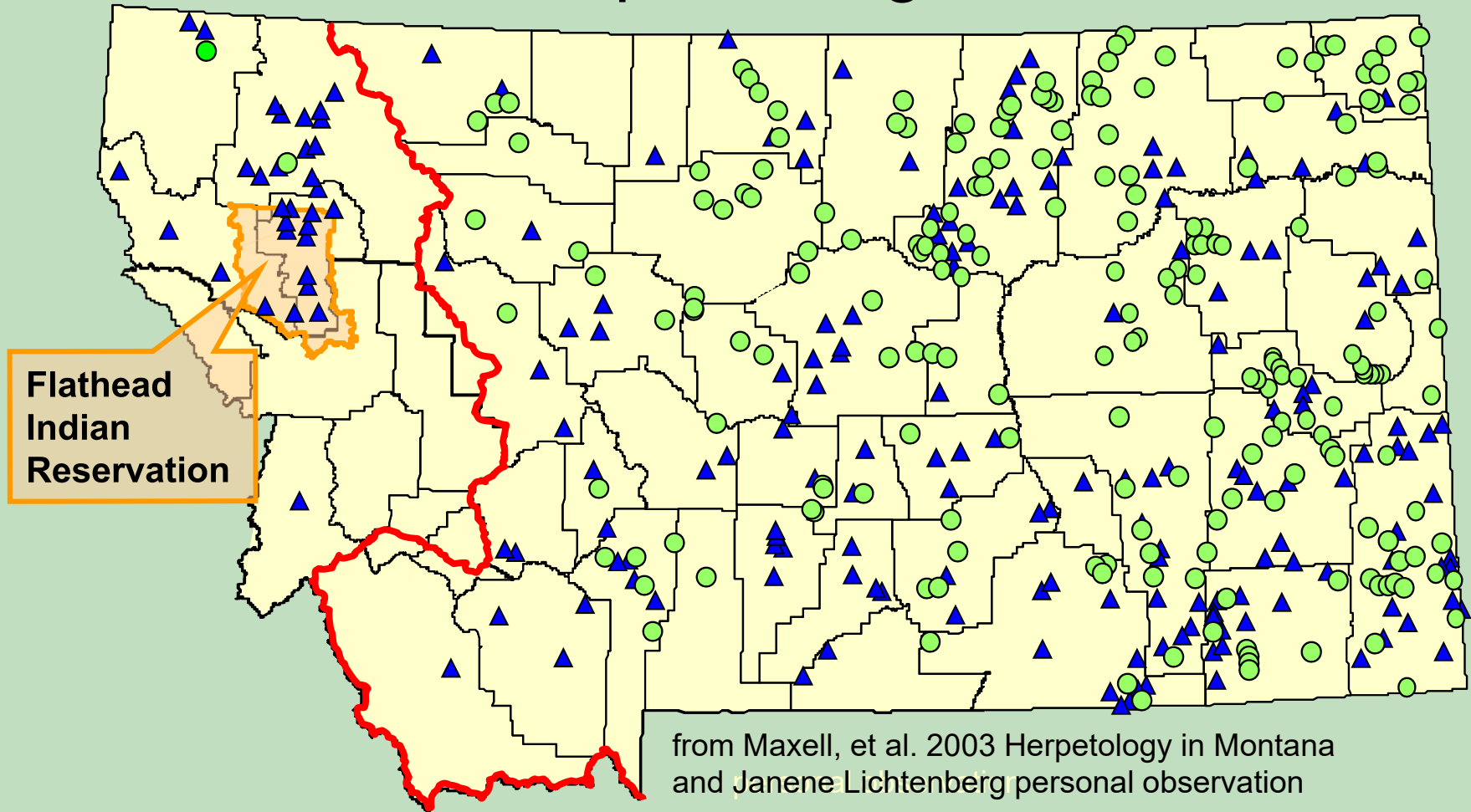




RESTORING NORTHERN LEOPARD FROGS TO THE FLATHEAD RESERVATION



Northern Leopard Frogs in Montana



▲ : Populations recorded pre-1990 (museum vouchers & observations)

● : Populations recorded post-1990 (museum vouchers & observations)

— : Continental Divide

Restore Native Species – Wildlife and Habitats



Photo by Jeff Marks

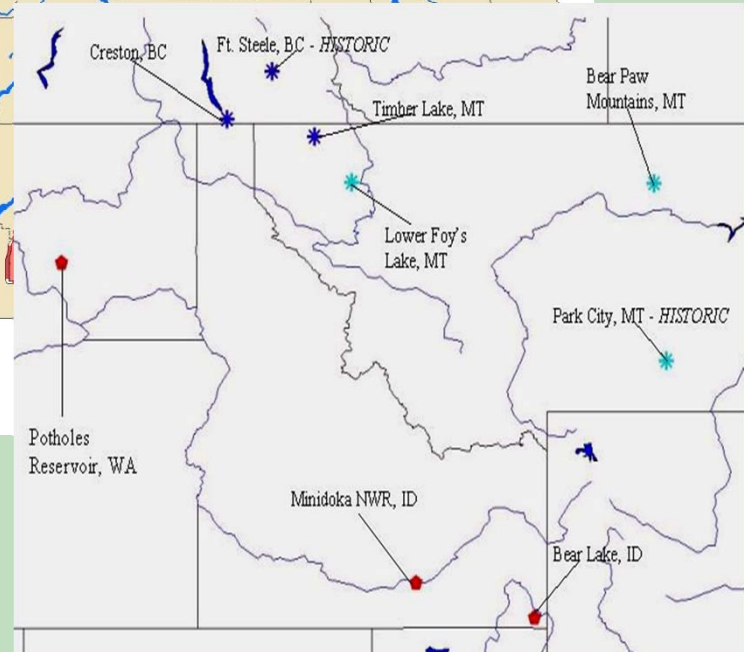
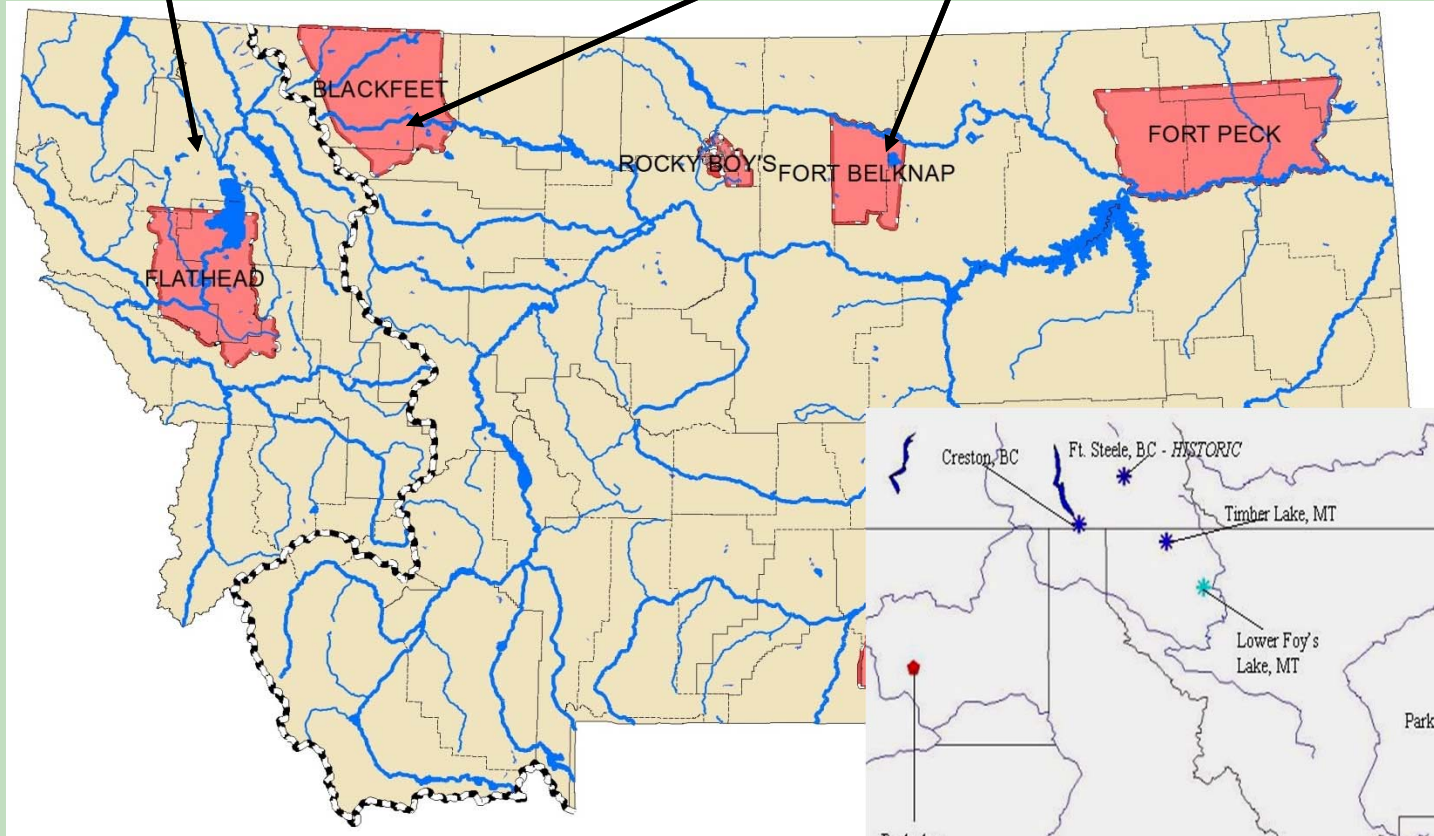
**A Proposal to Reintroduce
the
Northern Leopard Frog
(*Rana pipiens*)
on the Flathead Indian
Reservation**

Environmental Assessment
March 2002



Last Confirmed
Breeding at Foy's
Lake, 1998

Source Areas



< 0.6% divergence across all populations
< 0.16% in MT and BC

Eggs for Translocation (Alberta Protocol)

(Wendlandt and Takats 1999)

- Easy to transport
- Easy to clean lowering the risk of transporting pathogens
- Potential to enhance survival during high mortality life stages
- Fewer impacts to source populations
- More likely to return to rearing sites





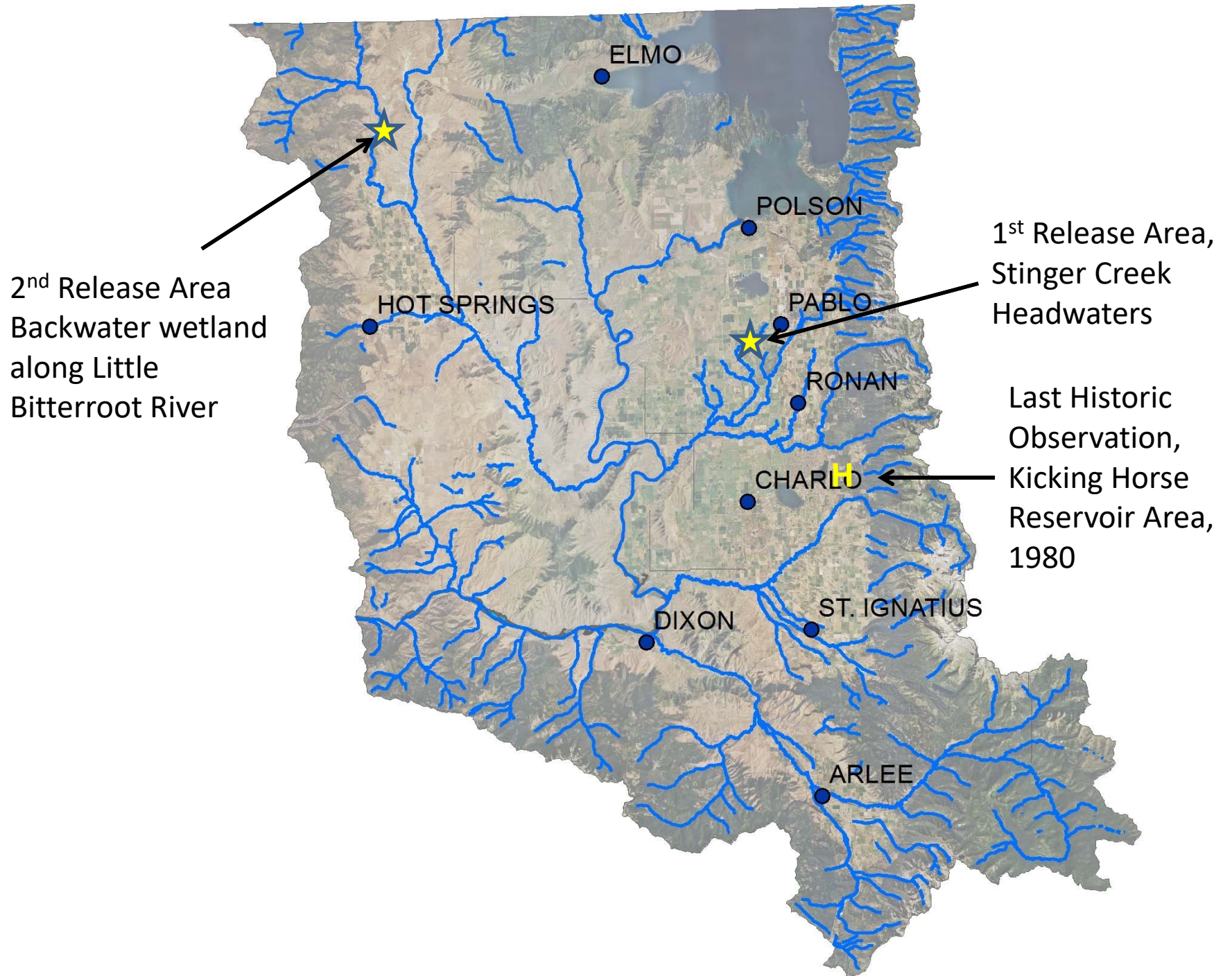
200 – 300 egg masses in 2005





65 egg masses located on 17 April, 2015







Stinger Creek Headwaters

Good Water Quality
Appropriate Habitat
Habitat Restoration Site

2003-06

94,075 tadpoles

(26.6 egg masses)



2003-2006
Various methods
to protect eggs,
hatchlings and tadpoles

2003-2005 Results



- Fastest development and largest frogs free-released
- Similar size & development for tanks & enclosures
- Highest densities = slowest development & smallest sizes
- Head-starting in tanks improved survival in enclosures

After 2005
All eggs hatched in containers
All tadpoles headstarted in
tubs





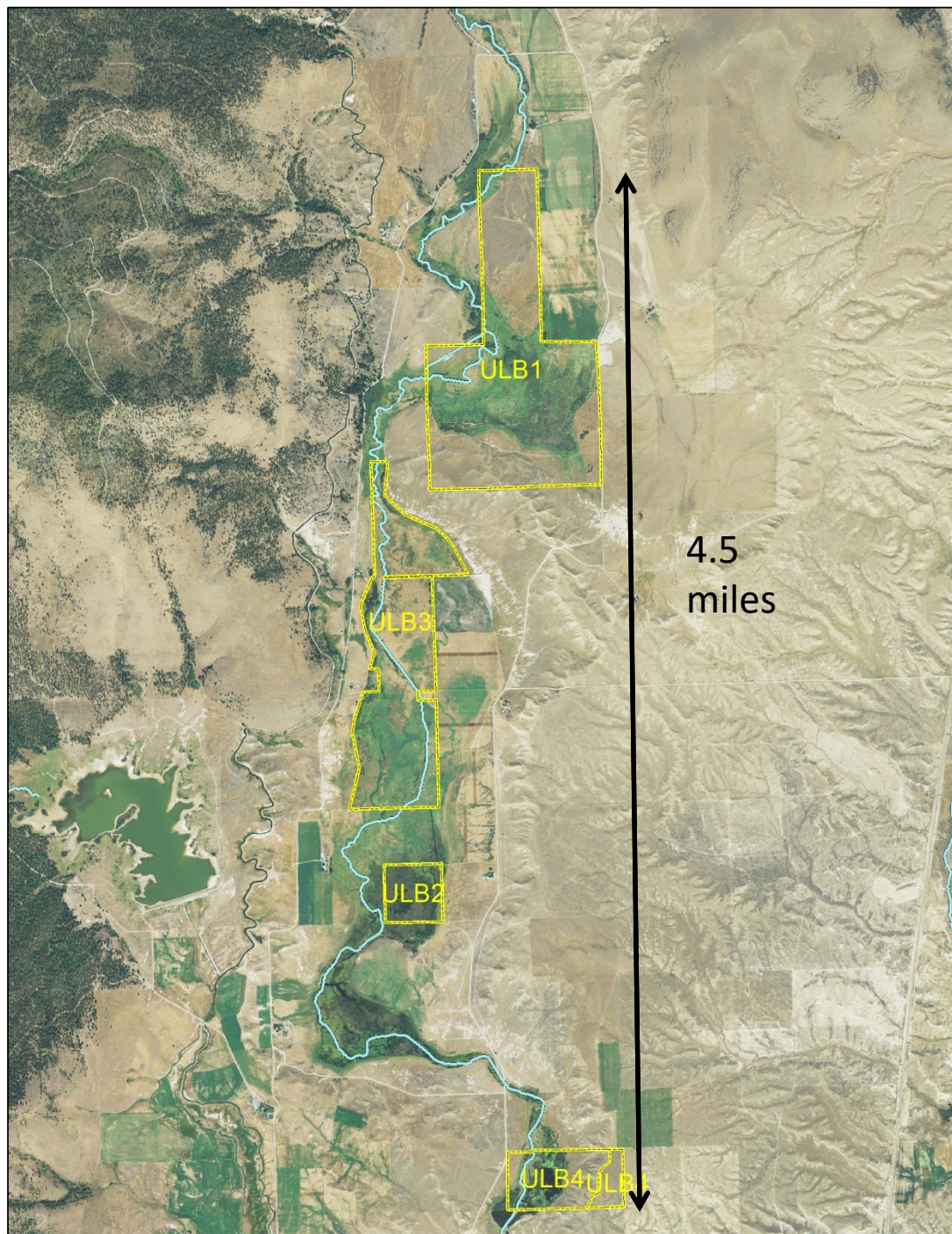
2005 - Released 530 metamorphs at fenced pond

2006 to Current - Still no leopard frogs found

Upper Little Bitterroot River

4 Management Units

810 acres

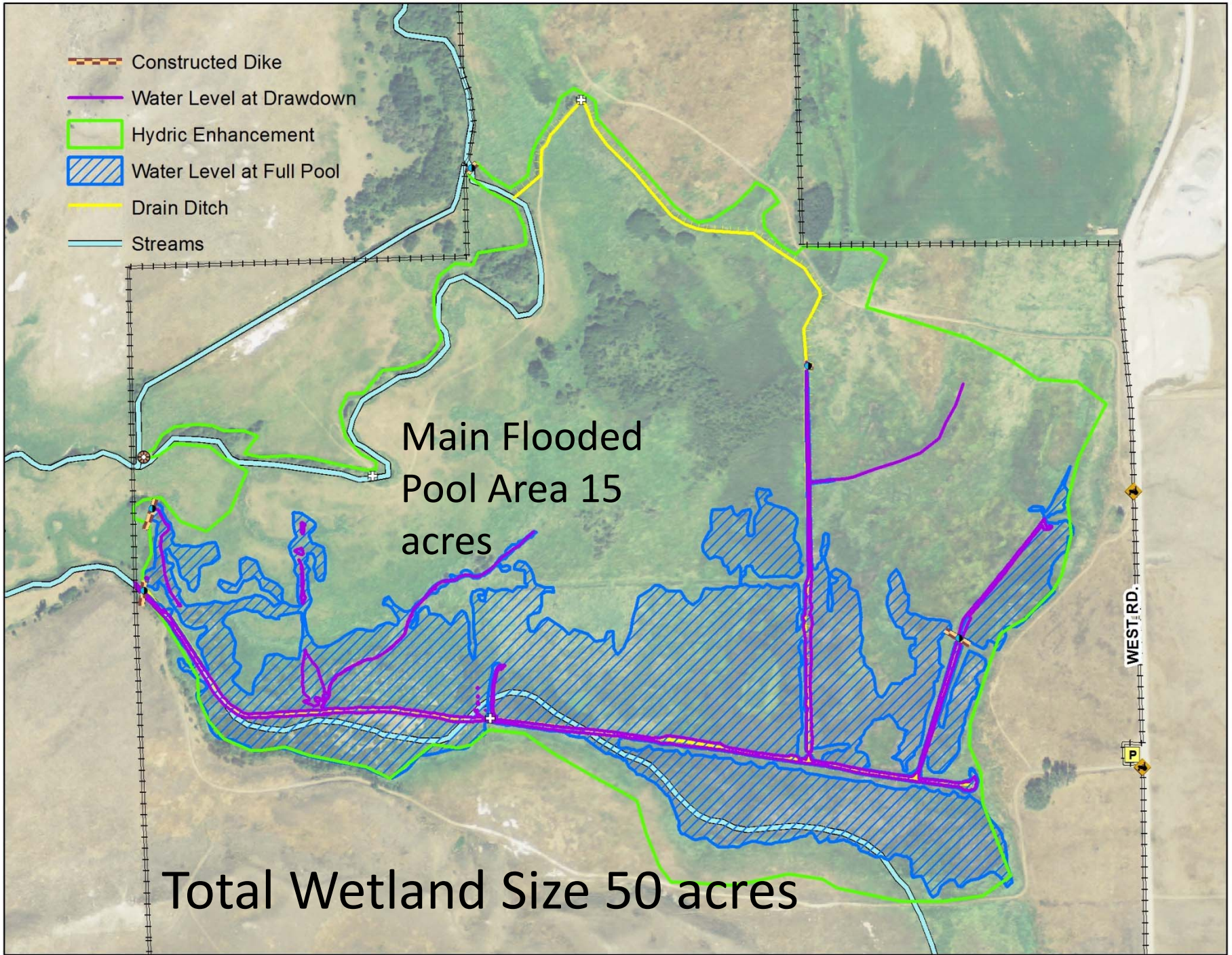


4/29/2004, Pre Project



ULB
Wetland Project
Construction
November
2005







4/25/2012, WL 2786.5
1 foot above full pool elevation



5/6/2009, WL 2784.9
about ½ foot below full pool elevation



10/3/2011, WL 2784.4
1 foot below full pool elevation



First release site

Metamorphs July 25 - Oct.

Average size 3 cm

Cooler temperatures

Ag Lands



Second release site

Full Metamorphs July 9

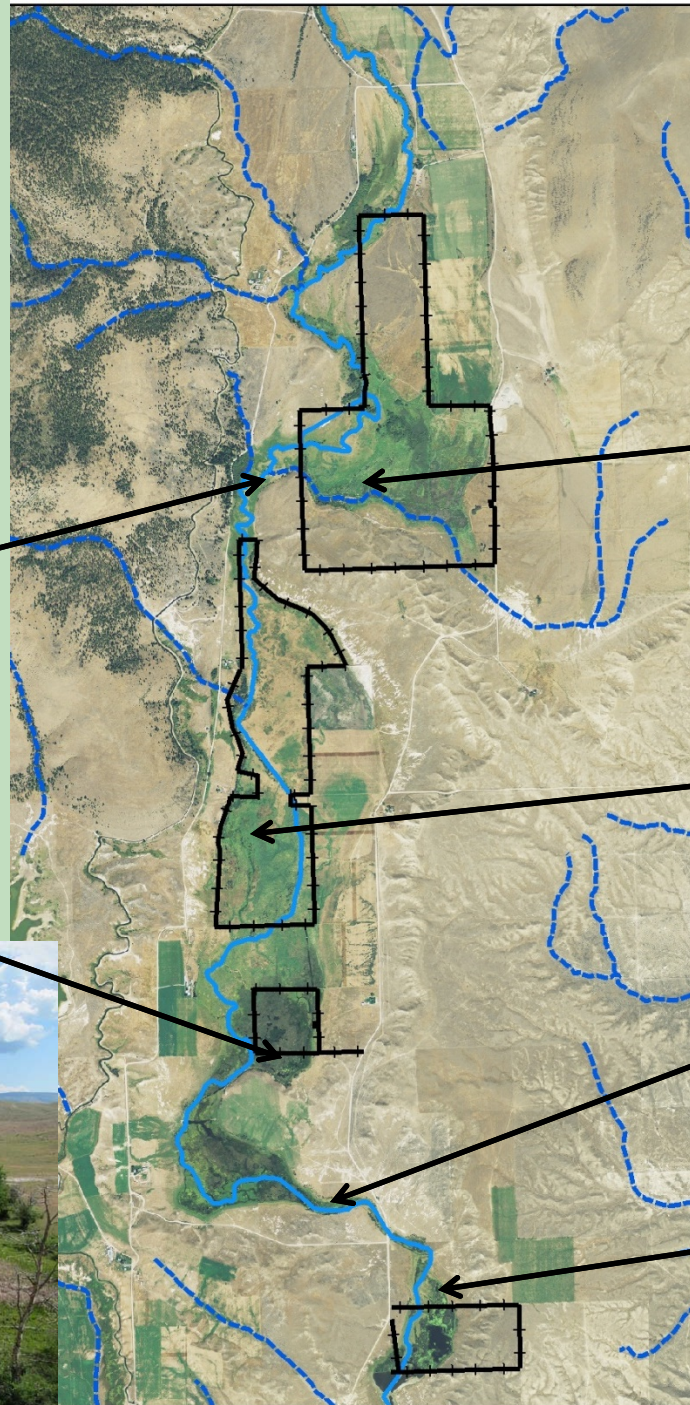
Average size 5 cm

Warmer temperatures

Rangelands

**128
Egg Masses**

**281,087
Tadpoles**



**Private 2009, 2011
(5.9 egg masses)**

**ULB1 2006–2015
(93.9 egg masses)**

**ULB2 2012-2015
(12.7 egg masses)**

**ULB3 2014-2015
(9.6 egg masses)**

**Private 2011
(4.9 egg masses)**

**Private 2009
(1 egg mass)**



Documented overwinter survival 2 years after initial release



9/25/2014

Leopard Frog Size Range 2.8 – 11.0 cm.

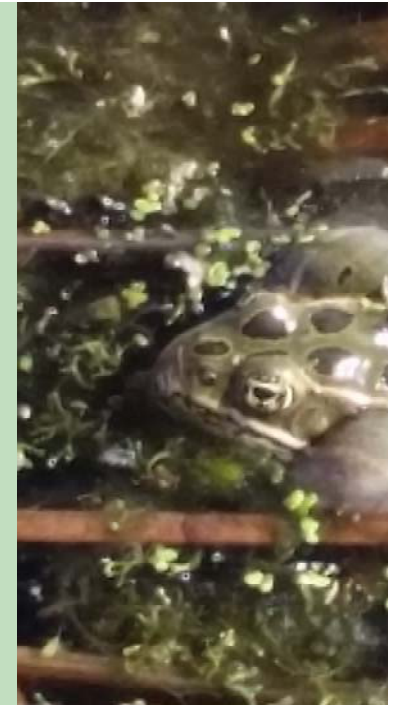
This Individual 10.2 cm.



2010 First Calling Males



Shallow
water
breeding
area



Calling
male

2013
First
Egg Masses
Observed



2 Males
with egg
masses



Male and 4
egg masses

August, 2017


**What are all these
frogs???**






2017 - 2022 Leopard Frogs

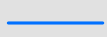
Observed 

Breeding Activity 


Egg Laying
Confirmed 

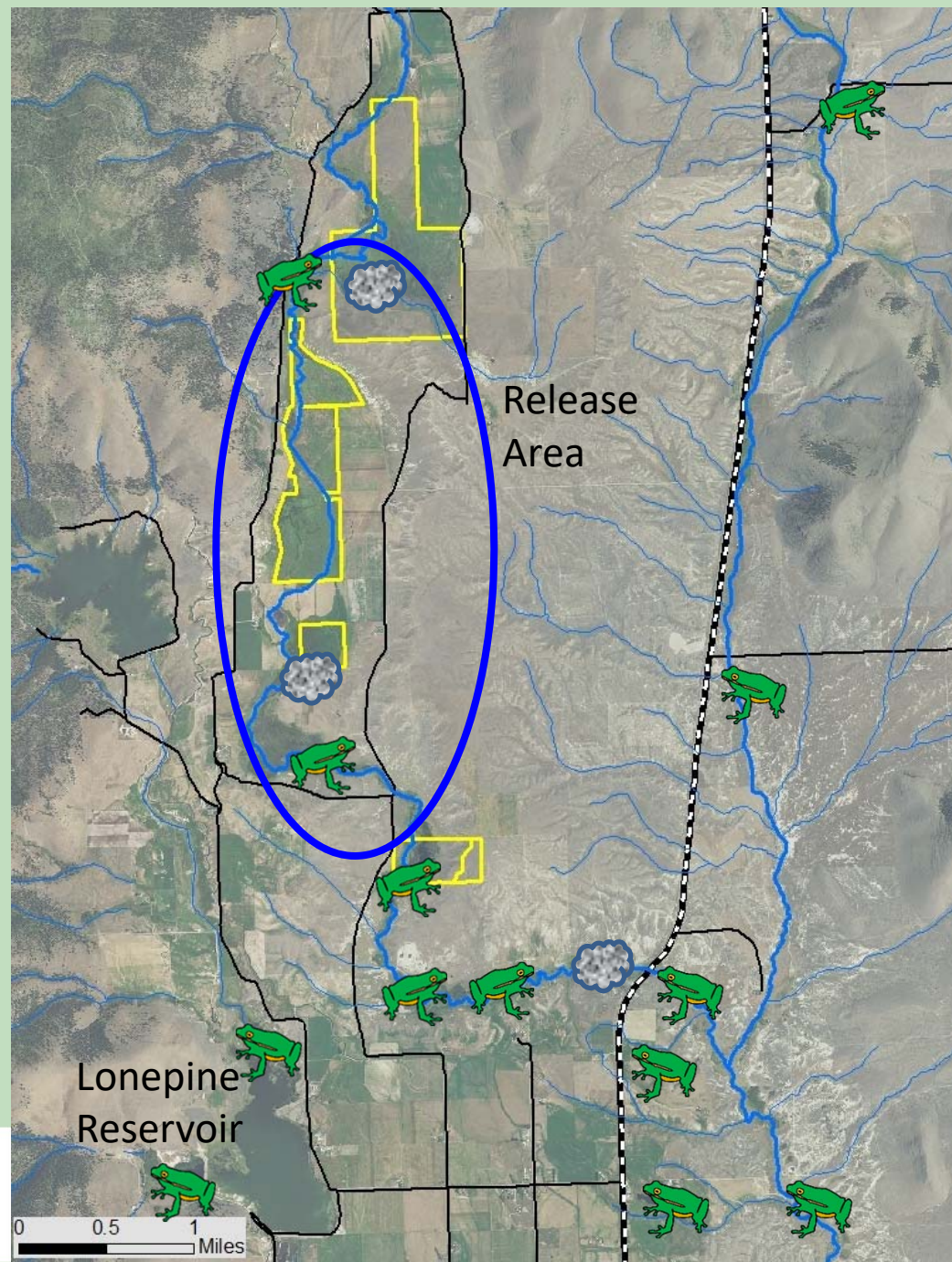
 Wildlife Mgmt Lands

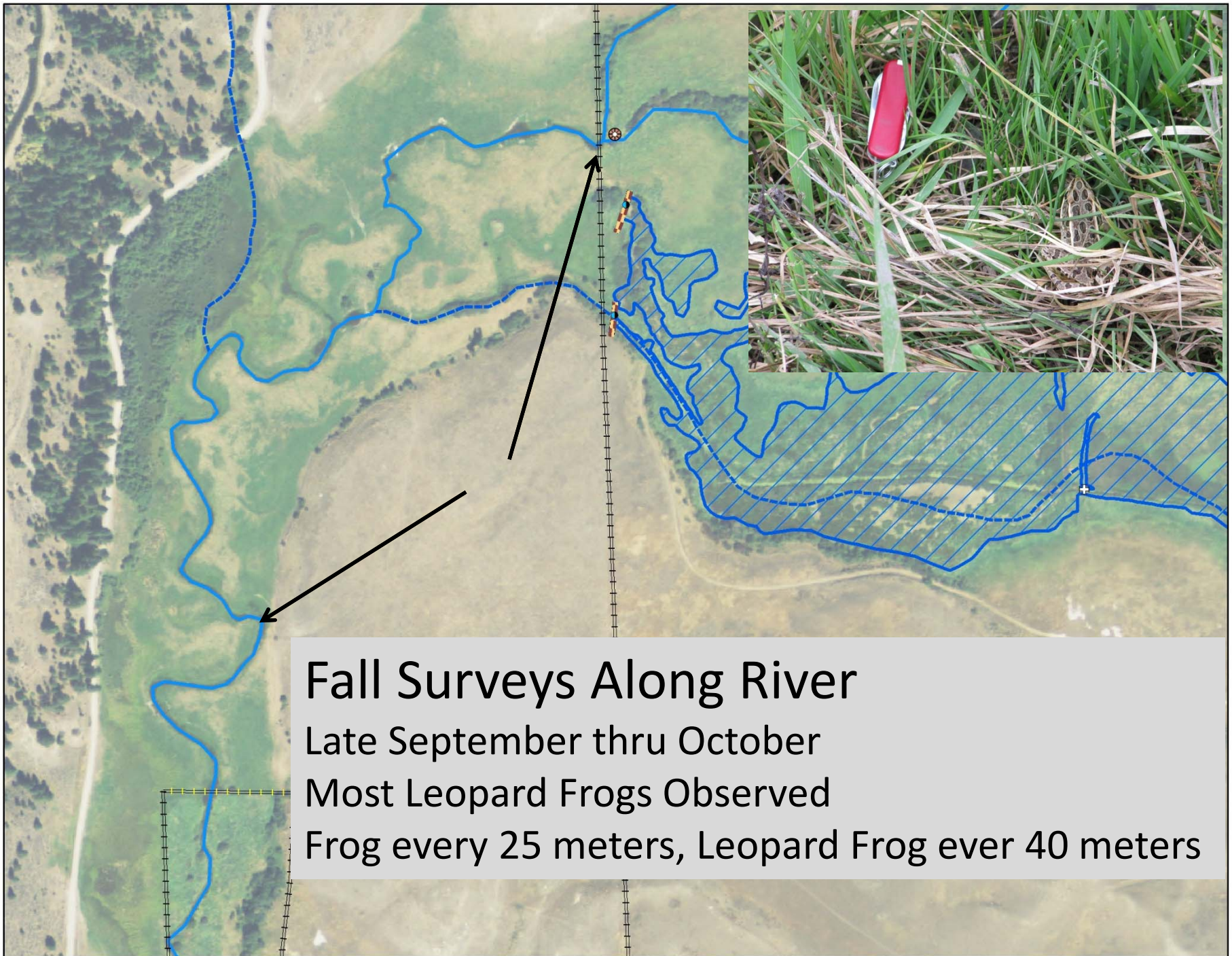
 Perennial Stream

 Intermittent

 Highway

 Light Duty Road





Fall Surveys Along River

Late September thru October

Most Leopard Frogs Observed

Frog every 25 meters, Leopard Frog ever 40 meters



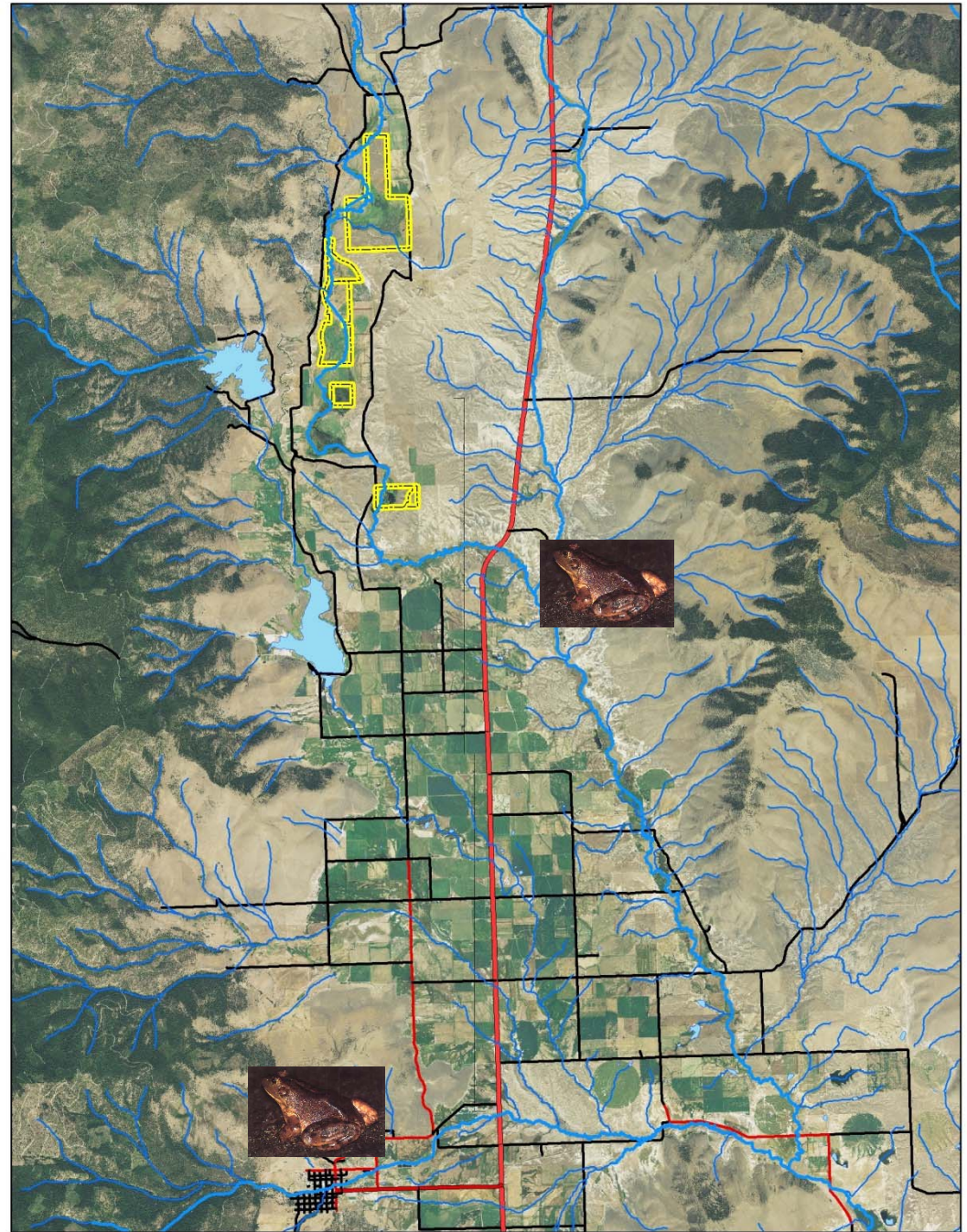
Conduct pilot releases to determine
acceptable 2nd reintroduction site



Monitor bullfrogs as they march up the Little Bitterroot River



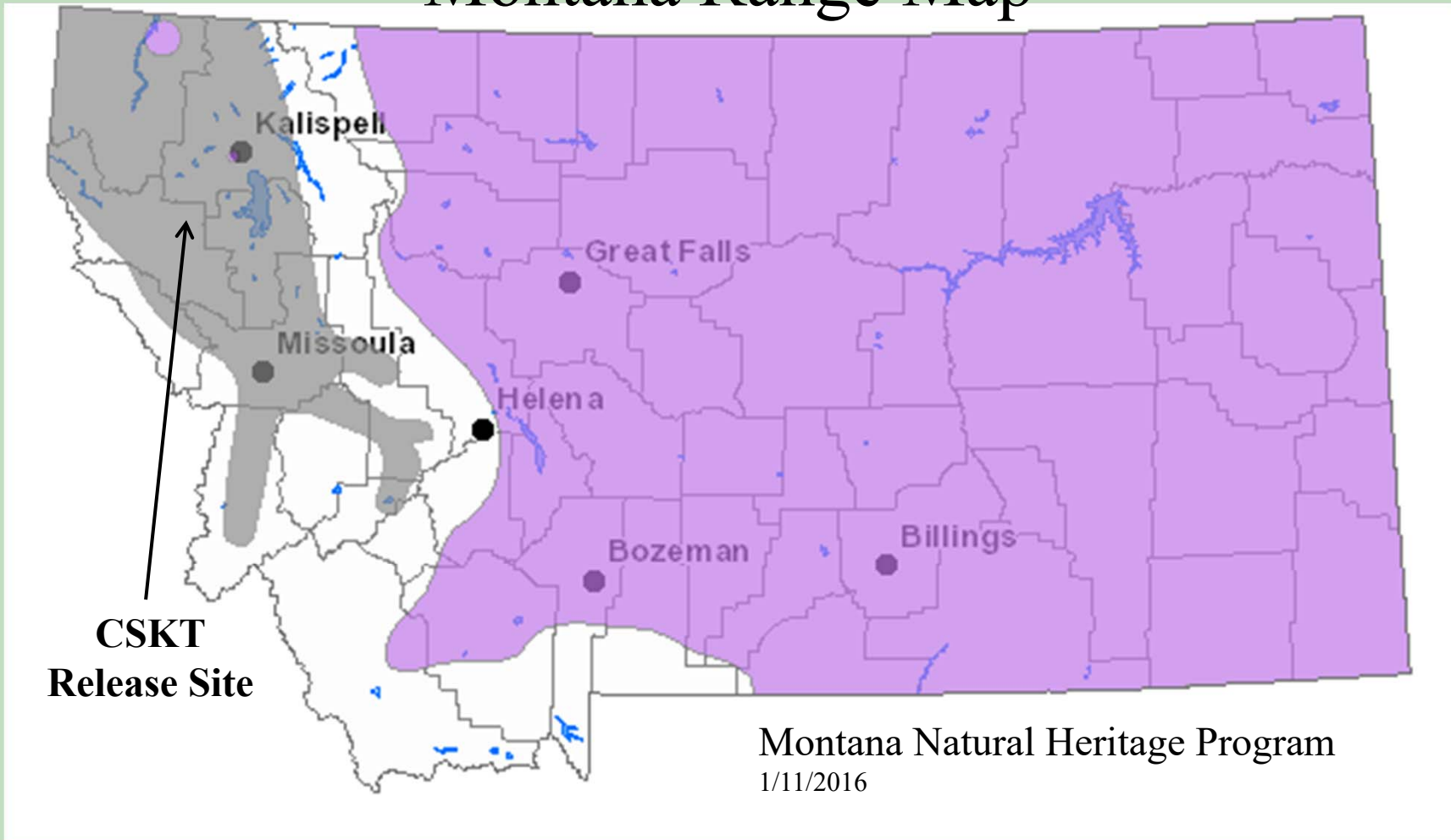
Montana Natural
Heritage Program
1/11/2016





Genetic sampling

Northern Leopard Frog Montana Range Map



Put a new dot on the map



THANK YOU



BCC







QUESTIONS?