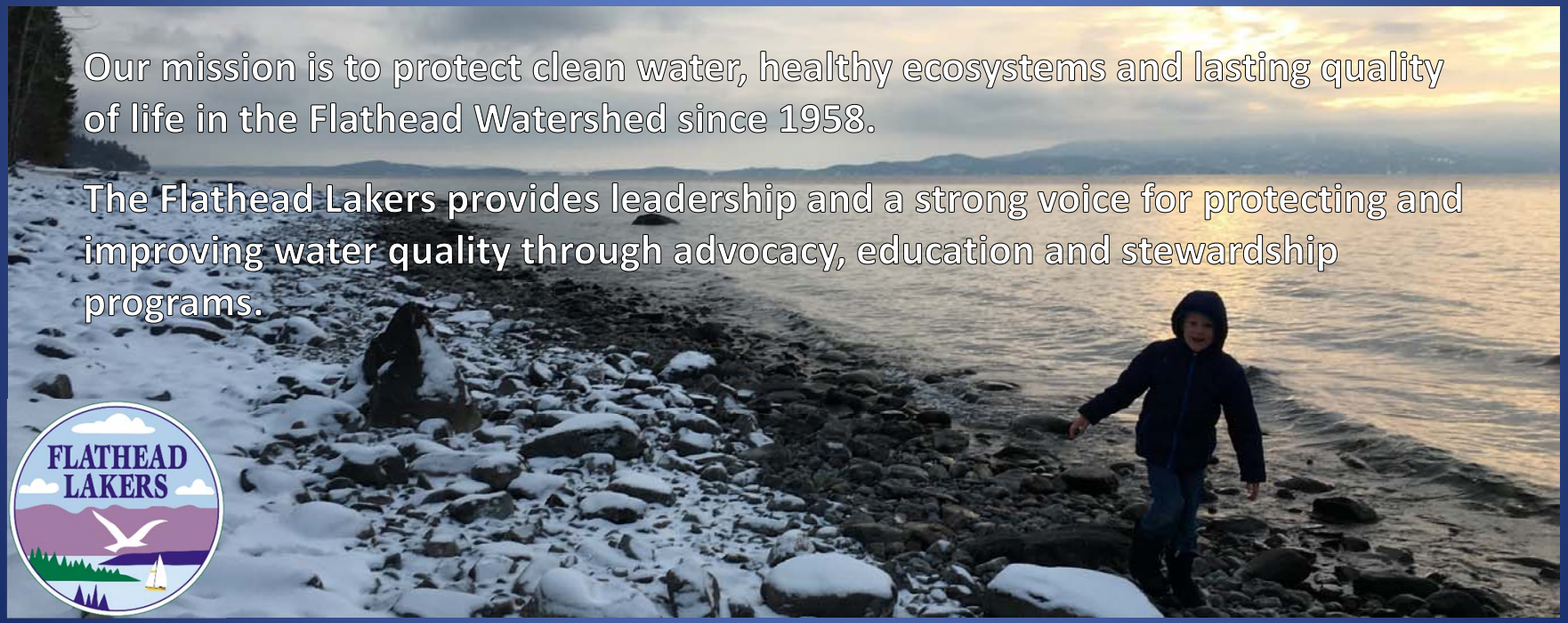
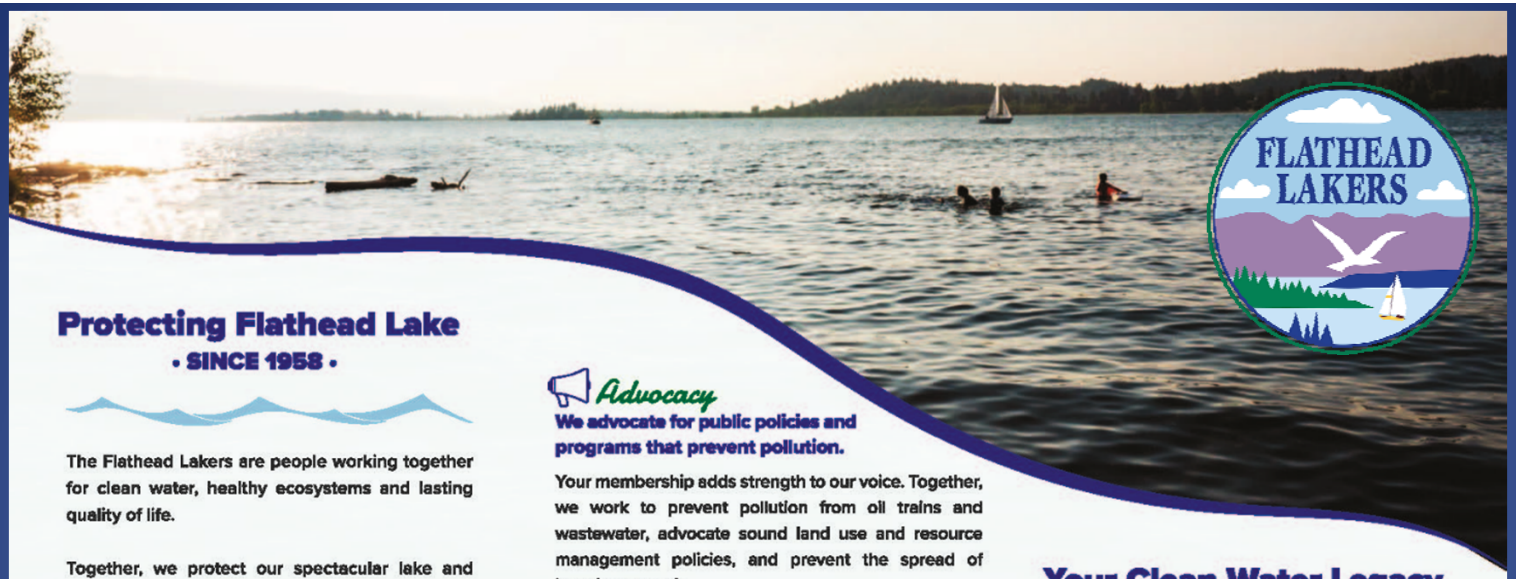
CITIZEN SCIENCE AND STEWARDSHIP ACTIONS TO PROTECT FLATHEAD LAKE AND WATERSHED

Hilary Devlin and Constanza von der Pahlen





Protecting Flathead Lake

• SINCE 1958 •

The Flathead Lakers are people working together for clean water, healthy ecosystems and lasting quality of life.

Together, we protect our spectacular lake and watershed to ensure all of us can continue to enjoy and benefit from our beloved lake and precious clean water - now and in the future.

Advocacy

We advocate for public policies and programs that prevent pollution.

Your membership adds strength to our voice. Together, we work to prevent pollution from oil trains and wastewater, advocate sound land use and resource management policies, and prevent the spread of invasive mussels.

Stewardship

We conserve and restore lands critical for clean water.

Join us to conserve and restore the most critical wetlands and riparian areas that sustain clean water, healthy fish and wildlife habitat, recreation opportunities, and scenic beauty.

Education

We help people learn ways to be clean water stewards.

Join us in enjoying Flathead Lake while learning about ways to protect it. We offer tours, visits with landowners about clean water best practices, citizen science projects, student field trips, Science on Tap talks, volunteer planting projects, newsletters, and more.

Your Clean Water Legacy

It is up to us to protect Flathead Lake and the waters that run through it.

Your support will help leave a legacy of clean water and a beautiful lake for our children and future generations to enjoy.

You Can Help

Protect Flathead Lake and keep our water clean for generations to come.

Become a member today.

The Flathead Watershed

Protecting a pristine watershed and our growing communities.

THE CHALLENGES

Aquatic Invasive Species

Oil spills, trains, mines, water bottling plants, drought, etc.

Development: polluted, storm water runoff and loss of ‘natural filters’

THE SOLUTIONS

PROTECT OUR WATERS

Prevent introduction of aquatic invasive species

Educating for Flathead’s Future

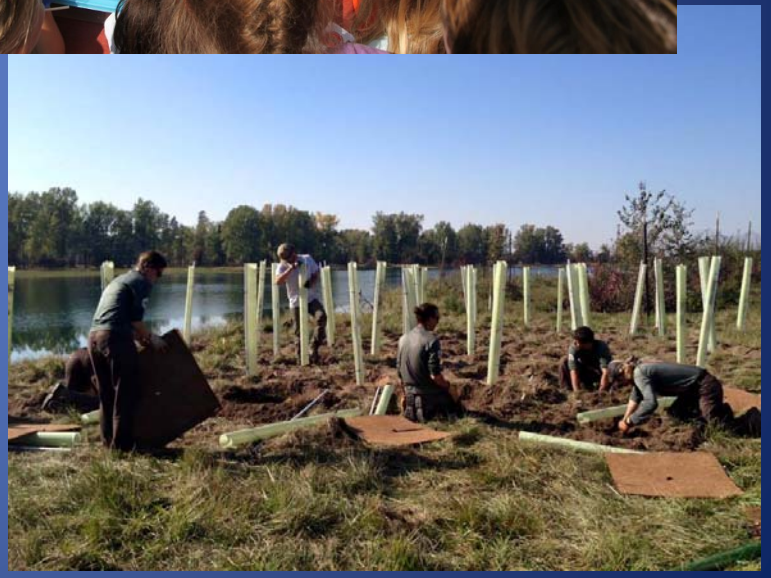
Advocate on behalf of our watershed

Protect and restore wetlands, riparian areas, floodplains and shallow groundwater

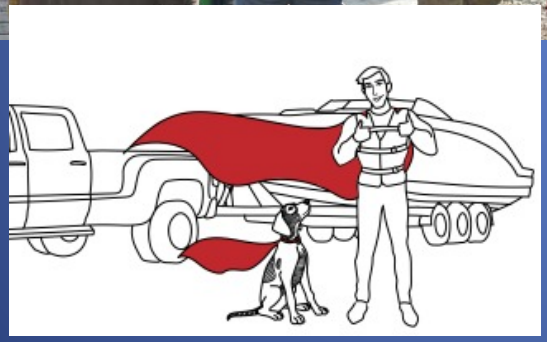
The Flathead Lakers work to be the connection between science and our community.

We help people understand that we all live in a watershed and we all impact a watershed.

Knowledge and understanding will lead to positive action for clean water and Flathead Lake and watershed.



A knowledgeable and engaged community will protect Flathead Lake and watershed well into its future.



Walk and talk tours

- Native plant workshops
- Living by water: Clean water practices
- Beautiful buffer gardens
- Aquatic invasive species

Community Talks

Clean water practices site visits and resources for property owners

Educational videos

- Oil and Water Don’t Mix
- Be a Montana Superhero
- Planting Buffers for Clean Water

Watershed education opportunities spark a sense of place and connection to the Flathead watershed, as well as a sense of responsibility for it.

Becoming Watershed Citizens

Flathead Lakers student education program has provided hands-on watershed learning and field trips for around 5,000 local students over the past 20 years.

Working with partners around the community can have a greater impact on Flathead's future than what we could do alone.

Science on Tap-Flathead:

Brought to you by the Flathead Lakers, Flathead Lake Biological Station, and the Flathead Lake Brewing Company.

Join us on the first Tuesday of the month in Bigfork.

Flathead Lake Citizen Science:

The Flathead Lakers and the Flathead Lake Biological Station launched a new volunteer Citizen Science Program.

We hope to involve citizens in meaningful science that will build knowledge and understanding about our precious Flathead Watershed.

Critical Lands and Stewardship:

The Flathead Lakers initiated the Critical Lands Project in 2000 by bringing together resource managers, conservationists, and scientists to explore opportunities to sustain the attributes that make the Flathead so special and that contribute greatly to our quality of life and economy.

Science on Tap-Flathead

- Regional scientists share their work with the public in a fun, approachable way with *GREAT BEER*!
- First Tuesday of the month at 6 pm at the Flathead Lake Brewing Co. in Bigfork.
- FLBS donates $1 per pint served between 5-8 pm.
- Save your seat! Now $5 donation reserves your seat for the event.

FLATHEAD LAKERS

FLATHEAD LAKE BIO STATION
UNIVERSITY OF MONTANA

FLATHEAD LAKE BREWING CO.
BIGFORK, MONTANA

Flathead Lake Citizen Science

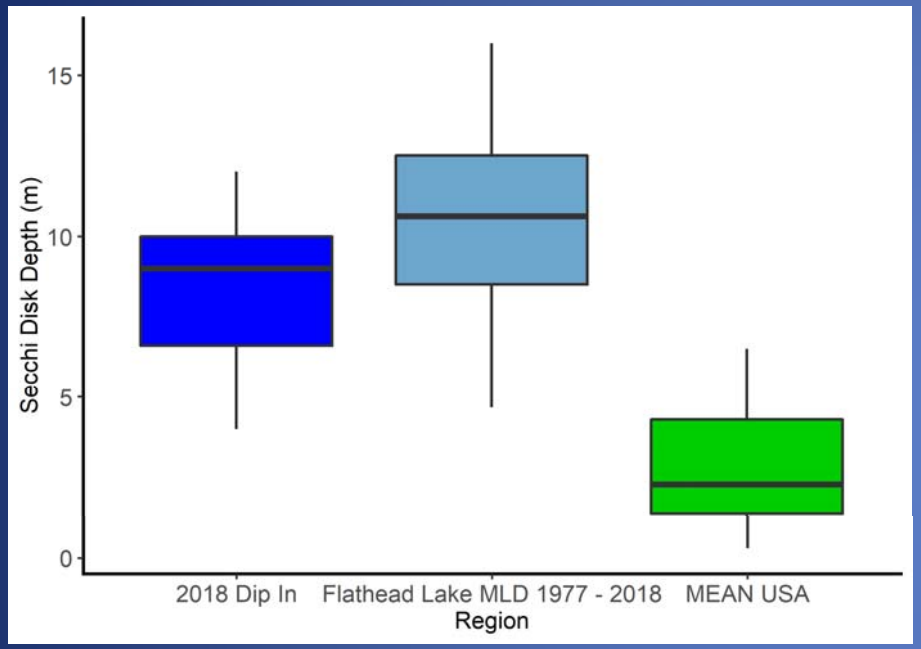
Flathead Lakers & FLBS Flathead Lake Monitoring Program

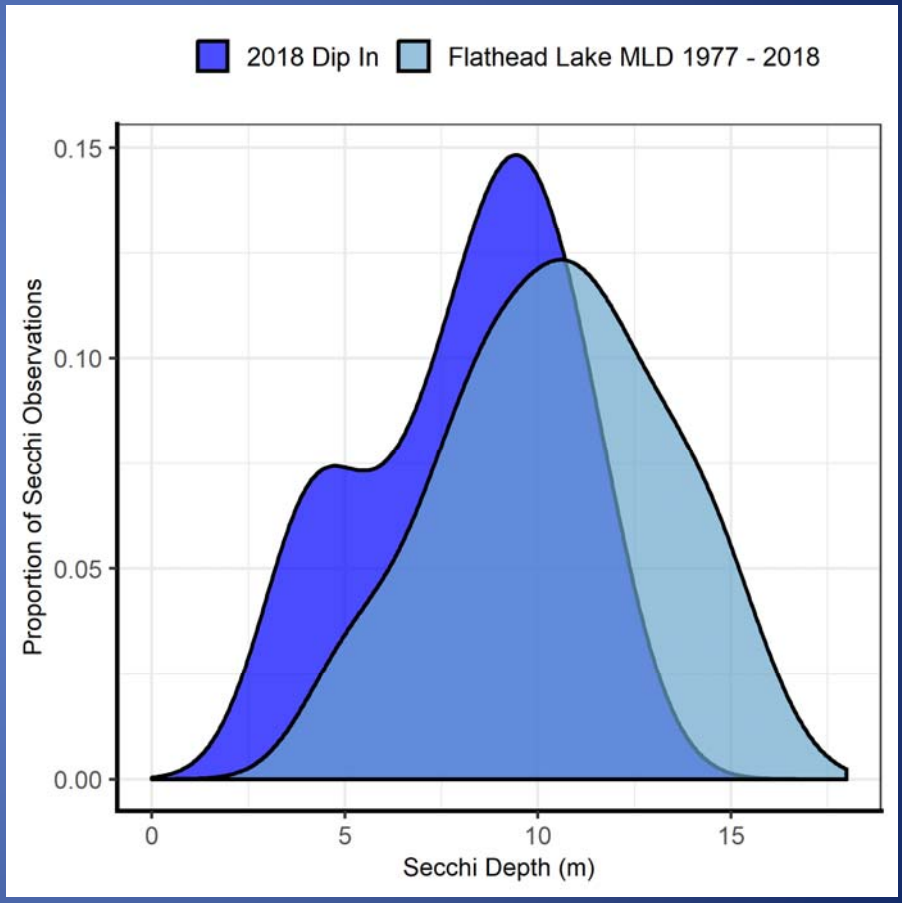
Supported by the Greater Polson Community Foundation

2018 Flathead Lake Secchi Dip-in

- Organized effort from Flathead Lake to participate in nationwide Secchi Dip-in, created in 1994 by the North American Lakes Management Society.
- 25 Secchi disks ‘adopted’. Participants also funded additional water quality testing.
- 44 Secchi readings, water clarity measurements, were taken in two week period.
- Clarity ranged from 3.8 meters to 13.5 meters, which reflects moderate to exceptional water clarity.

2018 Flathead Lake Secchi Dip-in Results





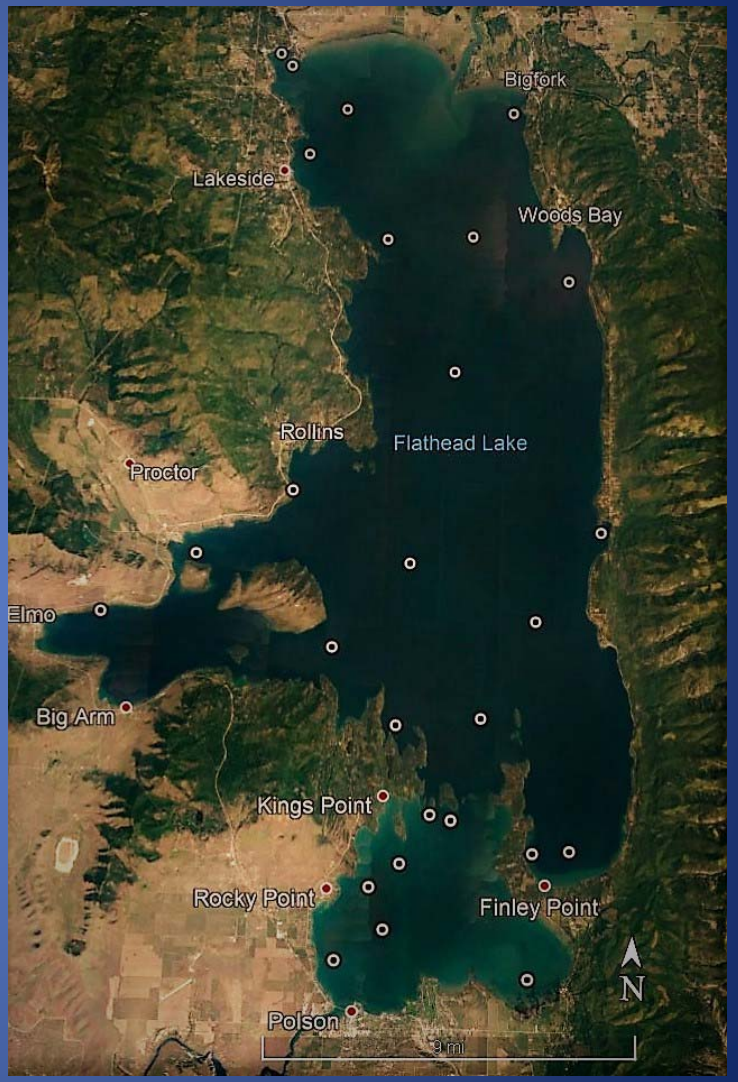
The Secchi Dip-In

FLATHEAD LAKE BIO STATION
UNIVERSITY OF MONTANA

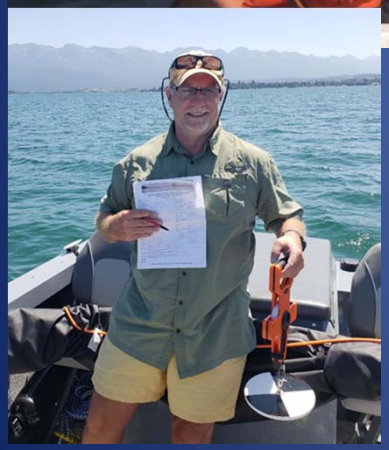
FLATHEAD LAKERS

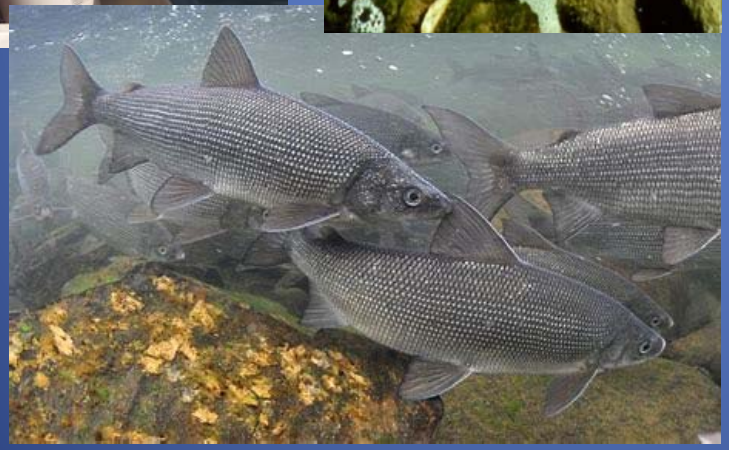
Volunteer citizen scientists:

- Created an army of citizen scientists collecting baseline data around Flathead Lake.
- Enable great science and make a direct contribution to Flathead Lake research.
- Increase their scientific understanding of our lake and its watershed.
- Advocate on behalf of clean water and our watershed.



Upcoming Citizen Science Projects





2019 Secchi Dip-in

- Increase community outreach
- More participation

Water Stewards Program

- Early summer training workshop
- Increase # parameters measured around Flathead Lake
- Monitor tributaries in watershed
- Volunteer with FLBS researchers

Whitefish Diet Study

Periphyton Study

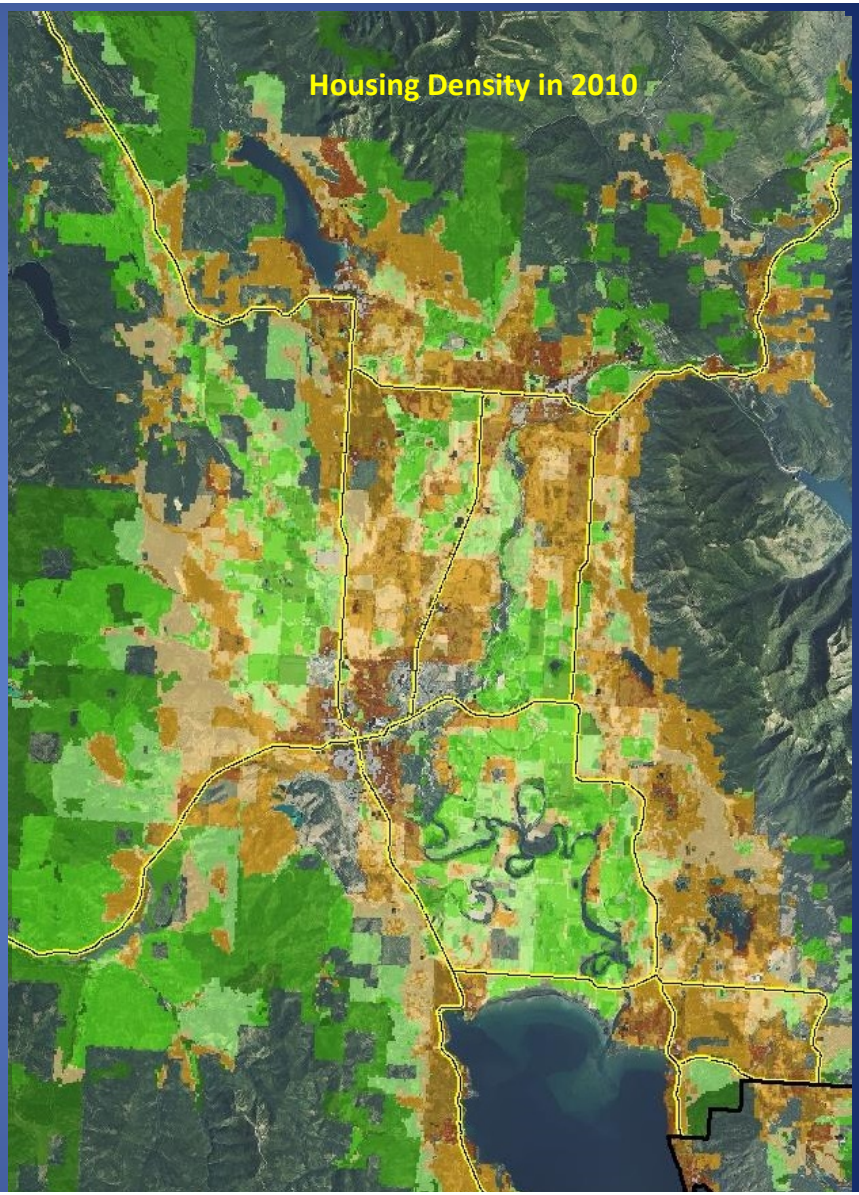
Critical Lands Project

Threats

Rapid growth and development

Non-point source pollution

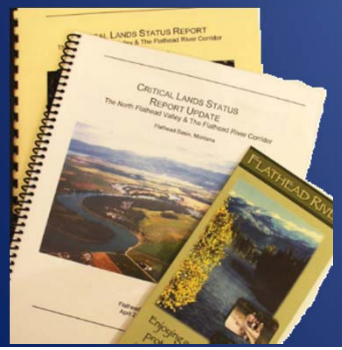
- impervious surfaces
- failing septic systems
- removal of riparian buffers



Critical Lands Project

Promote collaboration

Identify, protect and restore lands and waters…



Inform land owners and the public about the importance of these critical lands

Criteria for Identifying Critical Lands

Ecological Function

- Does the area help maintain **water quality**?
- Is there a water source (surface or ground)?
- Does the area provide **functional habitat**, especially for key, rare or unique species?

Cultural, recreational and aesthetic values

- What are the recreational, aesthetic/scenic values?

…Criteria for Identifying Critical Lands

Urgency of Existing & Potential Threats

- How likely is **development**?
- Does the area need restoration or exhibit existing problems that need action?
- Does the area contribute pollutants to water bodies?

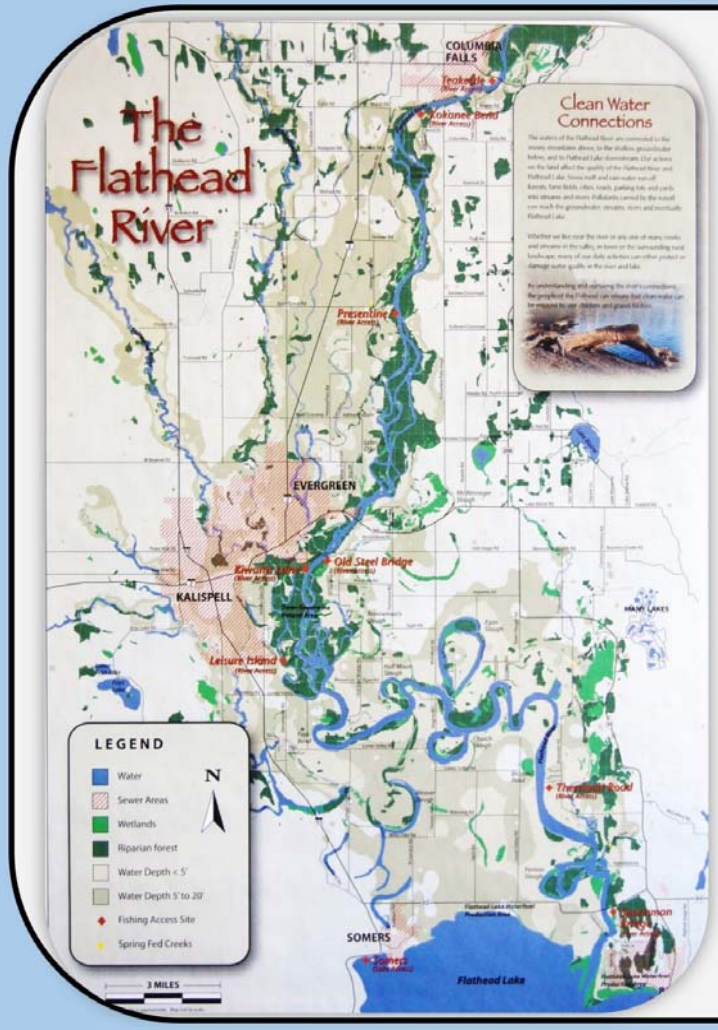
Ecological Defensibility & Durability

- Is the project expandable beyond one site?
- Are there protected areas adjacent to this?
- What are the **long-term benefits** of protecting the area?

Feasibility

- Is there landowner and/or community **support**?
- Are people willing and able to take **action**?
- Is the project technically possible and **economically sound**?

WHAT'S OUR FOCUS?



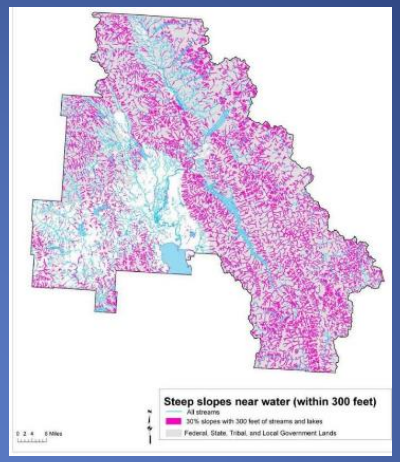
River 2 Lake Initiative

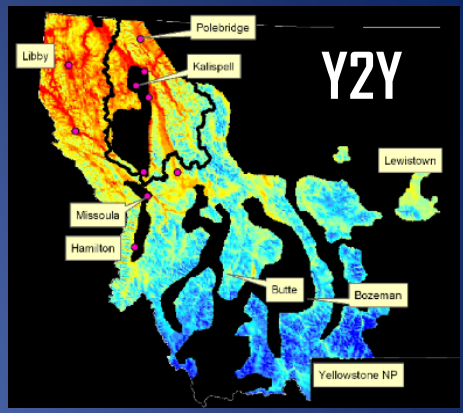
R2L Focus on protecting critical lands within the 100-year floodplain of the Flathead River from Columbia Falls to the North Shore of Flathead Lake stretching from Somers to Bigfork.

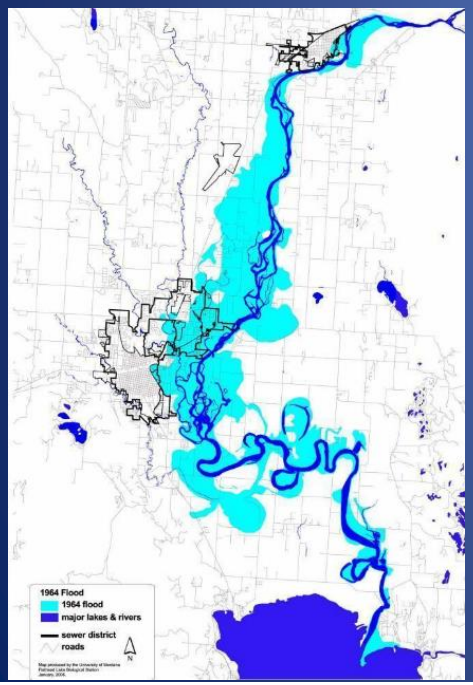
43.5 miles
25,000 acres

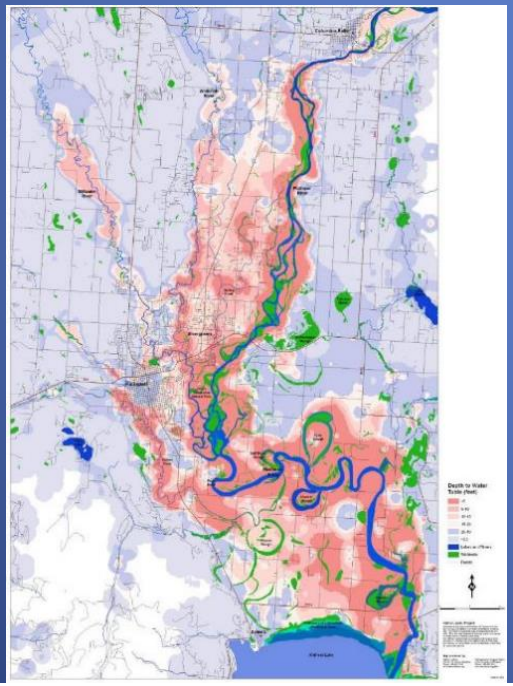
Science studies, maps, local knowledge

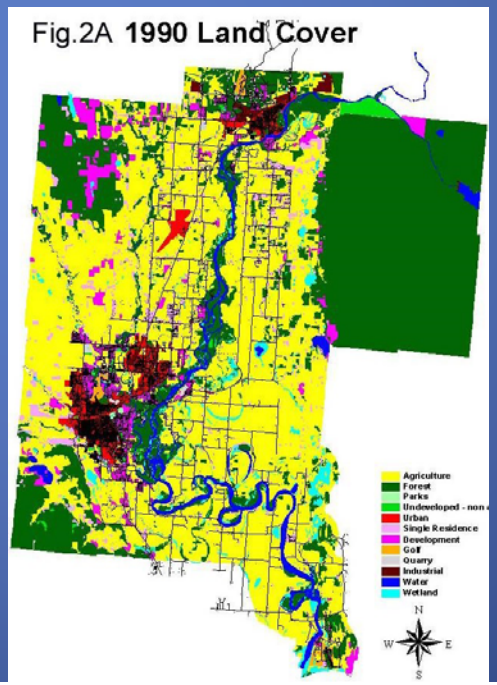
- Maps of critical areas and resources
- Research studies
- Interviews with professionals

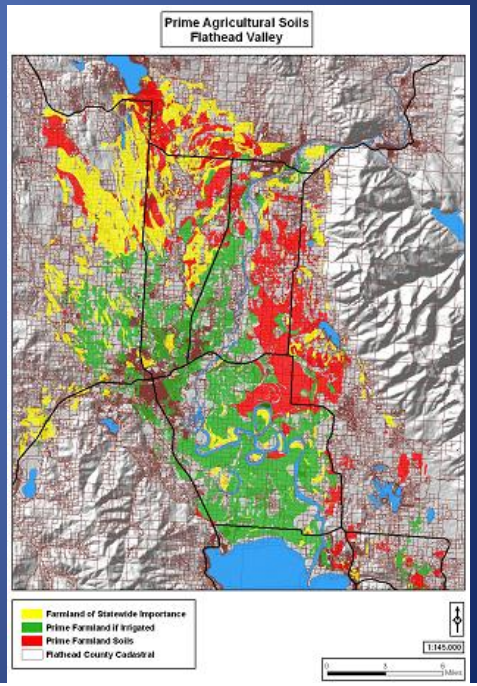






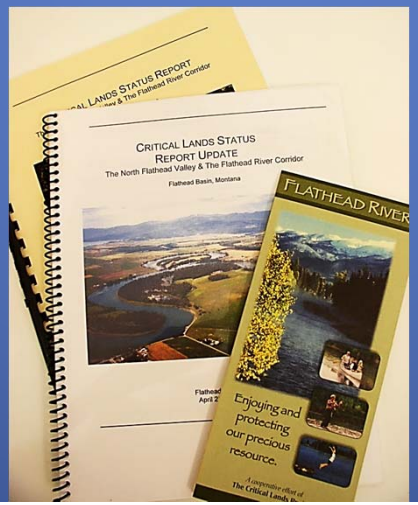


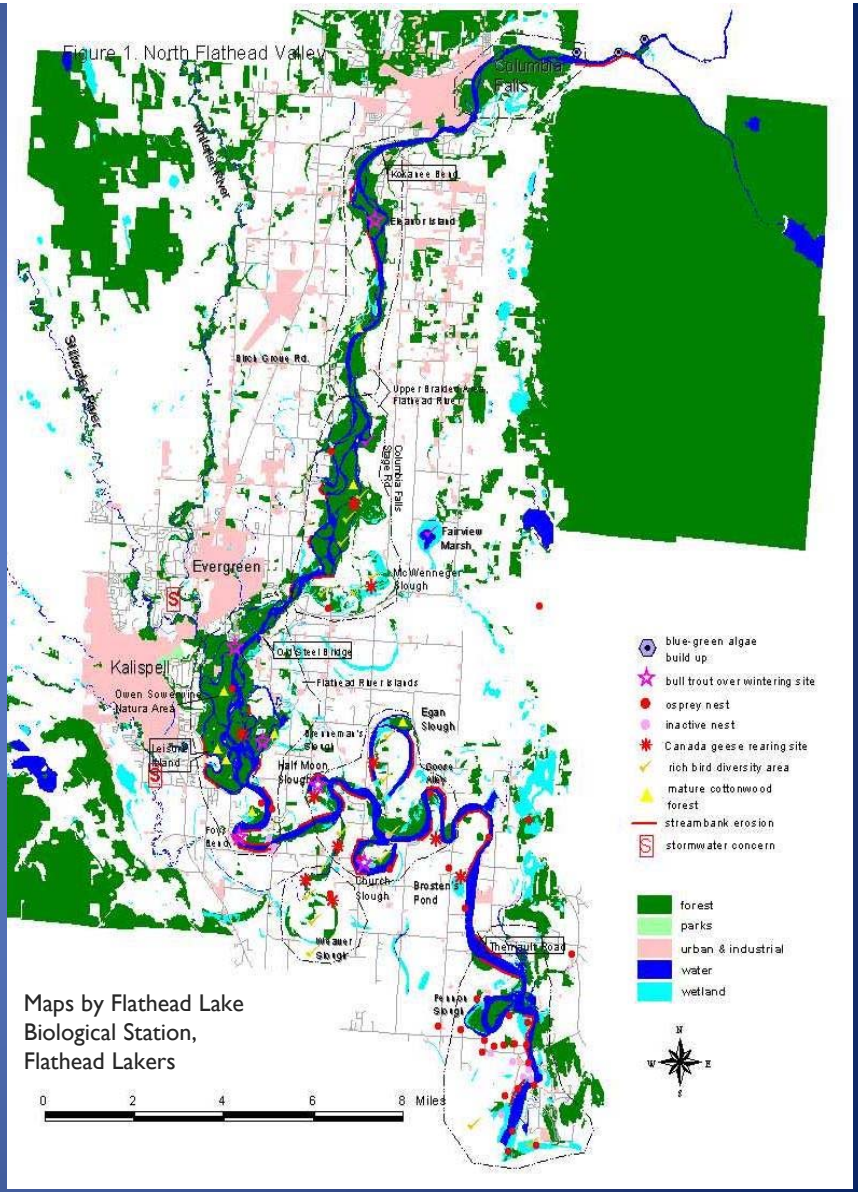




Critical Lands Identification

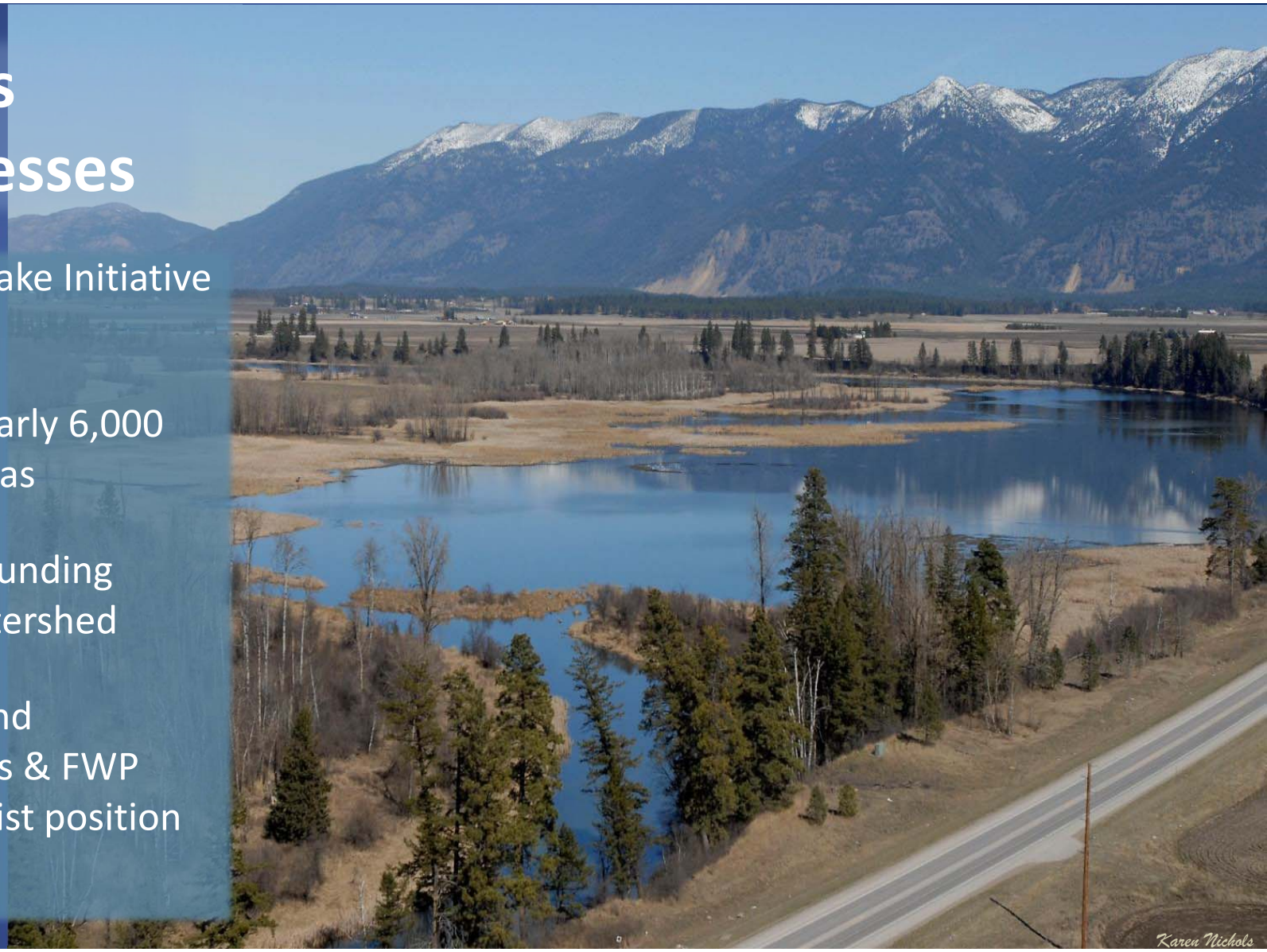
- wetlands and sloughs
- riparian areas
- floodplains
- shallow aquifer
- overwintering bull trout
- rich bird diversity
- osprey / bald eagle nests
- erosion





Critical Lands Project Successes

- Flathead River to Lake Initiative partnerships
- conservation of nearly 6,000 acres of critical areas
- over 20 million in funding invested in the watershed
- riparian and wetland restoration projects & FWP Restoration Ecologist position

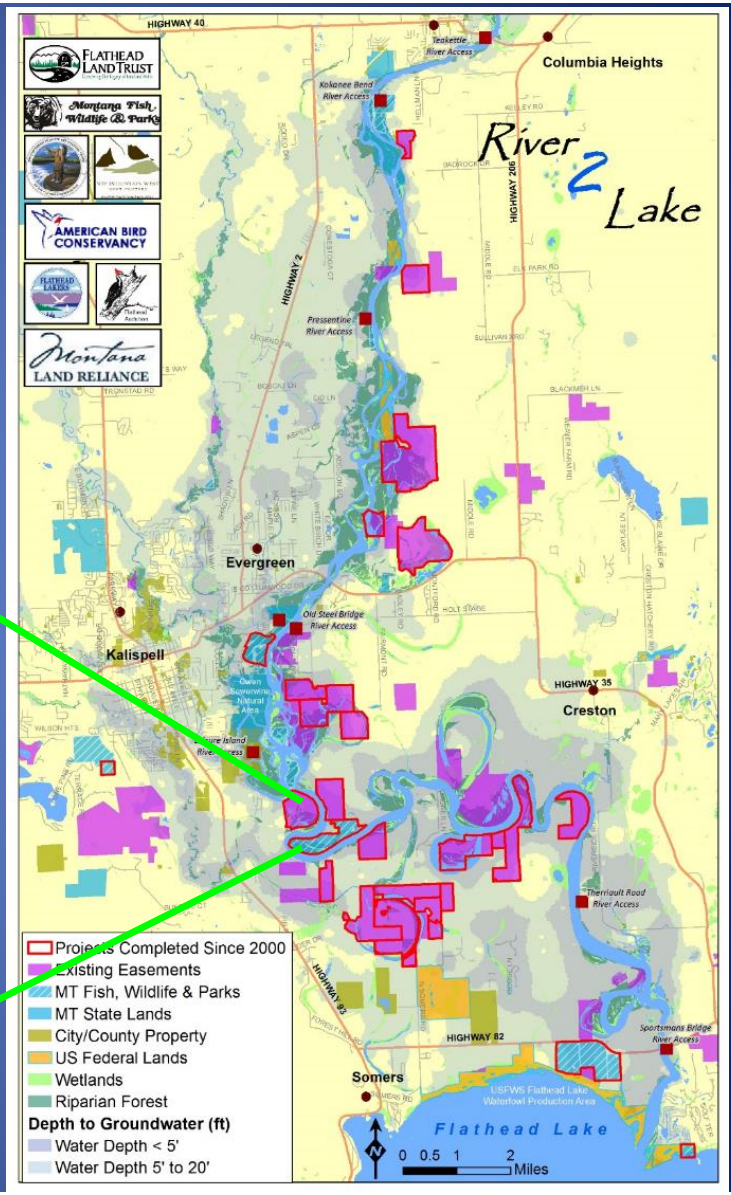


Seabaugh, Foys Bend

103 wetland acres and 133 farm land acres

Foys Bend

245 acres, 42 wetland acres, and 2 miles of river

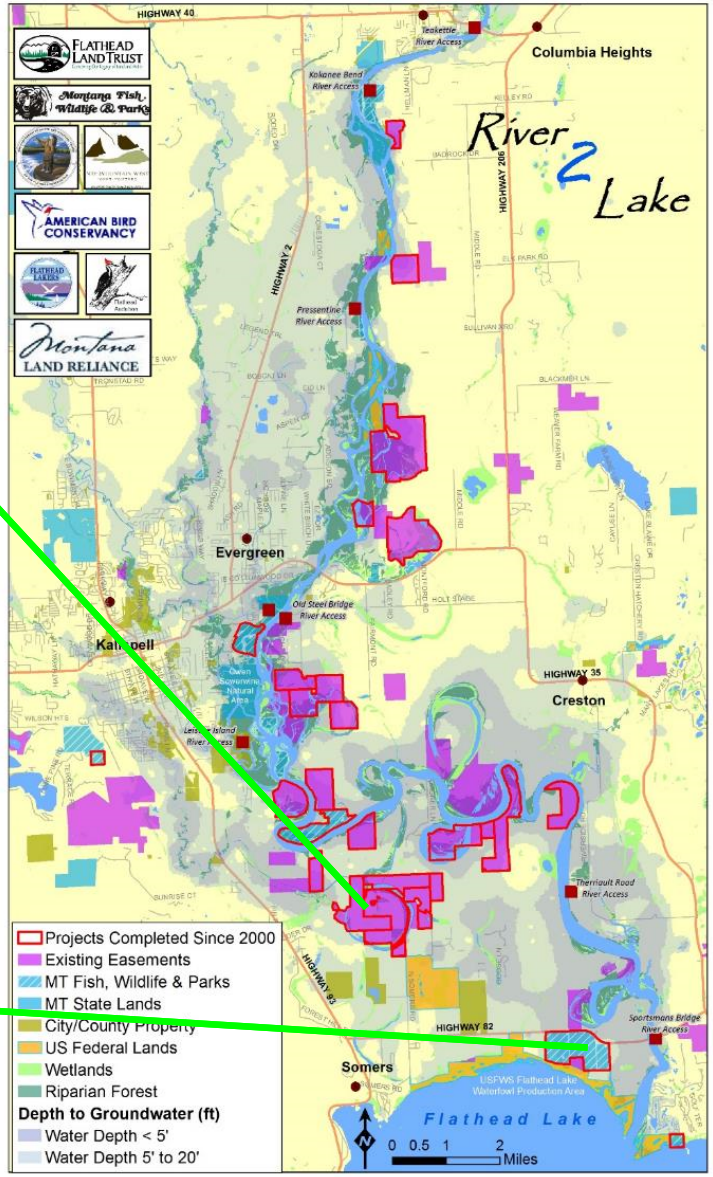


Weaver Slough

220 wetland acres and 725 farmland acres

FWP North Shore State Park WMA

427 acres – 60 wetland acres, seasonally flooded meadows, 359 acres of prime farm soils, +

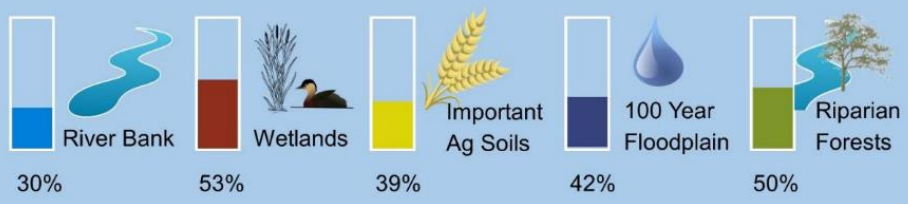


Flathead River to Lake
Measures of Success Analysis

HOW ARE WE DOING?

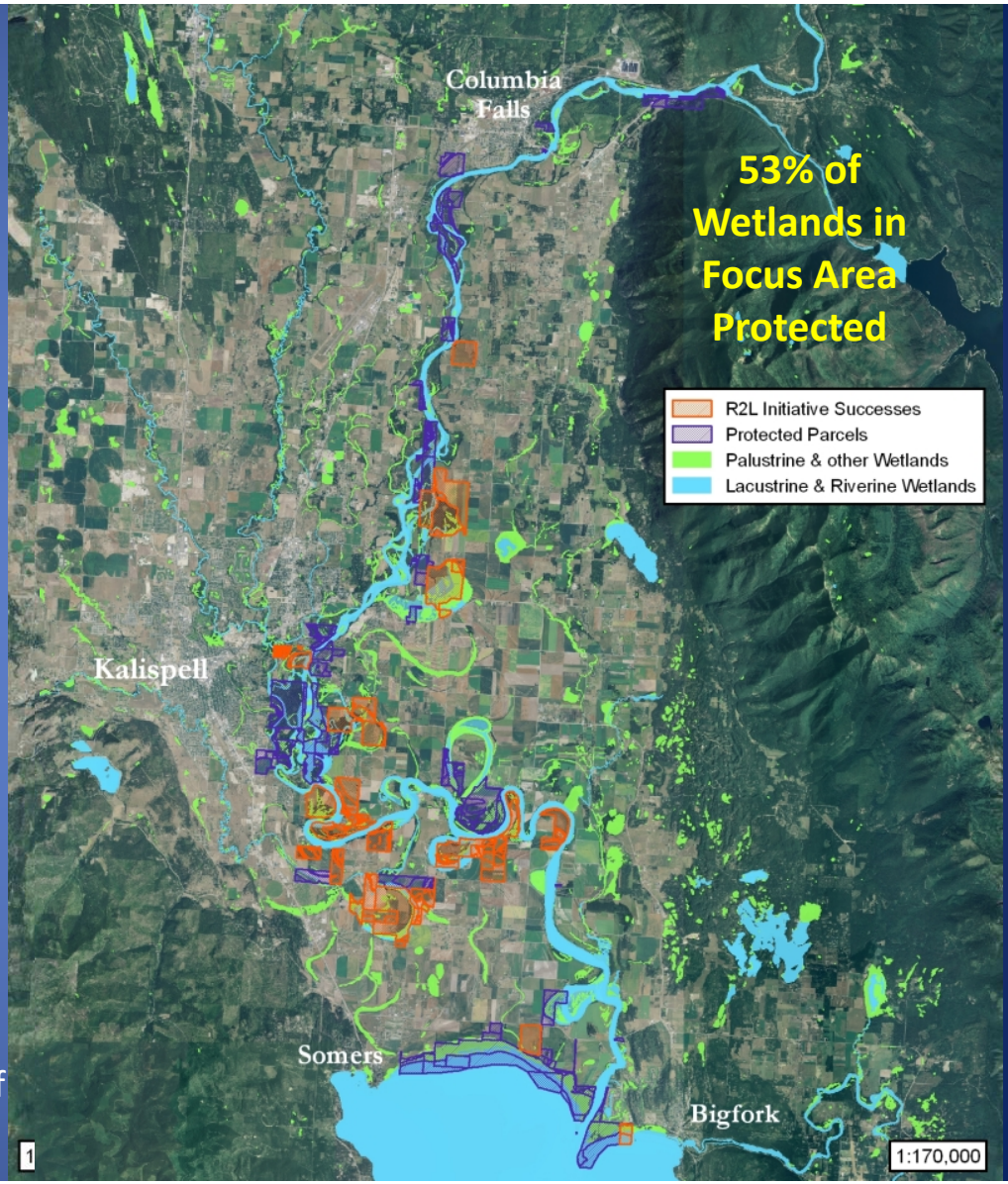
R2L cover a lot of territory. It includes 43.5 miles and nearly 25,000 acres. Over 11,000 acres are now permanently protected, with more than half of that through private land conservation.

PERCENT OF RESOURCES PROTECTED IN FOCUS AREA



Assessment by the Flathead Land Trust and American Bird Conservancy, 2011 (percentages updated in 2018).

Focus Area: Flathead River 100-yr floodplain and north shore of Flathead Lake (36 sq. miles)



Flathead River Conservation Project

Flathead River Conservation Project Fundraiser

Solstice Party

Kayak & Pontoon boat trip

Donations

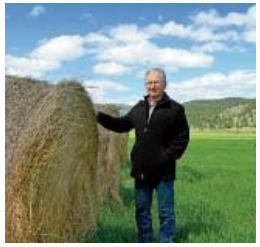
River to Lake Conservation Fund

www.flatheadrivertolake.org

$66,000 / over 570,000 secured

River2Lake Initiative

American Bird Conservancy
Confederated Salish & Kootenai Tribes
Flathead River Commission
Flathead Conservation District
Flathead Lake Biological Station
Flathead Land Trust
Flathead Audubon Chapter
Flathead Lakers
Montana Land Reliance
Montana Fish, Wildlife & Parks
Natural Resources Conservation Service
U.S. Fish and Wildlife Service
Intermountain West Joint Venture
LANDOWNERS



Conservation & Restoration Project Funding

Landowners donation and match

Donated conservation easements, bargain sale, in-kind

Wetland Protection Funding

- USFWS North American Wetlands Act grant (NAWCA)
- FWP Montana Migratory Bird Stamp grant

Fisheries Mitigation Funding

- Bonneville Power Administration Hungry Horse Dam Mitigation Funding

Farmland Protection Funding

- USDA Agricultural Conservation Easement Program (ALE /FRPP)
- Montana Agricultural Heritage Program

Restoration Funding

- NRCS Environmental Quality Improvement Program (EQIP)
- MT Fish, Wildlife and Parks Wildlife Program & BPA Mitigation
- Department of Environmental Quality 319 Grants
- Intermountain West Joint Venture

Join Us
Get involved

Flathead Lakers

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