Ghost Watershed Alliance Society

Working Together to Protect Source Water

Our Work in the Ghost Watershed in 2026

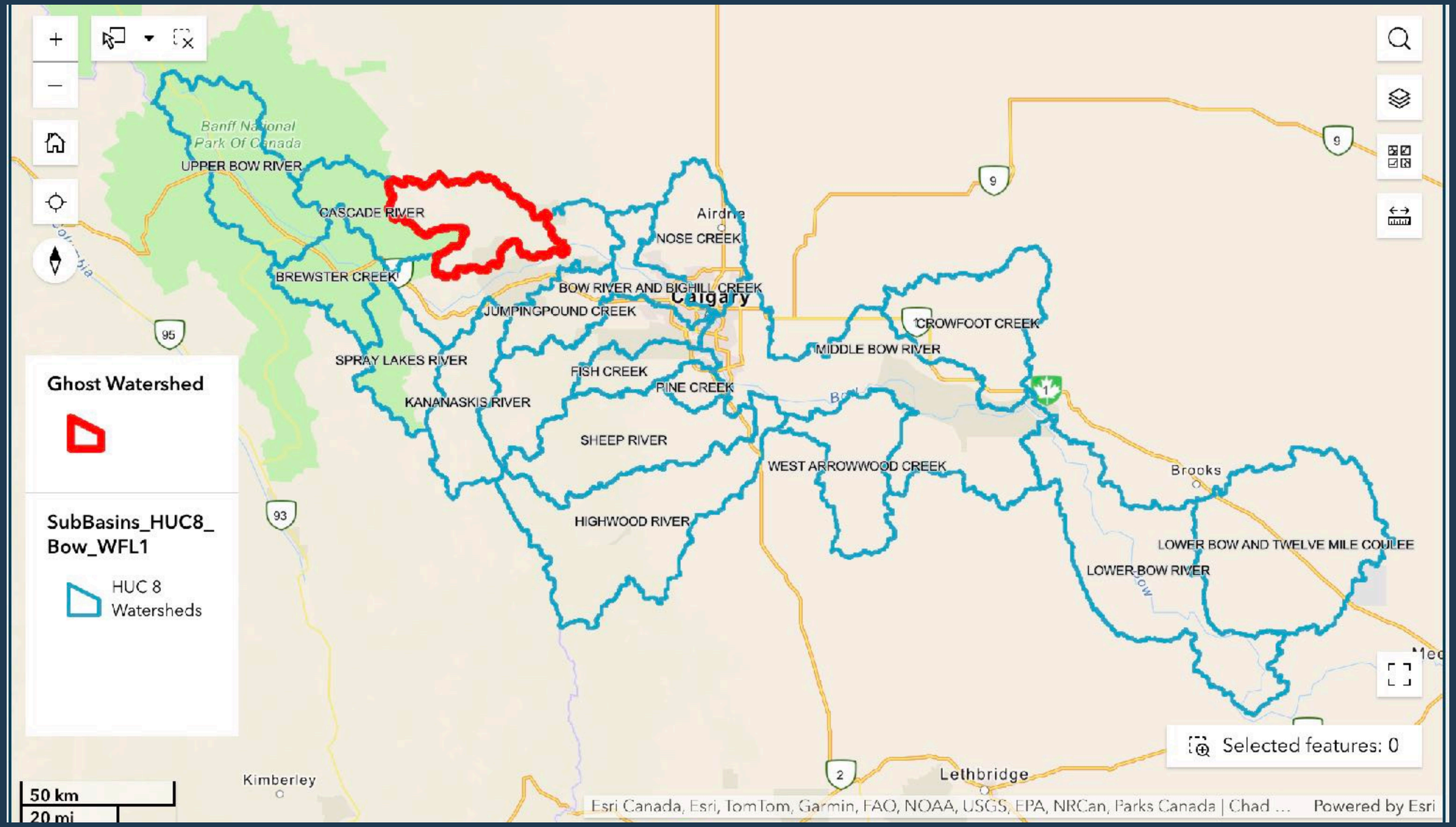
Presented by:
Marina Krainer
Executive Director

GWAS AGM
November 14, 2026



Photo credit: M. Krainer

The Ghost Watershed



Importance of the Ghost Watershed

- Provides app. 7% to flow in Bow River upstream of Calgary
- Important source water area
- High in biodiversity
- Home to species at risk such as bull trout and westslope cutthroat trout







Who is GWAS?

- Watershed Stewardship Group
- In operation for 24 years!
- Largely volunteer driven
- Not-for-Profit







GWAS

Photo credits: M. Krainer, E. Chong, V. Van Der Merwe

New Logo!

A big Thank You to volunteer Jessa Kay for creating the new GWAS Logo!





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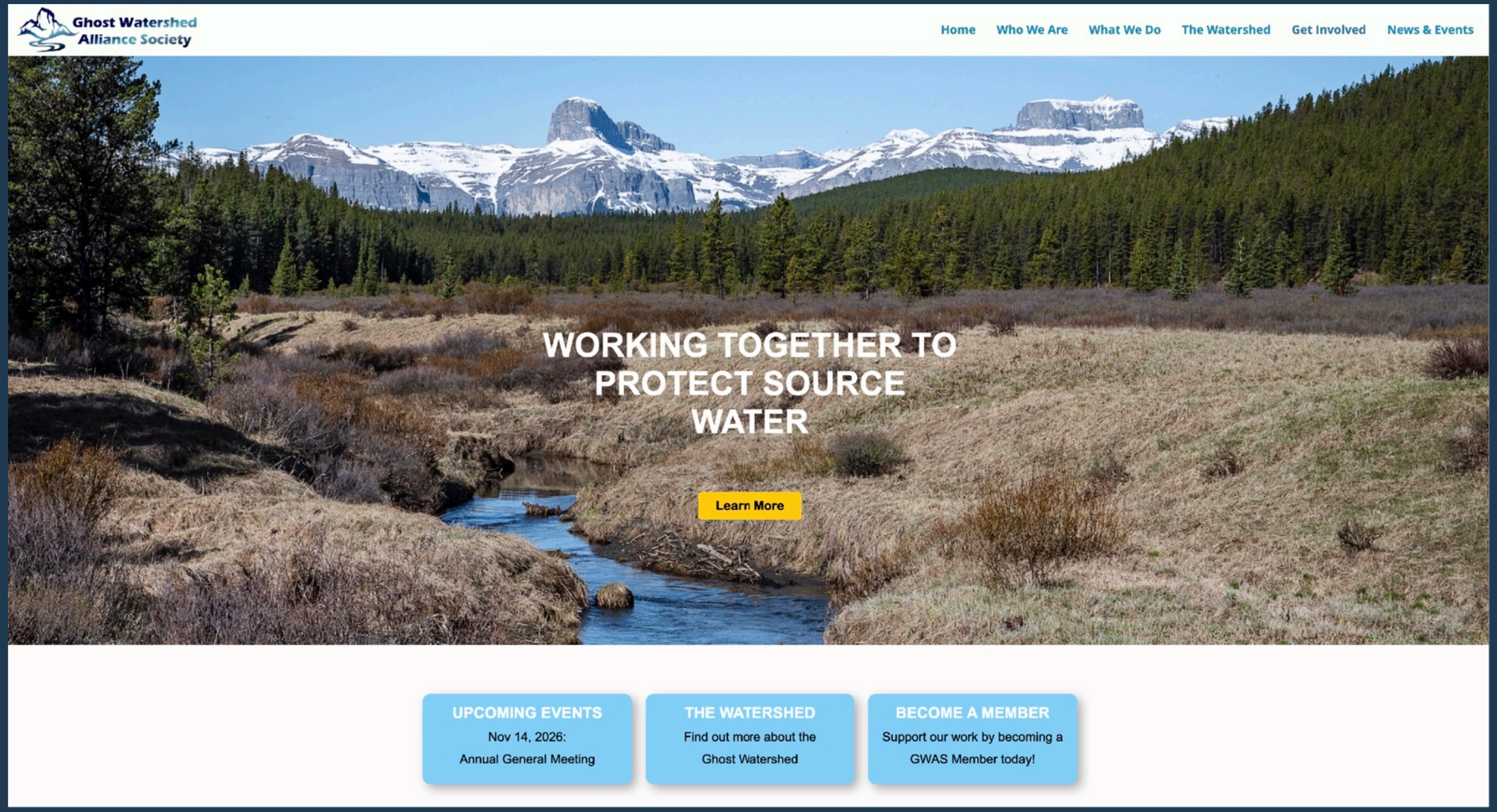
New Website!



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GWAS Casino Event

- November 21 & 22, 2025
- Raised over $68,000!
- Supports operations and programs
- A big Thank You to all our volunteers for making this possible!



Ghost River Valley
Photo credit: M. Krainer

GWAS Strategic Objectives

- Science, research, monitoring & knowledge
- Outreach, awareness, education
- Advice and recommendations
- Ecosystem repair and enhancement





Photo credits: M. Krainer & F. Tang

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Outreach, Awareness & Education

- Presentations
- Booth at Events
- Field trips

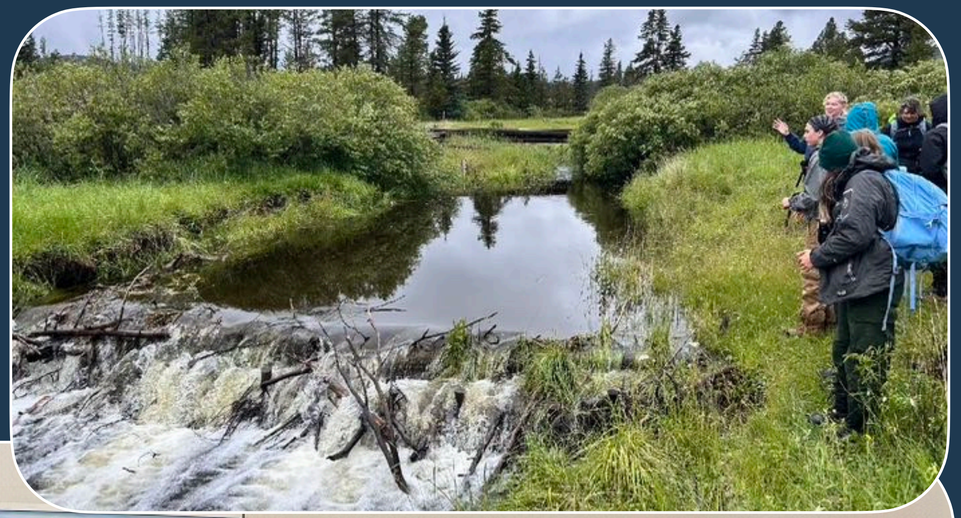





Photo credits: M. Krainer, M. Wagner

Ecosystem Restoration

- Restoring disturbed areas through bio-engineering techniques
- Workshops promote collaboration & Team-building
- Opportunity to share knowledge and perspectives







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Photo credit: K. Hull & M. Krainer

Why do we undertake bioengineering?

- Improve watershed health and fish habitat
- Prevent excessive amounts of sediment from ending up in streams
- Re-establish riparian vegetation



Photo credit: C. Hill

Ecosystem Restoration - Bioengineering

- March 21: Harvesting workshop
- 17 volunteers, app. 1,500 willow and poplar stakes harvested!







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Photo credits: M. Krainer

Ecosystem Restoration - Bioengineering

- May 30 & June 6: Bio-engineering field workshops at Camp Mockingbird



Ecosystem Restoration - Bioengineering

- 22 volunteers
- All willow and poplar stakes harvested in March were planted!

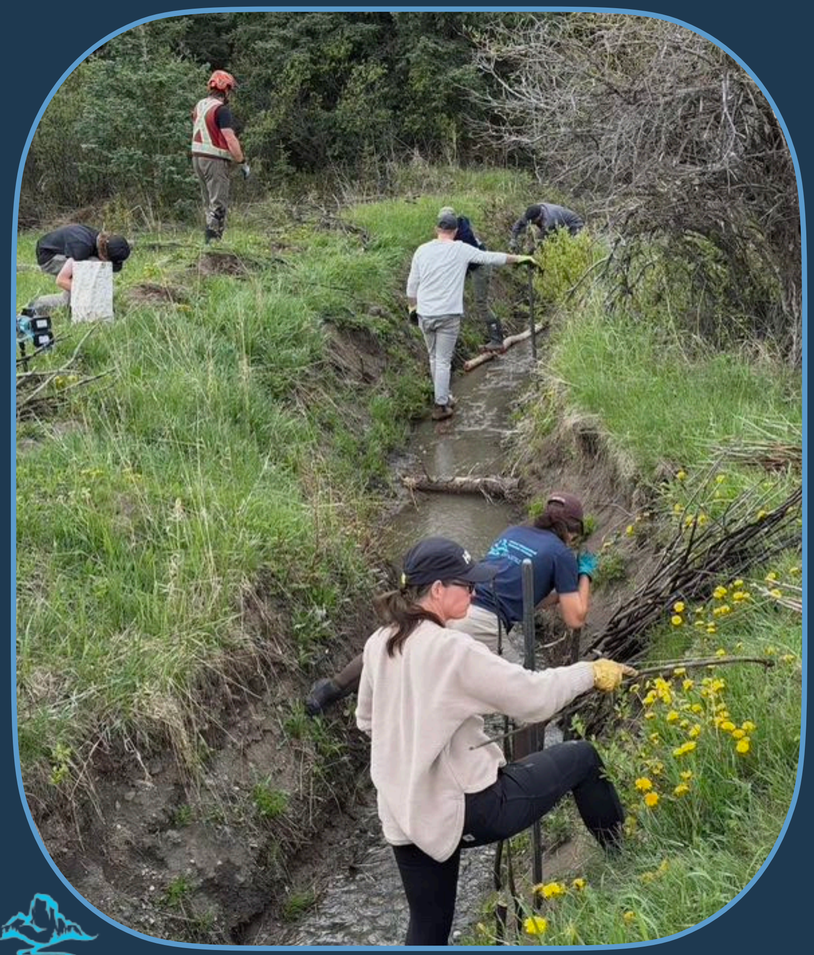





Photo credits: M. Krainer

Ecosystem Restoration - Monitoring

- Visited Camp Mockingbird site on July 14
- Found willows and poplars growing vigorously after only 1.5 months!







Photo credits: M. Krainer

Ecosystem Enhancement - CARA Stewardship Days

- GWAS joined Calgary ATV Riders Association Stewardship Days in June
- Clean-up day on June 19, 2026





Photo credits: M. Krainer

Margaret Lake Restoration Project

- Bio-engineering field days in Sept 2025
- Over 30 volunteers





Photo credits: M. Krainer

Ecosystem Restoration - Monitoring

- Visited Margaret Lake site on July 14
- Found good growth on willow stakes and spruce transplants







Photo credits: M. Krainer

Restoration Site - Need for Adaptation

- Heavy rain caused beaver dam at gravel pit restoration site to overflow.
- Flooded designated trail and trail braiding occurred.
- Working with CARA, FCC and AEP to address the issue.





Photo credits: M. Krainer

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Restoration Site - Need for Adaptation

- Installation of wooden mats on July 30 in collaboration with CARA and FCC.
- Prepare old section of trail for restoration work.







Photo credits: M. Krainer

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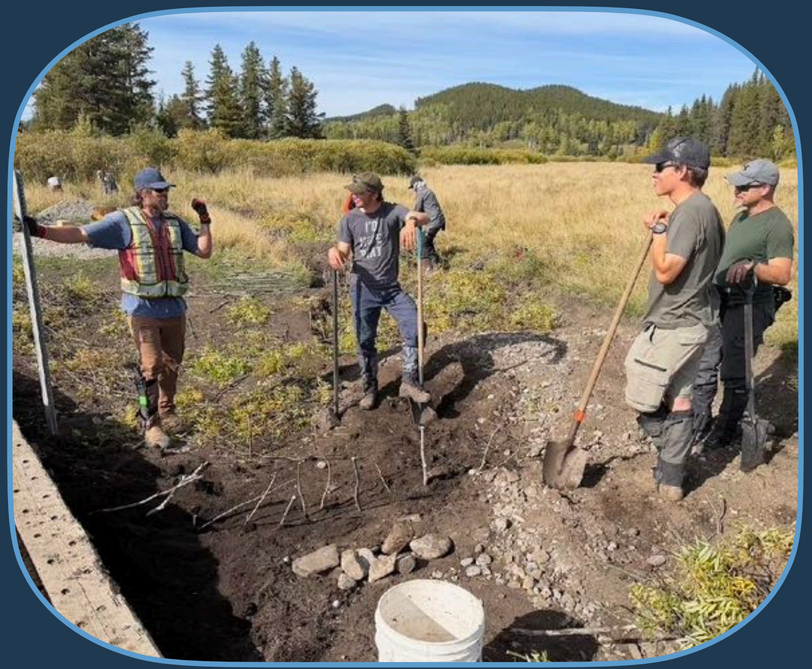
Ecosystem Restoration - Bioengineering

- Planted willows on old trail section at gravel pit site
- 9 volunteers on Sept 19, 16 students, 2 teachers, one assistant on Sept 24.







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Ecosystem Restoration - Bioengineering

- Returned to Richards Road site on Sept 18
- Planted around old beaver pond
- 6 volunteers, 3 MD Bighorn staff, 13 SAIT students, Cows & Fish staff
- Thank you to Pam Kuipers, SAIT Instructor, and the MD of Bighorn







Photo credits: M. Krainer

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Monitoring and Adaptation

- Restoration projects are never a one-and-done.
- Monitoring, maintenance and adaptation is crucial!





Photo credit: M. Krainer

GWAS Water Monitoring

- CABiN
- Stream temperature loggers
- CreekWatch







Photo credits: E. Chong, S. Fritz

GWAS Water Monitoring Plan

- Started in 2020 to monitor changes over time
- Helps us close data gaps identified in State of the Watershed Report

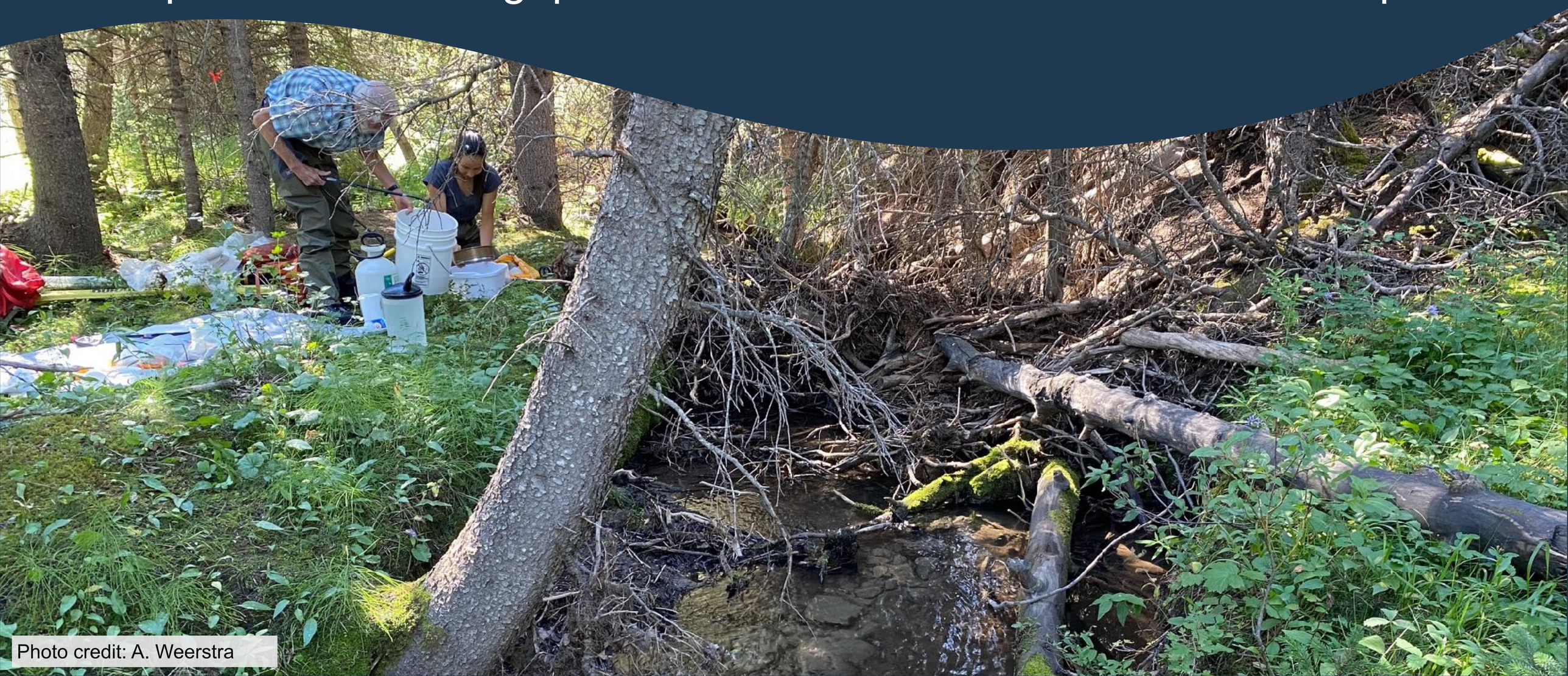

Photo credit: A. Weerstra

GWAS Water Monitoring - CABiN

- CABiN - Canadian Aquatic Biomonitoring Network
- Led and maintained by Environment and Climate Change Canada
- Uses aquatic insects as indicators for watershed health





Photo credit: M. Krainer & C. Hill

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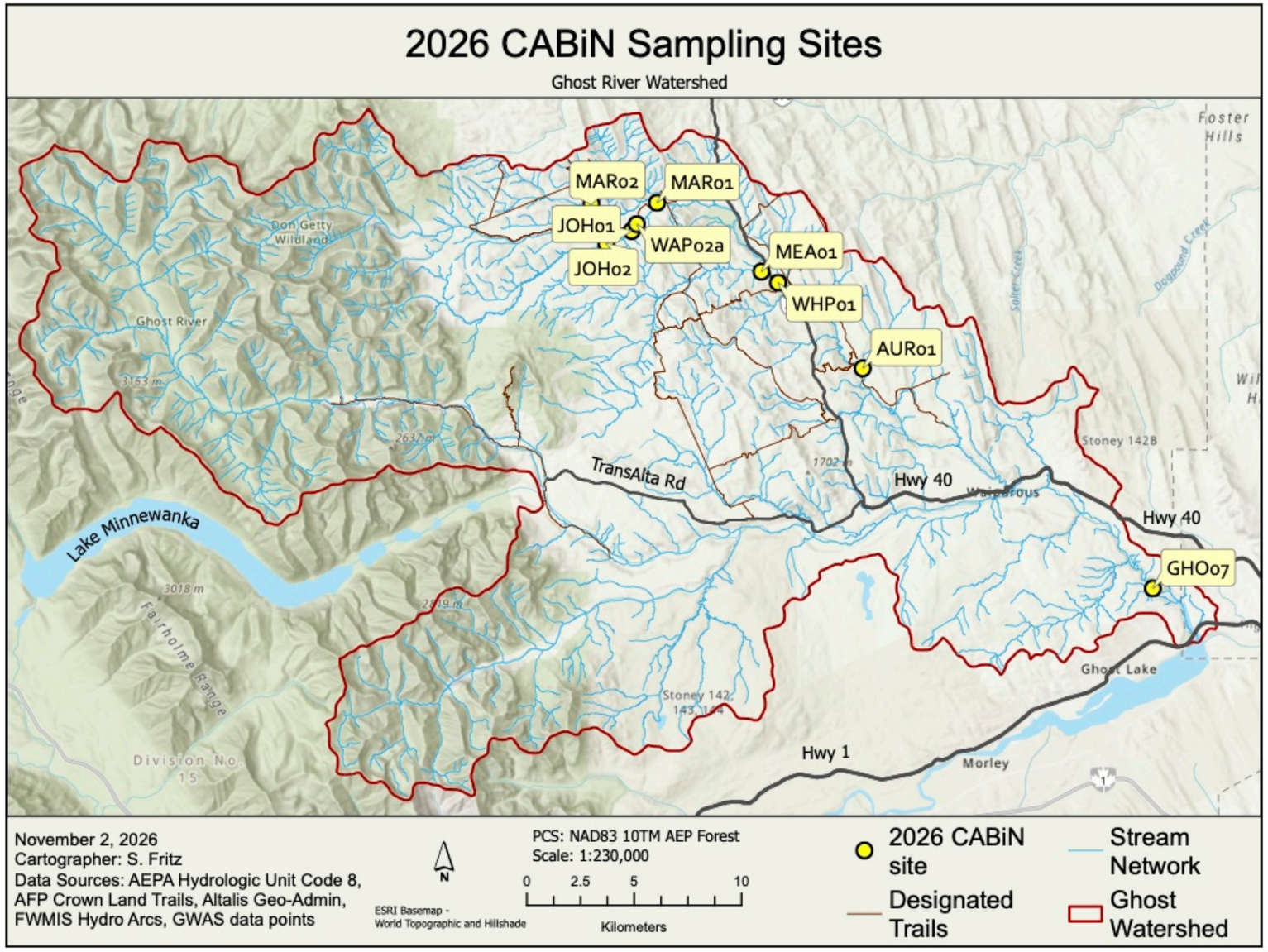
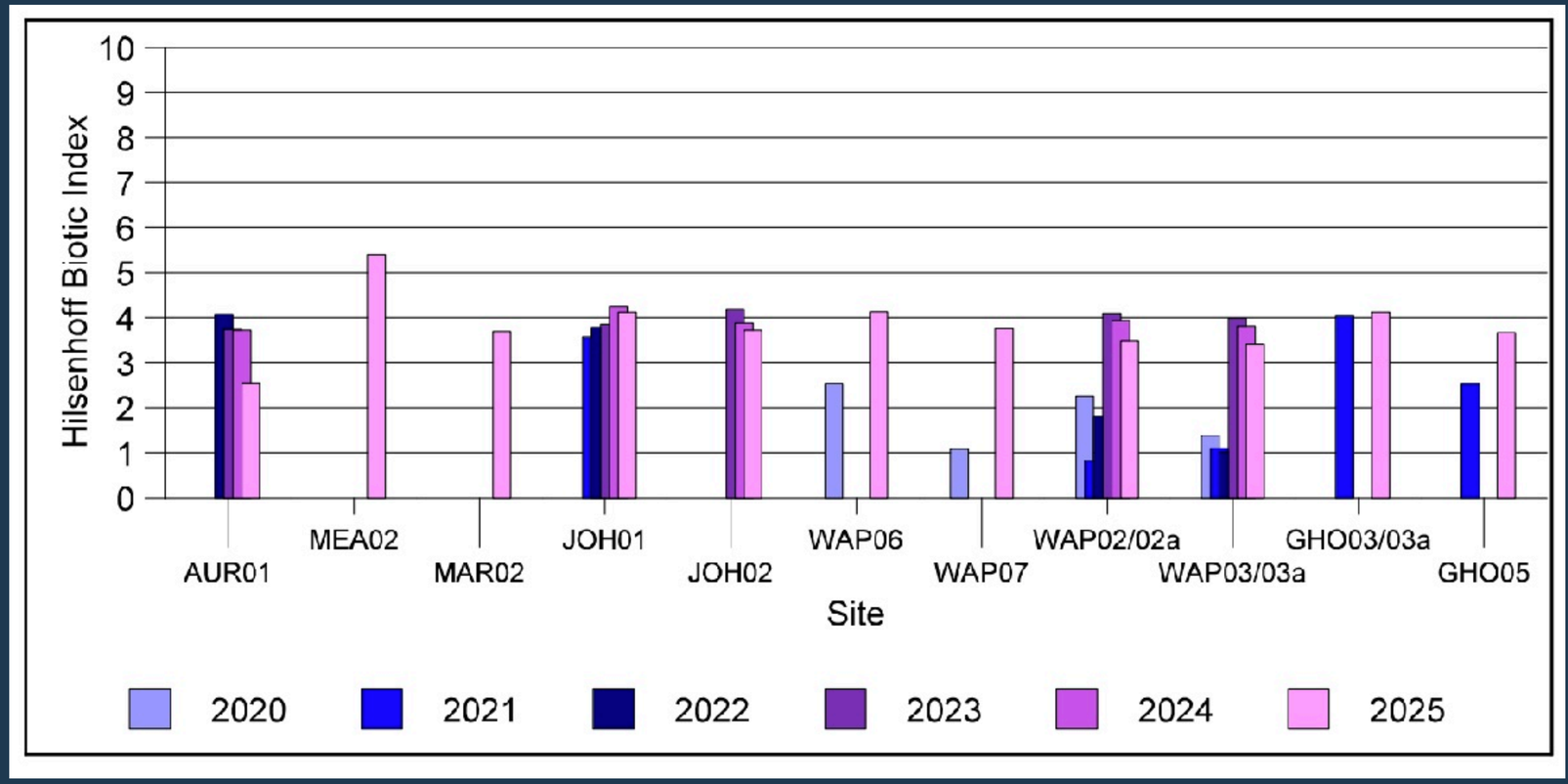
Ghost Watershed CABiN Sampling Sites

- 9 sites sampled this year
- 63 samples collected since 2020
- 32 unique sites to date
- Results from 2026 sampling will be analyzed over the winter



Ghost Watershed CABiN 2025 Results Highlights

- Hilsenhoff Biotic Index shown here as one example metric.
- Results at the majority of the sites rated as excellent or very good with one site rated as good.
- Results show importance of monitoring sites over several years to monitor changes over time.



0.00 - 3.50	Excellent
3.51 - 4.50	Very Good
4.51 - 5.50	Good
5.51 - 6.50	Fair

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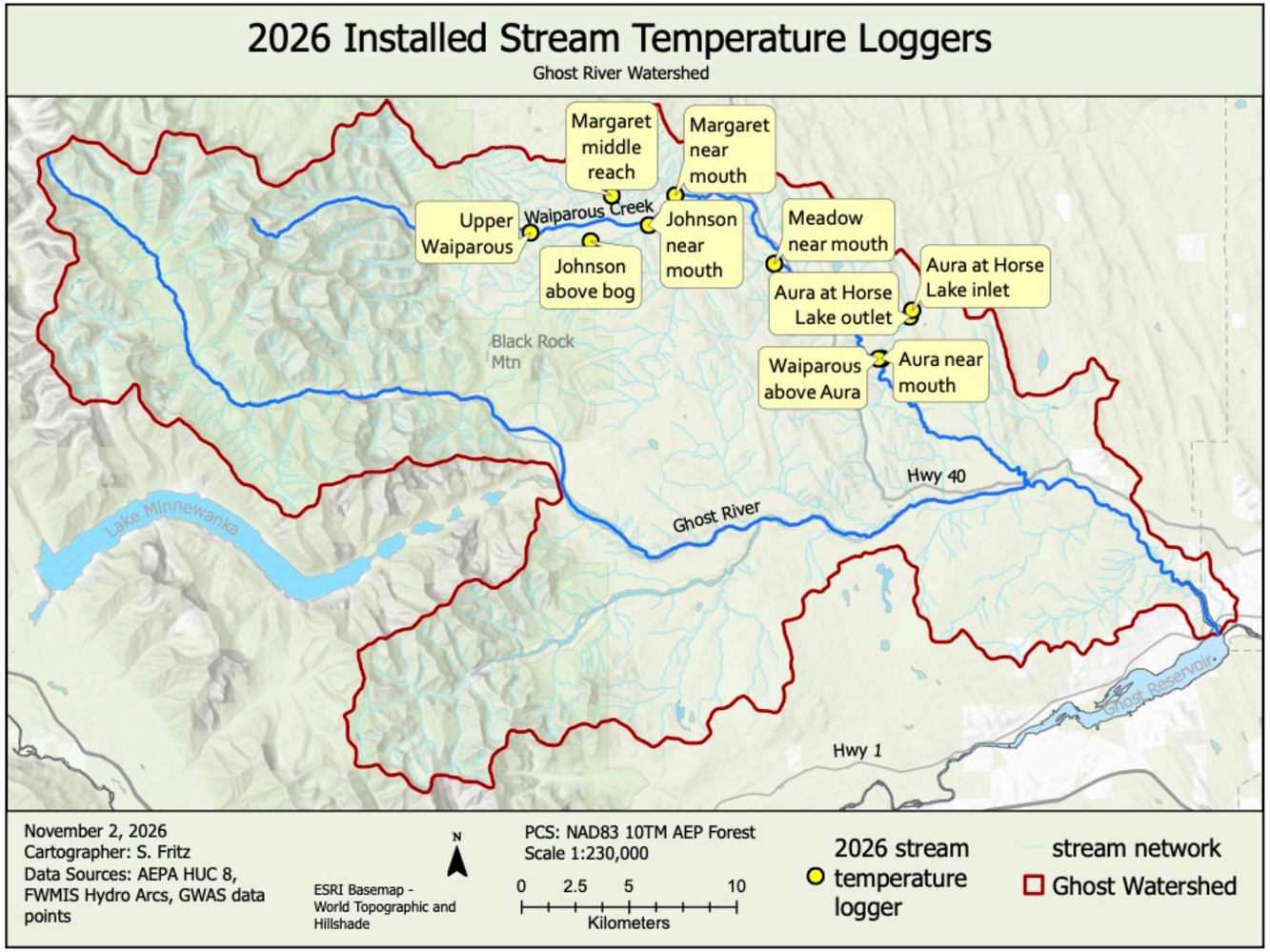
Stream Temperature Loggers

- 10 loggers installed in 2026
- Keeping a close eye on Aura Creek as turbidity and summer stream temperatures have increased in recent years.



Photo credit: C. Hill



Stream Temperature Loggers



Thank you to our dedicated volunteers!



Photo credits: E. Chong, K. Laustsen

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Being a Voice for the Watershed

- Provide input on forest harvest plans
- Field tours (GoA, WF)
- On-going communication with GoA lands department on land-use issues and planning







Photo credits: E. Chong, M. Krainer

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Forestry

- GWAS continues to communicate with West Fraser on logging operations
- Met with West Fraser Cochrane in April and May
- Discussed and provided input on Fuel Reduction Program plans



Photo credit: C. Hill

Power of Collaboration



Photo credit: V. Van Der Merwe, T4T

Power of Collaboration



- User experiences
- Local knowledge
- Riparian Health Assessments
- Sharing knowledge and perspectives
- Technical expertise
- Finding common ground
- Connecting Science & Practice
- Workshops
- Low-tech process-based restoration
- Working towards shared goals

Photo credit: A. Weerstra

Plans for 2027

- Continue Water Monitoring Program
- Continue Bio-engineering
- Collaboration on landscape planning
- On-going collaboration with partners on projects and outreach



Photo credit: M. Krainer

Plans for 2027

- Continue Education & Outreach work
- Maintain and share our knowledge, improve outreach resources
- Work on further analysis of the data collected
- Continue to work collaboratively to protect watershed integrity



Photo credit: S. Fritz

Thank You to our Volunteers!



Photo credit: M. Krainer

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Thank You to our outgoing Board Members!



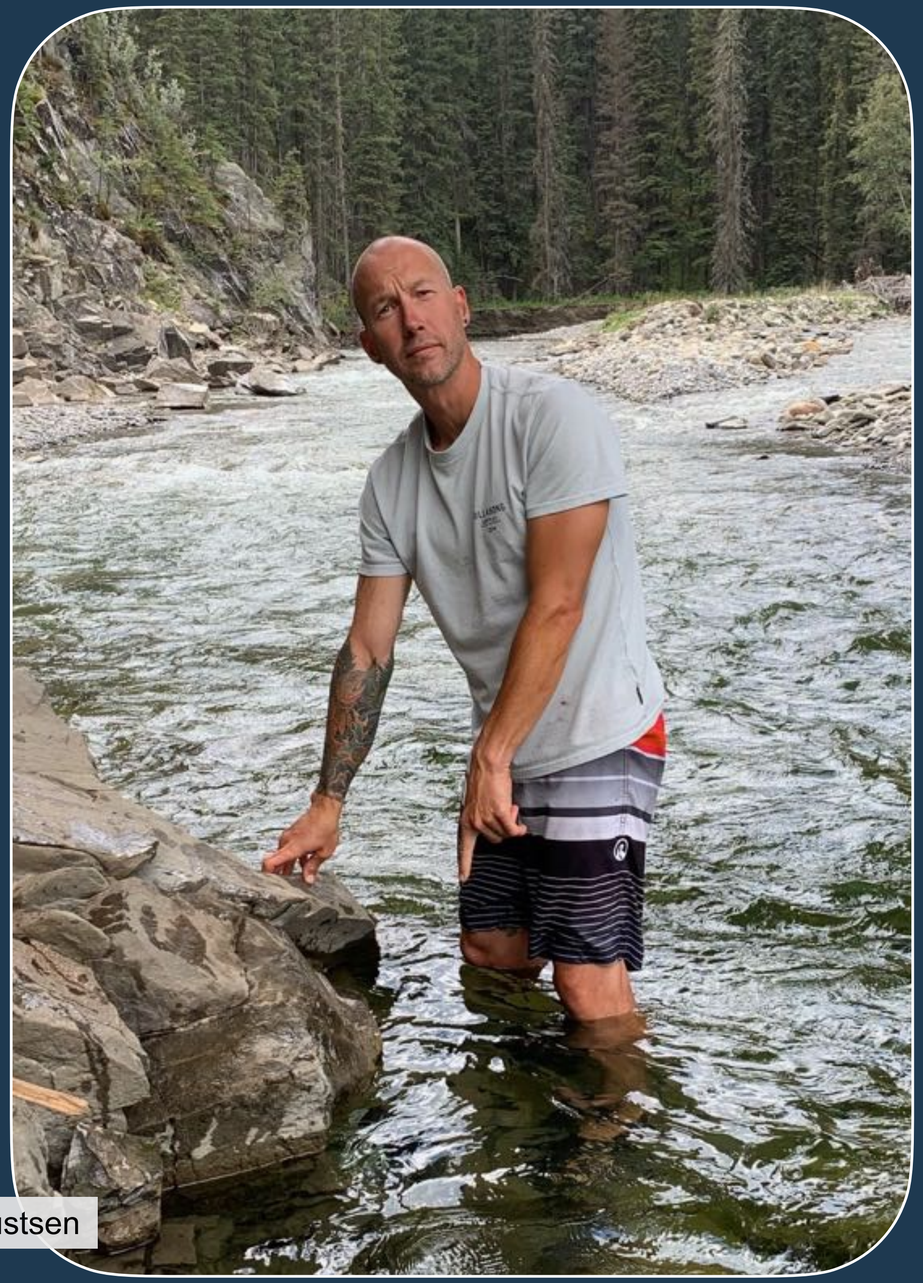

Photo credits: M. Krainer, K. Laustsen

Thank you to our funders!

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Alberta Ecotrust

BP Volunteers

City of Calgary

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(FRIP grant sponsored by WF / SLS and BRBC)

Land Stewardship Centre

MD of Bighorn

Fisheries and Oceans Canada - Habitat Stewardship Program

&

our members and all the generous individual donors!

Ghost Watershed Alliance Society

Working Together to Protect Source Water

Thank you!

Questions?

For more information please visit our website:

WWW.GHOSTWATERSHED.CA

