

Welcome & The MT Pesticide Stewardship Partnership Program



**Montana Pesticide Stewardship
Partnership Program**

Montana Watershed Coordination Council

February 4, 2025

Rachel L Malison, PhD



MONITORING
MONTANA WATERS



**FLATHEAD LAKE
BIO STATION**
UNIVERSITY OF MONTANA

MT PSPP Team



Rachel Malison

- Assistant Research Professor
- MT PSPP Principal Investigator
- MMW Program Leader
- Hobby Farmer



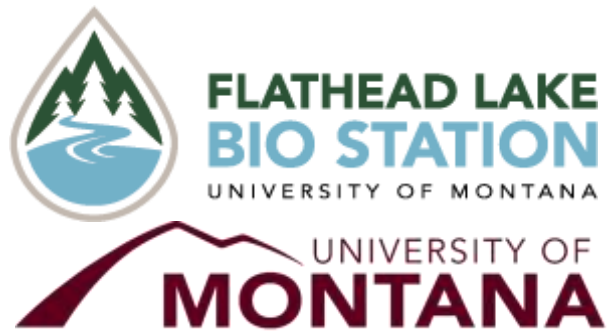
Janelle Groff

- Research Coordinator
- Previously served in various other roles at FLBS
- Aspiring hobby farmer



Chloe Czachor

- Big Sky Watershed Corps Member
- Second Americorps term, first in Montana



The FLBS mission

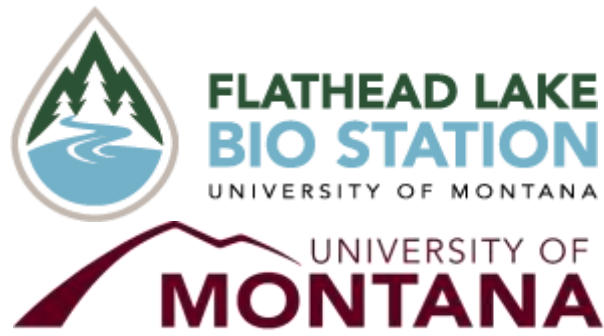
“To serve the Flathead Lake region, the state of Montana, the nation, and the world by advancing cutting-edge

-aquatic research,

-monitoring, and

-education & outreach for all ages.”





FLBS established in 1899

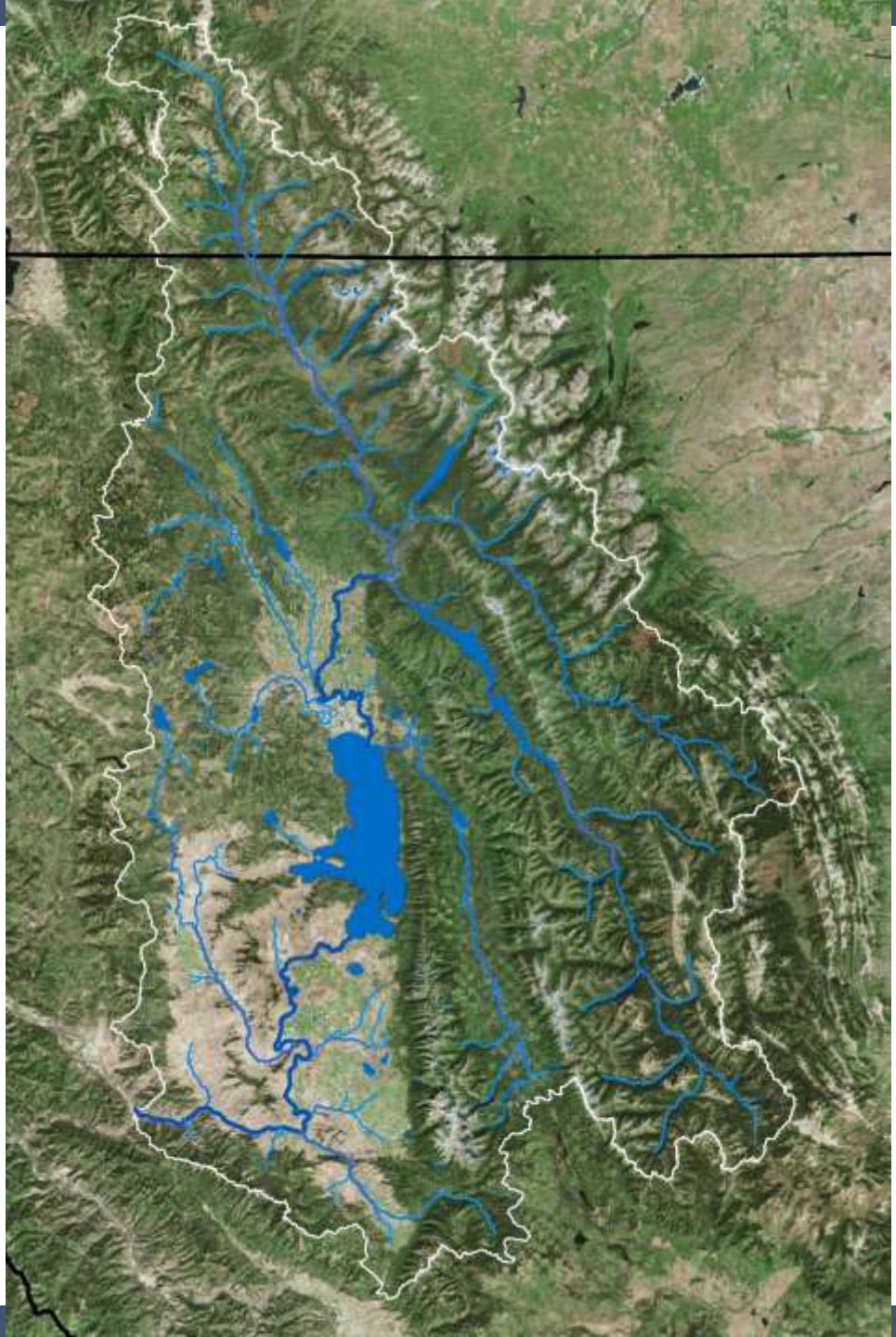


Summer
Classes!



Located within the territory of the Bitterroot Salish, Upper Pend d'Oreille, and Kootenai Tribes, on the Flathead Reservation of the Confederated Salish and Kootenai Tribes.







Montana's Waters



Mayflies (Ephemeroptera)



Caddisflies (Trichoptera)



Stoneflies (Plecoptera)



Montana's Waters



Monitoring Montana Waters

- Launched in 2021
- Philanthropically funded: Plus Fish
- The team



Rachel Malison:
Program Leader



Brianna Elizondo:
2024-2025 BSWC Member



Tom Bansak:
Oversight Committee



Erin Sexton:
Oversight Committee

Goal of MMW

Increase the capacity of water quality monitoring in Montana



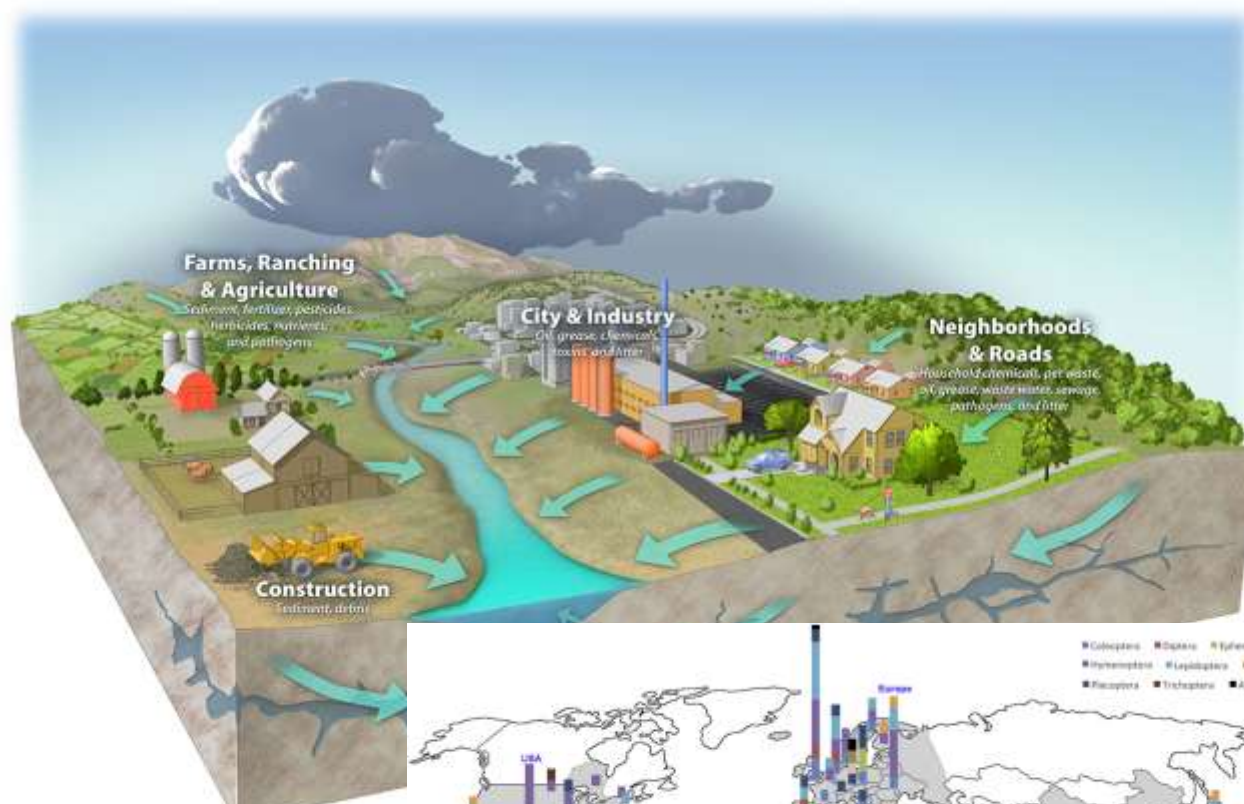
Guidance

Funding

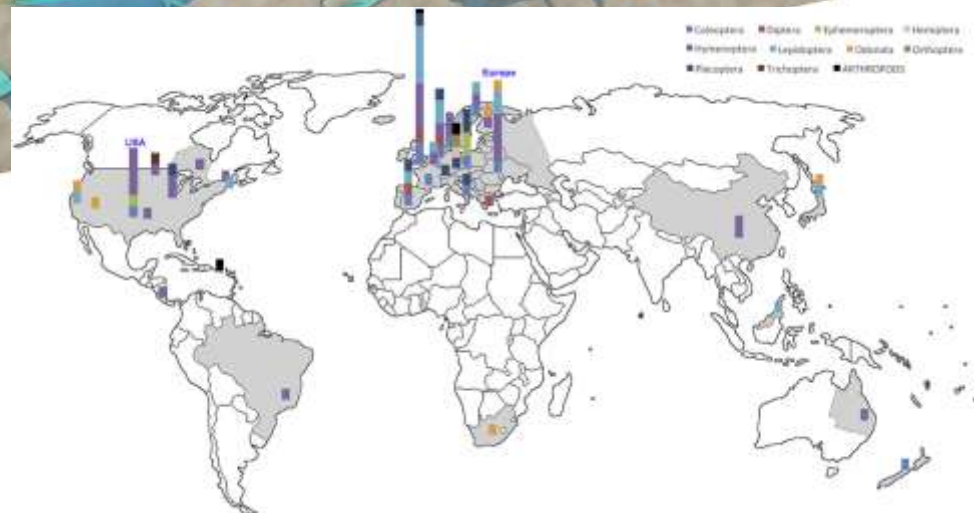
Training

Protect the waters of Montana

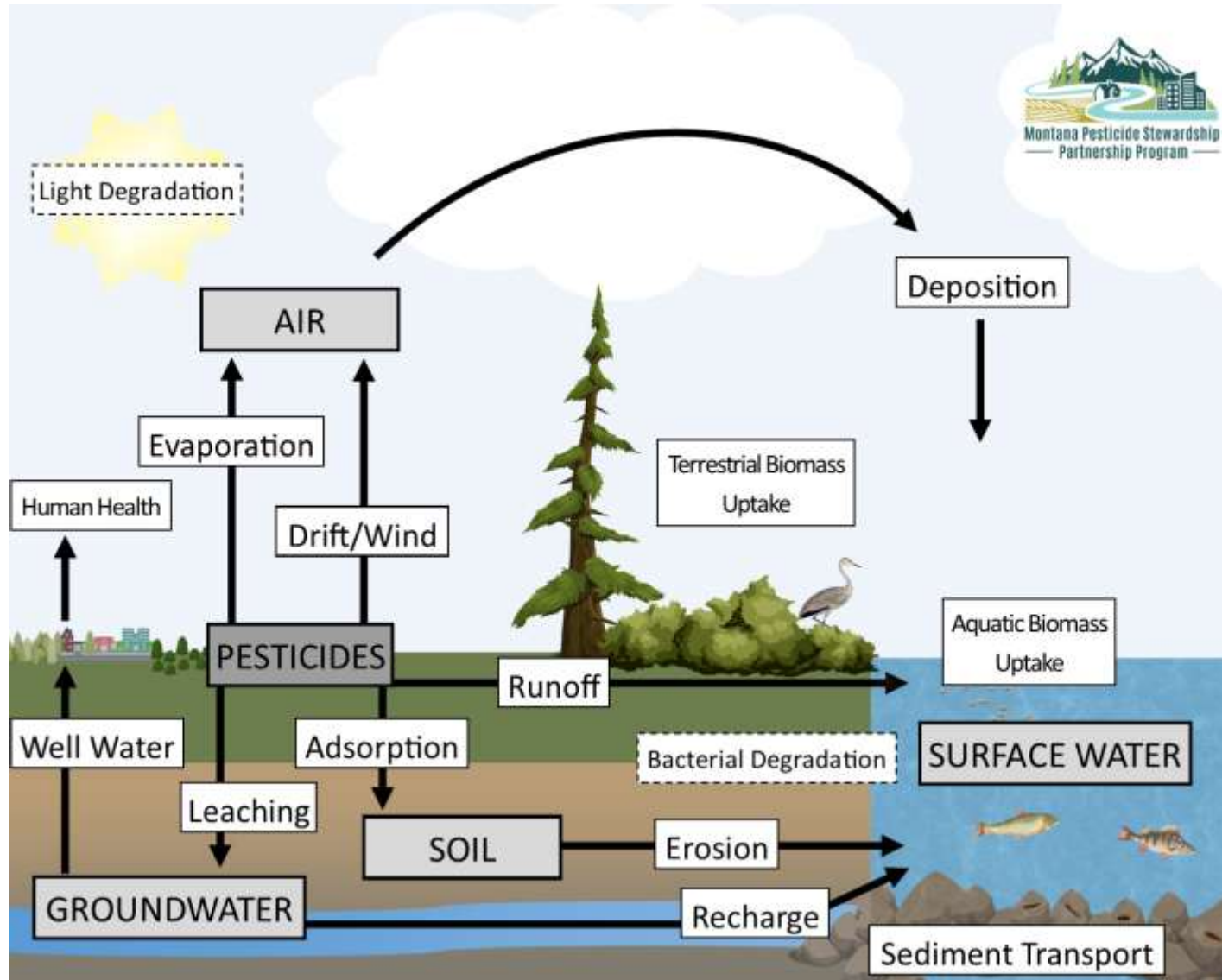
Montana's Waters



- Pharmaceuticals
- Metals
- PFAS
- Pesticides



Pesticides in Freshwaters



- Clean Water Act in 1972, but the threat of pesticides remains today
- By 2017, 1 billion pounds of active ingredient used per year in the US
- Agricultural and residential sources
- Designed to kill organisms (pests, weeds, fungal diseases)
 - Includes insecticides, herbicides, fungicides
- However, equally effective at killing non-target organisms
- We have very little baseline data
- Do not know risk, nor will we know if actions will make a difference

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

Total Project: \$8.8 million

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

5 year grant – Funded in Oct 2023

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

Pesticides are a tool

- Crop protection and livestock management
- Disease vector control (e.g., mosquitoes) and sanitation
- Home and garden management, structural pest control
- Managing forest pests and invasive species
- Aquatic invasive control

But pesticides are not the only option to achieve these things...

Integrate strategies to control pests effectively and responsibly

If pesticides are the tool used

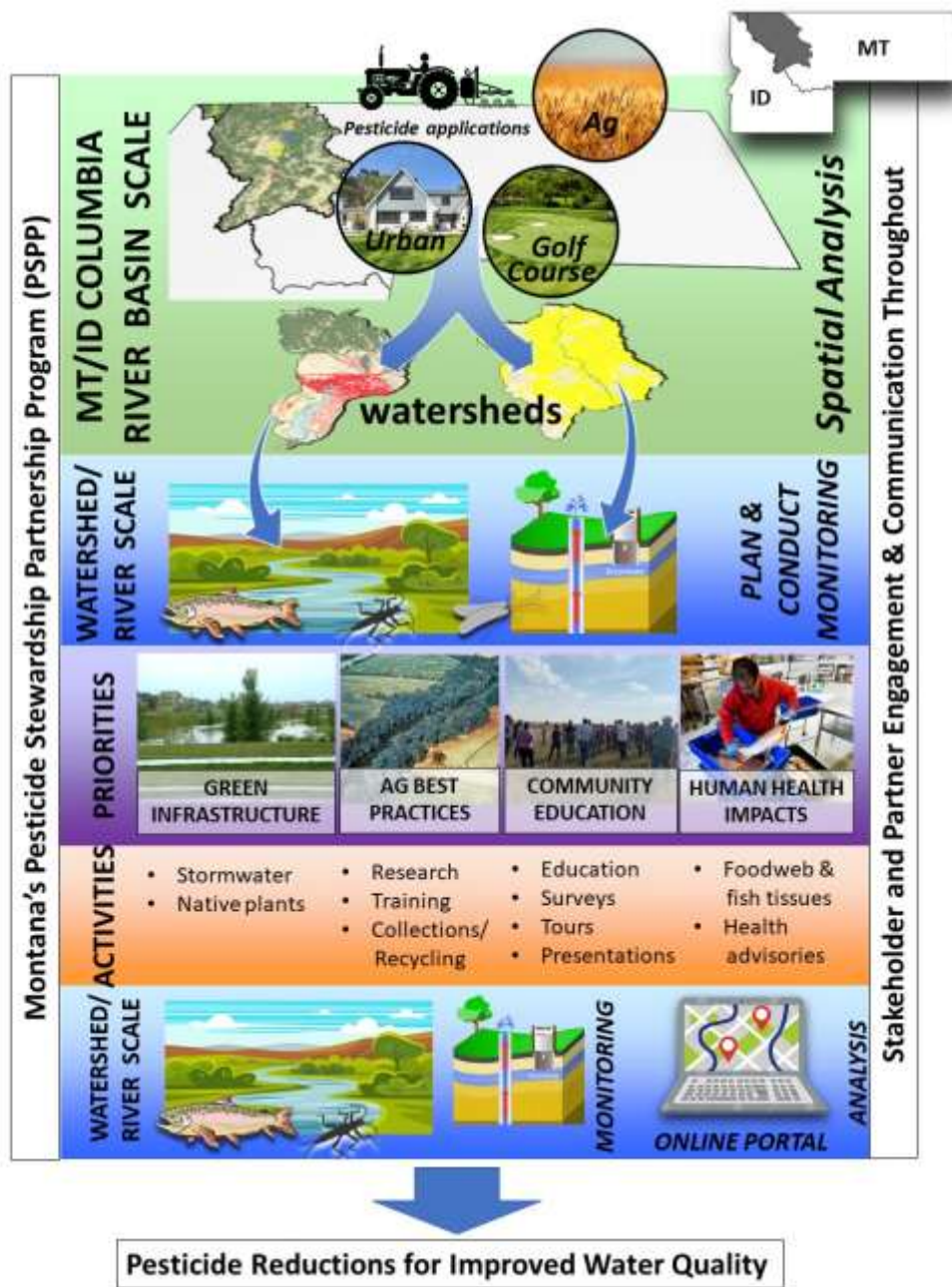
How can we help best practices to be followed

Why a PSPP?

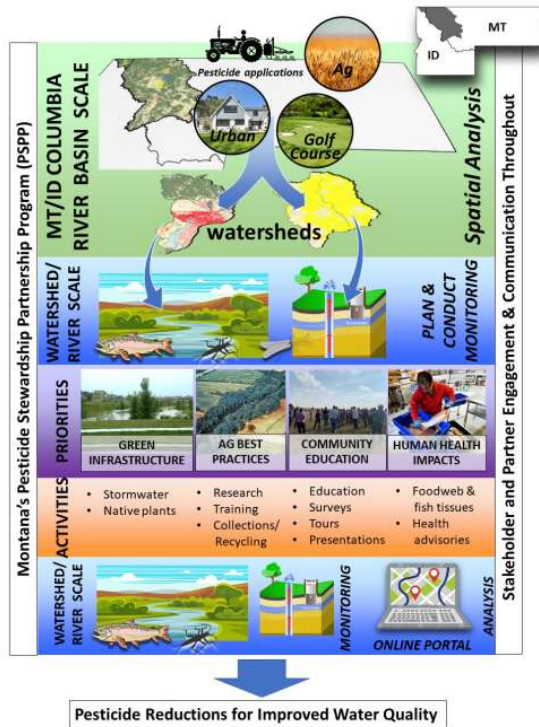
Pesticide Stewardship Partnership

collaborative initiative promoting responsible pesticide use and management involving various stakeholders, including government agencies, agricultural producers, environmental organizations, and community groups

GOAL: to work together for pesticide stewardship to reduce the risks to water quality associated with pesticide use through education, best practices, and implementation projects.

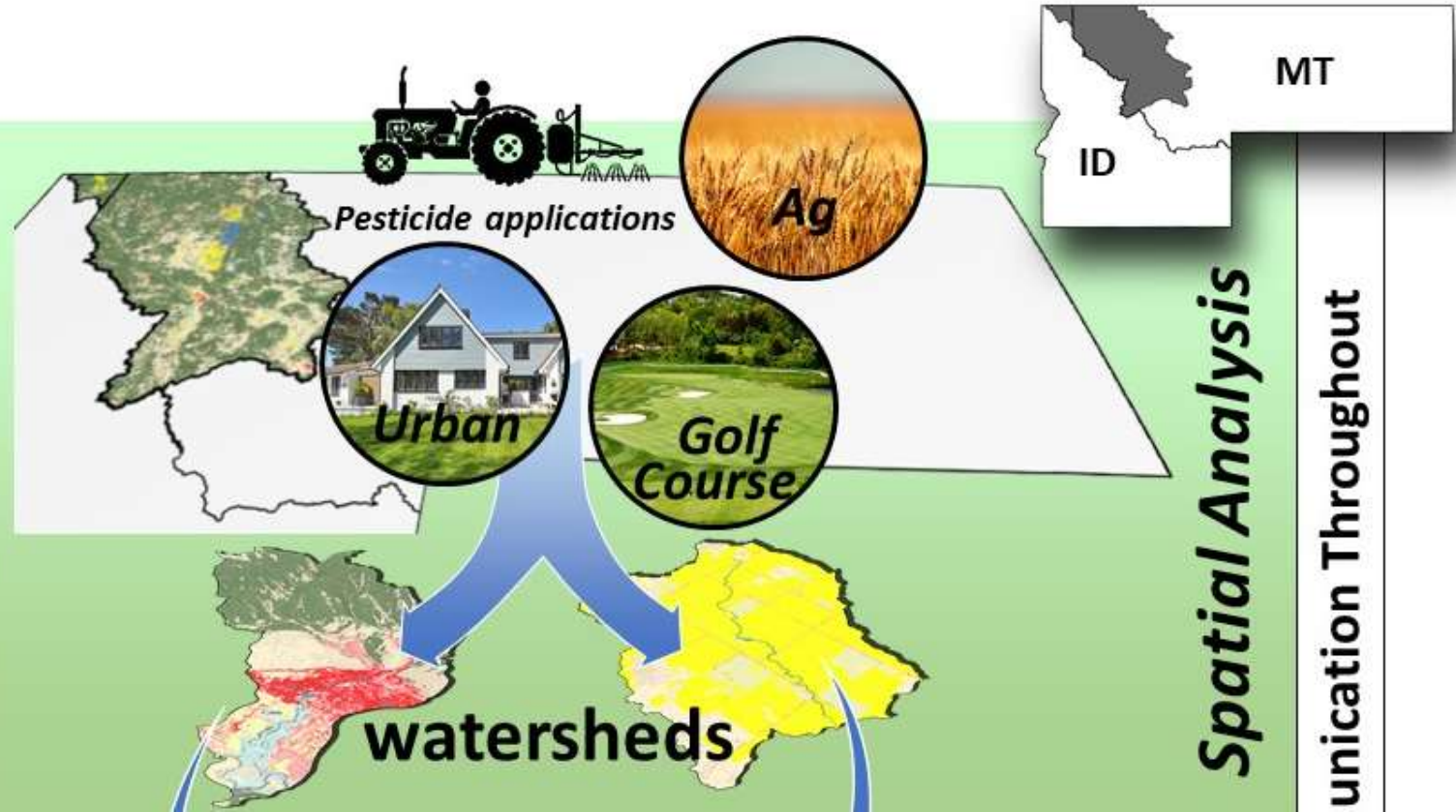


- Location: Upper Columbia of MT – 12 counties, plus Kootenai watershed
- Goal: Working together for pesticide stewardship for healthy water

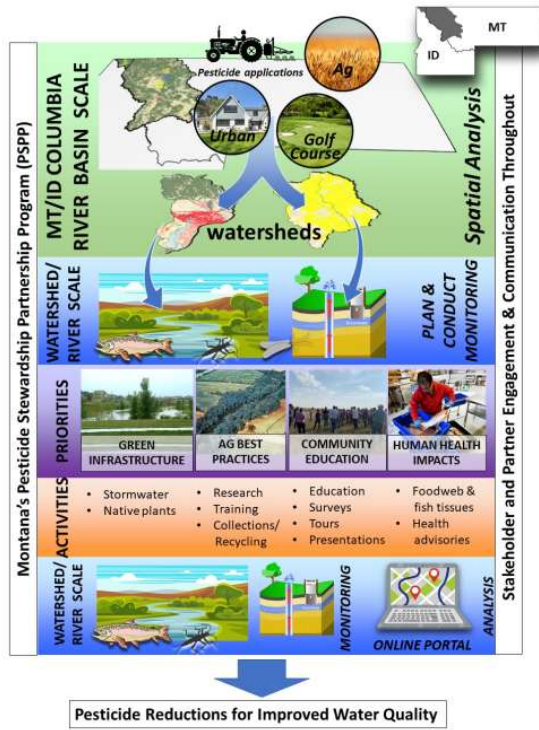


ip Program (PSPP)

MT/ID COLUMBIA
RIVER BASIN SCALE



- Design and map a broad-scale reconnaissance sampling plan
 - Led by FLBS, with Montana Department of Agriculture
 - Diane Whited – GIS Specialist, FLBS

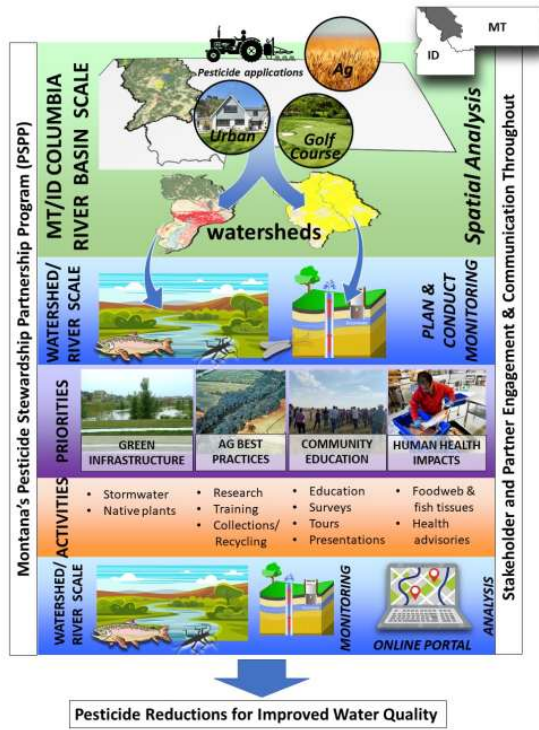


Partnership



Implementation & Communication

- 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

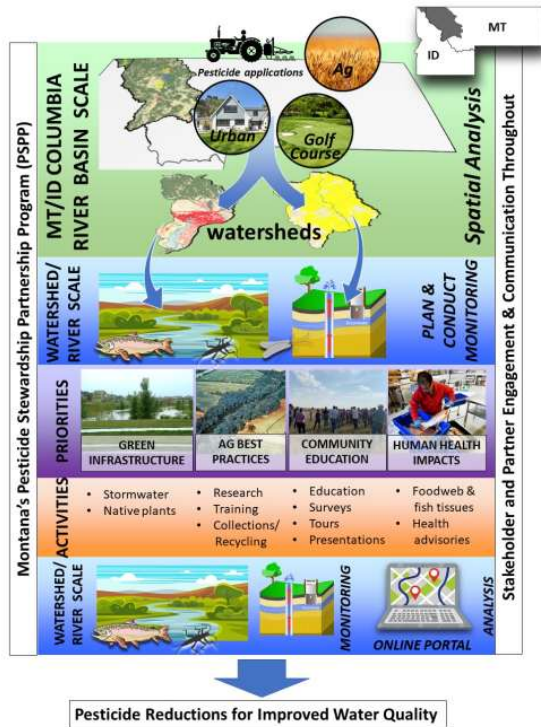


LANDS RESILIENCE STEWARD

PRIORITIES				
ACTIVITIES	<ul style="list-style-type: none"> • Stormwater • Native plants 	<ul style="list-style-type: none"> • Research • Training • Collections/ Recycling 	<ul style="list-style-type: none"> • Education • Surveys • Tours • Presentations 	<ul style="list-style-type: none"> • Foodweb & fish tissues • Health advisories

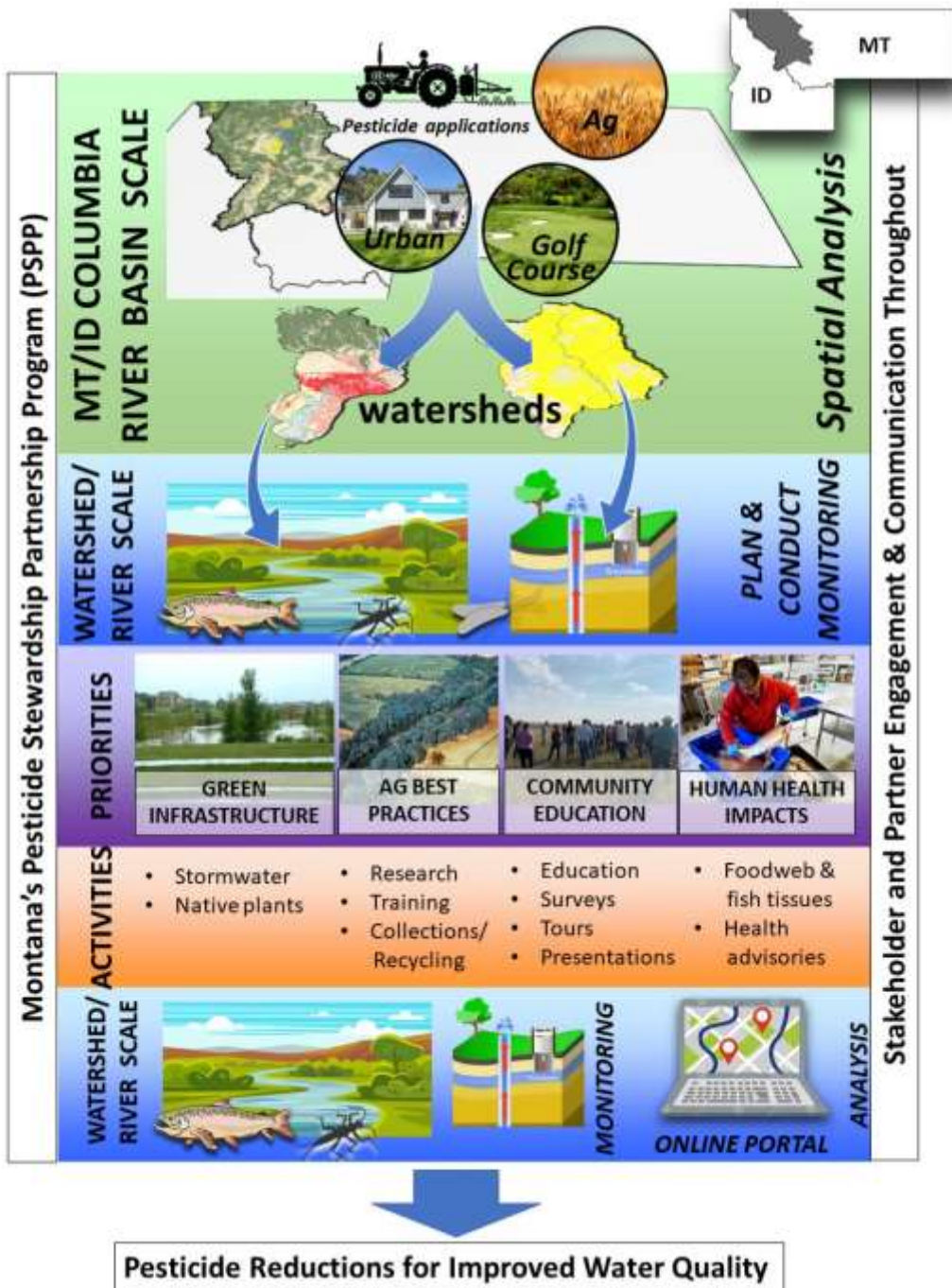
holder and Partner Engage

- Multiple subawards
- 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
- CSKT
- KTOI
- MWCC

City of Missoula

- Green Stormwater Infrastructure
 - designing and constructing new GSI to treat stormwater before it enters rivers and streams
 - first project kicking off this year
 - filtration, adsorption, degradation, and plant uptake help remove contaminants including pesticides



Montana Department of Environmental Quality

- Education + Outreach
 - developing and sharing PSPP messages and materials to various audiences
- Native Plants & Buffers
 - supporting local efforts to increase native plant availability and use for protecting surface water



Montana Department of Agriculture

- Waste Pesticide Disposal Program
 - helping residents safely dispose of unusable or unwanted pesticides
- Pesticide Container Recycling Program
 - keeping pesticide container plastics out of Montana's landfills
- Groundwater Protection Program
 - monitoring and protecting groundwater from contamination



Montana State University Extension

- Pesticide Leaching/Lysimeter Research
 - how pesticides move through soil and their potential to reach groundwater
 - best management practices to reduce leaching
- Pesticide Education Program
 - training and resources for pesticide applicators and the public
 - pesticide use surveys
 - pesticide watershed tours



Kootenai Tribe of Idaho

- Fish Tissue + Food Web Analysis
 - impact of environmental contaminants on fish populations in the Kootenai River
 - burbot and sturgeon
 - water, sediment, plants
 - potential consideration for human health consumption advisory



Confederated Salish & Kootenai Tribes

- Fish Tissue + Food Web Analysis
 - protecting aquatic ecosystems and human health on the Flathead Indian Reservation
 - lake trout, white fish, cutthroat, pike, rainbow trout, brook trout, bass, brown trout, perch
 - macroinvertebrates and mussels
 - potential consideration for human health consumption advisory



Montana Watershed Coordination Council

- New Connections/Network Support
- Education + Outreach



Competitive Funding Awards



- 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

Outreach Efforts

- Newsletters
 - Monthly Teams Meetings
 - Annual In-Person Meetings at FLBS
-
- Event Tabling
 - Volunteer Monitoring
 - Funding Opportunities
 - Connecting with Stakeholders
 - Providing Feedback and Suggestions



Education & Outreach Material Efforts

- New committee dedicated to developing education and outreach materials and ideas
- PSPP messaging
 - Developing common language to deliver messaging to general and target audiences
- Physical outreach materials
 - Handouts for target audiences
 - farmers/general agriculture, homeowners, landscapers, etc.
 - I have the information – now what?

How do you fit in?



Questions?

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