

# 2023-2024 ANNUAL REPORT



**NSWA**

NORTH SASKATCHEWAN  
WATERSHED ALLIANCE



## VISION

People working together to improve the health and sustainability of the North Saskatchewan River watershed today and into the future.

## MISSION

To protect and improve watershed health, water quality, and water quantity by:

- seeking, developing and sharing knowledge;
- facilitating partnerships and collaborative planning;
- working in an adaptive management process; and,
- striving to advance the practice of watershed stewardship.

## PHOTO CREDITS

Cover - Parkland Lake drone shot - Kandra Forbes

Page 3 - Beaver - Tim Osbourne

Page 4 - Stephanie Neufeld- EPCOR.

Page 14- Panoramic at top of page- Sherry Heschuk

Page 17- Sturgeon- Ken Monk

Page 17- Mushroom- Katherine Obst

Page 17- Frozen lake- Guide Fleury

All photos without photo credits were taken by NSWA staff.



## TERRITORIAL ACKNOWLEDGEMENT

The North Saskatchewan Watershed Alliance acknowledges that the traditional land on which our watershed resides is in Treaty 6 Territory, Treaty 8 Territory, and the Metis Homeland. We deeply respect and wish to honour the diverse Indigenous Peoples whose ancestors' footsteps have marked this territory since time immemorial, including the Nehiyawak/Cree, Denesuline/Dene, Anishinaabe/Saulteaux, Nakata lsga/Nakota Sioux, and the Niitsitapi/Blackfoot peoples. We further acknowledge this territory as the Metis homeland and the home of one of the largest communities of Inuit south of the 60th parallel.



## NOTE FROM THE CHAIR

I am happy to share with you our 2023-2024 annual report, highlighting the remarkable achievements of the NSWA over the past year. The NSWA has continued to make significant strides in advancing our vision of people working to improve the sustainability of the North Saskatchewan watershed.

Throughout the year, we have deepened our understanding of the watershed's health through our ongoing State of the Watershed project which is pioneering the use of the Freshwater Health Index in North America. We continue to forge new partnerships, engage new audiences, and grow as a Board and organization. These accomplishments are a testament to the dedication and hard work of our team, as well as the unwavering support from individuals and organizations across the watershed.

I am inspired by the progress we have made and energized by the opportunities that lie ahead as we continue to make a difference in the communities and ecosystems of the North Saskatchewan watershed.

Stephanie Neufeld

Chair, North Saskatchewan Watershed Alliance

## NOTE FROM THE EXECUTIVE DIRECTOR

Despite this being my second year with NSWA, it seems this year is really the year of beginnings. We kicked off the Youth Water Council, launched a river documentary, delivered an animated video series, raised awareness and funds for a basin-wide hydrologic model and water management roadmap, envisioned and were funded for an extensive natural assets program on Whitemud Creek, established a relationship with Papaschase First Nation, and delivered several drought planning and response workshops.

While all these different initiatives are fantastic, they do not occur without the dedication, talent, and passion of NSWA staff and all those involved with every project. This year, I give a special shout-out to Josie, Tanya, Humza, Jemimah, Eadlin, Kayleigh, Roy, Judah, and Apoorva; the nine inaugural members of the NSWA's Youth Water Council. Nothing inspires me quite like this amazing group of young people who chose to step forward to make a difference.

As always, I look forward to being part of the collaboration needed to make the NSWA's work happen.

Scott Millar

Executive Director, North Saskatchewan Watershed Alliance



## ABOUT THE NORTH SASKATCHEWAN RIVER

The North Saskatchewan River watershed is a sprawling expanse of approximately 57,000 square kilometers within Alberta. Originating in the Rocky Mountains, the river flows eastward towards the Saskatchewan border, traversing through the City of Edmonton and many smaller communities en route.

This vast region is a mosaic of diverse ecosystems, supporting a wide range of flora and fauna. The North Saskatchewan River watershed is a critical and sustaining resource, serving as a primary source of water for people, agriculture, industry, and wildlife. The complex dynamics of this intricate system require a multidisciplinary approach to stewardship, management, conservation, and protection.

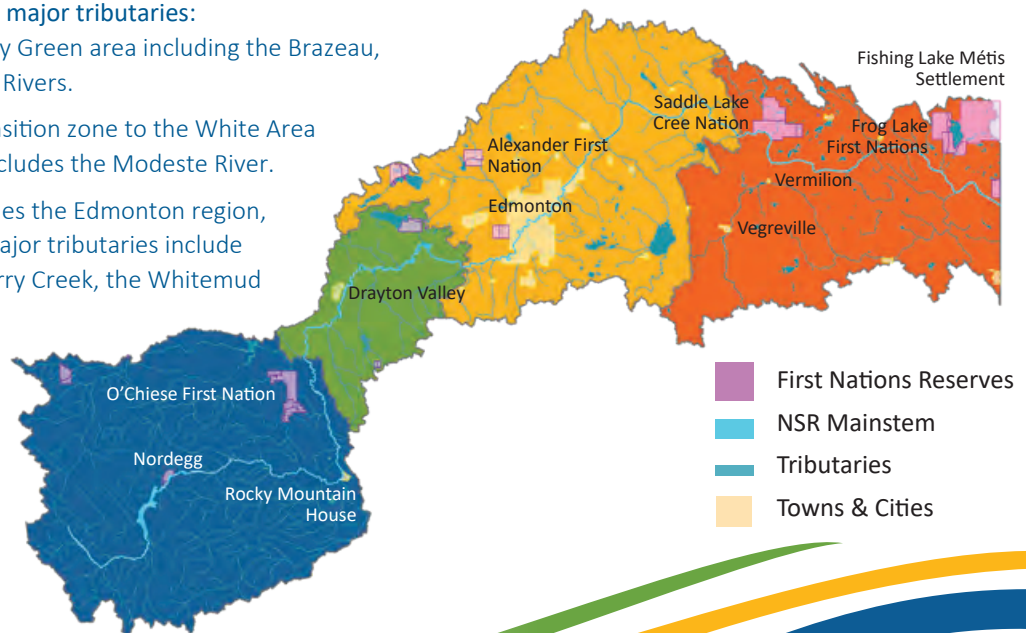
## RIVER REACHES OF THE NORTH SASKATCHEWAN RIVER

Since 2005, the NSWA has used the Canadian standards for drainage basins as reporting boundaries, which divided our watershed into 12 planning regions. To reflect the needs of our new *State of the Watershed* Report, and to better suit watershed management planning needs within the NSR basin, we have reconsidered the use of these boundaries and have decided to switch to river reaches.

River reaches are lengths of the mainstem river and surrounding lands that consider characteristics of natural ecoregions, land use, dam locations, and land use planning regions. Using regional differences to set reporting boundaries will be helpful in associating future watershed management plans and actions with local issues that consider both natural landscapes and waterways.

The four NSR river reaches and major tributaries:

- Upper NSR reach:** Mostly Green area including the Brazeau, Ram and the Clearwater Rivers.
- Upper Mid reach:** A transition zone to the White Area (settled region) which includes the Modeste River.
- Lower Mid reach:** Includes the Edmonton region, recreational lakes and major tributaries include Sturgeon River, Strawberry Creek, the Whitemud and Blackmud Creeks.
- Lower NSR reach:** Mostly Central Parkland ecoregion with the Vermilion River as a major tributary in this rural reach.



## ABOUT THE NSWA

The North Saskatchewan Watershed Alliance (NSWA) is a non-profit, multi-stakeholder organization dedicated to promoting the health and sustainability of the North Saskatchewan River and its watershed. Under the *Alberta Water for Life* strategy, the NSWA carries the responsibility of developing and then encouraging voluntary implementation of an integrated watershed management plan. Implemented through collaboration and community engagement, the plan sets out the actions needed to protect and enhance the quality of water and the health of aquatic ecosystems within the watershed, while also supporting the social and economic well-being of the region.

### NSWA STRATEGIC GOALS



Support collaborative partnerships



Lead in watershed planning



Promotes watershed knowledge sharing



Sustainable organization

## NSWA STAFF

Back row, left to right: Ellen Cust, Marijke Kalisvaart, Scott Millar, Brad Tyssen, Mary Ellen Shain, Heather Marshall, Kelsie Norton

Front row, left to right: Kaila Belovich, Michelle Gordy, Rosey Radmanovich, Elisa Brose, Jill Peterson





# BOARD OF DIRECTORS | 2023-2024

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**Dr. Greg Goss**  
Academia  
University of Alberta



## THANK YOU TO OUR FUNDERS

We are grateful to the many supporters of the NSWA. We would not be able to Facilitate partnerships, complete studies, or share knowledge in our watershed without the time and resources provided by our generous contributors.

We acknowledge the Government of Alberta for providing a multi-year operational grant and important contributions from EPCOR and 46 municipalities in our watershed. We are also grateful For a 3-year operational grant provided by the Edmonton Community Foundation.



### COUNTIES

Beaver County  
Brazeau County  
Clearwater County  
County of Minburn  
County of St. Paul  
County of Two Hills  
County of Vermilion River  
Lac Ste Anne County  
Leduc County  
Parkland County  
Smoky Lake County  
Strathcona County  
Sturgeon County

### CITIES

Edmonton  
Fort Saskatchewan  
St. Albert  
Spruce Grove

### TOWNS

Bruderheim  
Calmar  
Devon  
Drayton Valley  
Gibbons  
Onoway  
Rocky Mountain House  
Smoky Lake  
St. Paul  
Thorsby  
Two Hills  
Vegreville

### VILLAGES

Alberta Beach  
Chipman  
Spring Lake

### SUMMER VILLAGES

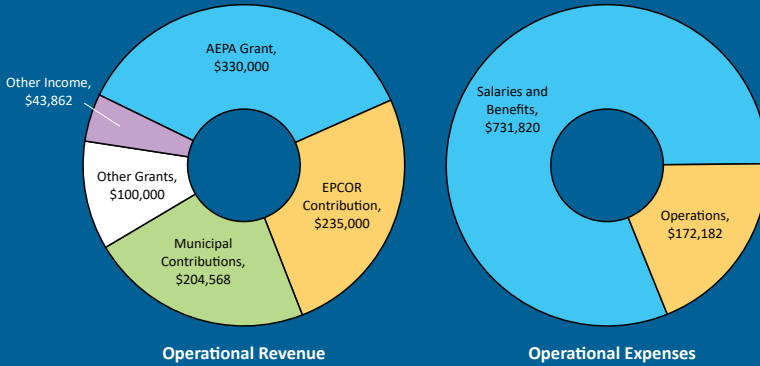
Betula Beach  
Horseshoe Bay  
Kapasiwin  
Lakeview  
Point Alison  
Ross Haven  
Seba Beach  
Silver Sands  
Southview  
Sunrise Beach  
Sunset Point  
Val Quentin  
West Cove  
Yellowstone



# FINANCIAL SUMMARY

## Operational Funding

The NSWA receives core operational funding from:

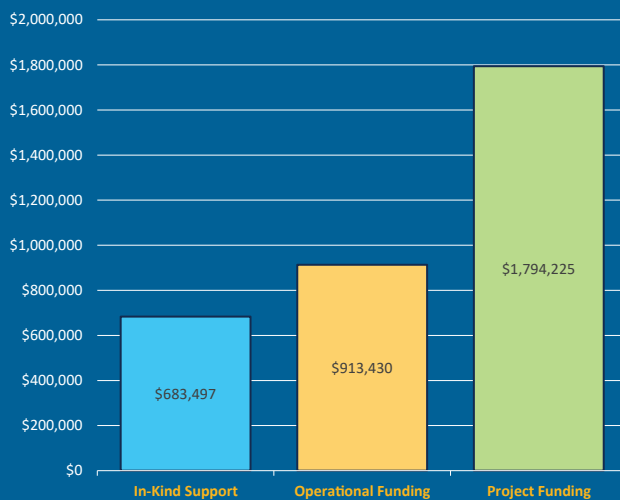


- An operating grant from the Alberta Environment and Protected Areas
- A contribution from EPCOR Water Services Canada
- Municipal contributions equivalent to \$0.60 per capita
- An operational grant from the Edmonton Community Foundation

The NSWA 2023-2024 Audited Financial Statement can be found under Our Society on the NSWA website.

## Project Funding

The NSWA seeks grants and other types of project funding from federal, provincial, and private funders for watershed project specific works such as technical studies, education and outreach project, technology development, and on-the-ground restoration activities.



# STATE OF THE WATERSHED

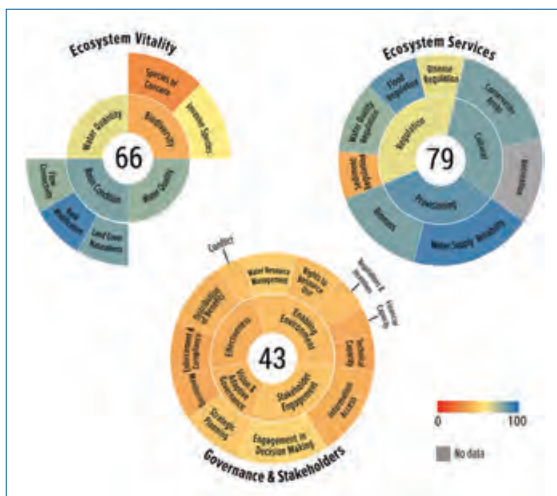
The NSWA is responsible to assess and report on the condition of the watershed, through a State of the Watershed Report. This assessment serves multiple functions, including:

- Provides a baseline understanding of watershed health.
- Identifies knowledge gaps for indicators and assessment methods.
- Provides a springboard for action and to address watershed health issues.
- Used as a teaching tool for education and outreach efforts.

NSWA last assessed the watershed in 2005. The *2005 State of the Watershed Report* assessed available water quality, water quantity, and ecosystem health indicators with the data available at the time. In the 20 years since the last assessment, there has been considerable change in available data, assessment methods, and needs of the watershed.

## The Freshwater Health Index

With two decades of experience, collaboration and much knowledge gained, the NSWA felt that the indicators of watershed health and the process of completing the assessment should be updated. A new assessment method needed to be thorough, repeatable, easy to update, and clearly communicate results.



*The three primary indicator wheels used by Conservation International are being adapted for the NSWA and will be the first project to use FHI in North America.*

The NSWA is adapting and using the Freshwater Health Index (FHI), a peer-reviewed and published approach originally developed by Conservation International, as the foundation of the current State of the Watershed assessment.

The FHI is being adapted to suit an Alberta context and is the first use of the FHI framework in North America. The FHI evaluates basin health using three components: Ecosystem Vitality, Ecosystem Services, and Governance & Stakeholders, each scored on a 0-100 scale. The scores indicate areas that may need restoration or management (lower scores) and areas with a healthier ecosystem (higher scores).

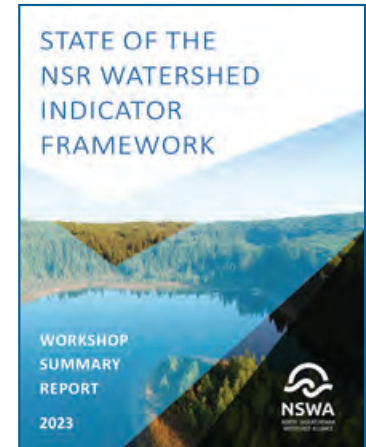
By design, the FHI is a tool for engaging multiple perspectives in the assessment of water and aquatic ecosystem resources, which means it is well aligned with the shared governance principles of Alberta's *Water for Life* Strategy. Involving stakeholders in the assessment process ensures the results are relevant to the basin and the needs of local decision-makers.

## Bringing FHI to the North Saskatchewan Watershed

The NSWA began to adapt and implement the FHI in early 2023 through an iterative and inclusive process:

### Adapting FHI

- Reviewed and customized FHI indicators to better reflect the North Saskatchewan watershed's data availability, existing assessment tools, and ecosystem dynamics.
- Adapted the Governance and Stakeholder Evaluation survey to fit Alberta's water governance context (e.g., Water for Life's shared governance principles).



*Engagement workshop attendees discuss gaps within watershed health.*

### Engagement and Collaboration

- Hosted two workshops with 50 attendees from various sectors to share the FHI purpose, explore perceptions of watershed health, and identify major problem areas.
- Convened subject-matter experts across a variety of disciplines to ensure the use of appropriate data and validate indicator evaluations.
- Adapted and then distributed the Governance and Engagement Evaluation survey, receiving 59 responses from diverse sectors and groups.

### Sharing Results

- Documented the FHI adaptation process to ensure transparency, facilitate repeatability, and enable transferability to other watersheds and jurisdictions.
- Developing a web-based State of the Watershed reporting method to present key FHI results and identify data gaps.

Over the coming months, the assessment of watershed conditions using the FHI methodology will continue and explore how to best present the results online.

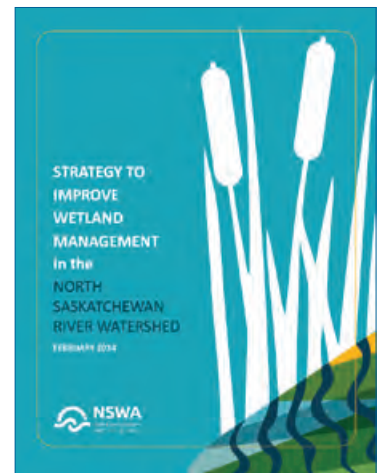


*Presentation showcasing some of the available watershed information and data.*

# STRATEGY TO IMPROVE WETLAND MANAGEMENT IN THE NORTH SASKATCHEWAN RIVER WATERSHED

In February 2024, the NSWA completed the *Strategy to Improve Wetland Management in the North Saskatchewan Watershed* (The Wetland Strategy) with significant involvement from Alberta Environment and Protected Areas, municipal staff, and councilors of over 30 municipalities in the watershed, as well as environmental non-profit staff, and academics.

**The purpose of the Wetland Strategy is to increase the amount of wetland area in the watershed, improve the overall condition of wetlands in the basin, and build upon ongoing wetland management through collaboration and partnership.**



The Wetland Strategy identifies four strategies designed to address capacity gaps and magnify collaboration on wetland management in the North Saskatchewan watershed:



## ***Collaborate and Take Action***

Set and then achieve wetland restoration targets for the NSR watershed through multi-sector collaborative action.



## ***Build and Mobilize Knowledge***

Inform progressive wetland management in the NSR watershed through targeted research, mobilizing relevant knowledge, and augmenting management tools.



## ***Optimize Planning, Policy, and Financial Programs***

Align and enhance planning, policy, finance, and compliance actions across municipal and provincial partners.



## ***Implement Wetland Monitoring***

Track and measure wetland status and restoration across the watershed, while expanding opportunities for wetland monitoring by citizens.

## RIPARIAN HEALTH

### Riparian Health Action Plan

The Action Plan is currently focused on riparian policy projects that enhance the conservation of riparian areas. Over the summer of 2023, over 60 people participated in two workshops hosted to hear from communities across the basin about their riparian policy concerns and innovations.

The NSWA is currently developing a Riparian Policy Best Management Guide which will recommend regulations and policies that municipalities may incorporate into their development plans, land use bylaws, or environment management strategies. The guide is expected to be completed in mid-2024.



*Riparian policy project workshop.*

The NSWA published the report *Legal Foundations for Municipal Riparian Management (2023)* prepared for the NSWA by the Environmental Law Centre. The report discusses municipal roles and responsibilities, liabilities and tools enabled through provincial and federal legislation.



### Riparian Web Portal

The NSWA hosted the second annual Riparian Web Portal Contest in partnership with Lakeland College. This year, fourteen students from the Environmental Technician Program worked with conservation coordinators from across Alberta to upload conservation and restoration projects to the Portal.

Students presented their projects to a Lakeland community audience in March 2024. The NSWA selected Carson McDonald and Tajudeen Imam as the contest's winning duo.



*Lakeland students who participated in the Riparian Web Portal contest with instructor Nicole Nadorozny and NSWA ED Scott Millar.*

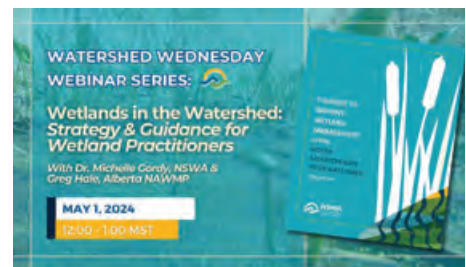
The NSWA continues to work with other watershed alliances across the province to host and promote the Riparian Web Portal. In 2023, the Sounding Creek Watershed and Swan River riparian intactness datasets were added to the Portal. Additionally, the NSWA hosted four Riparian Web Portal training sessions in April 2023 and January 2024.

# EDUCATION AND OUTREACH

Sharing knowledge and reaching out to the watershed’s diverse community is important to NSWA. This year, the NSWA participated in many community events and workshops, with municipal partners, local watershed stewardship groups, and community-led initiatives. Highlights included the Parks Canada New Canadians Event, C-5 community event, Nordegg Recreational Fair, and Canadian-Wide Youth Science fair!

## Watershed Wednesday Webinars

A series of six online Watershed Wednesday webinars were held in the Fall of 2023 and Winter/Spring of 2024. These webinars highlighted exciting projects happening in the watershed and beyond, covering topics of drought resilience, the Watershed Integrity Project, the WaterSHED monitoring program, and Alberta’s Watercourse Crossing Program. Watch webinars on [NSWA’s YouTube channel](#).



## WPAC World Water Day

On March 22nd, 2024 Alberta’s 11 Watershed Planning & Advisory Councils (WPACs) came together to celebrate World Water Day with the theme of “Leveraging Water for Peace”. The event featured three amazing speakers who shared their insights and ideas in a panel discussion after their presentations. Catch the replay on [NSWA’s YouTube channel](#).



## Instream Newsletter & Annual Calendar

The NSWA monthly newsletter keeps 1000+ subscribers informed about events, projects, and partner updates. Throughout 2023-2024, the newsletter has showcased local artists, monthly topical blog posts, feature articles, and interviews. Sign up for the newsletter on the [NSWA website](#).

Each year, the NSWA puts together a themed calendar so that NSWA members, municipal leaders, and partners across the watershed can have a daily reminder of the NSWA. The 2024 calendar features wildlife from the watershed.

# EDUCATION AND OUTREACH

## Social Media Highlights Photo Contests

Social media continues to evolve as an important part of NSWA’s education and outreach efforts. This year continues to grow our social media reach and provide educational information and updates about events in our watershed.

### Social Media Following (as of April 2024)



Instagram: 1,128



LinkedIn: 1,142



Twitter: 2,847



Facebook: 1,100

## Photo Contests

2024 marked the NSWA’s first photo contests where people from across the watershed submitted photos with themes of the watershed’s natural environment or people in the watershed. Contests ran in the fall of 2023 and winter of 2024.



## Watershed Moments Animated Series

NSWA developed a 4-part animated video series starring the dynamic water droplet duo, H<sub>2</sub> and O, from Alberta Watersheds Inc. These characters go on an educational adventure that promotes watershed literacy and highlights the importance of watersheds.

The video series was made possible by the generous support of the Plains Midstream Canada Community Investment Program and many content collaborators from across Alberta. The videos were released at the joint WPAC World Water Day event on March 22. Be sure to find them on [NSWA’s YouTube Channel Playlist called “Watershed Moments.”](#)

### Partners involved:

- Alberta WPACs
- Alberta Water Council
- Government of Alberta
- AB Municipalities
- Alberta Lake Management Society (ALMS)
- Inside Education
- Water Portal Society







## SUBWATERSHED ALLIANCES

The NSWA coordinates the several subwatershed alliances and a collaborative made up of people and organizations with interest in improving the health of their local watersheds. These groups are critical in implementing watershed management planning that reflects local issues, concerns, and priorities.

### Urban Creeks Collaborative

- Newly formed in 2023, the Urban Creeks Collaborative focuses on North Saskatchewan River tributaries entering the river within the boundaries of the City of Edmonton.
- Efforts to date have been on establishing the group and determining focus areas for future work, likely including the development of an urban creeks strategy.



*Subwatershed Alliance coordinators  
Rosey Radmanovich and Kelsie Norton.*

### Sturgeon River Watershed Alliance (SRWA)

- The SRWA continues to implement the 2020 Sturgeon River Watershed Management Plan and conducted its 2024 Sturgeon River WMP Evaluation Report.
- The Alliance's water quality monitoring program wrapped up in 2023 with an analysis of all available data and the creation of several Water Quality Info Sheets.
- SRWA meets regularly and supports initiatives such as the 2023 Lac Ste. Anne Walleye Spawn Camp (Environment and Protected Areas) and the Parkland County ALUS Partnership Advisory Committee.

### Vermilion River Watershed Alliance (VRWA)

- The VRWA is working to implement the 2012 Vermilion River Watershed Management Plan having finalized a groundwater study for the Vermilion River Watershed with in partnership with Alberta Environment and Protected Areas.
- The VRWA supported outreach and education activities such as the annual Bugging Out Down by the River event (with the Town of Vermilion Library) as well as County of Vermilion River's Wetland Adventure Days.



*Rick posing with pink bug net.*

We'd like to thank Rick Passek for his support of NSWA over the years and the personal time he's donated to the Buggin' Out event. We wish him all the best in his retirement from the GoA - and happy fly fishing!



## YOUTH WATER COUNCIL

The NSWA launched the inaugural session of the Youth Water Council in February 2024 with nine students from grades 10, 11, and 12 who live in the central portion of the North Saskatchewan watershed.

The first of its kind for the NSWA, the Council is a youth-led initiative that aims to provide education on local watershed issues and empowering Council members with the opportunity to act. The Council plays an essential role in building a sustainable and resilient future within the North Saskatchewan watershed by engaging the next generation of watershed leaders.

The Youth Water Council is made possible by four amazing supporters:



TD Friends of the Environment Foundation



**The Easton Estate**

### *Vision of the Youth Water Council*

There are four pillars to the program's vision:

- 1. Representation and Empowerment**  
Provide a platform for youth to collaborate, share opinions, and drive positive change.
- 2. Education and Development**  
Advance skills, knowledge, and career pathways for YWC members.
- 3. Collaboration**  
Build a collaborative team using deliberative, consensus-based decision-making.
- 4. Innovation**  
Support youth-led development of innovative solutions to watershed issues.



*Judah, Humza, Roy, Tanya, Josie, Apoorva, Eadlin, Jemimah, Kayleigh*



Over the course of only six months, the Council will be meeting virtually and in-person to learn from watershed experts and NSWA partners, and then take their knowledge to design and implement a project they feel will benefit the health of the watershed. A project video is being created to document the Council's journey through the program.

## ADVISORY SUPPORT

### Training with Papaschase First Nation

NSWA supported development of five training modules for a community-based cumulative effects program with Papaschase First Nation. Modules covered topics such as watershed science and management, watershed delineation, wetlands and riparian areas, and basic water quality monitoring and were delivered December of 2023 and January 2024.



*Scott Millar collects samples from the NSR near Drayton Valley.*

### eDNA Partnership

The NSWA is working closely with Dr. Patrick Hanington with the School of Public Health at the University of Alberta on environmental DNA (eDNA) monitoring to detect aquatic invasive species and the presence of species at risk.

The objective of the research is to develop and validate novel eDNA tests for priority aquatic invasive species and species at risk in North America and compare dPCR-based eDNA surveillance with metabarcoding results from the same water sample, targeting bacteria, autotrophs, heterotrophs and invertebrates/vertebrates.

### Industrial Heartland - Designated Industrial Zone Working Group

The NSWA is a partner in the IH-DIZ Water Task Team that is working to streamline regulatory processes and meet economic and environmental goals. The group had two key areas of focus over the past year:

1. **Aquatic Ecosystem Health (AEH) Study:** This study intends to assess river health using water quality, macroinvertebrates, algae biomass, and sediment with the results being used to inform development of the long-term monitoring program.
2. **IH-DIZ LSPC Model Update:** The updated model will be used to assess the potential impact that landscape changes and other pressures will have on water quality downstream of the DIZ.







## CONTACT US

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## STAY CONNECTED



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