

# Invasive American Bullfrogs in the Mission Valley

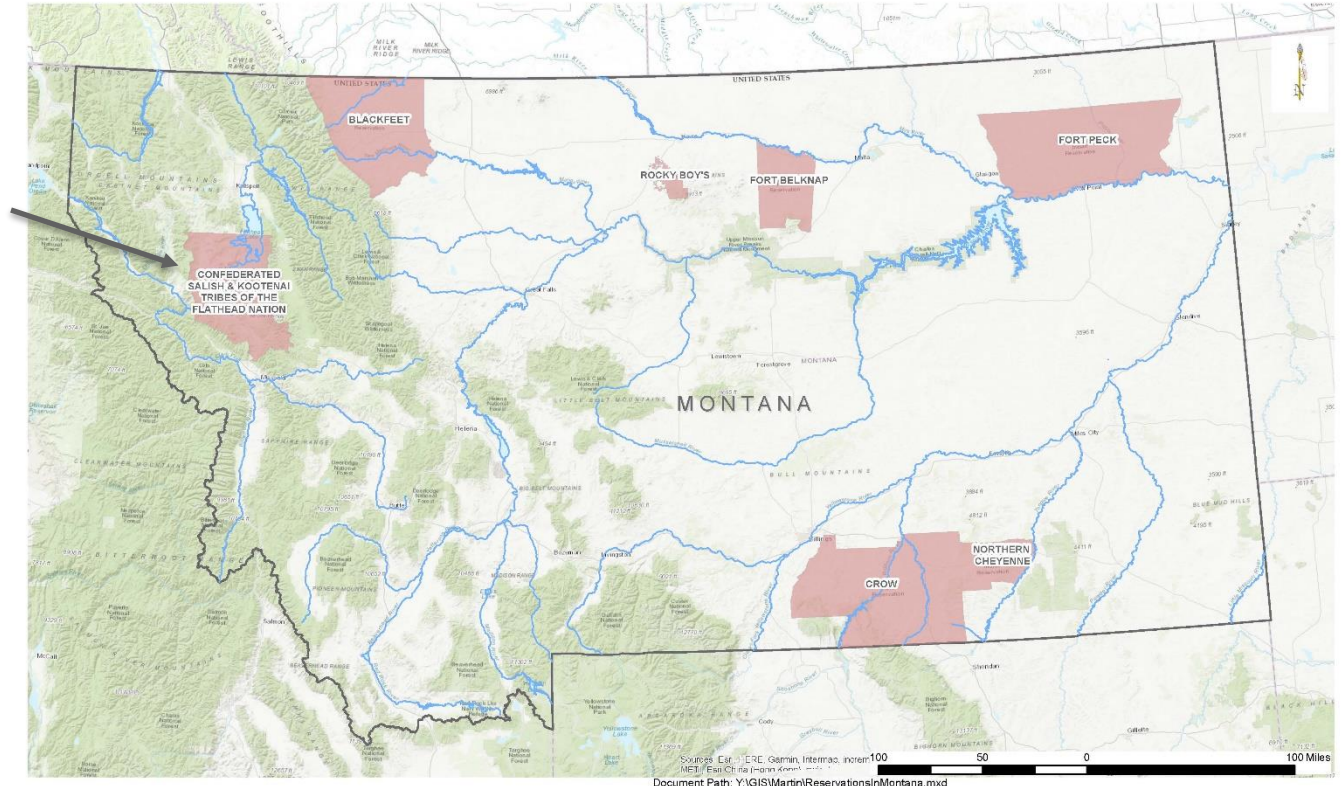


Project Possible via Grant from  
Montana Natural Resources and Conservation  
Montana Invasive Species Council





# Confederated Salish and Kootenai Tribes of the Flathead Reservation



# What are bullfrogs and why are they bad?

Extremely invasive  
in Western U.S.

Voracious predators.

Eat anything they  
can fit into their  
mouths.

Detrimental to wetlands and  
native species in the West.

Can harbor infectious disease



Western Hemisphere Range



750 0 750 Kilometers

Map by MT National Heritage Program



# Species of the Flathead Reservation

Montana State Conservation Status Ranks:

S1 (High Risk): **Northern Leopard Frog, Western Montana**

S2 (At Risk): **Western Toad,**



Pacific Tree Frog



Northern  
Leopard Frog

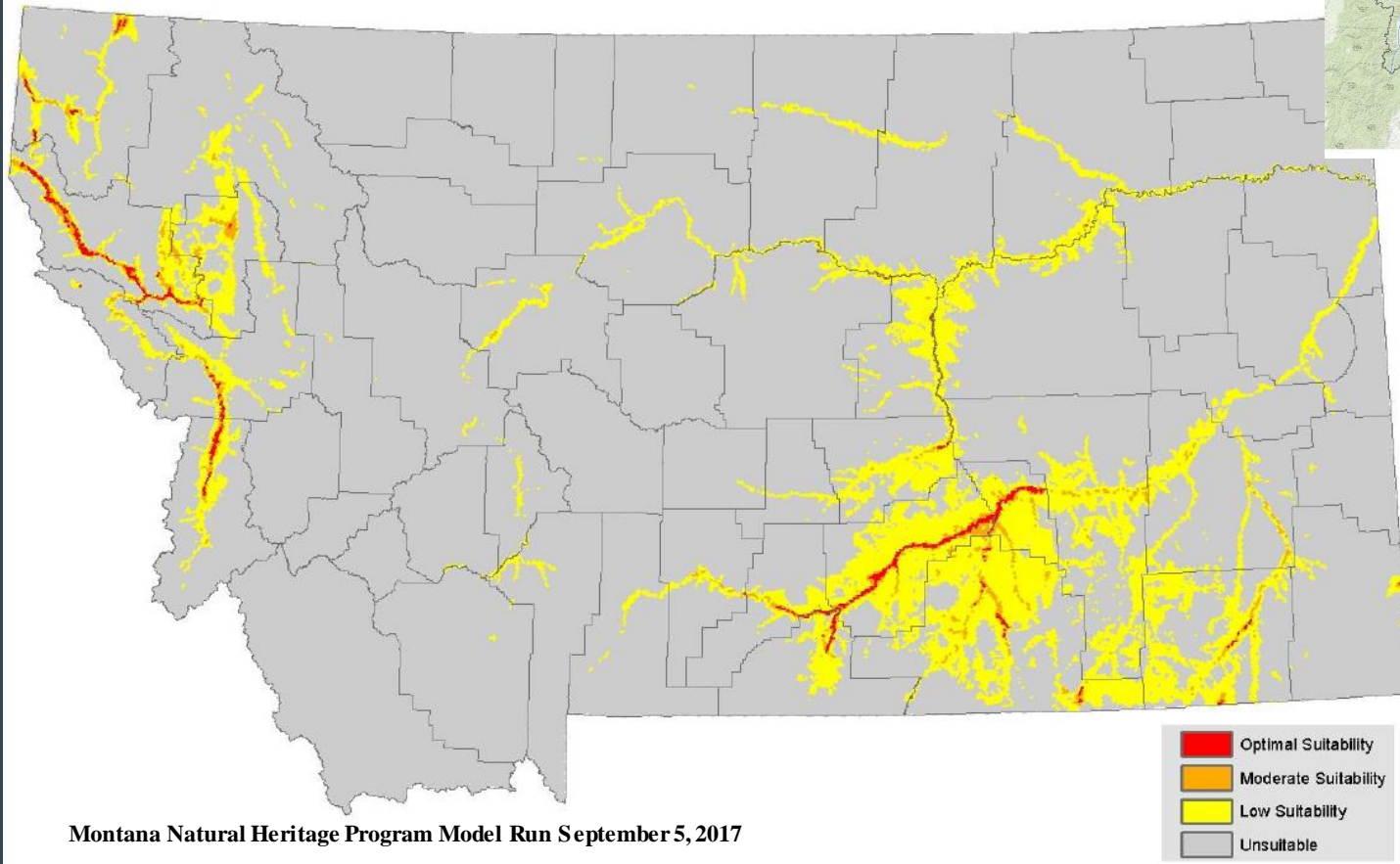
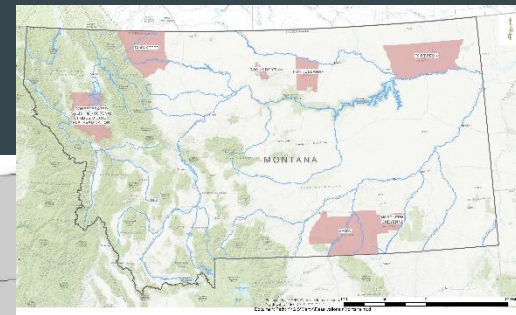


Western Toad



Columbia  
Spotted Frog

# American Bullfrog (*Rana catesbeiana*) Statewide Predicted Habitat Suitability Model



Montana Natural Heritage Program Model Run September 5, 2017

Waters deep and persisted year-round were considered suitable for bullfrogs

Shallow wetlands and/or wetlands that dried up late in the year were classified as unsuitable.

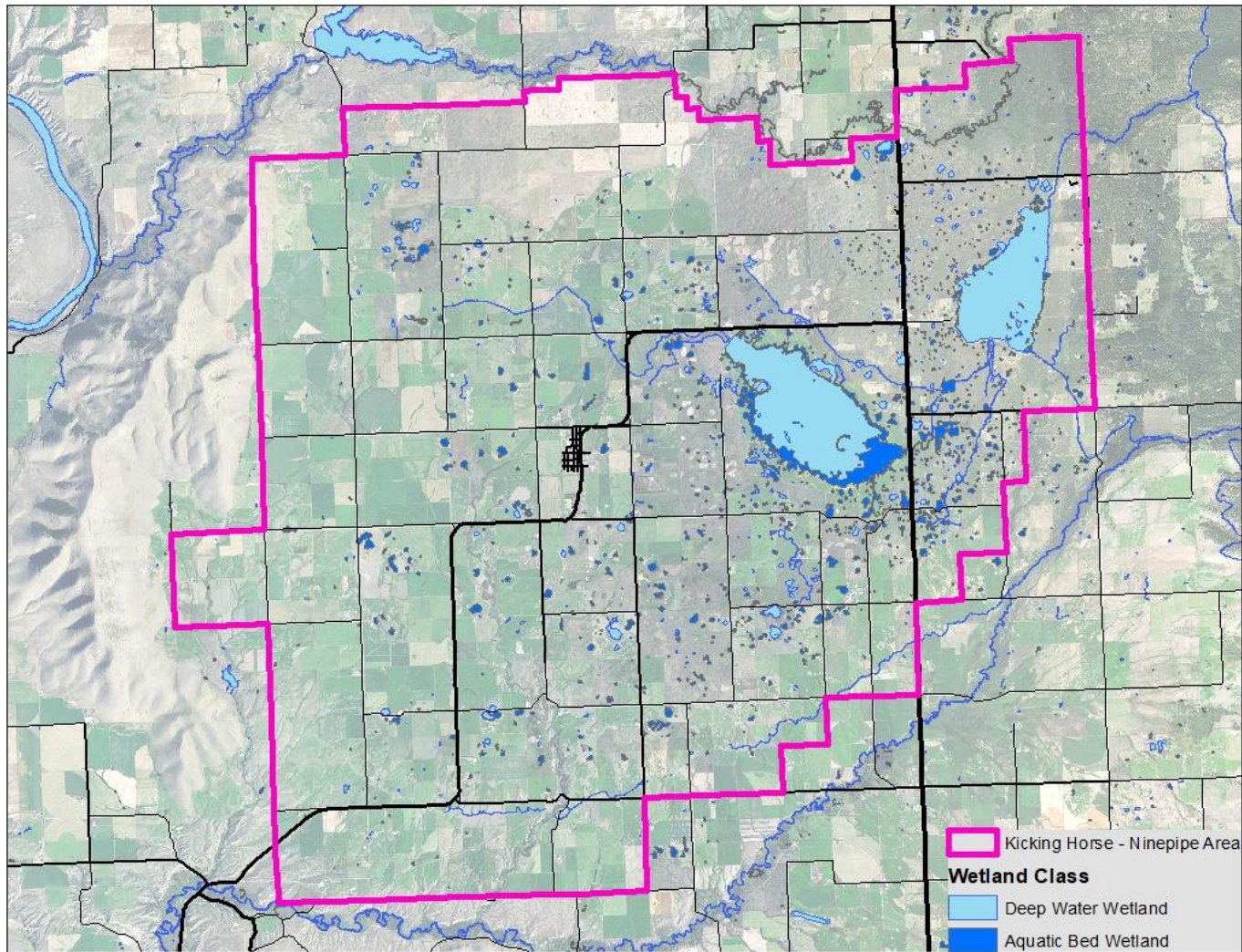




# Why the Mission Valley

Kicking  
Horse –  
Ninepipe  
Area

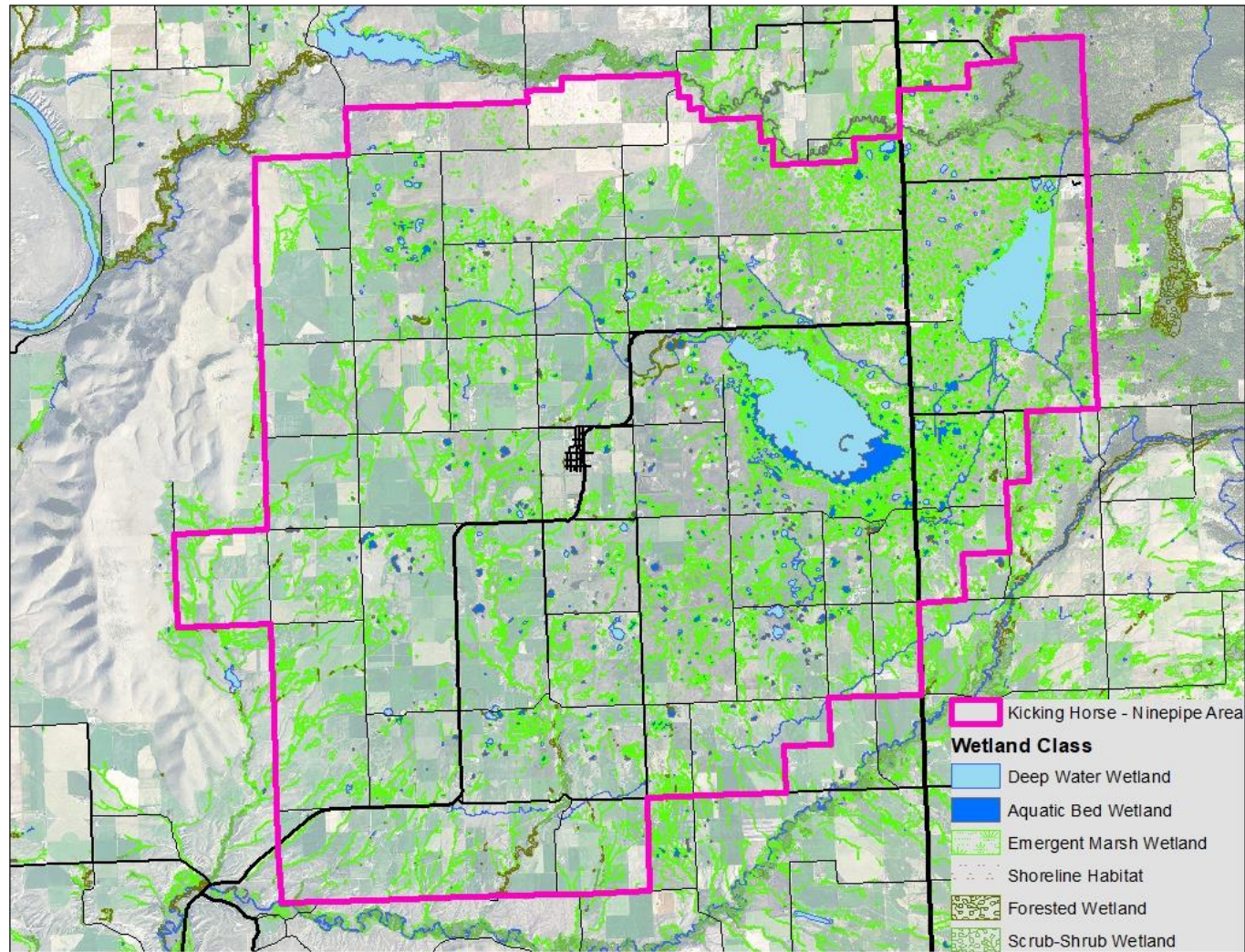
Aquatic  
Bed and  
Deep water  
wetlands












# Kicking Horse – Ninepipe Area

## All Wetlands



 Kicking Horse - Ninepipe Area

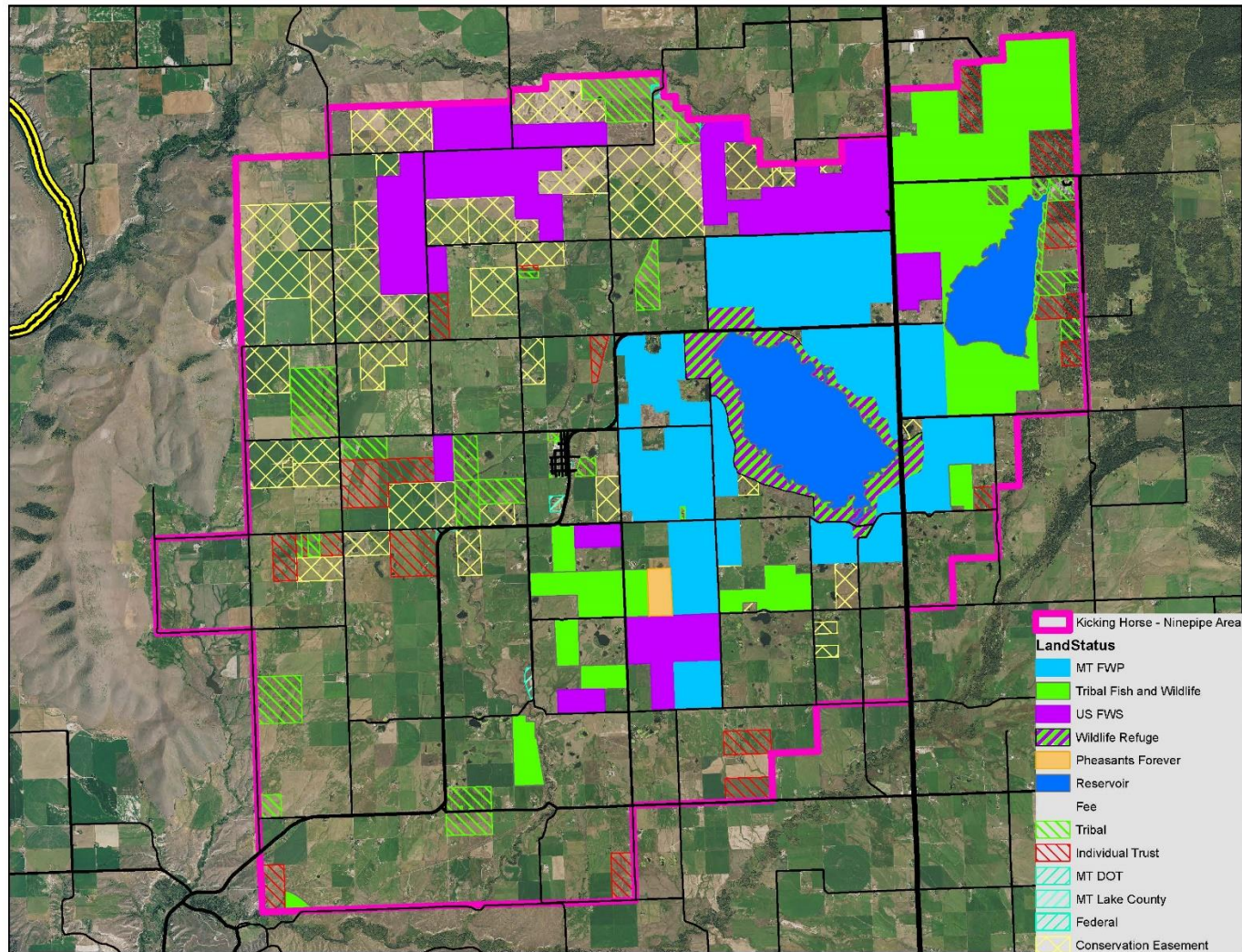
**Wetland Class**

-  Deep Water Wetland
-  Aquatic Bed Wetland
-  Emergent Marsh Wetland
-  Shoreline Habitat
-  Forested Wetland
-  Scrub-Shrub Wetland



# Kicking Horse – Ninepipe Area

## Wildlife and Conservation Lands



# American Bullfrog

Potential Entry Points  
into the  
Mission Valley

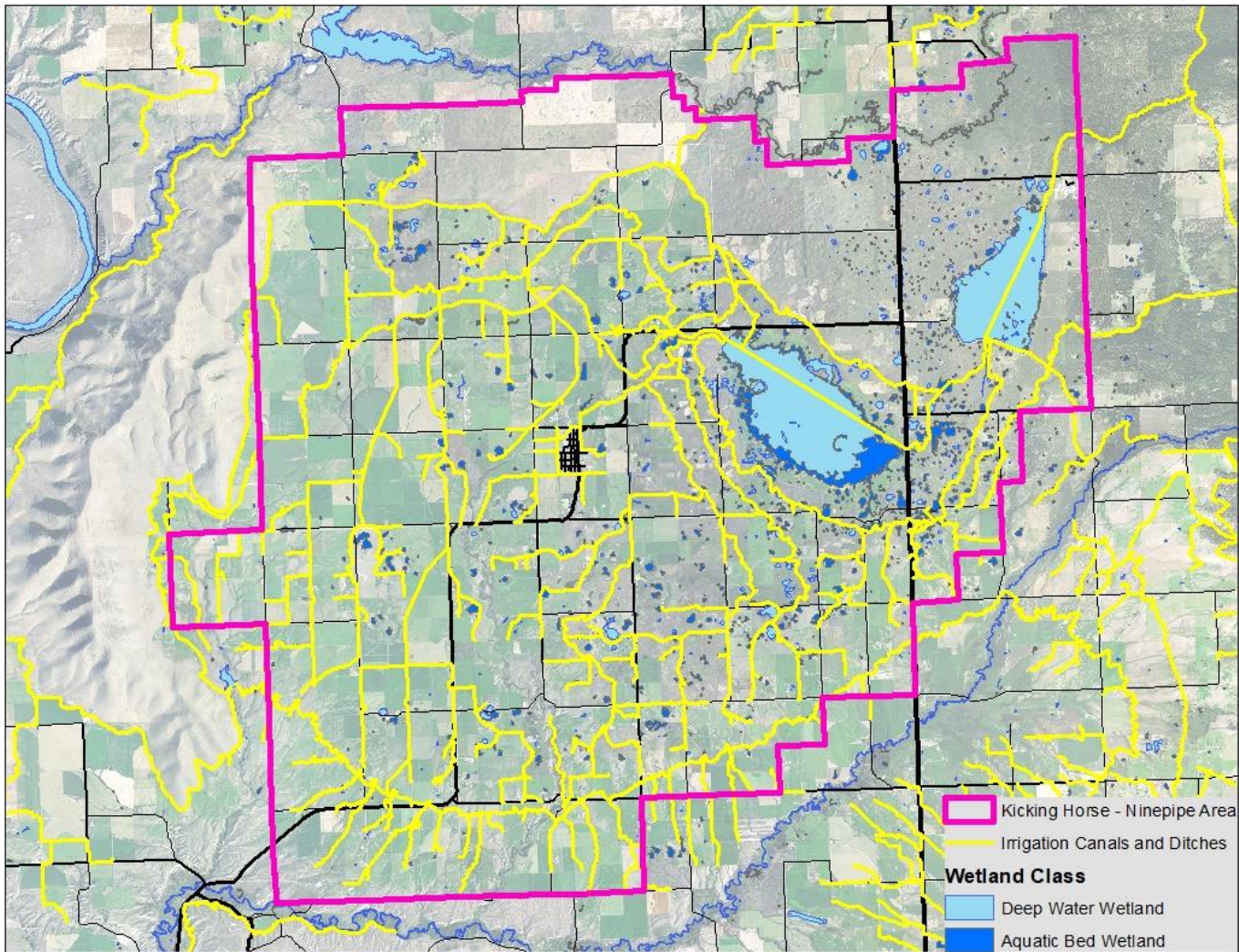
Crow Creek

Proverbial  
Bucket



Mission/Post Creek





# Adult Bullfrog Identification

Tympanum



Up to 8 in long Body Length.

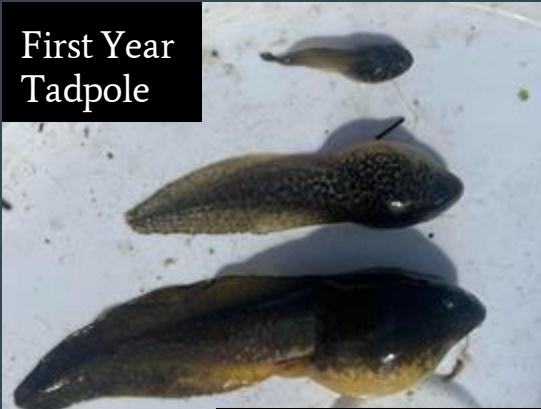
Tympanum as large (females) or larger than eye Males).

Skin fold extends from eye over tympanum to front limb

Males have deep "brrruuumm" call. Also have an alarm chirp or "eep" call



First Year  
Tadpole



Tadpoles range from  
1/8 inch  
to 7 inches

2<sup>nd</sup> Year  
Tadpole



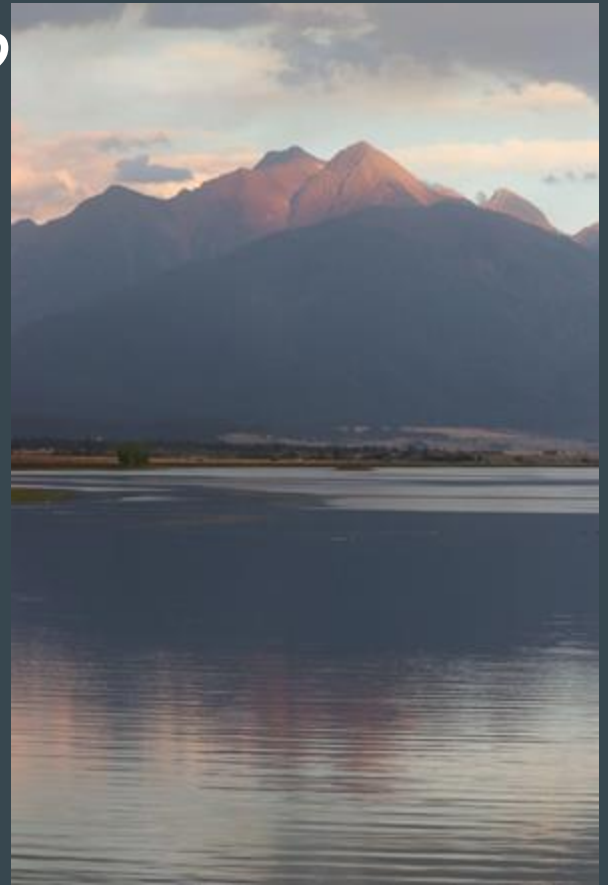
# So... what are we doing in the Mission Valley?



2021 – Cooperative Project Began, well established breeding population in Mission Valley detected.

2022 and 2023 - extensive effort to lower breeding population and address bullfrog spread.

Continued efforts and evaluation in 2024.







# Current Distribution Map - Mission Valley

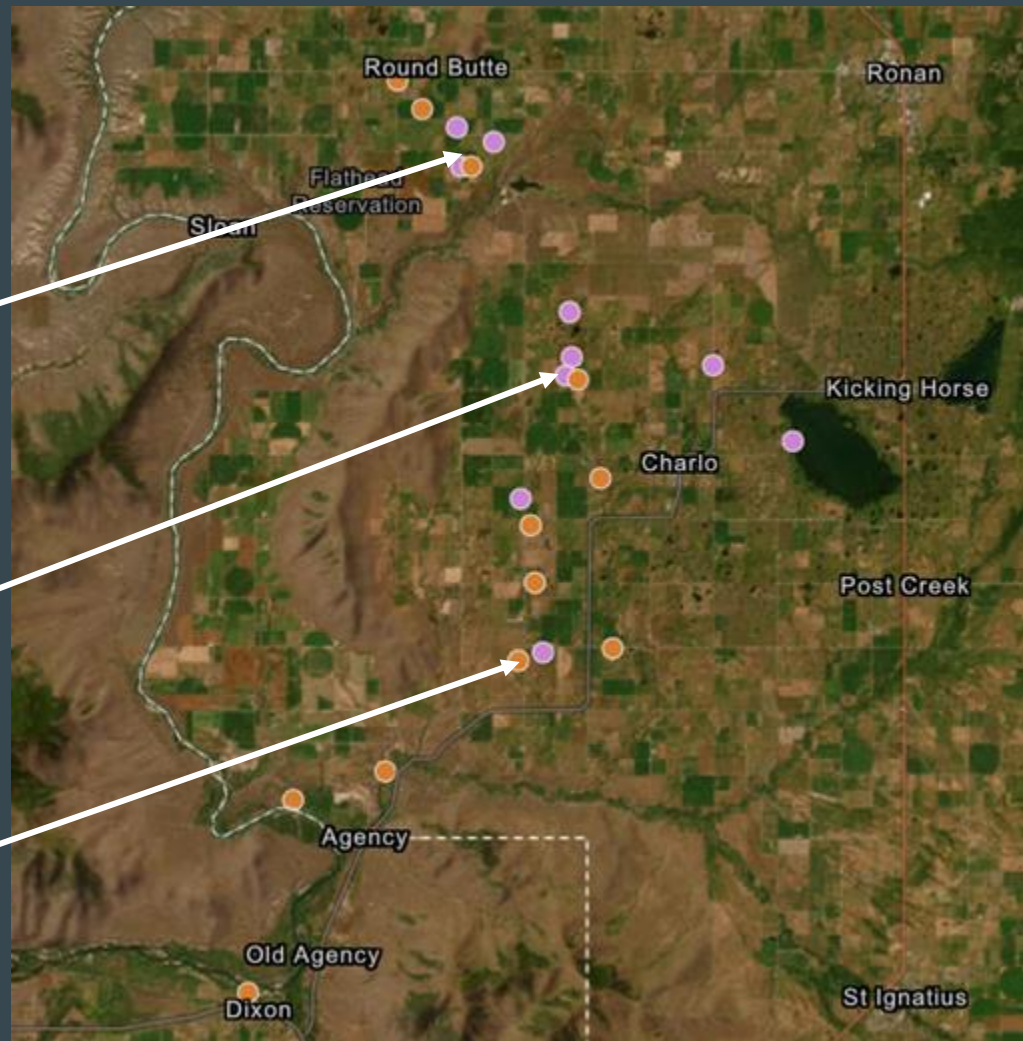
2023 Data

All Previous  
Data

North Breeding  
Area, 3 wetland  
cluster

Main breeding  
pond, majority of  
tadpoles and frogs  
removed from here

Secondary Breeding  
Area, Discovered in 2023





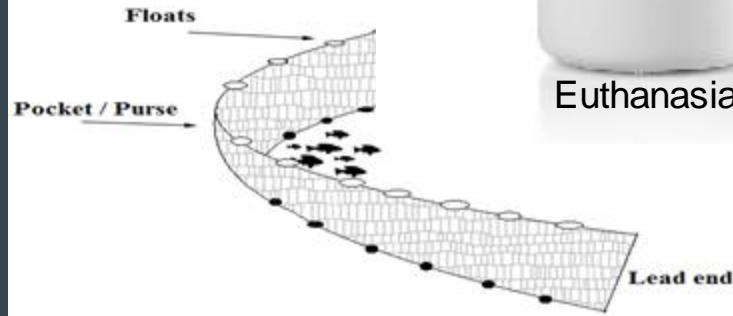
# Gigging



# Seining



Euthanasia

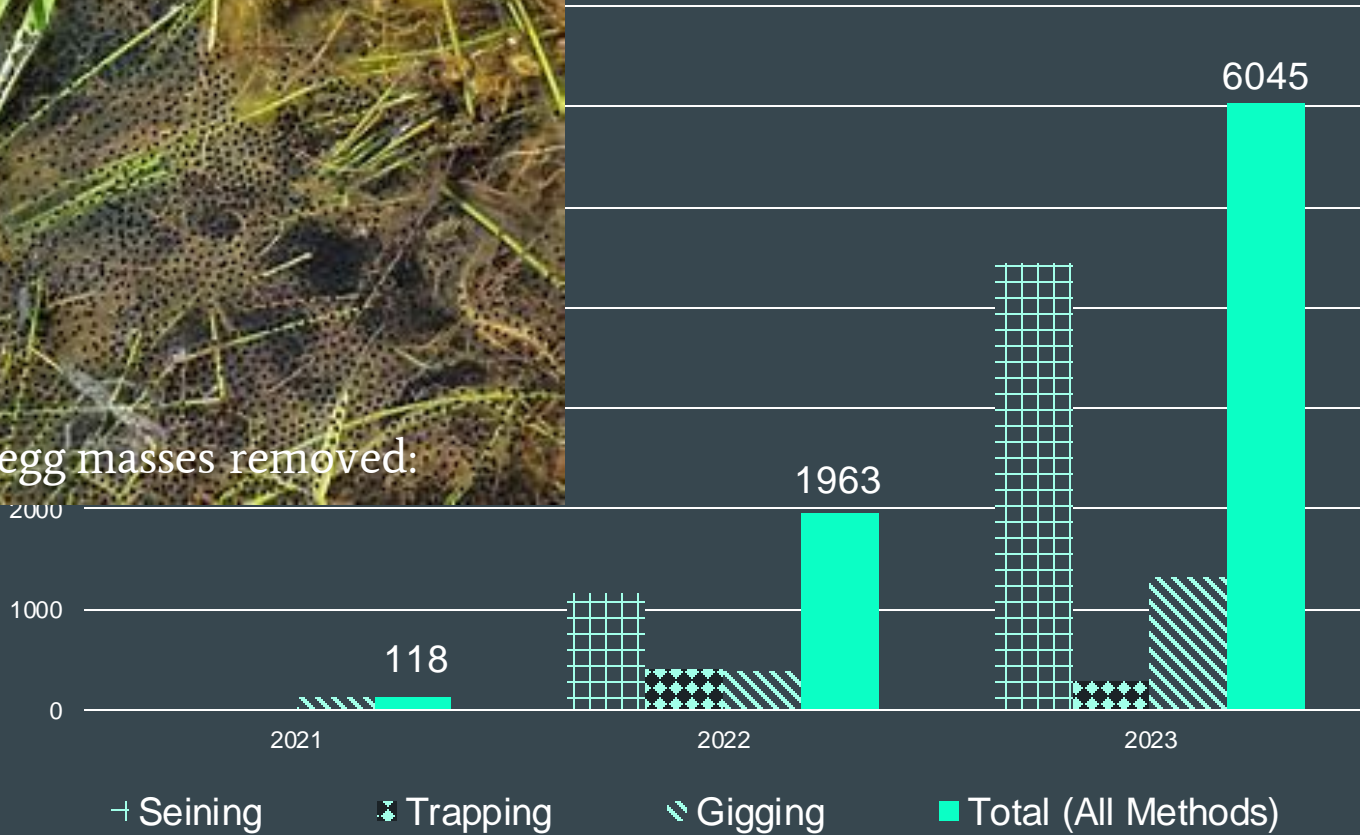


# Trapping





# Bullfrog Removal






# **RESTORING NORTHERN LEOPARD FROGS TO THE FLATHEAD RESERVATION**

Environmental Assessment  
Completed 2002

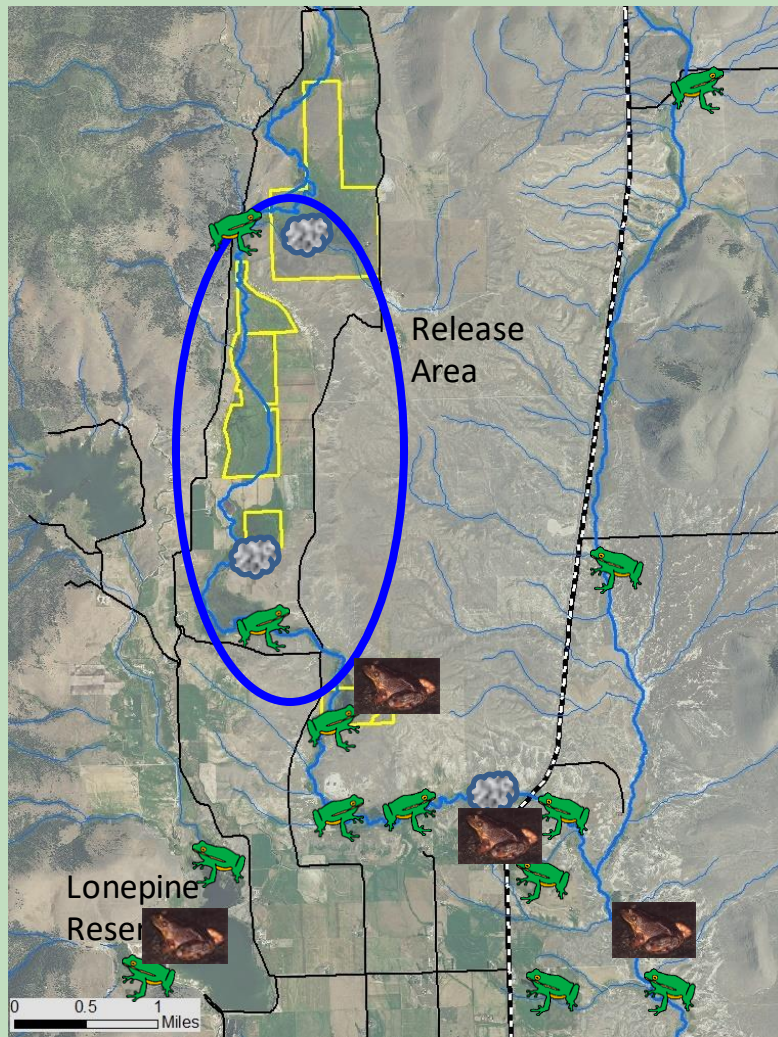







# 2017 -2023 Leopard Frogs

Observed 

Breeding Activity 

Egg Laying Confirmed 



-  Wildlife Mgmt Lands
-  Perennial Stream
-  Intermittent
-  Highway
-  Light Duty Road

# Stomach contents of 36 adult bullfrogs

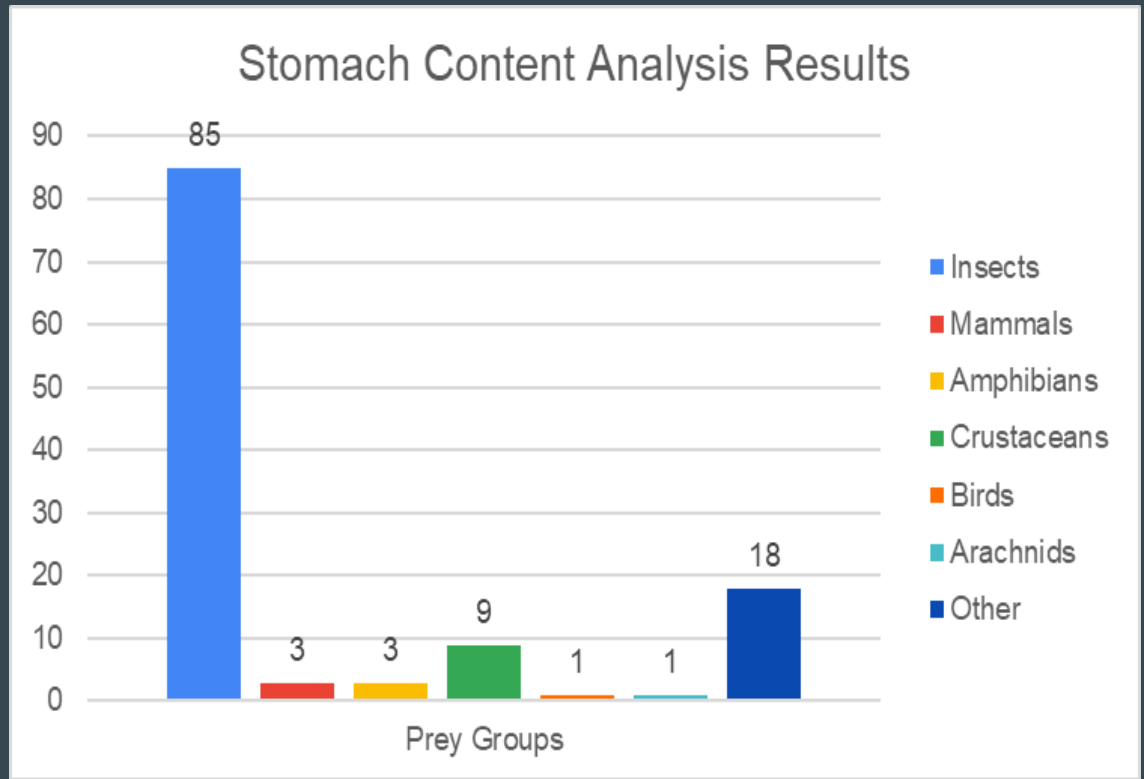
Insect orders included Coleoptera, Odonata, Lepidoptera, Orthoptera, and Diptera

Mammals (all Rodents)

Amphibians (all bullfrog froglets)

Crustaceans (Crayfish)

Other is unknown or unidentifiable





# WANTED

## INVASIVE AMERICAN BULLFROG

Bullfrogs were detected in Ninepipe Reservoir on July 7th, 2023.



tympanum

### IDENTIFYING CHARACTERISTICS

- Bullfrogs are 4-6 inches in body length, much larger than any native amphibian.
- Their tympanum (a frog's eardrum) is as large or larger than their eye

### MORE INFORMATION

If you have seen or heard bullfrogs in Ninepipe Reservoir, or elsewhere in the Mission Valley, please report sightings. Your information is important to us!



Bullfrog Encounter Form



Montana Field Guide



Bullfrog Call

### THREAT TO NATIVE SPECIES

Bullfrogs will eat pretty much anything that fits in their big mouths; including birds, snakes, turtles, fish, and other amphibian species. Their voracious appetite has contributed to population declines of several native amphibian species.

### INVASIVE SPECIES

Bullfrogs are an extremely invasive species that has invaded most of the Western United States, including Montana. Their presence is detrimental to wetland ecosystems in the Mission Valley.



Western Toad



Northern Leopard Frog



Columbia Spotted Frog



Pacific Tree Frog

# IMPACTS TO NATIVE SPECIES

Bullfrogs will eat pretty much anything that fits in their big mouths; including birds, snakes, turtles, fish, and other amphibian species. Their voracious appetite has contributed to population declines of several native amphibian species.

## Montana's Native Frogs and Toads



Pacific Tree Frog

Western Toad



Columbia Spotted Frog

Northern Leopard Frog



# IDENTIFICATION

## EGGS

Laid in a jelly-like film on water surface. Often attached to vegetation. Small, black dots.



## TADPOLES

Much larger than native tadpoles. Coloration can vary.



## METAMORPHS

Four legs with tail. Can be similar in size to some native species. Often olive or pale green with dark spots.



## FROGLETS

Four legs and no tail. Can be similar size to native species. Olive or pale green with dark spots. "Eep" call when startled.



## ADULTS

Up to 8 in long. Typically dark green with mottling. Males - tympanum larger than eye. Females - tympanum same or smaller than eye. Males have deep "brnuuumm" call.



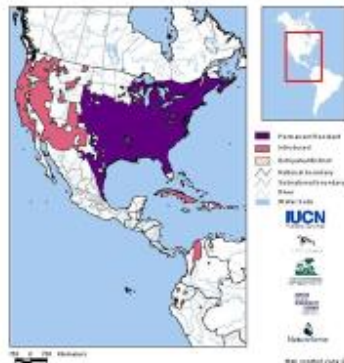
**Tympanum** - an external hearing structure. Tympanum size can indicate the sex of bullfrogs.



# INVASIVE AMERICAN BULLFROGS



American Bullfrogs are an extremely invasive amphibian species in the Western U.S. They are voracious predators, and will eat anything they can fit into their mouths. They are detrimental to wetlands in the west and to native species.





Clo Smytheman, Jackie Becker, Grace Spella, and Ethan Weisgerber

Clo Smytheman, Jackie Becker, Nick Goelkel,  
Grace Spella, Included is Payton Adams, CSKT







Andy Martinez and Kayla Olness  
2022



Josh Kealy, Noah Gilder, Jenna Asnault, Haylee Pearce  
2023



# Questions?



Art Soukkala  
Cara Thompson



Torrey Ritter  
Jessy Coltrane  
Alissa Anderson



Bryan Wilson  
Mitch Lassa  
Jae Turner

