silver | Center For Health, Environment, and Justice
June 15, 2021

One of these resources is local vegetation. Plants are essential to every aspect of Dakota culture—from providing basic necessities to their role in long-standing tribal customs. The Dakota's ability to obtain healthy plants is intertwined with the holistic stability of the surrounding ecosystem. Consequently, developing an understanding of the Missouri River region and ethnobotany in general is appropriate while examining the plant locations themselves.



Other Mni Wizipan Wakan Project Items

Ethnobotany Study Areas Along the Missouri River using ArcGIS Story Maps:



Other Mni Wizpan Wakan Project Items

Water Quality Study of Data Mined from the USGS Water Quality Portal

Mni Wizpan Wakan: A Study in Water Quality

Mni Wizpan Wakan: A Study in Water Quality

Brave Heart Society Sacred Water Bundle Project

Story Map by Julia Weil, Oliver Nguyen, and Ben Silver
July 30, 2021

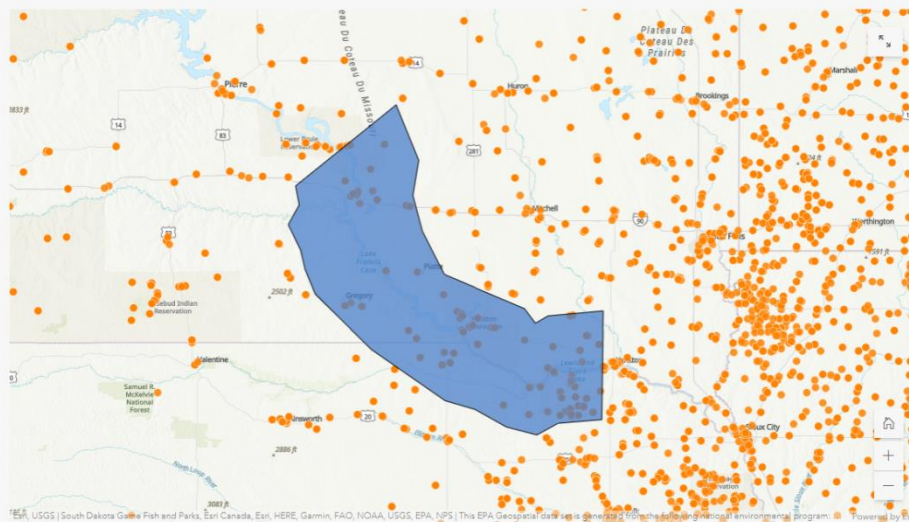


Other Mni Wizpan Wakan Project Items

Water Quality Study of Data Mined from the USGS Water Quality Portal

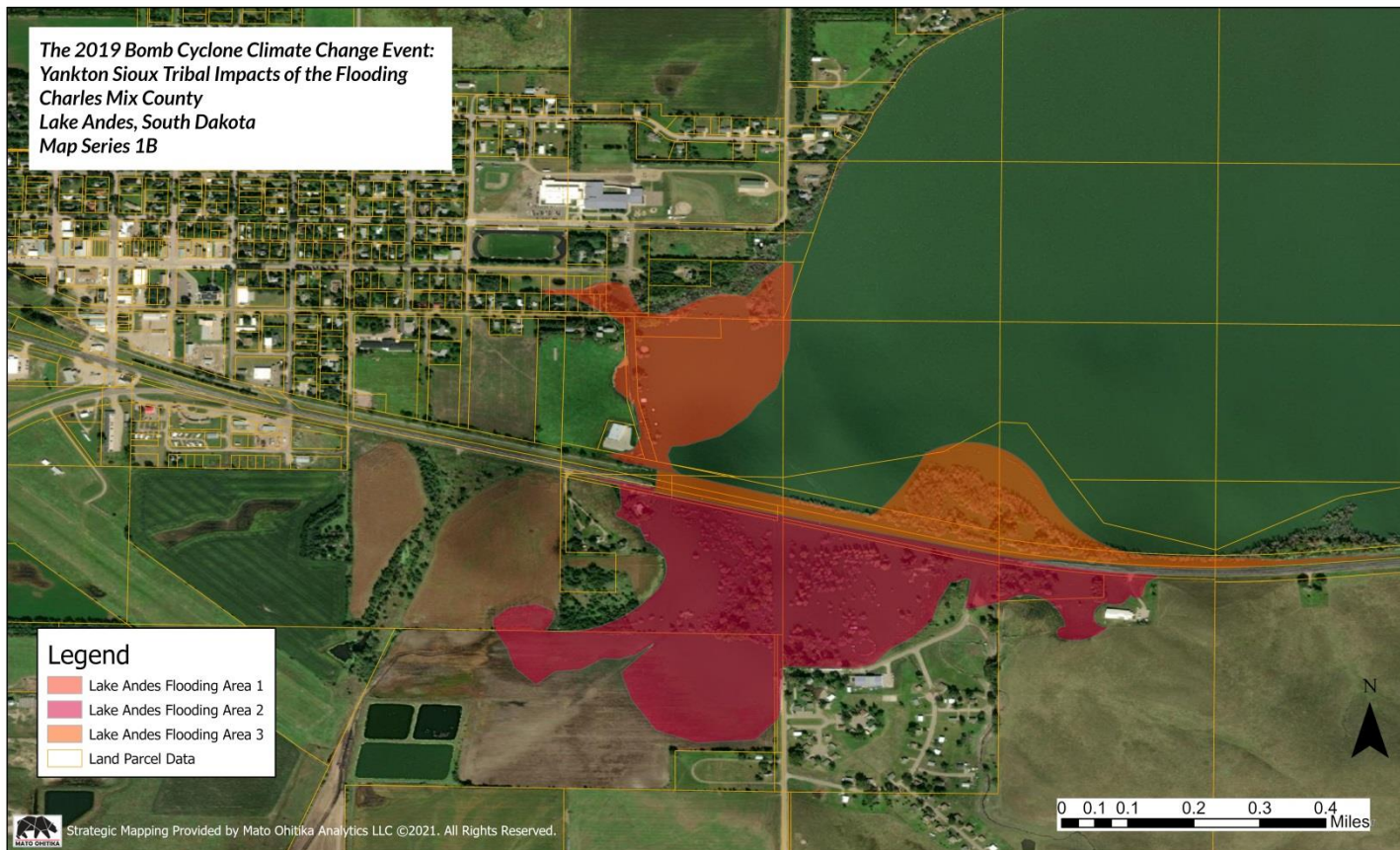
Conclusions & Broader Environmental Implications

Pollution Point Sources and Health: Next Steps



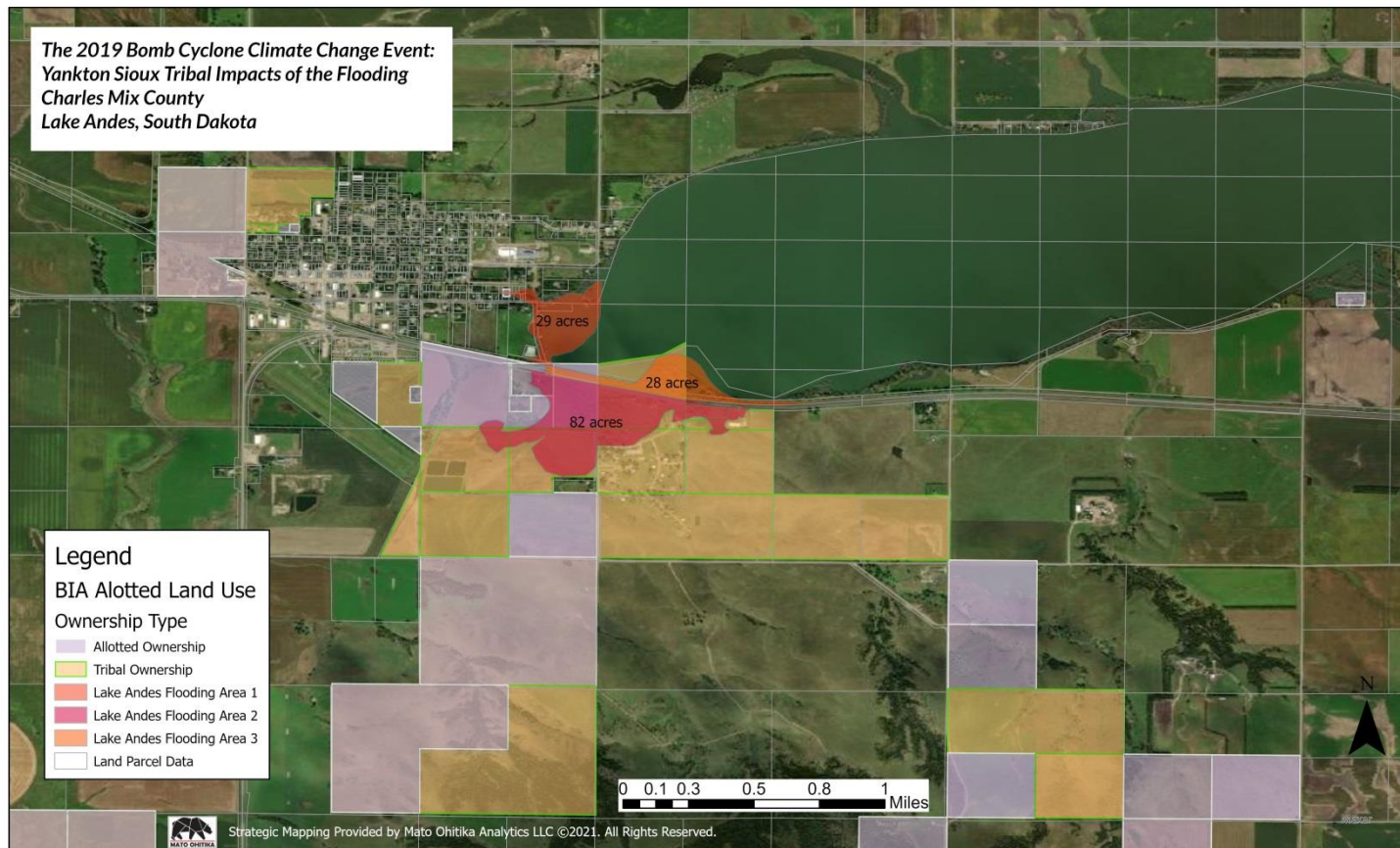
Other Mni Wizpan Wakan Project Items

GIS Analysis of the Bomb Cyclone Climate Change Event (2019)



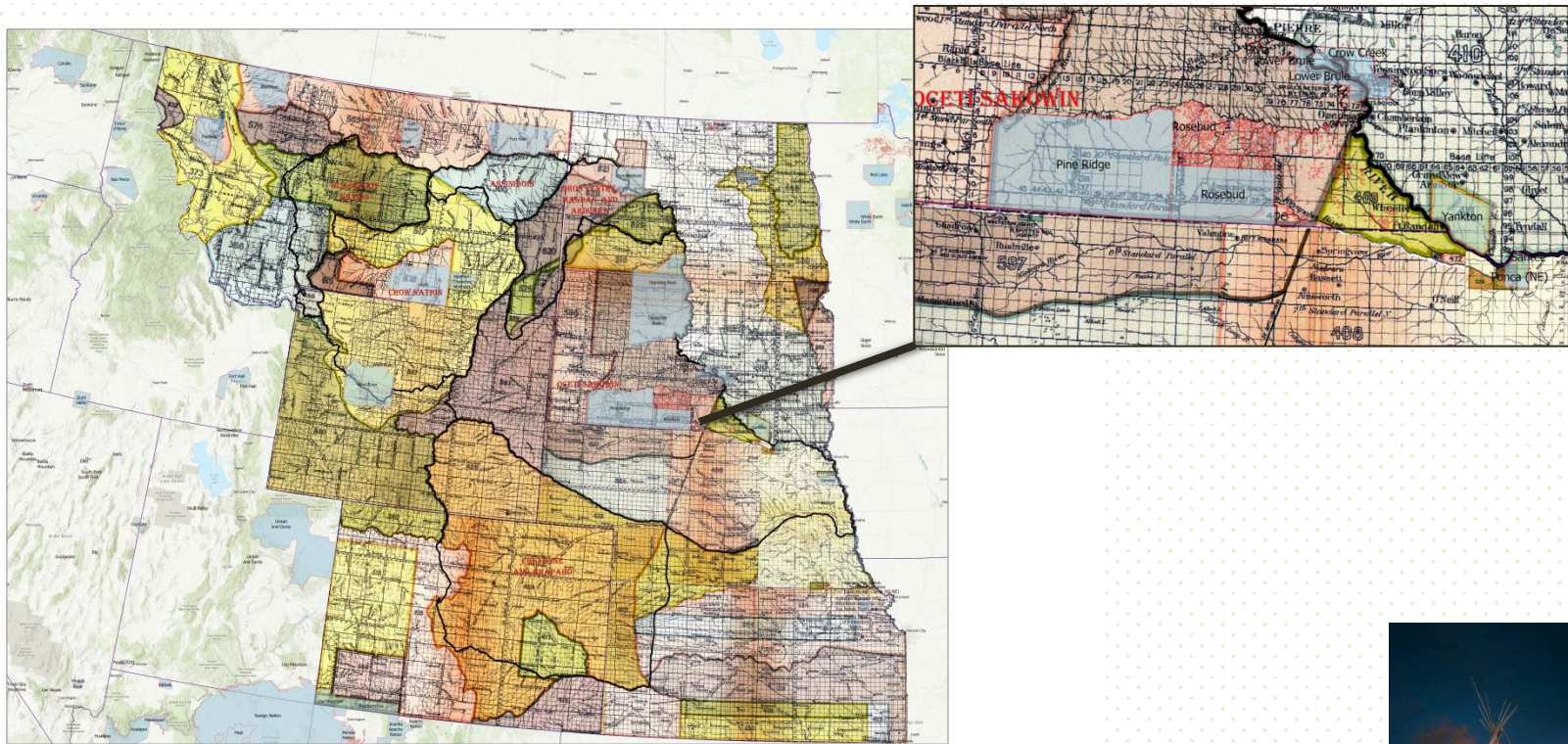
Other Mni Wizipan Wakan Project Items

GIS Analysis of the Bomb Cyclone Climate Change Event (2019)



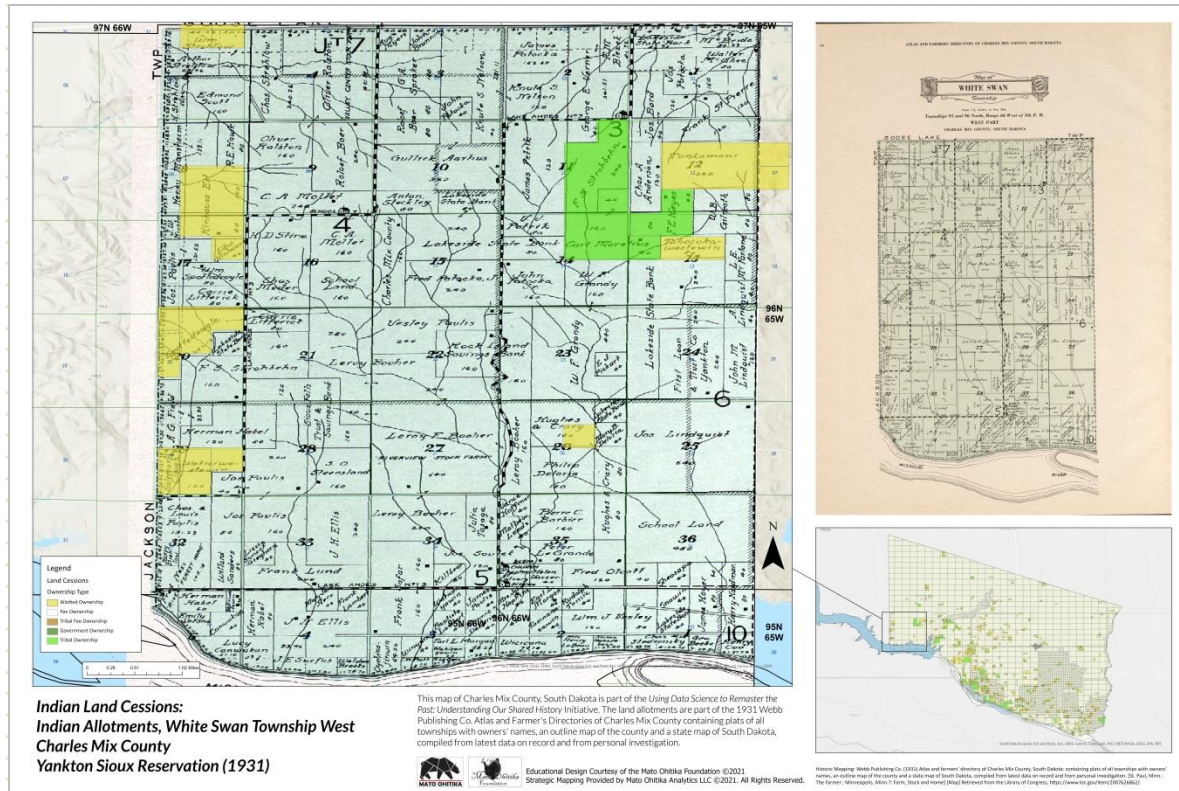
Other Mni Wizipan Wakan Project Items

Land Cession Digitization Using Mato Ohitika Analytics' Using Data Science to Remaster the Past: Understanding Our Shared History Initiative



Other Mni Wizipan Wakan Project Items

Land Cession Digitization Using Mato Ohitika Analytics' Using Data Science to Remaster the Past: Understanding Our Shared History Initiative



Other Mni Wizpan Wakan Project Items

Water Testing and Drone Surveying



Other Mni Wizpan Wakan Project Items

Water Testing and Drone Surveying



Thank you for Supporting the Protection of Maka, Our Water, and Communities!



Many thanks to all of our project partners, volunteers, and community activists!

