

DUCKS, FISH & TOADS

LARAMIE YOUTH COUNCIL

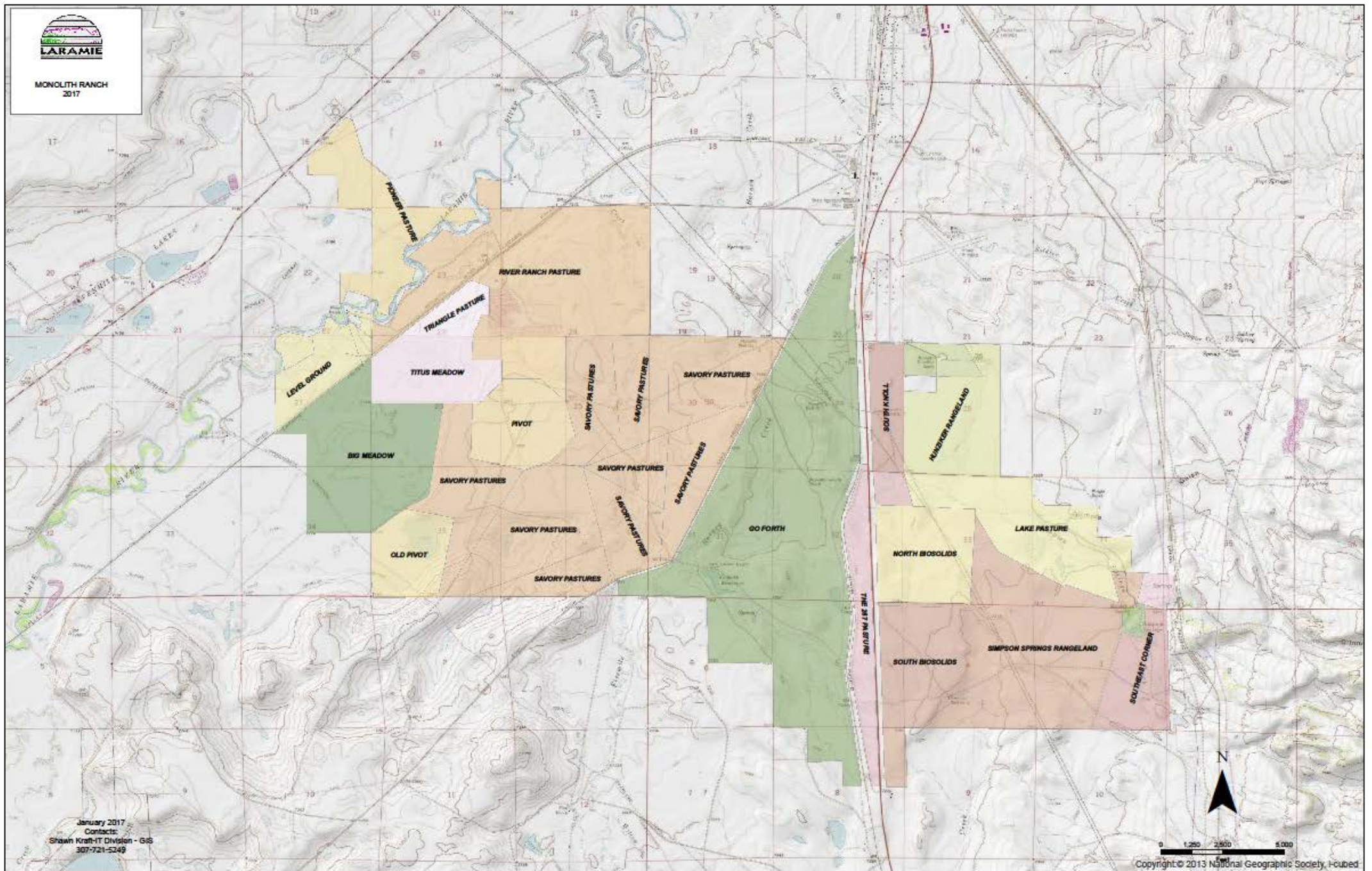
NOVEMBER 3, 2021



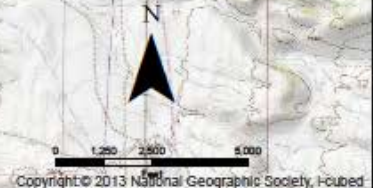
Darren Parkin
Natural Resources Manager



MONOLITH RANCH
2017

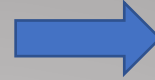


January 2017
Contacts:
Shawn Kraft-IT Division - GIS
307-721-5249





**New Alfalfa planted
under the end gun**



**Dowlin
headgates**



10/05/2019 11:30



**2019 Hay / Haylage
1,930 tons grass hay
and alfalfa
3,026 tons of haylage**



**Big Meadow flood
irrigation**



DUCKS



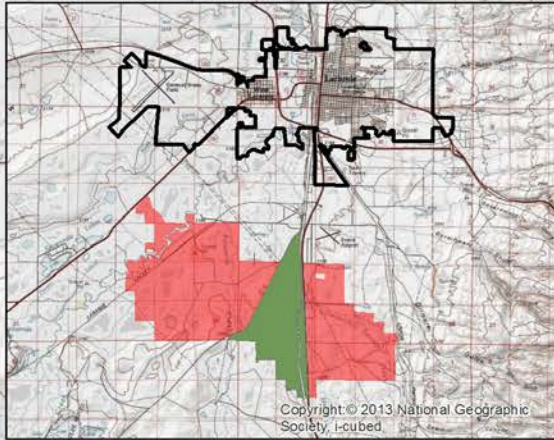
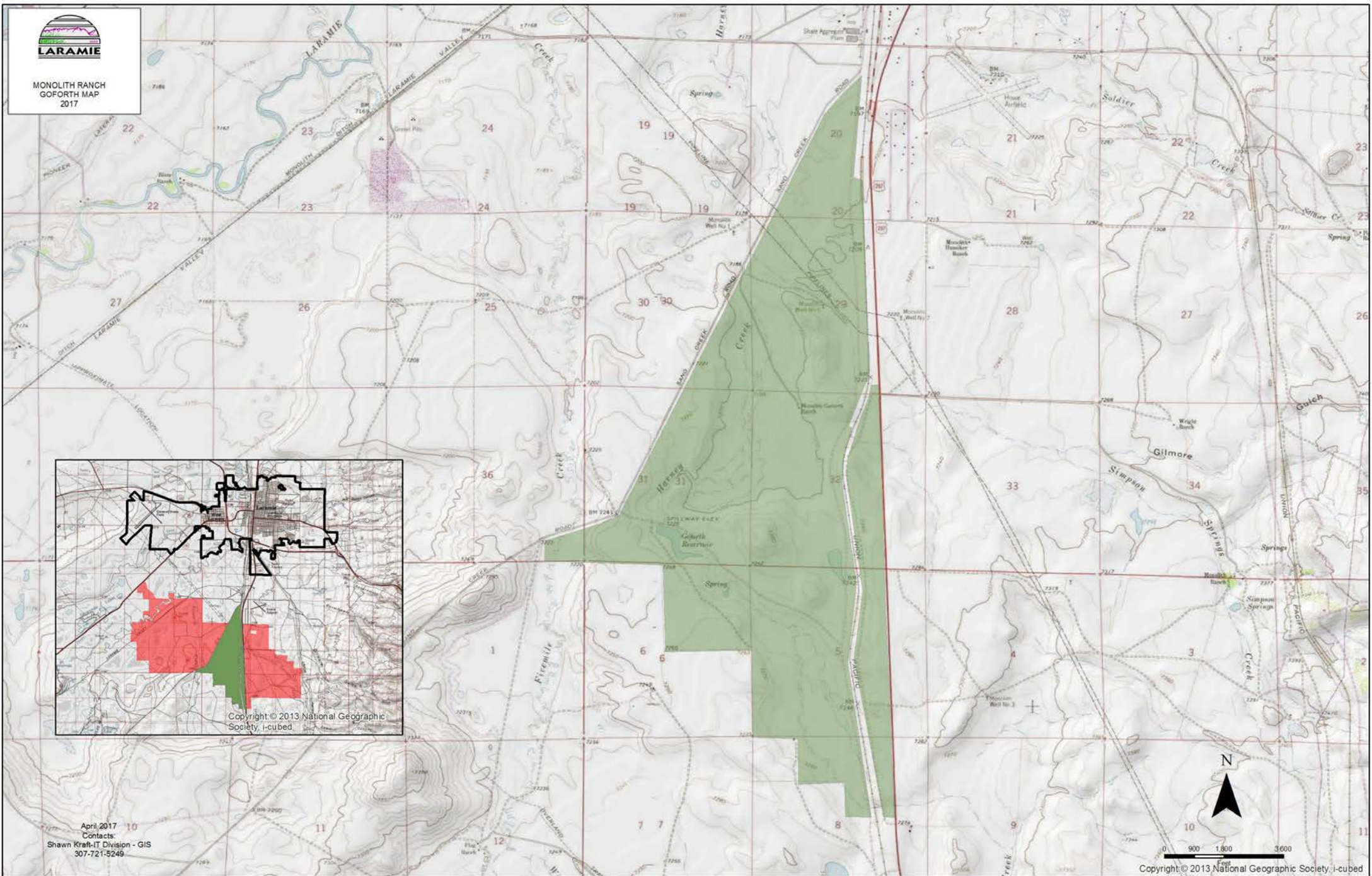
Goforth Project

- Improved both Forage and Habitat for Migratory Waterfowl
- Part of the 1,480 square mile Laramie Plains Wetlands Complex
- City provided \$30,000 (Resolution 2016-19) for project engineering design/grant match, DU was awarded \$342,000 in grants
 - NAWCA, WWNRT, WWDC, USFWS, TNC, LRCD
- Project Completed in 2020
- Active Monitoring by DU, USFWS & Laramie Audubon





MONOLITH RANCH
GOFORTH MAP
2017



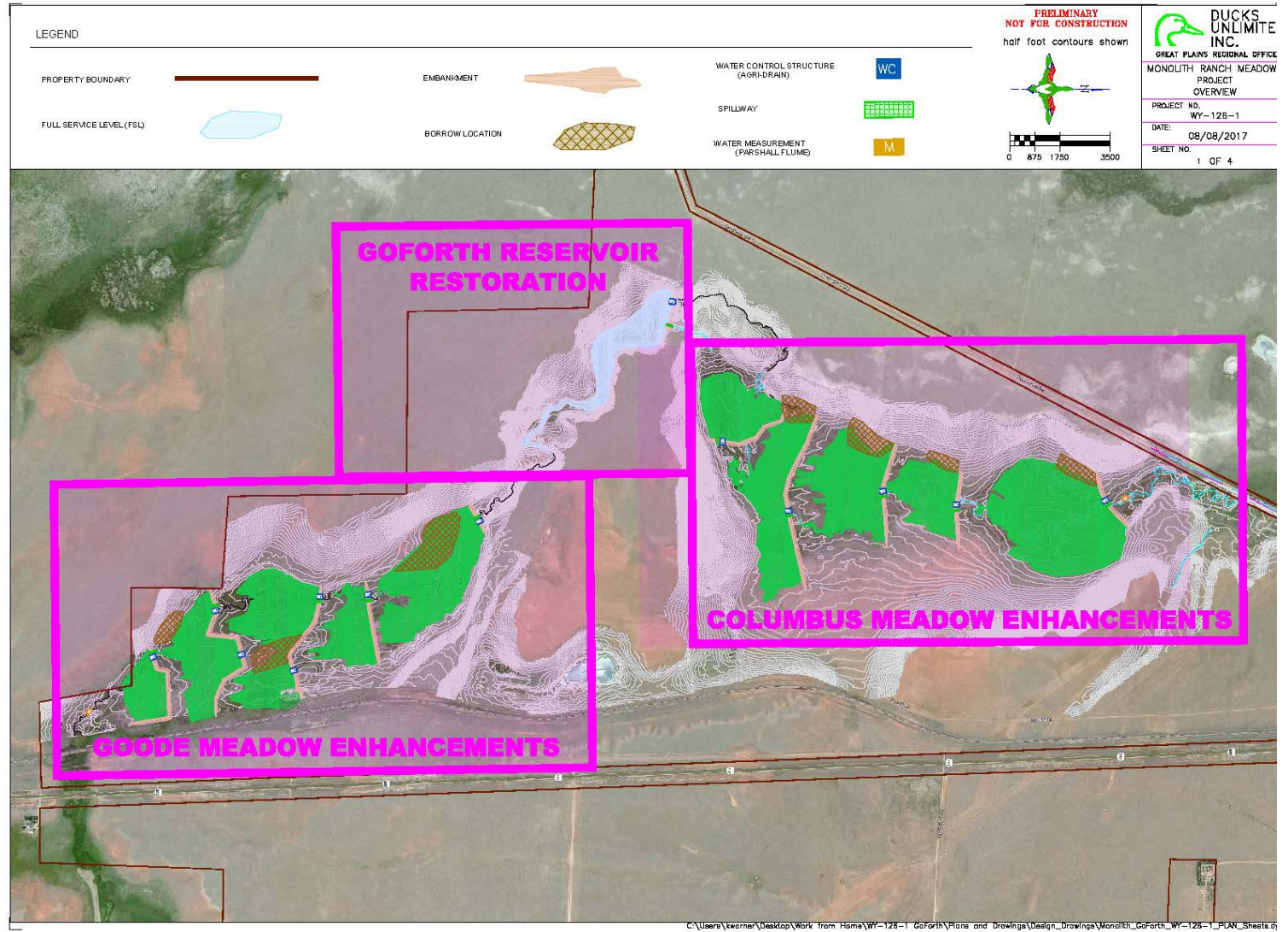
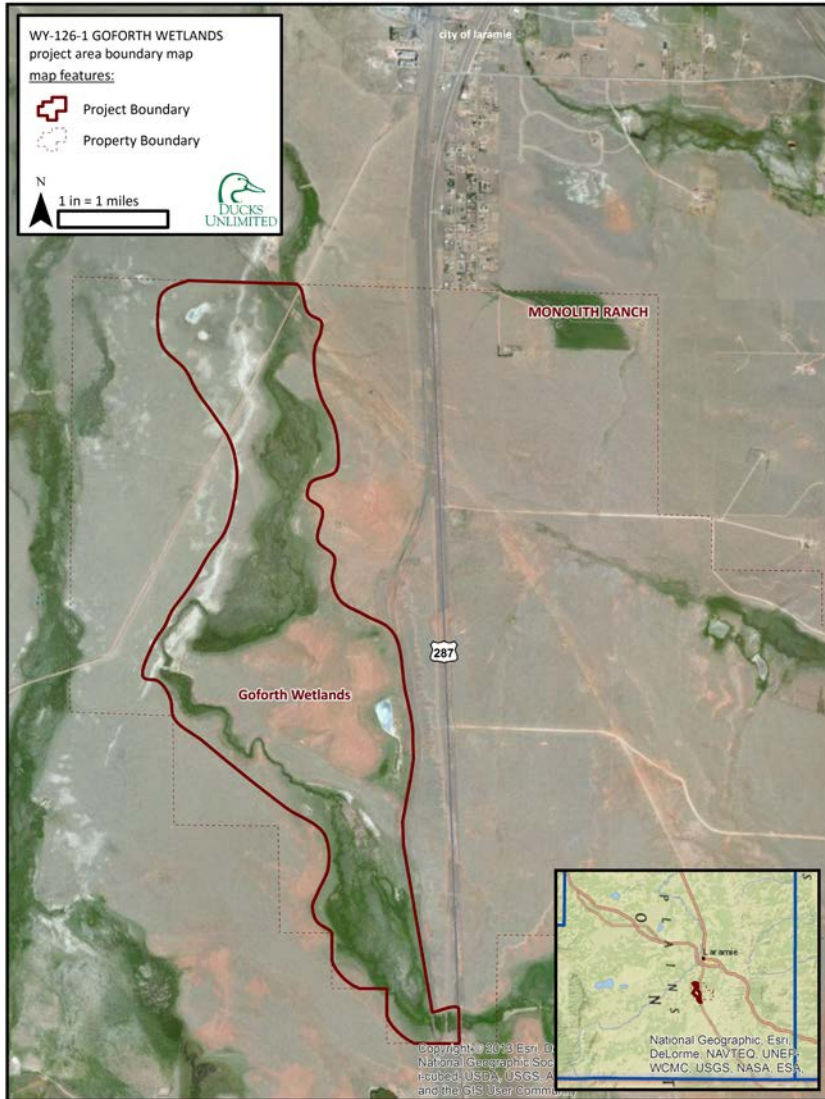
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April 2017
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Shawn Kraft-IT Division - GIS
307-721-5249



0 900 1,800 3,600
Feet

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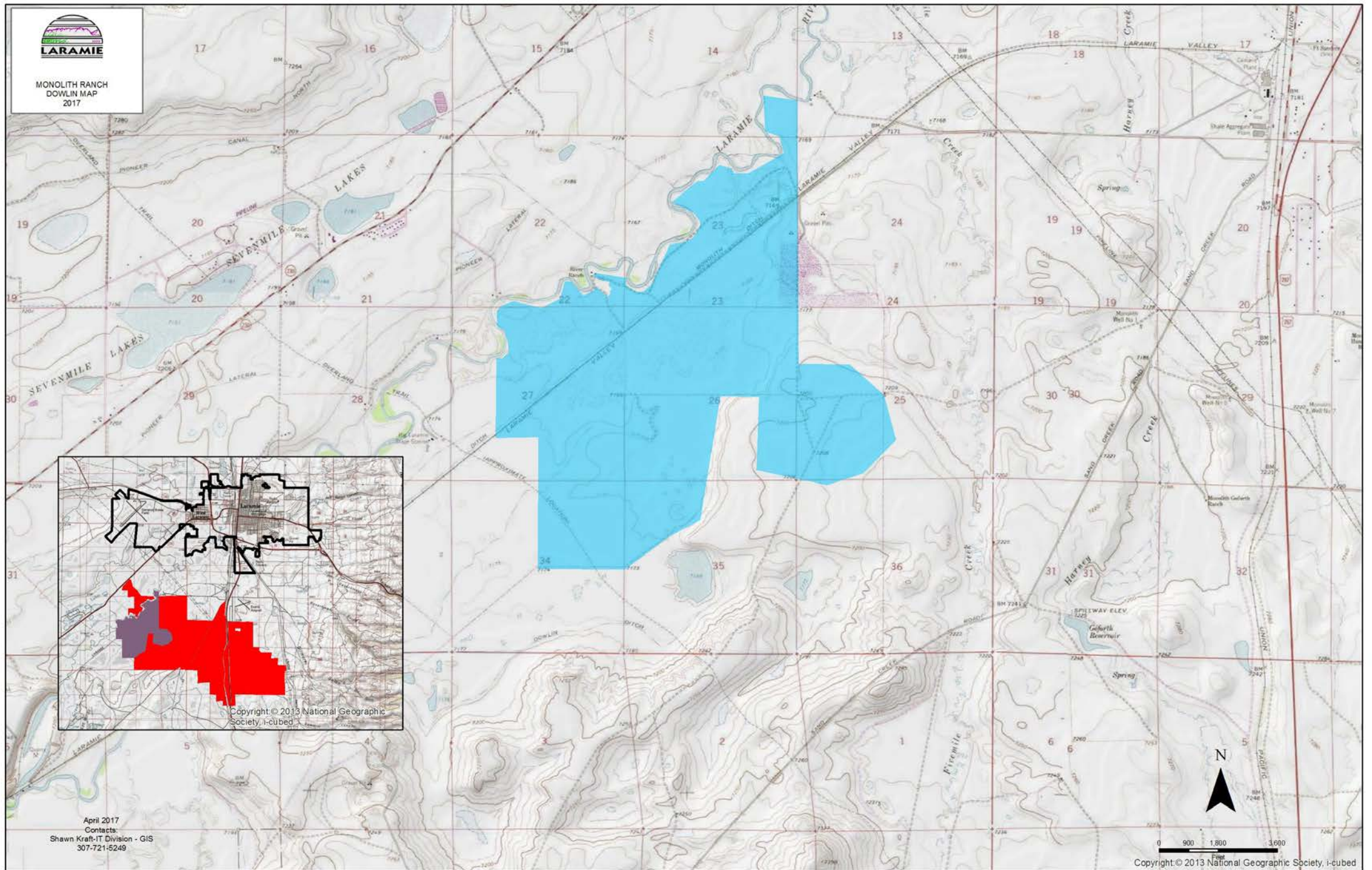


DOWLIN	5' Flume	Priority
City of Laramie	20.10	Pr. No.1 1868
Bath Land Co	10.5667	
Thayne McKinsey	1.81	
		Total Pr. No. 1 32.48 cfs
Thayne McKinsey	3.62	Pr. No. 63 10-22-1896 "Cole Bros. Water"
		Total Pr. No. 63 3.62 cfs
Total Pr. 1 + Pr. 63	36.10 cfs	





MONOLITH RANCH
DOWLIN MAP
2017



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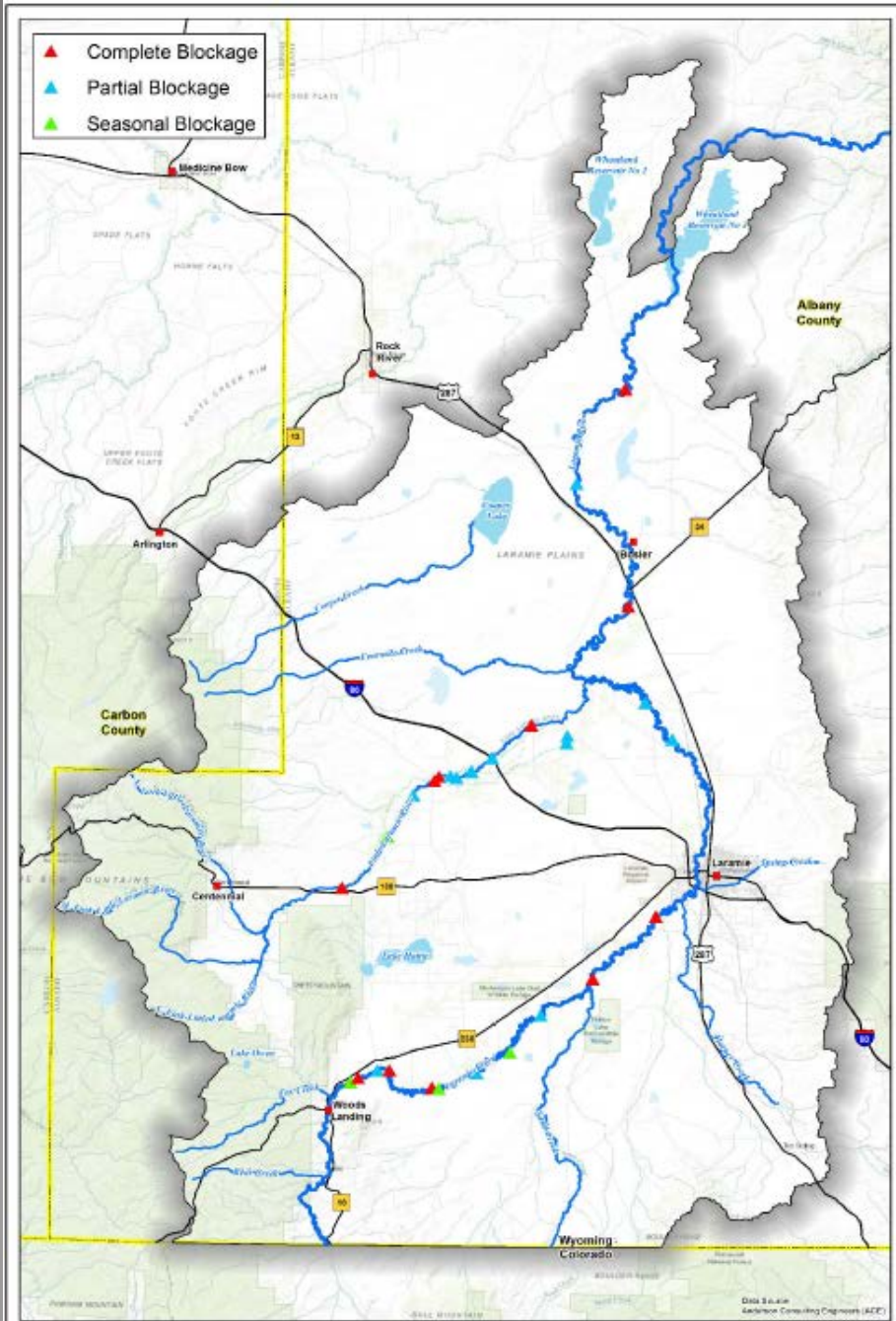
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Dowlin Ditch Diversion





Upper Laramie Watershed Study WWDC – 2016

- Dowlin Diversion Dam was defined as a “Complete Barrier” which means that “most or all fish cannot pass upstream during most or all flows”.
- The WGF ranked it as one of the two structures in the watershed of the highest concern.
- “Remediation, removal or replacement would be desirable”.



Figure 3.6-11 Upper Laramie River Watershed: Potential Fish Barriers

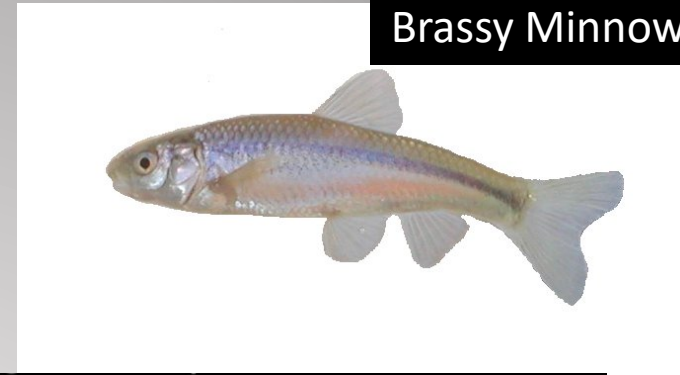
High Water Safety Concerns



Laramie River Fish Passage Species



Brown Trout



Brassy Minnow



Common Shiner



Iowa Darter


Laramie River Fish Species Continued

- Creek Chub
- Common Carp
- Fathead Minnow
- Johnny Darter
- Longnose Dace
- Longnose Sucker
- White Sucker
- Brook Trout*
- Rainbow Trout *

* *In low abundance*



Why Fish Passage?

- Current facility blocks upstream fish movement
 - Fish move to find new habitats to meet seasonal needs
 - Summer – low flow and warm temperatures -> move to seek refuge
 - Spawning movements -> move to spawning habitats
 - Winter – move to stable habitats and avoidance of predators
- 

Fish Passage at Irrigation Facilities



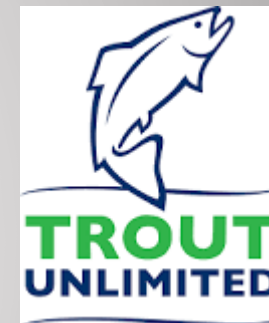
- Irrigation is primary objective
- Fish Passage is secondary
- Irrigation flows take priority...fish passage may not occur all year....that is ok!



Fish Passage Designs

Funding Scenario

- Funding Partners
 - WWNRT \$105k
 - USFWS \$35k
 - WGFD \$30k
 - LRCD \$5k
- \$750,000 Total Cost
 - \$500k WWDC Grant / \$250k Loan
- Level III Construction
Fall/Winter 2023



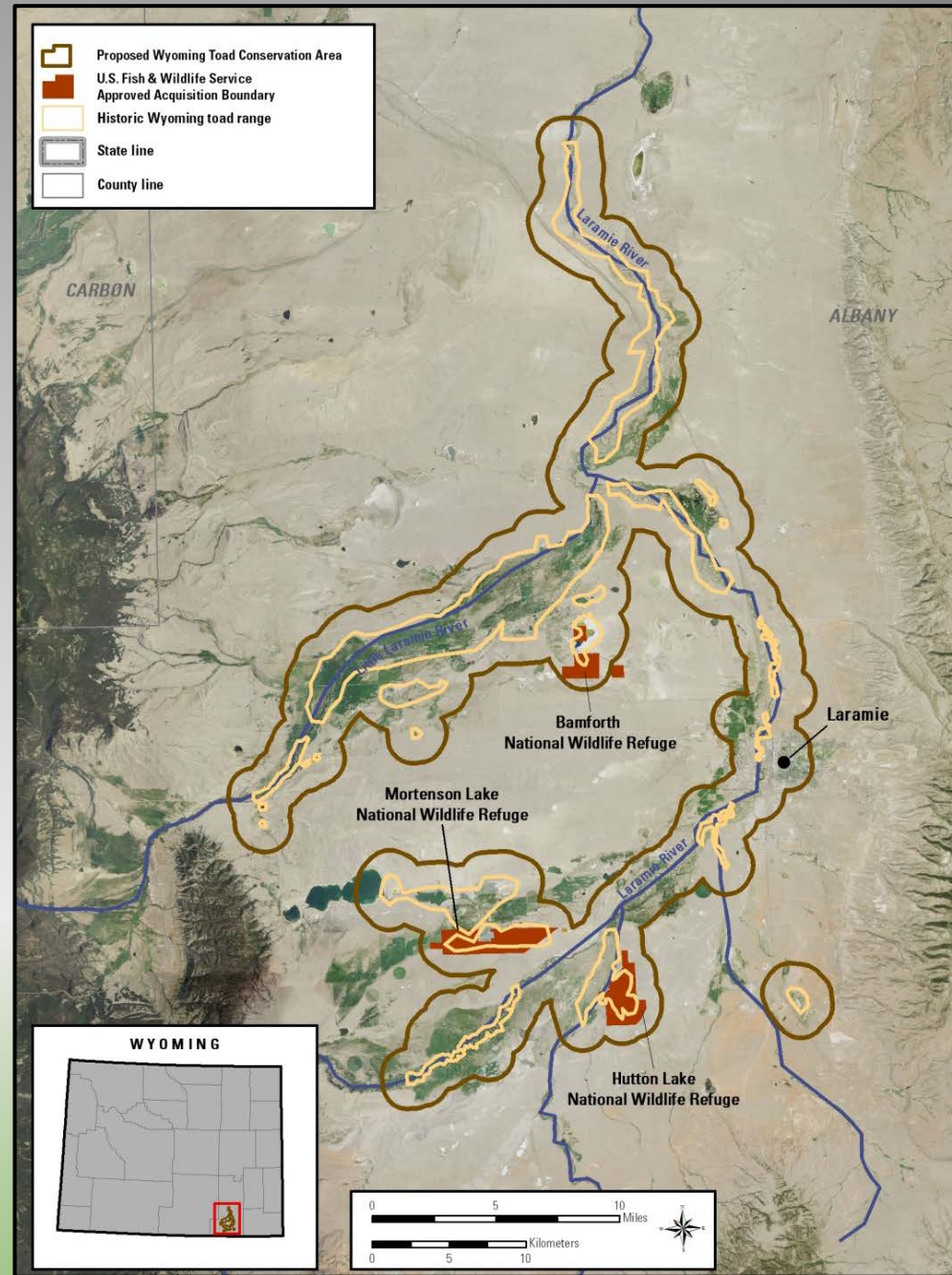
TOADS



Wyoming toad 2012 (Val Hornyak)

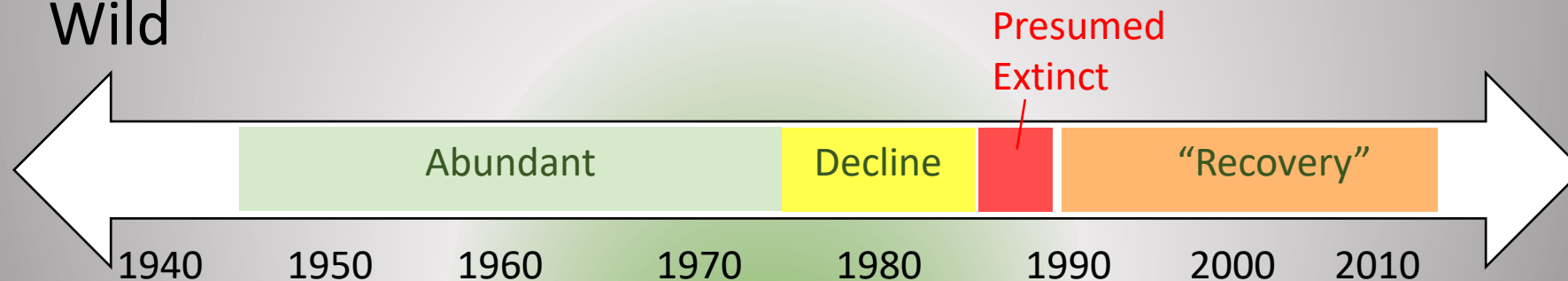
Wyoming Toad: Distribution

- Laramie's "Local" endangered species
- Entire global range within 30 miles of Laramie, Wyoming.



Conservation Timeline

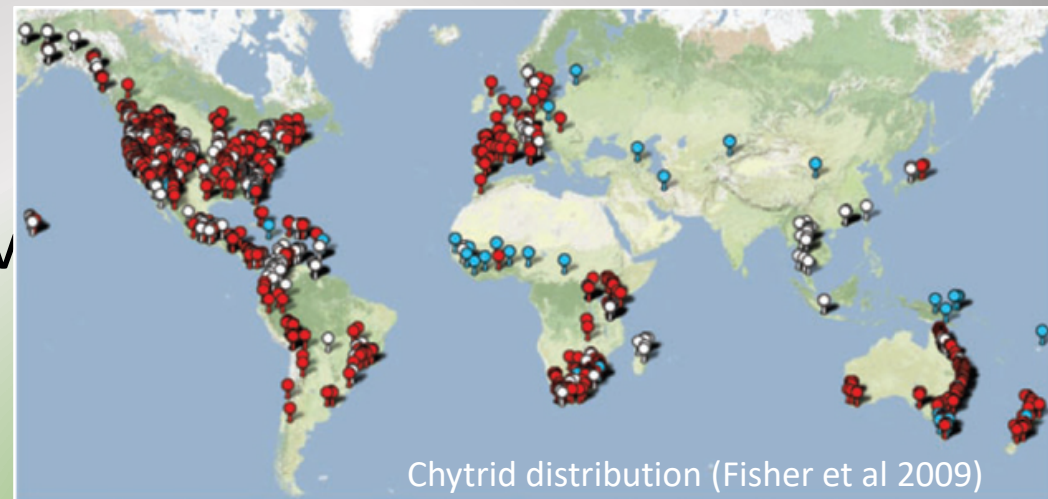
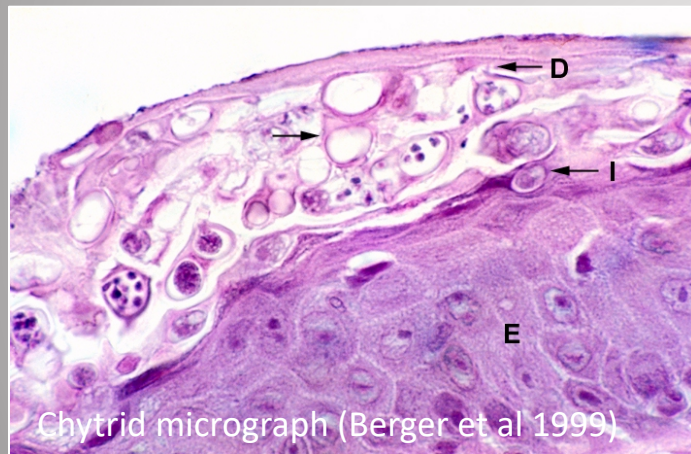
- 1960s – 70s: Abundant
- Late 1970s: Precipitous Decline
- 1984: Listed Endangered
- 1985: Presumed Extinct
- 1987: Rediscovered, Mortenson Lake
- 1988: Remaining 16 Toads captured; Presumed Extinct in Wild



Reason for Decline – Chytrid Fungus

1970's – 1980's

- Damages Keratin in the Toads Skin and Mouth, Disrupting Respiration
- Possible East Asia Origin, Spread to Africa in the 1930's.
- Responsible for Severe Amphibian Population Declines and Extinctions around the World



Captive Population

ASSOCIATION
OF ZOOS &
AQUARIUMS

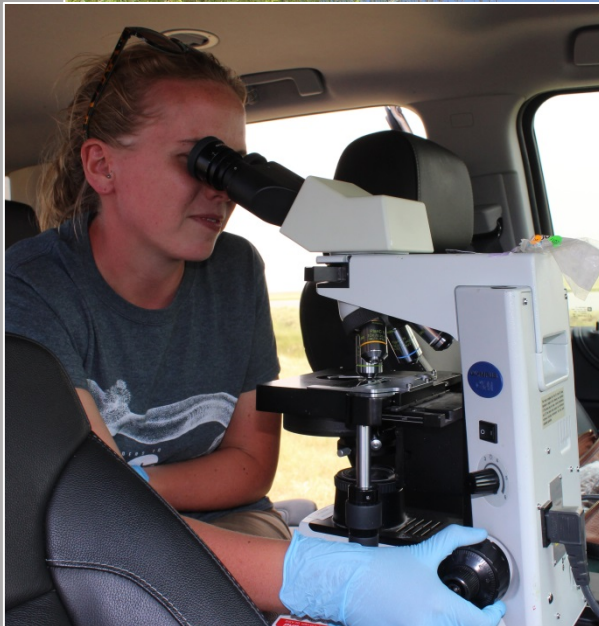
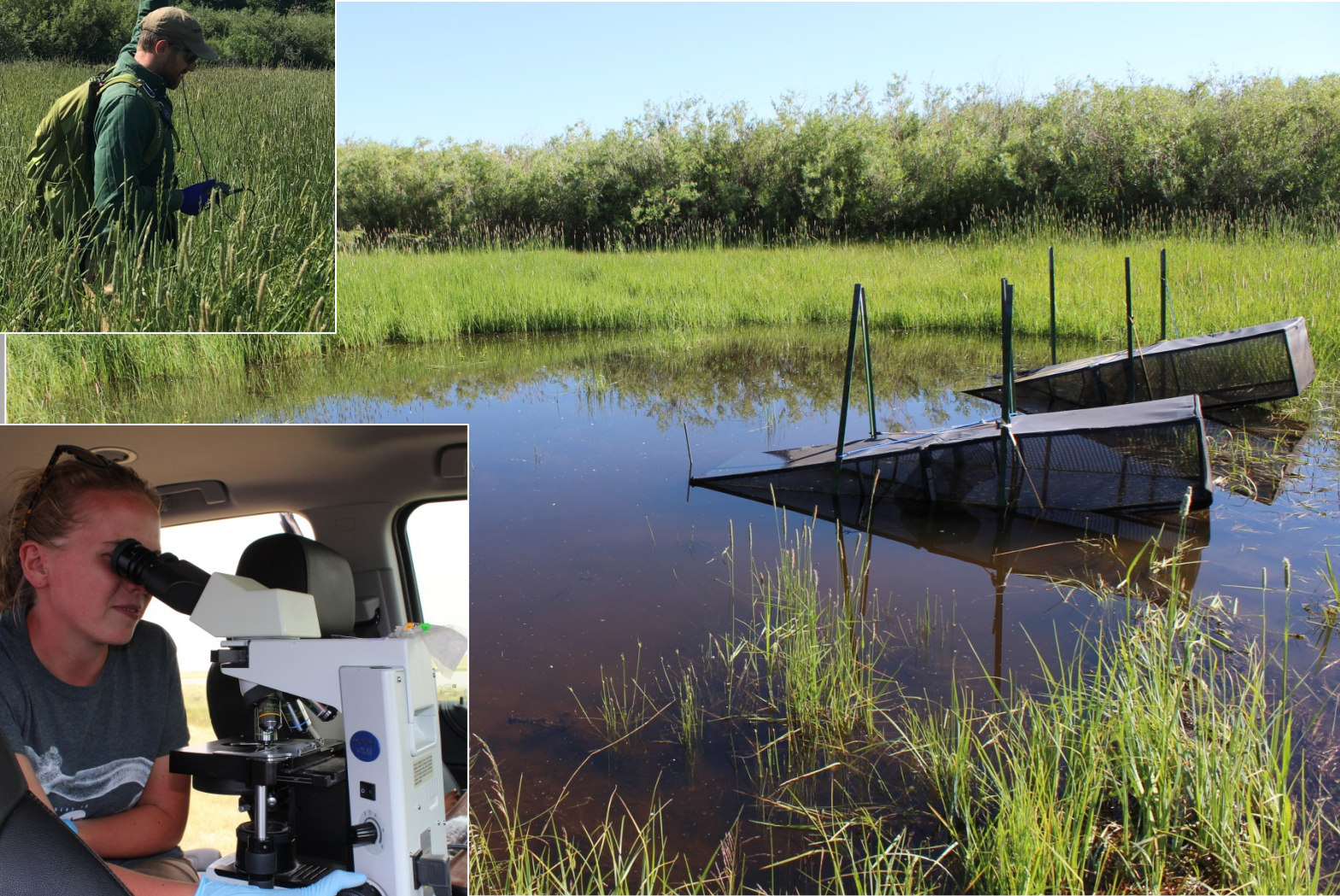
- Species Survival Plan (SSP)
 - “... a coordinated effort to save a species through captive breeding, public education, habitat preservation, supportive research, and in some cases, the release of captive-bred animals into the wild.”
- 8 Zoos and 3 USFWS facilities
 - Cheyenne Mountain Zoo
 - Detroit Zoo
 - Henry Doorly Zoo (Omaha)
 - Kansas City Zoo
 - Mississippi River Aquarium
 - Toledo Zoo
 - Como Zoo (New York)
 - Toronto Zoo
 - Saratoga NFH
 - UW Red Buttes Field Station
 - Leadville NFH



Outrider Toad Reintroduction Site



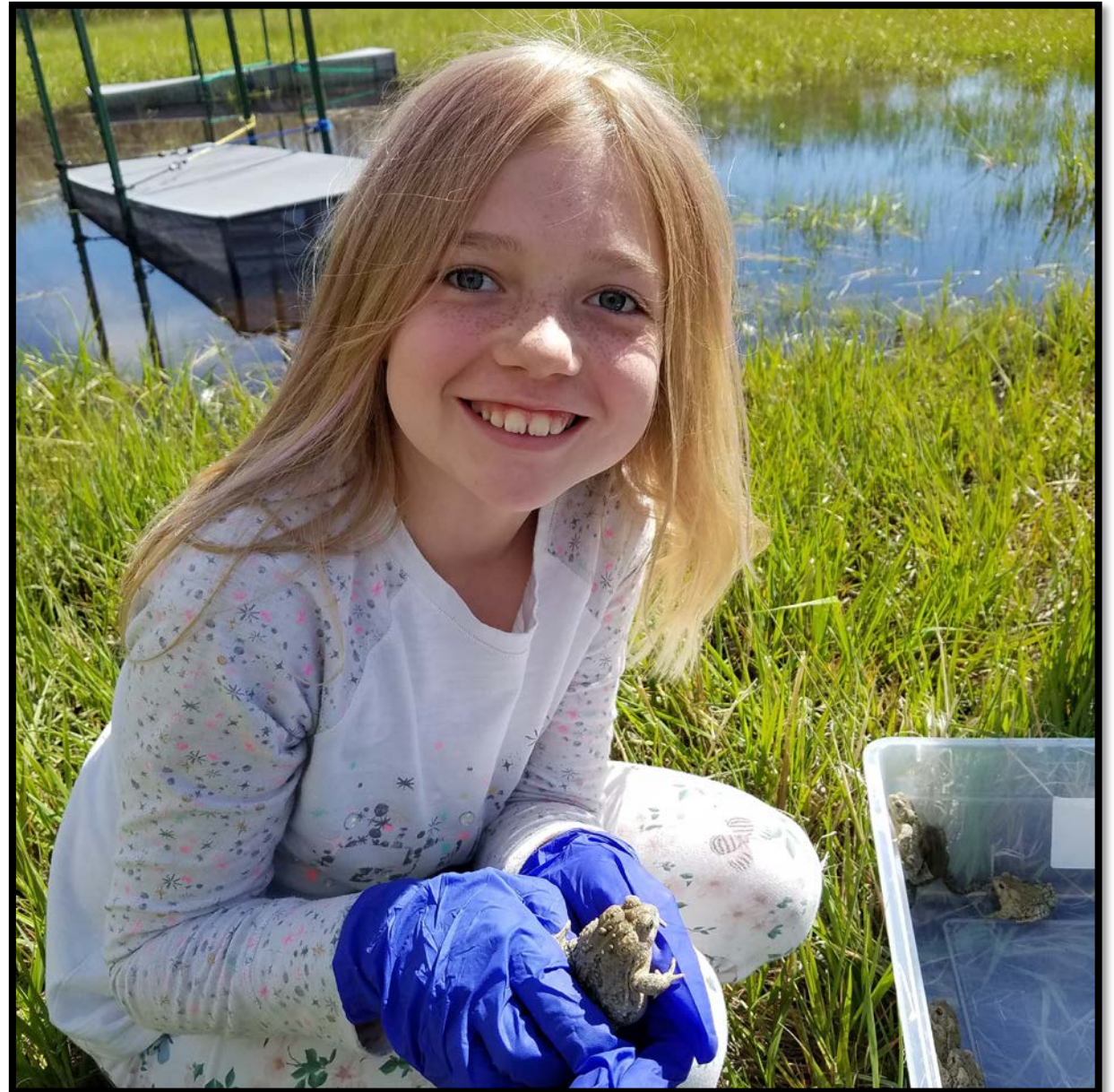
Research





Annual Spring Release

- 31,000 Tadpoles
- 500 Toadlets
- 700 Adults
 - 4.2% Recapture Rate
 - Heavy Predation
 - Birds
 - Garter Snakes





THANK YOU!

