Reducing Toxics in the Upper Columbia River Basin of Montana through a Pesticide Stewardship Partnership Program (PSPP)

MT AWRA

October 11th

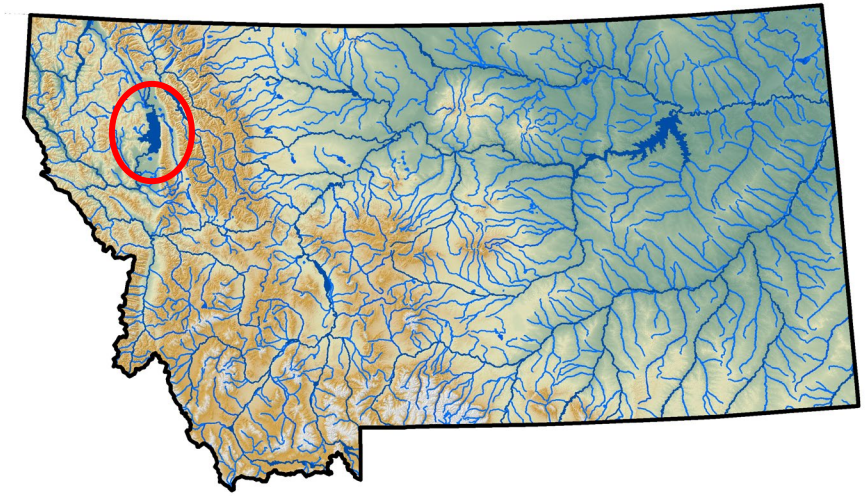
Rachel L Malison, PhD

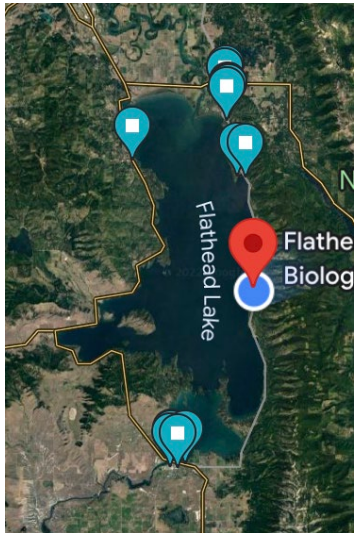
FLATHEAD LAKE BIO STATION
UNIVERSITY OF MONTANA

MONITORING MONTANA WATERS

FLBS Background

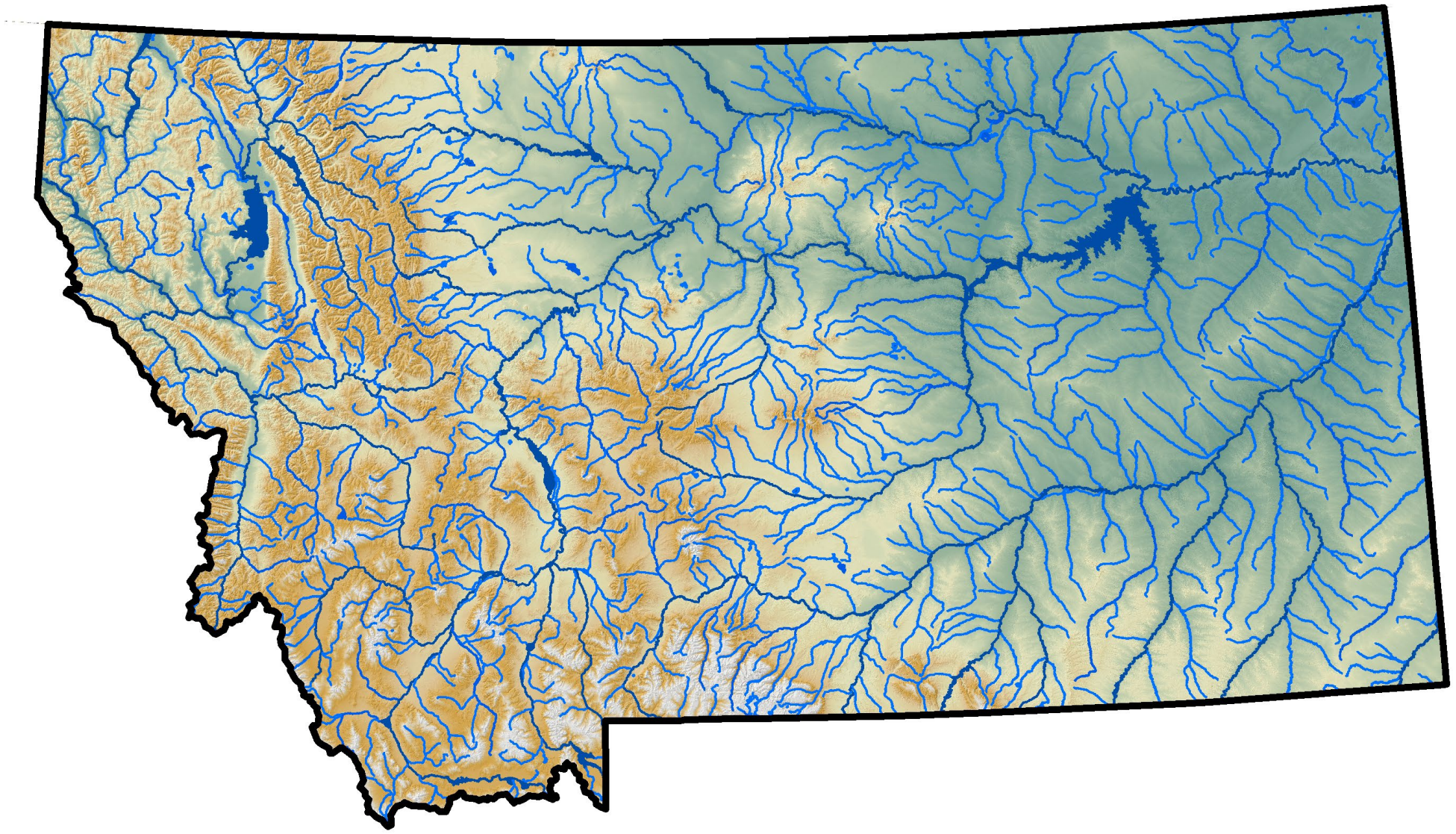
- Established 1899, by Dr. Morton J Elrod
- Moved to Yellow Bay in 1908
- Mission: Research, Education and Monitoring





Montana’s Waters

Volunteer Monitoring



About MMW

- Program through Flathead Lake Biological Station
- Launched in 2021
- Philanthropically funded

Rachel Malison:
Program Leader

Jared Glass:
BSWC Member

Tom Bansak:
Oversight Committee

Erin Sexton:
Oversight Committee

Goal of MMW

Increase the capacity of water quality monitoring in Montana

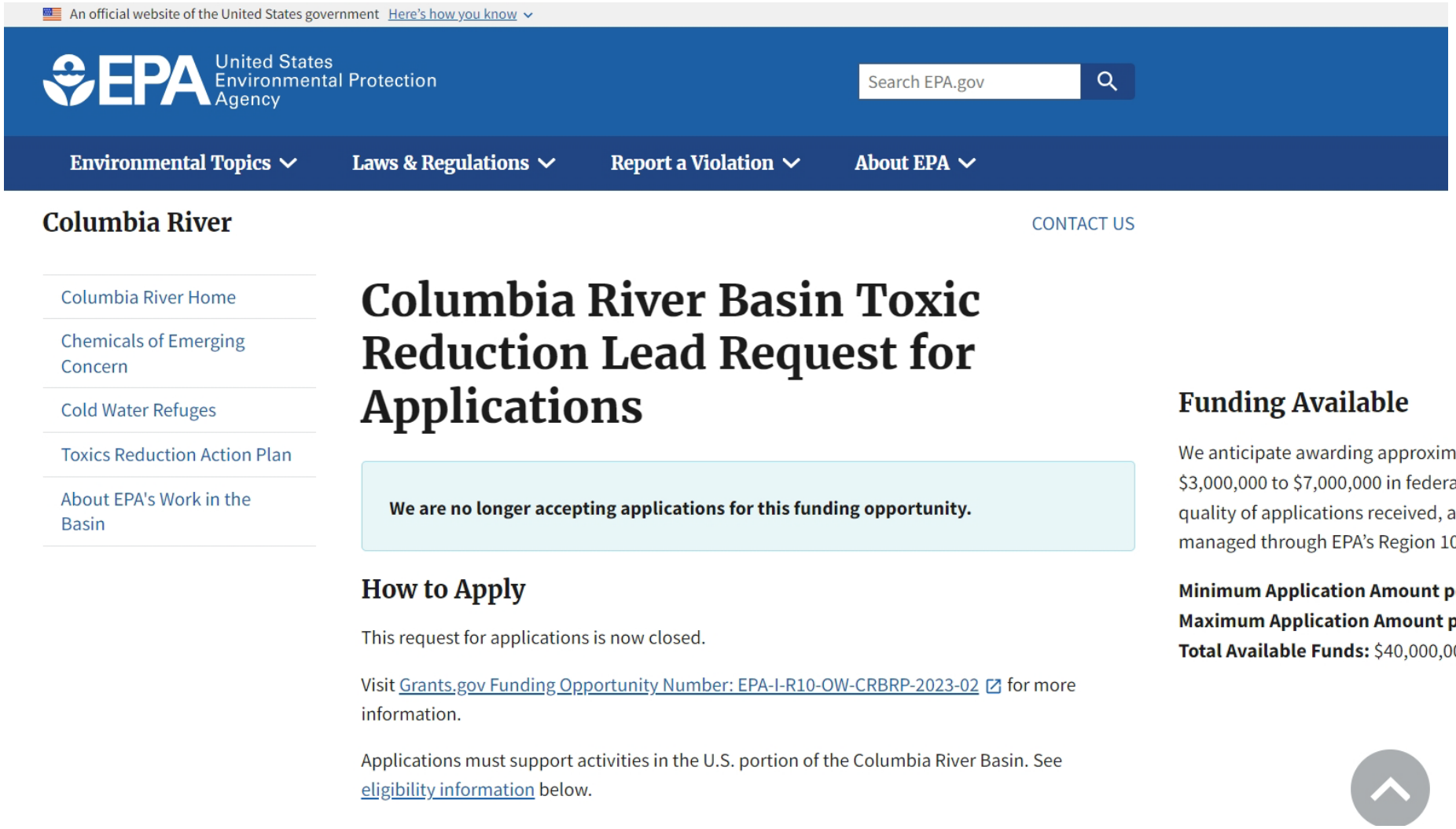
Guidance

Funding

Training

Protect the waters of Montana

New opportunities



An official website of the United States government Here's how you know

United States Environmental Protection Agency

Search EPA.gov

Environmental Topics | Laws & Regulations | Report a Violation | About EPA

Columbia River

CONTACT US

- Columbia River Home
- Chemicals of Emerging Concern
- Cold Water Refuges
- Toxics Reduction Action Plan
- About EPA's Work in the Basin

Columbia River Basin Toxic Reduction Lead Request for Applications

We are no longer accepting applications for this funding opportunity.

How to Apply

This request for applications is now closed.

Visit Grants.gov Funding Opportunity Number: EPA-I-R10-OW-CRBRP-2023-02 for more information.

Applications must support activities in the U.S. portion of the Columbia River Basin. See eligibility information below.

Funding Available

We anticipate awarding approximately 5 to 10 cooperative agreements in total, ranging from $3,000,000 to $7,000,000 in federal funds per project, subject to the availability of funds, the quality of applications received, and other applicable considerations. Awards will be issued and managed through EPA's Region 10 and Region 8 offices.

Minimum Application Amount per RFA: $3,000,000
Maximum Application Amount per RFA: $7,000,000
Total Available Funds: $40,000,000

EPA categories:

- Eliminating or reducing pollution
- Improving water quality
- Promoting citizen engagement or knowledge

EPA FY23 priorities:

- Agricultural best practices to reduce toxics
- Green infrastructure to reduce stormwater and improve water quality
- Community education and outreach to help the public take actions to reduce toxics in the basin

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Total Project: $8.8 million

EPA Funding: $6.6 million – Cost Share: $2.2 million

5 year grant

Pesticides in Freshwaters

- Clean Water Act in 1972, but the threat of pesticides remains today
- By 2001, 1 billion pounds used per year in the US
- Designed to kill organisms (pests, weeds, fungal diseases)
  - Includes insecticides, herbicides, fungicides
- However, equally effective at killing non-target organisms
- Agricultural and residential sources
- We do not have baseline data, or a monitoring program
- Do not know risk, nor will we know if actions will make a difference

Pesticide Stewardship Partnership Programs

- Program to create a network of organizations and people to measure, document, and implement actions to reduce pesticides
- Oregon PSPP
- WA Department of Agriculture

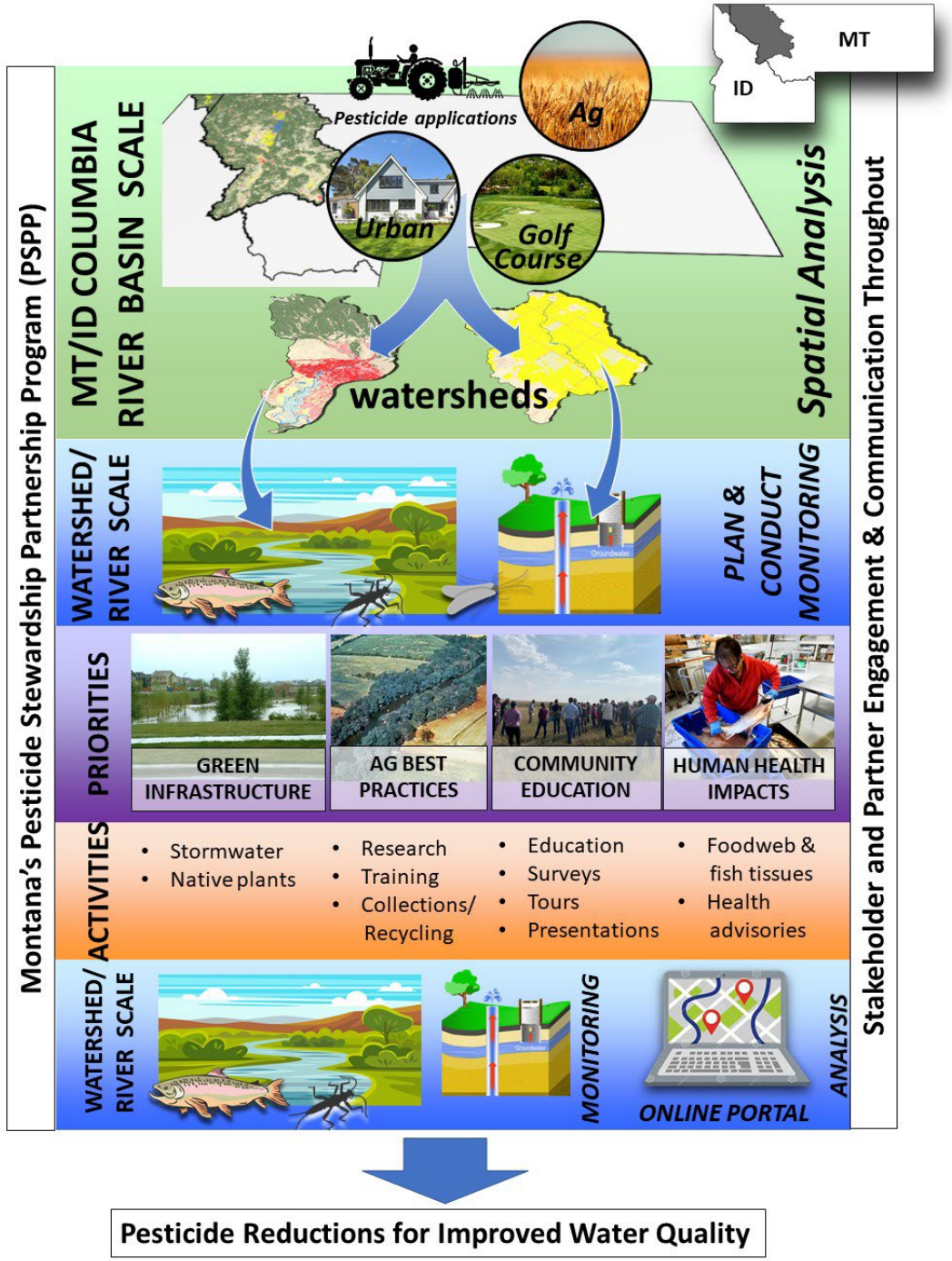
Our Pesticide Stewardship Partnership Program

- Our Primary Team at FLBS

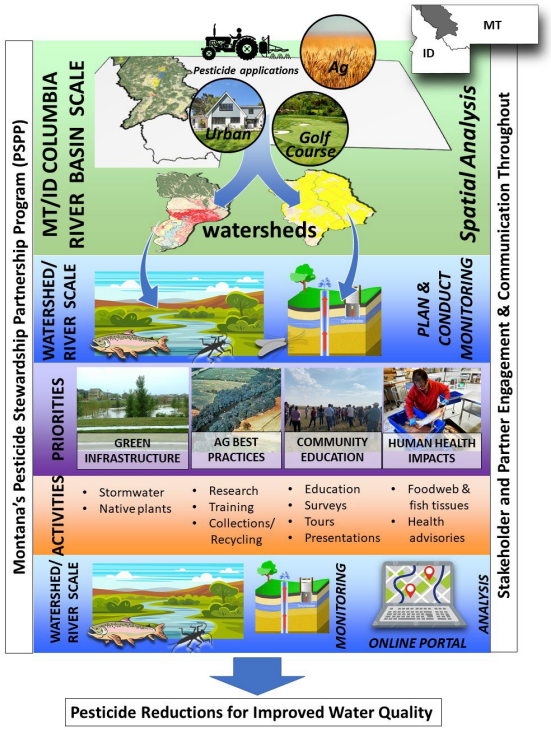
Rachel Malison:
Principle Investigator

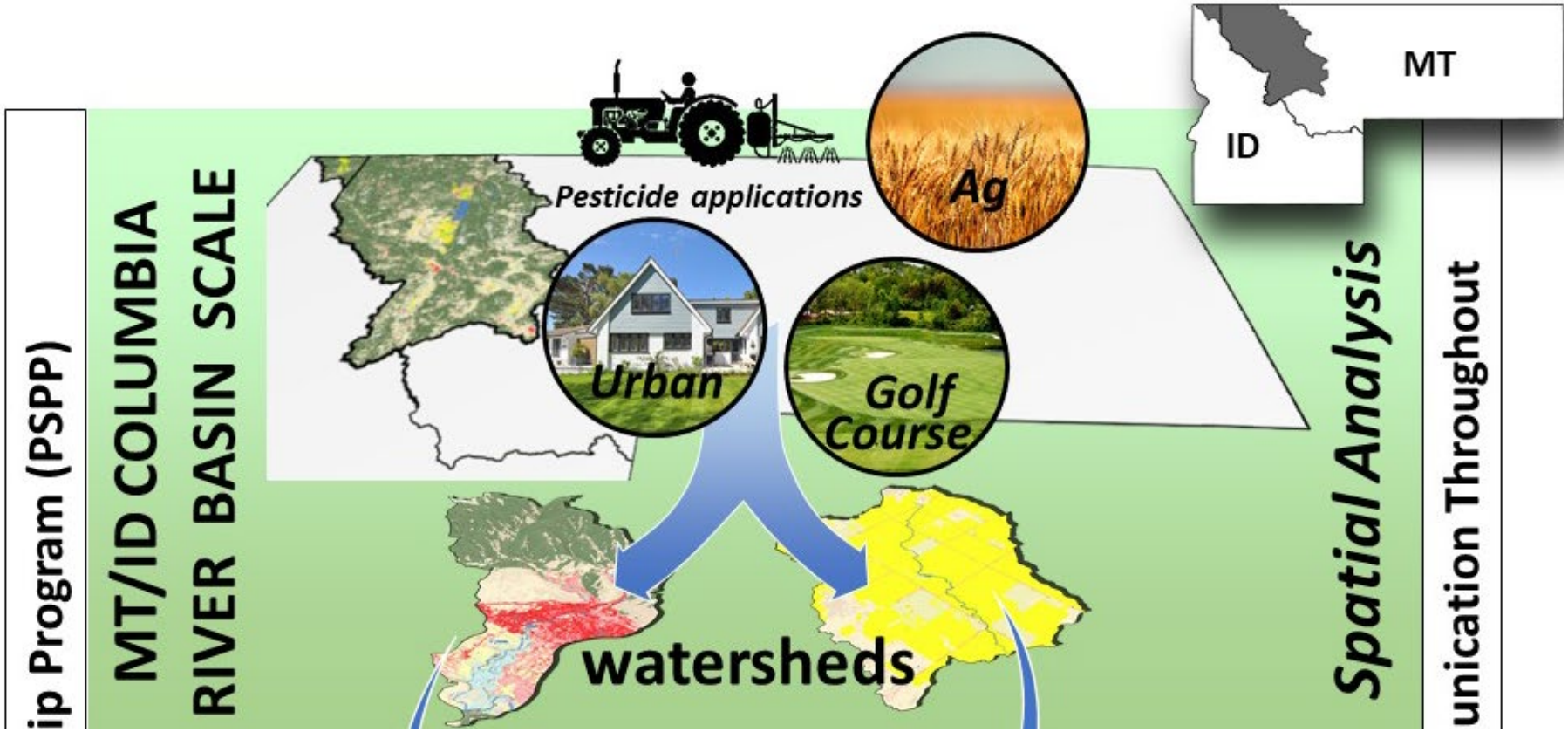
Janelle Housman:
Project Coordinator

Jared Glass:
BSWC Member

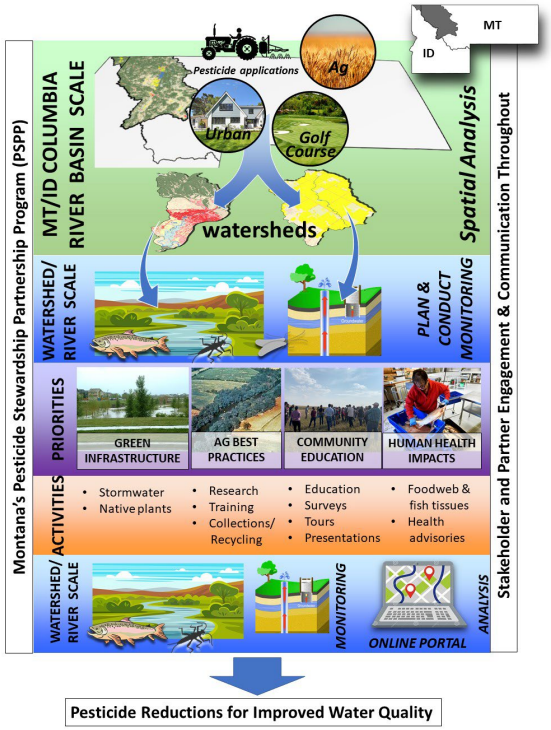


- Location: Upper Columbia of MT – 12 counties, plus Kootenai watershed
- Build and leverage partnerships and collaborations
- Started to build network in the application process
- Collect baseline data on pesticide concentrations
- Implement actions
- Efforts will reduce pesticides

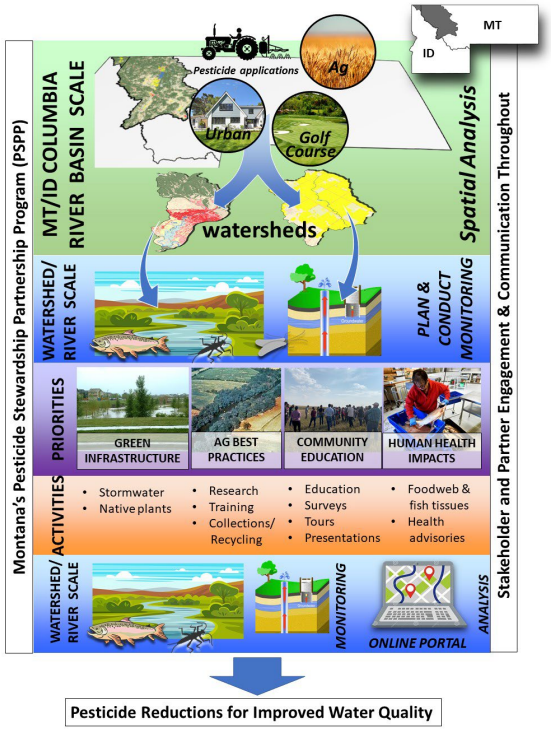




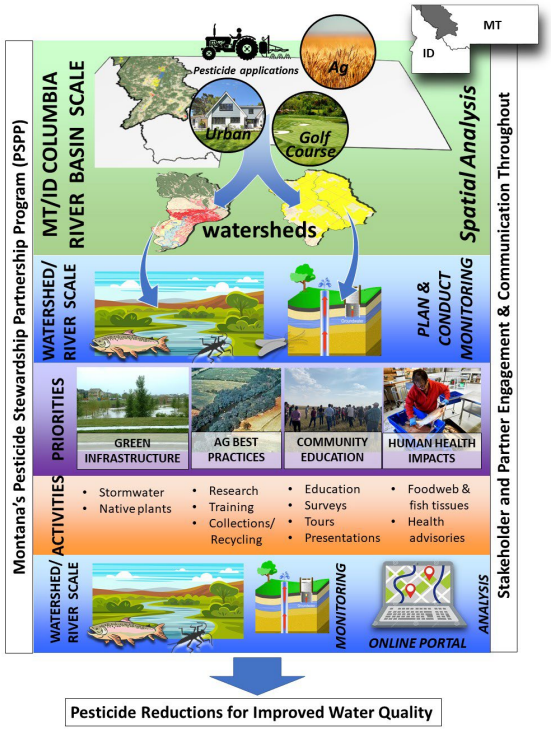
- Design and map a broad-scale reconnaissance sampling plan
- Led by FLBS, with MT-Department of Ag
- Diane Whited – GIS specialist

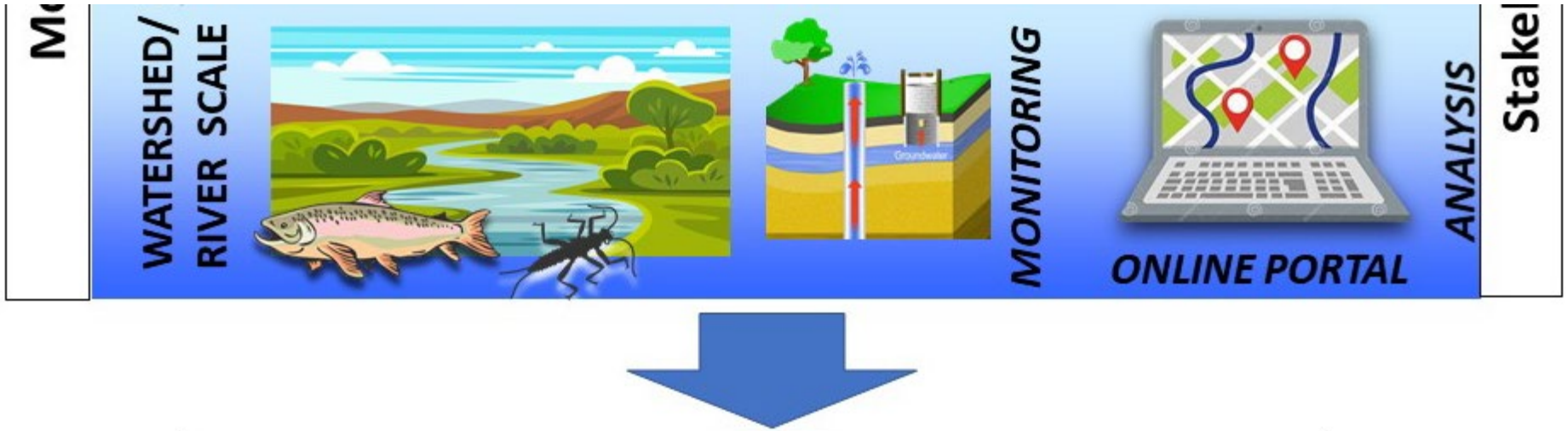


- Design and carry-out reconnaissance monitoring for pesticides in surface waters and groundwater
- Engage volunteer-led water quality monitoring groups and stakeholders for sample collection
- Broad scale monitoring will inform targeted monitoring



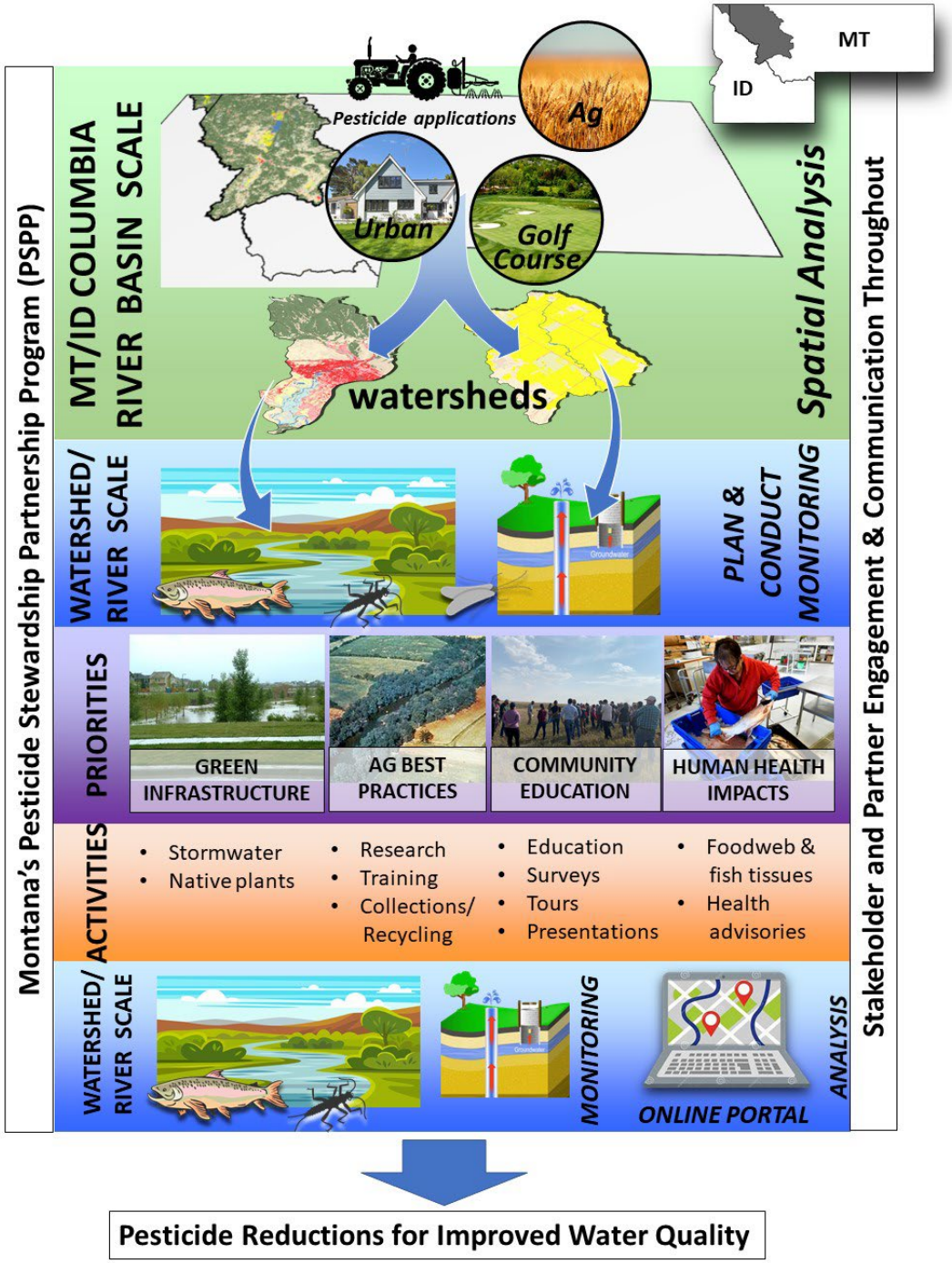
- Multiple subawards identified already
- Implement actions on the landscape
- Funding available for new partners/collaborators





Pesticide Reductions for Improved Water Quality

- Continue monitoring
- Upload Data
- Make data available on an online portal
- Publish results
- Assess project success
- Find ways to expand program throughout the state



Identified Subawards

- City of Missoula
- MT DEQ
- MT Department of Ag
- MSU Extension
- MWCC
- CSKT
- KTOI

City of Missoula

- Stormwater runoff is managed via 100 outfalls, 98 miles of pipes, and over 8,000 dry wells. It is not treated at the Wastewater Treatment Plant before entering rivers, streams, and groundwater.

- Pattee Creek Public Education and Wetland Enhancement
- Bioengineered Wetlands in Garland Park, Takima Park, High Park, and Moose Can Gully
- Reserve Street Outfall Improvements

Montana Department of Environmental Quality

- Education and outreach (E&O) materials on pesticide use and reduction, with an emphasis on urban/suburban landowners to reduce turf grass in favor of native plants
- Help distribute materials and host workshops/trainings that on pesticide reduction and requirements of the MPDES pesticide general permit
- Support and expand local efforts to promote pesticide reductions and support distribution of native plants

Montana Department of Agriculture

- Conduct groundwater monitoring for agricultural chemicals
- Coordinate increased collection and disposal of household and agricultural-industry pesticides
- MDA's Analytical Laboratory will analyze pesticide concentrations in 200 surface or groundwater samples annually
- MDA's Pesticide Container Recycling Program will collect HDPE pesticide containers in the Columbia Basin, for granulation and recycling with ACRC and USAg Plastics. A stationary grinder location will be developed in a county

MSU Extension

- MSU Pesticide Education Program (PEP, Dr. Cecil Tharp) will 1) provide Watershed Pesticide Tours targeting hundreds of pesticide applicators at 6 locations across the CRB-MT. 2) Surveys will assess pesticide use by hundreds of CRB pesticide users and 3) Create a “Reducing Pesticide Impacts in the Columbia River Watershed in Montana” factsheet
- Dr. Adam Sigler will work with a graduate student to engage irrigators in field-based research to understand risk of pesticide losses to ground and surface water based on irrigation and pesticide management. Recommended best practices to be shared with producers

Montana Watershed Coordination Council

- Help provide coordination amongst western Montana's watershed organizations to carryout education, outreach, and monitoring activities to reduce the impacts of pesticides
- Develop education/outreach materials
- Plan and implement community-based education and training events
- Engage landowners

FLBS K-12 Education Program (FLARE)

- Create educational lessons and activities to teach students about pesticides in freshwaters

Kootenai Tribe of Idaho

- KTOI will assess the concentrations of pesticides in Kootenai River white sturgeon and burbot tissue
- KTOI will also assess the concentrations of pesticides in water, sediment, and aquatic plants at eight Kootenai River bio-monitoring sites, five tributaries, and two wetlands to understand which compounds

Confederated Salish and Kootenai Tribes

- Document the presence or absence of pesticides of emerging concern in fish species across the Flathead Indian Reservation, as well as water and food web samples
- Document concentration levels and benchmark these to human health and/or ecological criteria, where available
- Provide a quality-assured dataset that may be used for restoration actions, education and outreach and guidelines

Identified Partners/Collaborators

- Montana Conservation Corps
- MT Trout Unlimited
- Salmon Safe
- Missoula Conservation District
- Flathead Conservation District
- Bitterroot River Protection Association
- Yaak Valley Forest Council
- Kootenai Watershed Allies
- Clearwater Resource Council

Competitive Funding Awards

- During the first 2 years of the project we will release a call for funding and solicit applications
- Funding additional projects that will address program priorities
- Conservation Districts, Weed Districts, Watershed Groups, etc.
- Anticipate awards up to ~$20,000
- 25% cost match of the total award will be required
- Quarterly progress checks and cost-match reporting

What will we do - logistics?

- Just getting started – building contact lists
- Spread the word about the program
- Build relationships, grow the network
- Hold annual in-person meetings at FLBS – October each year
- Hold regular zoom/virtual meetings
- Communicate regularly – reporting
- Develop a website with resources
- Participate in the CRB Restoration Program Working Group Meetings

Wrap Up

- EPA is currently finalizing the award
- Official announcements and launch upcoming
- Reach out if interested or with questions
- Contact info:

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Questions?