



Current MT FWP Protocols

- Annually inspect all commercial and government hatcheries
- Typically sample the effluent area
 - Fish health
 - All taxa includes
 plankton for microscopy





MT Hatchery Inspection Weaknesses

- Don't routinely sample inside facility
- Try to avoid entering the property
 - Biosecurity issues
- Intensity/purpose of hatchery inspection
- Limited control of inspections outside of MT







Case Study— New Zealand mudsnails 2019

 New Zealand mudsnails found in that hatchery

Track forward to Bitterroot
 Fish Hatchery – found snails

Chasing recipients of fish with

MT













Regional Issues

- No regional inspections
 SOP's
- No consistent inspections happening in some situations
- Cost of watercraft inspection vs hatchery inspections and pond inspections vs the risks

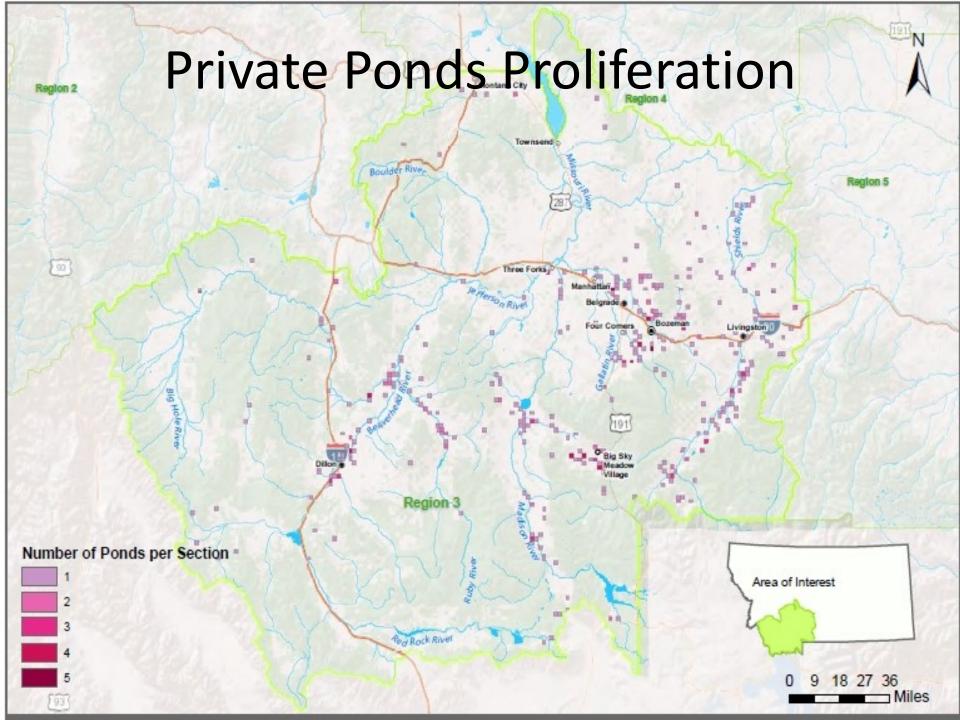




eDNA as a potential tool?

- Closed system
- Private facilities
- Develop clear response plan prior
- Additional tool along with normal inspections





Typical private pond





Private Hatchery Fish Supply

- Since 2014, 4 private hatcheries quarantined
 - Whirling Disease
 - Subsequently one 4 also tested positive for PKD.



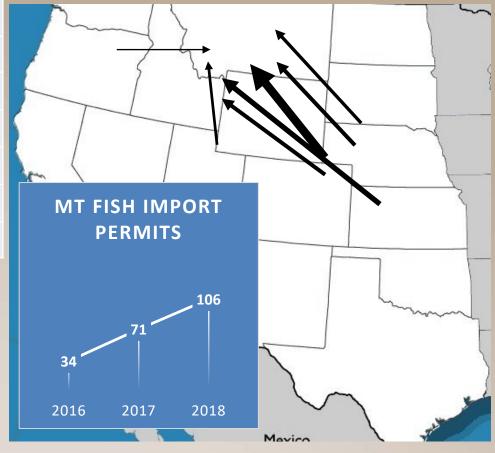
- 2 of 4 quarantined hatcheries closed
 - Cost to eliminate risks
 - Chose to not perform confirmatory testing for the parasite.
- Recent times only 6 private hatcheries in MT
- Extreme—and growing—demand for private fish

pond owners are going out of state

Montana Fish Import Permits

	2016	2017	2018
Cody, WY	28	53	70
Spearfish, SD	2	2	3
McCook, NE	0	6	14
Buffalo Gap, SD	4	8	1
Grace, ID	0	1	4
New Castle, WY	0	1	14
Total	34	71	106

 Few hatcheries out-ofstate that could get certified





Smiling Moose Ranch



By Ben Pierce Chronicle Outdoors Editor Apr 2, 2015



 Rank
 Trend

 1
 ↑³

 2
 ↓¹

 3

 4
 ↓²

 5

Photo courtesy Montana Fish, Wildlife & Parks Montana Fish, Wildlife & Parks employees use a gill net to capture illegally stocked fish at a fish pond on the Smiling Moose Ranch in the Madison Valley on Sept. 23, 2014.



Late last summer the Montana Department of Fish, Wildlife & Parks received a tip from an informant concerned about several fish ponds on the Smiling Moose Ranch in Madison Valley. FWP Fisheries Manager Travis Horton and former FWP Game Warden Ryan Gosse contacted the landowner, Jan Janura. Over the course of several months, an FWP investigation uncovered the illegal stocking of seven ponds on the ranch.



Review: Gaps & Issues

- Inspection inside facilities
- Standard SOP's across region
- Can eDNA serve a role?
- Limited fish supply in-state
- Importation from out-ofstate
- Private ponds driving imports



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