

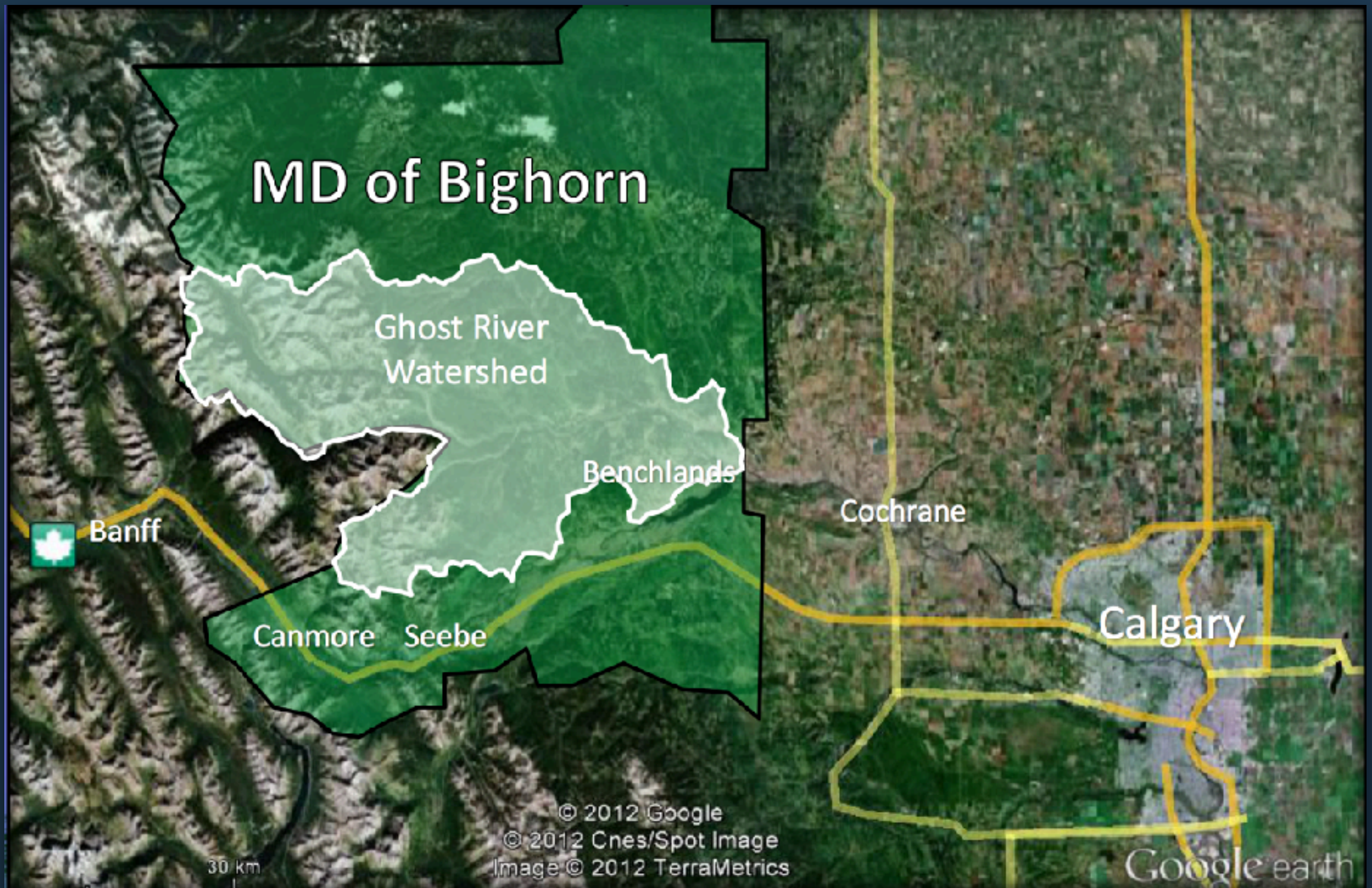
Current Projects in the Ghost Watershed

Presented by:
Marina Krainer
Executive Director, GWAS

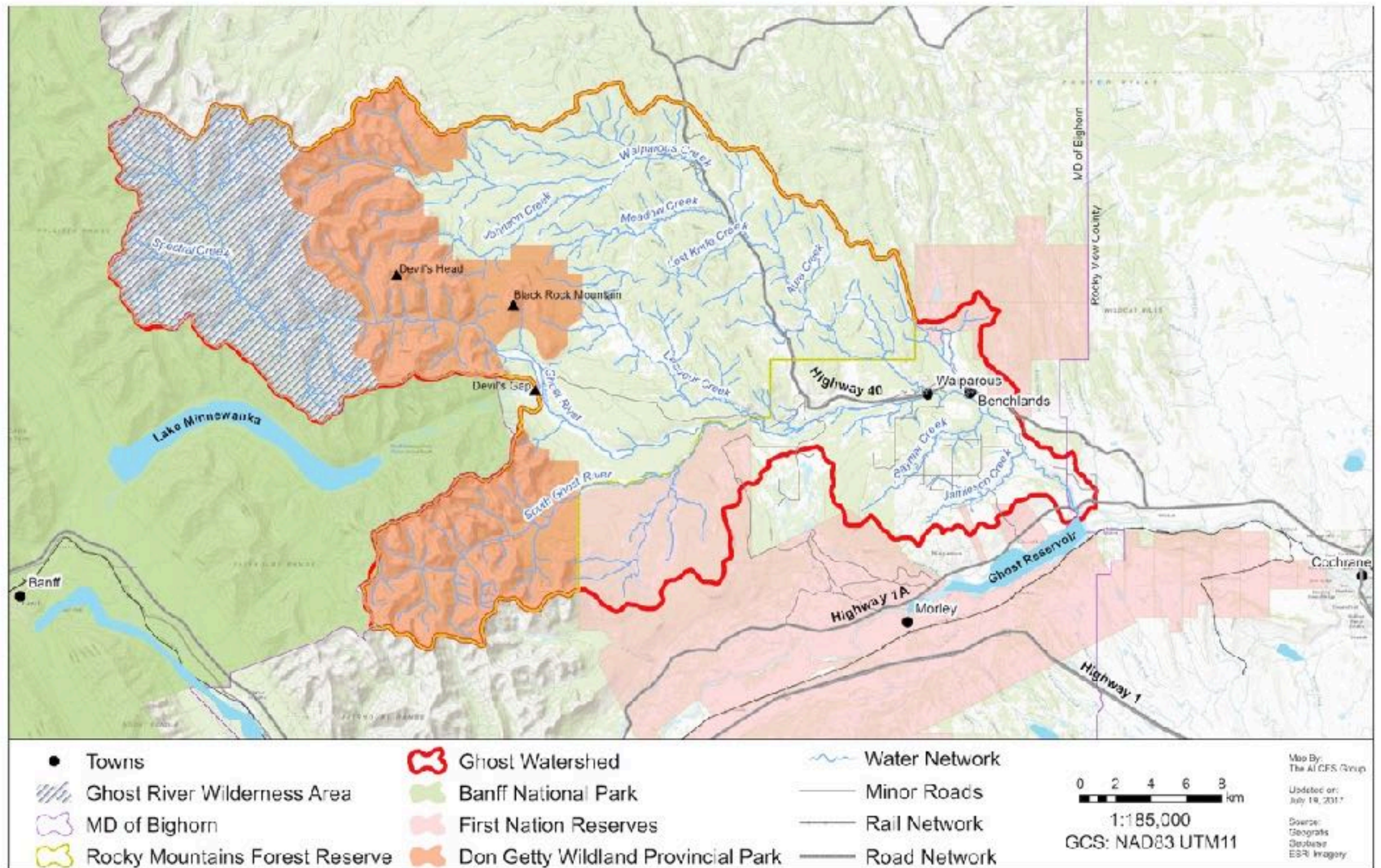
BRBC Quarterly Educational Forum
December 8, 2021



The Ghost Watershed



The Ghost Watershed



GWAS Operations Plan

Strategic Objectives

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



Native Trout in the Ghost Watershed

- ◆ Bull trout and westslope cutthroat trout both occur in the Ghost
- ◆ Federally listed as *Threatened* under the Species at Risk Act
- ◆ Issues: habitat degradation, hybridization, over-harvesting, barriers to fish movement



Photo credit: M. Krainer

Working together on trout recovery

- ◆ Native Trout Collaborative (AEP, fRI Research, CPAWS, ACA, TUC, Cows and Fish)
- ◆ Cows and Fish Native Trout workshops
- ◆ Collaboratively work on awareness, closing data gaps and restoration



Photo credit: C. Hill

Why are we talking about fish so much?

- ◆ Trout need Cold, Clear and Clean water to thrive.
- ◆ Or in the words of Dave Polster: “If you would breath through gills like a fish does, you’d want clean water.”
- ◆ The most important component of healthy fish habitat is water.



Water Quality Monitoring

- ◆ **Ghost River SOW Report (2018) recommendation:**
Perform aquatic invertebrate sampling following the ECCC's Canadian Aquatic Biomonitoring Network protocol (CABiN).
- ◆ Completed CABiN training course in 2019
- ◆ Hired CABiN certified Project Manager in 2020



Photo credit: C. Hill

Water Quality Monitoring

- ◆ Objectives of using CABiN Protocol:
 - ◆ investigate impacts of land use and human activity on aquatic ecosystems
 - ◆ recognized, nation-wide protocol developed by ECCCC
- ◆ 2020: sampled 10 sites
- ◆ 2021: sampled 8 sites (incl. sites above and below 2020/21 Devil's Head wildfire area)



Results of 2020 CABiN sampling

- ◆ Water chemistry indicates high water quality in Waiparous Creek
- ◆ Excellent populations of EPT (pollution intolerant macro invertebrates - stoneflies, mayflies, and caddisflies)
- ◆ Some reduction in EPT ratio downstream near confluence with Ghost River

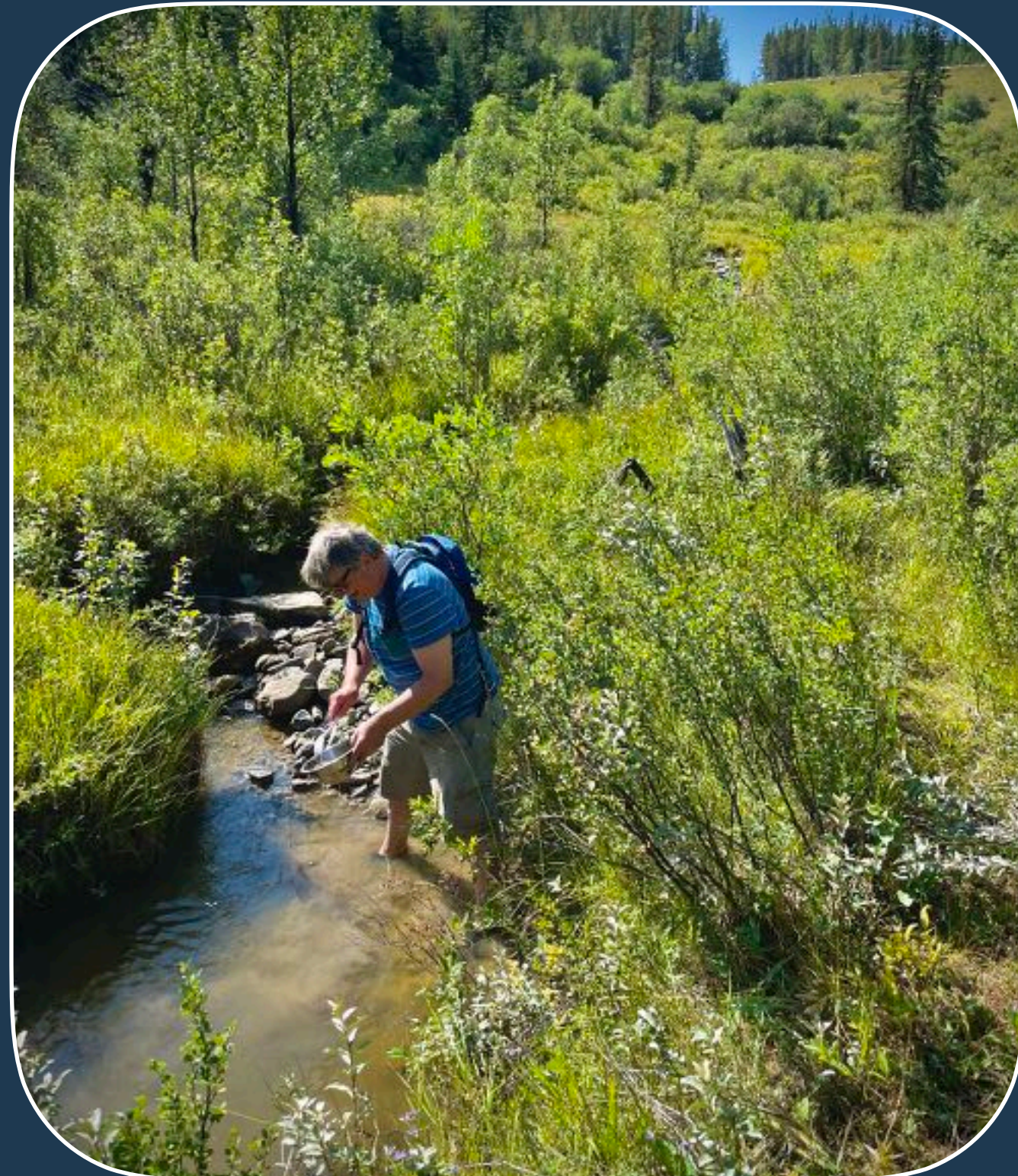


Water Quality Monitoring - Additions in 2021

- ◆ Installed temperature loggers
- ◆ Undertook sampling for lead in stream sediment



Photo credits: C. Hill



Water Quality Monitoring - Additions in 2021

- ◆ Participated in **CreekWatch** citizen science program
- ◆ Volunteers sampled **every week** from the initial training day on June 24 right through until the end of October.



Collaborative work

- ✦ Work with Land Managers at Alberta Environment & Parks
 - ✦ developed work plan for 2021, approved by AEP
 - ✦ applied for permits to undertake field work and run programs on Public Lands
 - ✦ ongoing communication about recreation issues, collaborative project opportunities, education & outreach

Temporary Field Authorization

Pursuant to the Public Lands Act

Land Use Charges

Application Date: August 05, 2021	Related Activity:
Applicant/Licensee: GHOST WATERSHED ALLIANCE SOCIETY 1011665-001	
Address: PO BOX 1461 COCHRANCE Alberta CANADA T4C 1B4	
Tel:	Fax:

Authority: Authorization

Purpose: Research, Monitoring and Education - Education

Education & Outreach

- ◆ Contracted Education Coordinator
- ◆ Engaged over 1000 people of all ages
- ◆ Received help from 20+ volunteers



Education & Outreach

- ◆ Hosted 13 in-person events or tours
- ◆ Gave 11 presentations (e.g., Calgary Mayor's Environment Expo, U of C)
- ◆ Worked with 10+ partner organizations



Education & Outreach

- ◆ GWAS Education Coordinator produced:
 - ◆ Film on CABiN work
 - ◆ Teacher resource on Native Trout



Beneath the Surface

Water Monitoring
in the
Ghost Watershed

Beneath the Surface: Water Monitoring in the Ghost Watershed

178 views • Premiered Mar 24, 2021

6 DISLIKE SHARE + SAVE ...

 Ghost Watershed
8 subscribers

SUBSCRIBE

Walks in the Watershed 2021

Guided only one Walk in the Watershed this year.

Challenges:

- ◆ COVID-19
- ◆ Safety concerns due to bear activity and target shooting
- ◆ Wildfire smoke
- ◆ Timing conflicts



Photo credit: M. Krainer

Recreation Stewardship Fair - August 2021

- ✦ In partnership with Cows & Fish, AEP, TUC, CPAWS, Calgary Jeep Club (T4T), CARA, CPAWS
- ✦ GWAS led aquatic invertebrate and bio-engineering tours, hands-on watershed model at booth
- ✦ Planning for another event in 2022



Photo credits:
Cows & Fish

Clean-up event with Backcountry Hunters and Anglers - June 2021

- ◆ Full pick-up truck load of mostly rifle and gun shells as well as shooting debris collected in 3 hours
- ◆ 11 participants
- ◆ Many thanks to BHA for their support and for providing lunch



Ecosystem Repair

- ◆ Project collaboration with Trout Unlimited and Cows & Fish
- ◆ Field day in June to scout restoration sites
- ◆ Re-visited 2019 and 2020 restoration sites



Ecosystem Repair

- ◆ Project collaboration with Trout Unlimited and Cows & Fish
- ◆ Trout Unlimited applied for some of the permits and prepared restoration site for bio-engineering workshop
- ◆ Cows and Fish undertook riparian health inventories and promoted workshop



Bio-engineering Workshop with Dave Polster - September 24 & 25, 2021



Generously funded by:



Photo credit: M. Krainer

Bio-engineering field day Sept 25, 2021



Photo credit: K. Hull

Bio-engineering field day

- ◆ Blackfoot Confederacy members joined workshop
- ◆ Tobacco offering
- ◆ Many thanks for sharing and being part of the project!



Photo credit: M. Krainer

Bridge installation by Trout Unlimited Canada

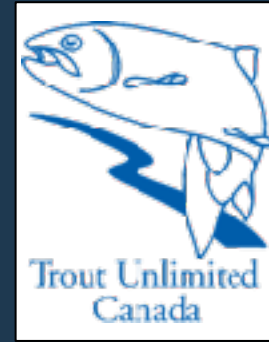


Photo credit: E. Lindsay

Bio-engineering field day Sept 25, 2021

At the end of the day, everyone has a smile on their face!



Photo credit: K. Hull

Bio-engineering field day - Thank you!

- ◆ Trout Unlimited & Cows and Fish for partnering on the project
- ◆ Trails4Tomorrow and Calgary ATV Riders for promoting the workshop
- ◆ Polster Environmental for leading the course
- ◆ All the volunteers for their hard work!



Generously funded and supported by:



Photo credit: B. Miller

Tribute to Dave Polster

- ✦ Led bio-engineering courses in the Ghost every year since 2017
- ✦ Shared his vast knowledge gained over his career spanning more than 40 years
- ✦ Huge thanks for his dedication, kindness and making sure that everyone had fun!



Photo credit: R. Singleton-Polster

Bio-engineering Video

- ◆ Received funding from City of Calgary to raise public awareness on bio-engineering
- ◆ Hired StoryBrokers Media House to develop 8-10 minute long video
- ◆ Filmed both days of bio-engineering workshop in September 2021
- ◆ Final editing currently underway

Generously funded by:



Photo credit: R. Singleton-Polster

Volunteer & Supporter appreciation

GWAS would like to say a big Thank You to:

Bow River Basin Council

Living Lakes Canada

The Crossing at Ghost River

all the volunteers who helped with events

&

our passionate volunteers on the Board of Directors



Thank you to our funders!

Alberta Conservation Association

Alberta Ecotrust

BP Canada (BP Retirees)

City of Calgary

Forest Resource Improvement Association (sponsored by Spray
Lake Sawmills and Bow River Basin Council)

Land Stewardship Centre

MD of Bighorn

TD Friends of the Environment

Fisheries and Oceans Canada - Habitat Stewardship Program

&

our members and all the generous individual donors!





Thank you!

Questions?

**For more information please visit our website:
WWW.GHOSTWATERSHED.CA**

