

Summary of December 12, 2002 Montana Wetland Council Meeting

Focus on Artificial Ponds.

About 50 individual attended.

Presentations from 8 different perspectives on artificial ponds.

Speakers were asked to address the following questions and comments:

Many resource professionals note that man-made ponds seem to be increasing in Montana.

Where is this occurring and how many?

What resource trade-offs are being made when artificial ponds are developed?

What are the current permitting requirements and are they effective?

Are there certain pond designs and landscape placements that are benign and others that cause impacts?

Who's choosing to build artificial ponds and why?

What is the difference between a pond and a wetland?

1. Wetlands/waterfowl

Tom Hinz, DFWP Waterfowl/Wetland Biologist

Showcased ponds around Bozeman

Reservoirs if not maintained can cause allot of erosion.

Some are built to float a boat.

Sewage appears to be in one pond.

(pc for support staff quit at this point, so missed most of this presentation)

2. Fisheries

Pat Byorth, DFWP Fisheries Biologist.

Monitors and manages population in area and stocking regulations.

Habitat is the key to protecting the trout.

Montana is the wild trout fish state.

Nature builds a better fishery than humans can in a hatchery.

Hatchery fish are important but not used when not needed.

Montana has some of the most stringent regulations of hatchery's in the nation.

Why are we worried about ponds?

Ponds are proliferating at a rapid rate.

The private pond license is increasing.

They can stock a pond as long as it is from a regulated source.

We can govern the type of fish.

Can regulate to see that fish don't escape into surrounding water.

310 law.

On stream ponds are rarely permitted.

Clean water act (Section 404) permitting,

Date base. Accounting of ponds.

It's a database of people that have legally applied for pond permit and stocked with fish.

Montana is divided into 7 regions.

Great Falls has the most (Over 30%)

Benefits of private fish ponds:

Aesthetics

- Enhance property values
- Easy fishing for young, inexperienced anglers.
- Disperse fishing pressure
- Wildlife values- occasional roosting foraging

Limiting factors:

- Bucket of water with holes.
- Need to fix the bottom leak first.
- FW&P build ponds.

There are benefits but need to decide on a case-by-case basis,
Some are beneficial, some are neutral, some are negative.

What's wrong with ponds?

- Water quality and quantity.
- Interrupt sediment transport.
- Interrupt runoff and groundwater , dewater streams, lower groundwater.
- Nutrient loading (eutrophication, fish feed)
- Thermal pollution
- Create physical and ecological migration barriers.
- Restrict movement of wildlife and amphibians.

People come in and say there pond has turned into green soup. Fish food is ground up fish and contains nitrates and elements that turn it green and soupy, impact water quality.

Ponds on golf courses contain fertilizer and weed killer and disrupt the ecosystem.

What's wrong with ponds?

- Introduction of non-native and nuisance species.
- Whirling disease, New Zealand Mudsnails
- Genetic contamination – wct
- Interference, competition with wild fish
- Pond owners abhor a vacuum
- Yellow perch, Bluegill, bass
- Stock forage fish- flathead chub

Case study: Schrank et al.

copiea 2001 (20 413-421)

TOPEKA SHINER declined in Kansas stream, attributed to ponds by:
providing source for non-native predatory fish

Is there a good pond?

Maximizes wetland “littoral zone” with emergent wetland species.

deep well, or groundwater where abundant

screened low maintenance outlet draws from hypolimnetic cool water at depth doesn't discharge into stream.

not in 100 year flood plain.

3. Amphibians

Bryce Maxell, PhD candidate, amphibian biologist/ecologist/researcher
(presented by Lynda Saul)

Proliferation of Fish Ponds:

Concerns with Regards to Amphibians and Aquatic Reptiles and Suggestions for Mitigation of Impacts.

Herpetological Declines: Example: Northern Leopard Frog in Montana (Shown on map)
48% of Montana's 29 native species are State Species of Concern.

Concerns Related to Proliferation of Fish Ponds

- Creation can result in direct or functional loss of existing native breeding, foraging, or over wintering habitat.
- Fish ponds support and connect exotic aquatic predator populations
- Exotic aquatic vertebrates are a potential vector for diseases/pathogens (e.g., fungal and viral pathogens)

Exotic Aquatic Predators Typical of Fish Ponds In Montana:

- Bullfrog
- Largemouth Bass
- Pumpkinseed
- Rainbow Trout

Habitat use Example for Native Columbia Spotted Frog: They need a breeding ground, wintering area, and Foraging area.

Montana Species Most Likely to be Impacted:

- Long Toed Salamander
- Pacific Treefrog
- Boreal Chorus Frog
- Tiger Salamander
- Columbia Spotted Frog
- Northern Leopard Frog

Characteristics Typical of Excavated Fish Ponds Versus these Providing Habitat for native Amphibians

Fish Pond:

- Cup or bowl shaped I profile
- Steep sides without shallows
- Aquatic veg – little emergent veg
- Almost always permanent
- Structurally only provides over wintering habitat for natives
- Provides breeding, foraging, and over wintering for bullfrogs and support fish

Native Amphibian Pond:

- Saucer shaped in profile.
- Extensive shallows
- Lots of emergent veg
- Permanent or temporary
- Provide breeding, foraging, and sometimes over wintering habitat for natives.

- Provides bullfrog foraging only and do not typically support fish

Recommendations:

- Encourage creation of habitat that will support native species (from insects to amphibians to birds). Many people will chose to create habitat that supports natives for the viewing enjoyment of people of all ages and interests.
- Give permit applicants and consulting biologists/engineers pamphlets on potential impacts to native species and mitigation options.
- If a fish pond is the definitive goal then consider the following mitigation actions.
 - Create a second pond solely for native species. The structure and hydroperiod of the pond would be dependent on the surrounding landscape (e.g., only an ephemeral breeding/foraging site is needed for Columbia spotted frogs if there is nearby permanent water for over wintering).
 - Create a fish pond with a portion of the pond (a large arm on the northwest corner would be best) containing a large shallow shelf with extensive amounts of emergent vegetation. A mechanical barrier, such as woody debris, could be used to separate the area with emergent vegetation from the area with open water to reduce access by fish predators.
 - Do not introduce bullfrogs.

Let people know what there options are.

4. Water Rights

Curt Martin, DNRC Water Rights Bureau Chief

Water supply and water rights issues.

DNRC, People desired ponds.

Two-prong test weather a person needs a water right.

The water has to be put to a beneficial use.

Water use permit, can be difficult, must prove that water is beneficial and virtually available and it will not affect the water body.

Some areas are closed to permits.

Have to prove that fish pond is not consumptive of water.

If pond is going into a water right area then a trade can be made to create the pond.

Loop holes.

Some ponds don't require water rights.

To drain a swamp, or water treatment or settling pond.

For pond developer there are a lot of regulations, its impossible to determine the amount of water needed for the use in the pond.

They couldn't quantify the amount of water needed for the pond and permit was denied.

What are the benefits? Can't deny a permit because fish won't over winter.

Water rights are not a good way to regulate these ponds.

Adopted standards in their turnover regulations.

Need to push applicant to justify there flow rates and volumes.

Beneficial use, they only need to show that it benefits them.

Has been an effort to establish waterfowl ponds in the eastern part of the state.

Trout ponds, most have been in the bitterroot, Gallatin and upper Yellowstone.

Water rights perspective is to protect existing water rights.
No individual pond is a problem but the cumulative effect may be significant.
37000 acre-feet lost through evaporation. Not much compared to irrigation. The burden of proof that the applicant won't affect the existing water right is on the applicant.

5. Dam Safety

Michele Lemieux, Geotechnical Engineer DNRC Dam Safety program

Construction of small earthen dams.

Issues, Concerns, Solutions.

Showed pictures and described a situation where:

Onstream pond, small drainage, non-consumptive water right.

Built for recreation and fish

26 acre foot capacity.

ranch ¼ mile downstream

If dam fails, it will flood the house.

Homeowner filled a complaint about not getting water he had a right too and the danger factor of dam.

Below dam is man made wetland.

Seepage was on downstream face of the dam,

Would topple in a ten-year storm event.

Oversized outlet caused problem for supplying water right down stream.

State could take action if either of these two could occur:

- 1) Imminent failure
- 2) Potential loss of life/property

What were the costs?

- Hire engineer
- Dam repair
- Inadequate fishery
- Hire custodian to make releases
- Bad relations with neighbors
- State
- Liability

Who is at fault?

- Owner??
- Contractor??
- State??

If the dam were to fail, who would be at fault?

Probably all of the above.

Solutions?

Require engineer? Maybe unfair to agriculture community.

Education and outreach plan.

“Construction of Small Earthen embankments”

A guide for contractors, dam owners and others.

- Not design manual: reference NRCS POND 378
- Practical information and guidelines.
- Do's and Don'ts
- When an engineer is necessary
- Liability
- Info to prevent costly mistakes

Guide Contents:

- Site Preparation
- Embankment Construction
- Spillway/Hydrology
- Gates and Outlets
- Site Reclamation
- Liability

Target Audience:

- Contractors
- Dam Owners
- Local Government

Development and Distribution Plan:

- DNRC committee of engineers will do 1st draft.
- DNRC/NRCS will do 2nd draft
- Then will be reviewed by contractor and private engineers
- Final document will be created.
- Funding will need to be located
- Will then go to publication
- Distribute to:
 - Contractors Association
 - Water Rights Applicants
 - Conservation Districts
 - Local NRCS offices

5. Farm and Ranch Real Estate

Bill McDavid, Hall and Hall, Inc.

(unable to attend, submitted letter read by Lynda Saul)

Quality fishing is the most sought after attraction on these ranches.

New owners are interested in conservation.

75% eventually build a pond.

Most are unaware of the risks this maybe to the native ecology.

How do we educate these people?

Buyer could be educated if broker is prepared.

Fish and esthetics.

Water Resource Consultant

Scott Gillilan, Gillilan Associates.

Proliferation of fish ponds

“I find I am routinely confronted by a prejudice within government permitting agencies regarding constructed trout ponds, lakes, and wetlands.” (social)

“I don’t want my legacy to be a sorry history of permitted ponds contributing to the decline of Montana fisheries.” (biological)

“There is a zealous anti-pond contingent who don’t believe fish, wildlife and recreation is a beneficial use of water under Montana Law.”(legal)

“You can get a wetland guy out here and they’ll tell you this is amazing, but I’m a fisheries biologist and I don’t care about your ducks. (biological)

True confessions of a recreational Pond user:

“This year I swam in, ice skated on, picnicked at, bird-watched over, walked around, floated on, threw rocks in and caught a HUGE rainbow in a manmade pond or reservoir,”

Is it a pond or a wetland?

All ponds are wetlands by definition.

Some ponds have more and diverse wetland habitat than others.

Is it still a wetland if trout are added?

Waterfowl, amphibians, trout, wildlife may all have different needs, but frequently co-exist in the strangest of places.

Pond Types:

- Stock water
- Treatment
- Detention
- Recreational
- Landscape
- Gravel Pit
- Reservoir
- Trout/Wetland
- Golf Course
- Fire Suppression
- Oxbow
- Seasonal Depressional
- Beaver
- Lakes

Good Ponds/Wetlands:

Are productive wetland and open water habitat.

Mitigate for lost natural pond/wetland.

Provide recreational experiences and pleasure.

Do not degrade the environment.

Are Legal and fully permitted.

Good ponds are recreation and wildlife magnets.

Bad Ponds:

Illegally stock, use or divert water.

Provide little habitat beyond open water.

Discharge excessive nutrients, chemicals, bad biota, warmed water, or toxins to receiving water.

Who builds Ponds/Wetlands?

- Landowners with water rights.
- Beavers
- Irrigators
- Industries
- Local Government
- Wildlife Groups
- Landscapers
- Developers
- Organizations and foundations
- Department of Transportation
- Federal Government

How many ponds are out there?

- Data---Has anyone counted?
- Landscape Scale—Compare new ponds/wetlands acreage to existing natural ponds/wetland acreage. Are we talking <1% or 10%?
- Pond Types—Fire ponds? Waterfowl ponds? Trout Ponds? Stock water? Irrigation?

Are Beaver ponds bad ponds or good ponds?

Why So Many New Ponds/Wetlands?

- Changing priorities – some new landowners are raising wildlife and wetland plants instead of or in addition to traditional crops.
- New Land (Real Estate) Values – shift from ag-based land valuations to recreational land valuations.
- Mitigation – conservation efforts include replacing lost wetlands throughout US.

Good Ponds Do Not Degrade:

- Thermal Issues: Cold water release spillways.
- Discharge Issues: minimized discharge, discharge to biofilters or as irrigation.
- Are not controlled with chemicals nor made eutrophic with confined animal use, overstocking of fish and feeding fish.
- Utilize legal diversion practices.

Showed a diagram of a cold-water release structure.

Good ponds are appropriately sited:

- Are not in the floodway.
- Do not require channel training to protect.
- Integrated into local habitat matrix.

Habitat can be by design:

- Have variable depths and contours.
- Vital emergent and submergent wetland fringes and upland buffer areas.
- Extensive edge habitat.
- Are ecologically balanced and productive.
- Support a broad spectrum of riparian, wetland, and aquatic flora and fauna.
- Good water quality.

Is it a Beneficial Use?

- MCA 85-2-102-2 “ Beneficial use”, unless otherwise provided, means: (a) a use of water for the benefit of the appropriator, including but not limited to agriculture (including stock ponds), domestic, fish and wildlife, industrial, irrigation, mining municipal, power and recreational uses.

Observations:

- Until the law changes, a water right can be used for ponds and wetlands.
- Is the problem so large new laws and regulation is necessary?
- No water rights holders will take kindly to restrictions on current legal uses, period.
- It about enforcement?

Pond Development is Already Regulated:

- No water right, no pond/wetland – DNRC
- No stocking permit, no fish – FWP
- Thermal/other WQ degradation – DEQ
- Fill in wetlands – COE
- Appropriate diversions – Conservation Districts

A pond/wetland builder satisfies these agencies regulations or has no project!

Do ponds waste water?

It's Relative!

- Does flood irrigation wastewater compared to pivots?
- Is irrigation a non-wasteful use of water and pond/wetland use a waste?

Hydrologic Perspective

- Every pond/wetland is different.
- Converting irrigation water rights to pond/wetland uses=more flows to creek.
- Unlined ponds/wetlands sited in floodplains can charge the local aquifer.
- Lined ponds/wetlands don't use much water.
- Any diversion that dries a creek up is bad.

Does a groundwater pond “use” more or less water than a flow through unlined pond?

Lined pond?

Ponds Spread Whirling Disease?

- Convincing data and analysis needed.
- Perspective: What is the percentage of created ponds and wetlands compared to the natural setting? Is this a significant percentage?

What is the largest single WQ issue in MT?

Based on your answer, how should new ponds/wetlands factor into state WQ priorities?

Recommendations:

- Keep up the dialogue and be respectful.
- Everyone: show data, quantify and qualify the problems.
- FWP: Distribute operative policies on ponds if different than regulations.
- DNRC: Scientifically justify calculation procedure for pond/wetland turnover for beneficial use.
- Don't play legal water user groups off against each other—it will backfire.
- Demand proof of non-consumptive use/regulate new applications.
- Demand non-degradation standards are enforced.
- Encourage good design.
- Hammer illegal pond stockers with full force of the law!

There are some heated discussions that take place.

Issues that, as a Consultant, he deals with:

Contractor pond, wetland ponds,

Feels we need to go after the so-called contractors ponds.

Proliferation of man made ponds.

Main culprit is golf courses.

Are beaver ponds good ponds or bad ponds?

Education/outreach

Karen Filipovich Montana Watercourse

How do we bring this information to people who are putting ponds on the land?

Facilitated Discussion

Marc Scow, DFWP led Council in a facilitated discussion

After Lunch:

Lynda Saul

Working on EPA wetland grant proposals. Submitted 6 proposals.

EPA will review and we should know by April or May

West Nile Virus

How to include wetland protection in this plan.

Needs input on how we can deal with this issue.

Permits in pesticide application for wetlands.

SWANCC decision.

Paul Hook

Research for at MSU

Sediments in streams - more vegetation will help slow.

Waste water, feedlots, if you can keep the water from freezing,
comparing re-vegetation techniques., bull rush, etc. seeding didn't work well.

Pete Shendal, EPA Region 8

Enforcement, projects around state, where people don't have permits.

Mussellshell and over by Missoula.

Another person working on compliance.

Tammy Crone

GLWQD

Classifying different wetlands

Tom

DNRC trust land

Sam Public drinking water section,

Jim Hansen

FWP Billings

Conservation in the eastern part of the state.

Tom Hazelwood

Department of ag signed off on proposal to develop a program to establish permanent native habitat and permanent wildlife habitat. Developing filter strips, riparian habitat, wetland restorations, climate habitat and species.

Private money to match this. Landowner gets a high rate of return for signing up for program.

Dennis Longknife

Over 130 species of plants collected since summer of 2000.

Secured funding for national weather maps for reservation.
Put in for funding to get final maps produced.
Five site for restoration on reservation have been identified.

Mike Durgaloo

New to program.
Wetlands.
Will research NWI inventory that has been done.

Larry Urban

DOT

Working with wetlands mitigation program.
Looking at new cost scale.
2.3 million in funding for Montana.
Talked about various projects that are on the plans for restoration.
Will have an executive summary this year.

Cory Baker

Satellite imagery to assist with identifying wetlands.
Note changes from last year and go to location and see if cause of change can be documented.
Looking for funding.

Tom Hinze

Wetlands legacy

New funding source for wetland mitigation.
Talked about various projects that are potential for funding in the future.
Working with DOT on Mussellshell.

Susurveyed Montana's and there opinions as to interest of conservation
asked if wetlands are important.
83 agreed that it is important to them.

Pat Byorth

Agency coordination

Karen filipovich

Looking for nominations on wetland conservation
Working on a planning guide for wetlands and reparian.
2 workshops
3 wetland stewardship workshops
new person, Michelle Lebow ?

Montana outdoors magazine had an article on Montana wetlands legacy program. Great article. September-October issue.

Next meeting agenda:

Amphibians (more on them)

Next meeting will be in May.

Put ponds back on agenda.

If guidelines are out there then we need to know those.

Strategy – get information out to people.

What is the problem?

Lynda will put it all together.

Set of problems that will be hard to define.

But some problems are very clear and ready to take action on.

Larry: Will look to other states for there policies on ponds and see if any of this info could benefit us.

Get grant proposal ideas to Lynda.