

# *The Wyoming Toad Program, A Quick Summary*



*Doug Keinath, USFWS  
Mindy Meade, USFWS  
Tyler Abbott, USFWS  
Tony Hoch, LRCD*



*February 26, 2018*



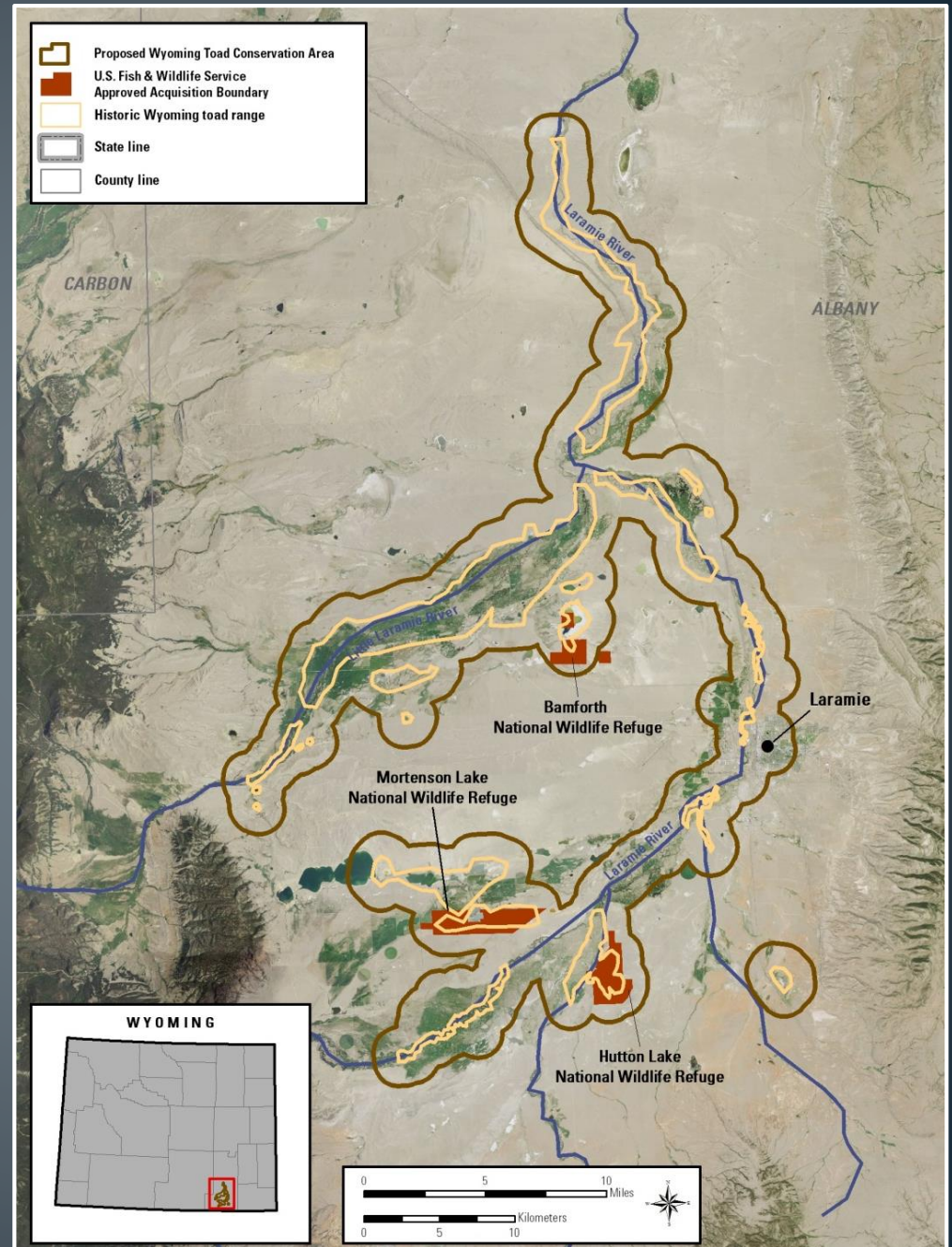
# A video introduction to the Wyoming Toad

• NG2:



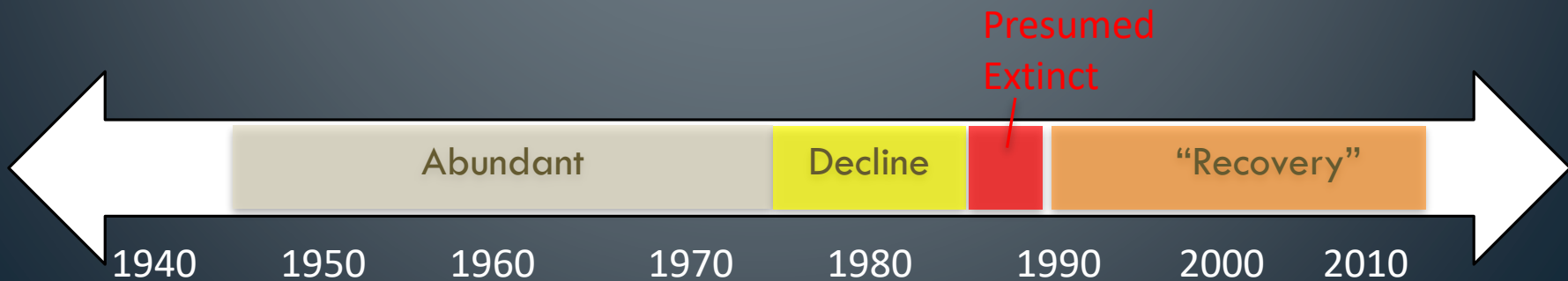
# Wyoming toad: Distribution

- 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



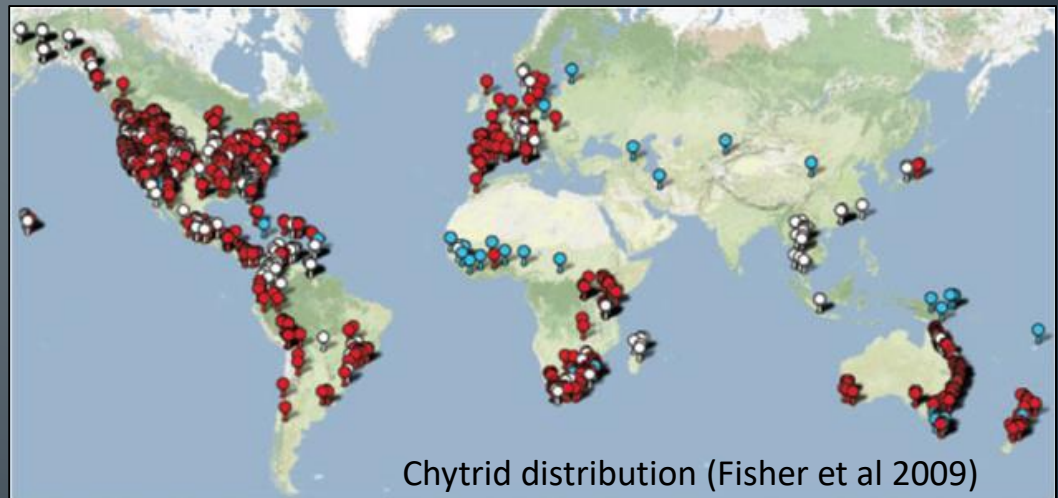
# Reasons for decline.

1970's – 1980's

- Disease (Chytrid fungus)
- Hydrological changes (floodplain habitat loss)
- Water quality (manmade pollutants)
- Insecticides (Fenthion, Malathion)
- Changing weather events (late cold springs, droughts)



Chytrid micrograph (Berger et al 1999)



Chytrid distribution (Fisher et al 2009)

# Habitat: what we think.



# Recovery Program

## What we are doing

- Captive population.
- Reintroduction
- Research and Adaptive Management
- Foster Partnerships

## Why we are doing it

- Keep the toad extant and generate offspring to reintroduce.
- Put the toad back into the wild. *Mitigate threats.*
- Understand what works and what does not.... And act on what works!
- Too much to do alone... no biologist is an island.



# Captive Population

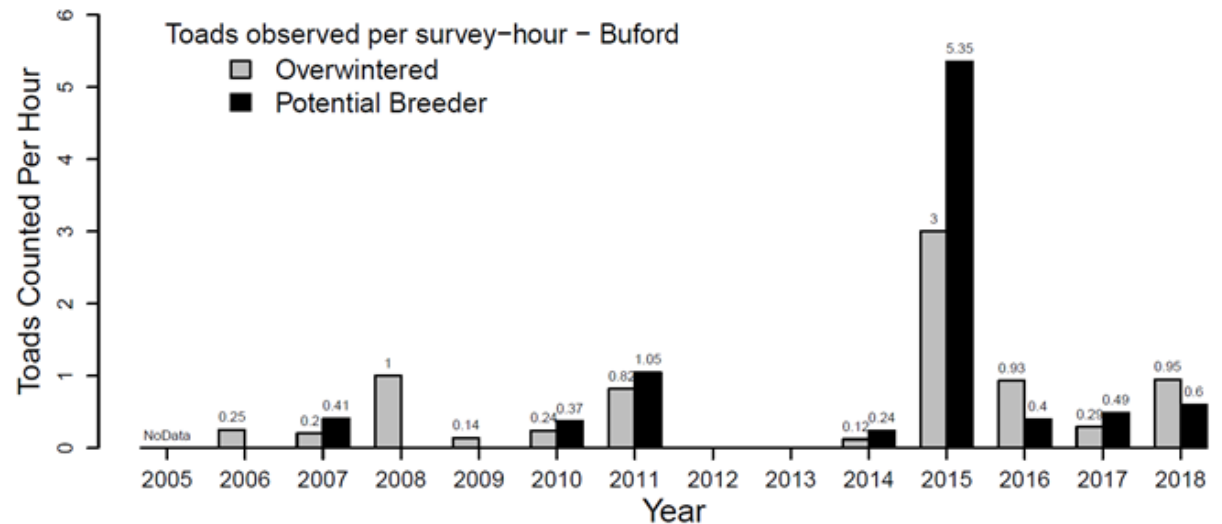
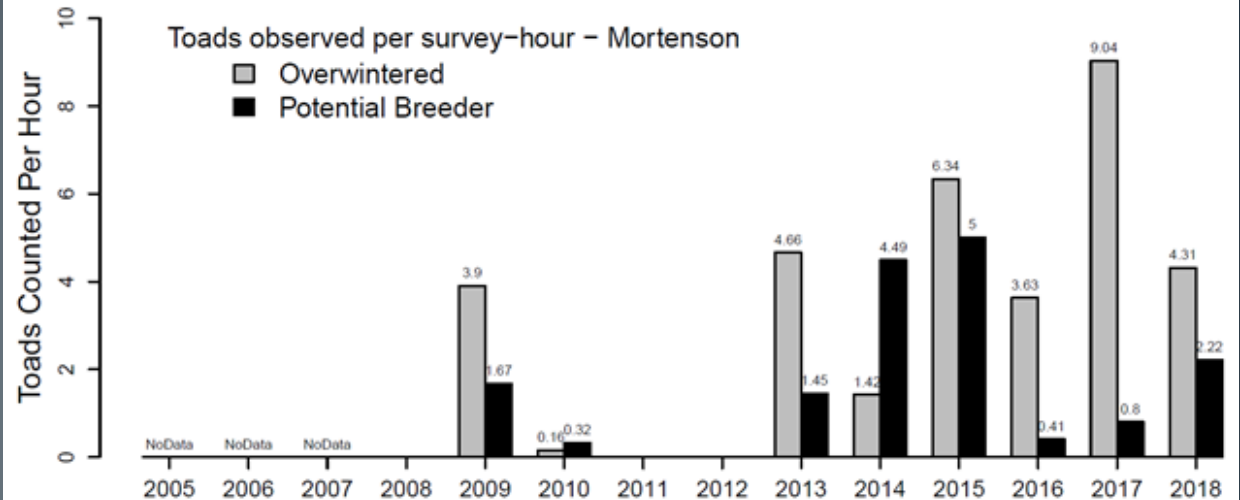


- Species Survival Plan (SSP)
  - “... a coordinated effort to save a species through captive breeding, public education, habitat preservation, supportive research, and in some cases, the release of captive-bred animals into the wild.”
- 8 Zoos and 3 FWS facilities
  - Cheyenne Mountain Zoo
  - Detroit 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 (not formal)



July 2012 SSP Meeting

# The future: Is there hope?



# Wild Breeding!

Wild breeding in each of the last 3 years.



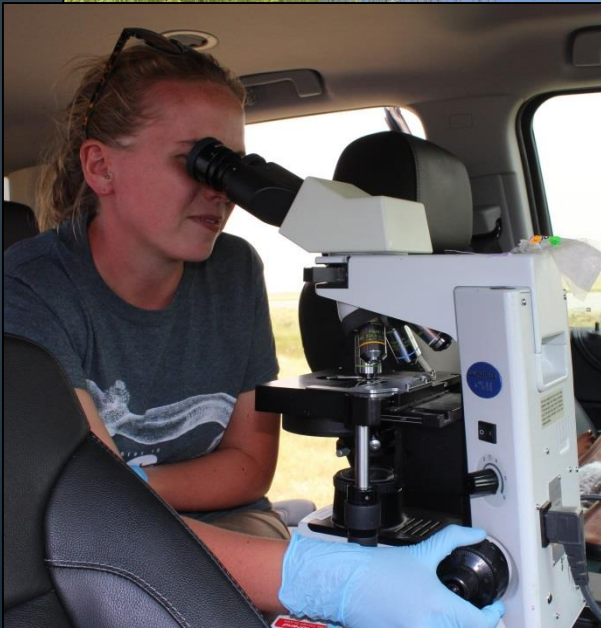
# Habitat Modification



# Research



# Research



# Community Engagement







# 4-H UW Ag Extension



# The Wyoming Toad Coloring Book



## Education Material Development



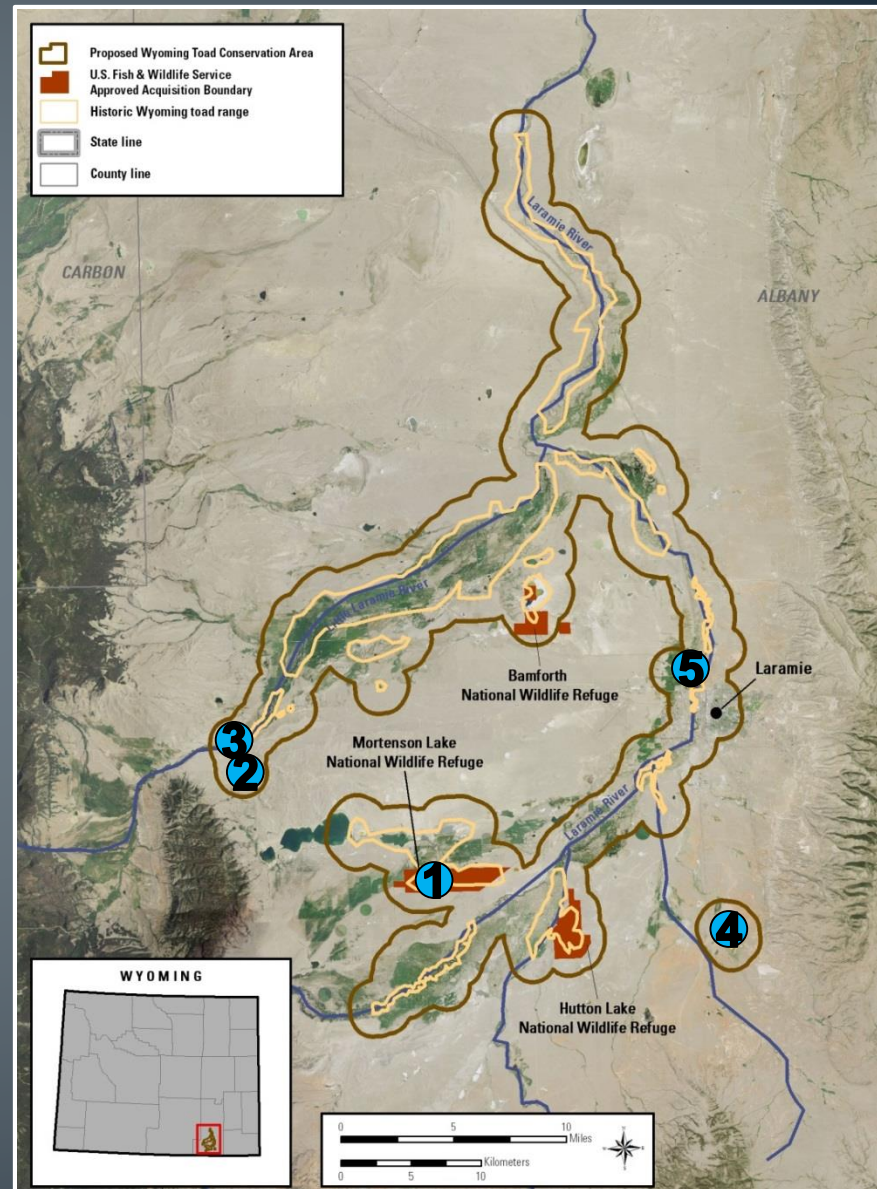
UW Biodiversity  
Institute



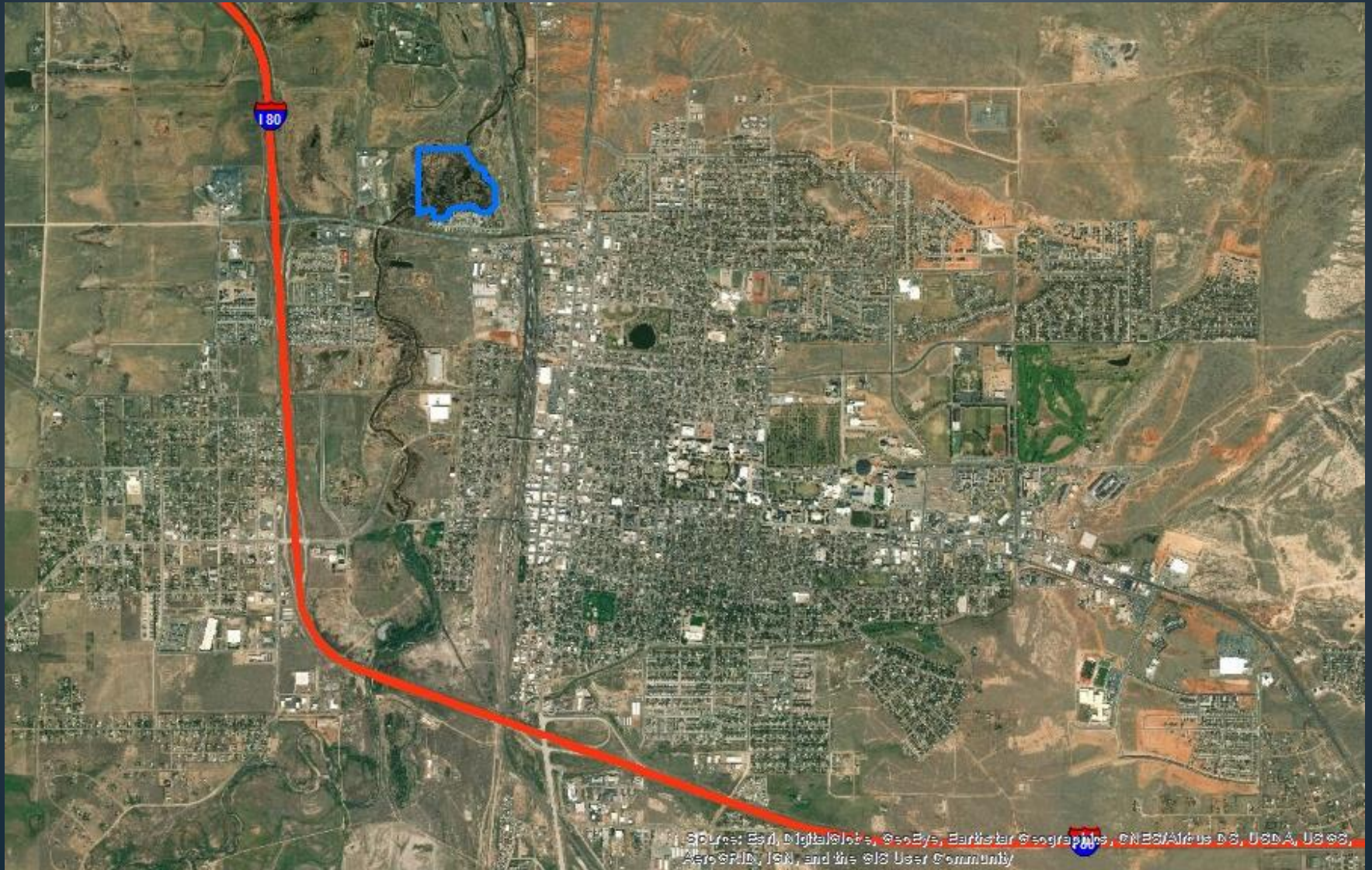
The Nature  
Conservancy   
Protecting nature. Preserving life.®

# How Does Outrider Fit In?

- Heart of historic range.
- Formerly occupied location.
- Variety of high-quality wetland habitat.
- As part of greenbelt system, a fantastic opportunity for community education.

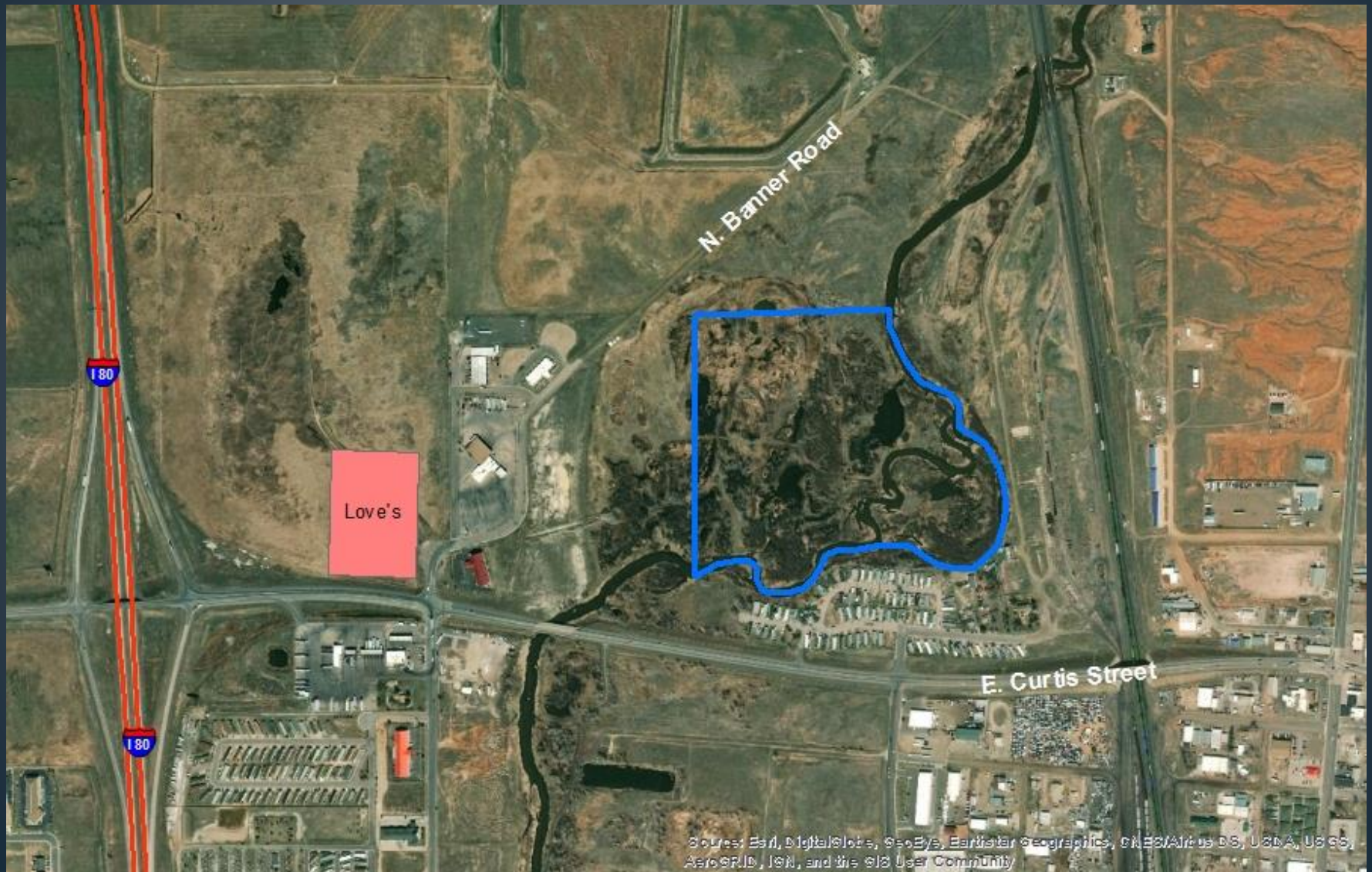


# Wyoming Central Land & Improvement Company



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Outrider Safe Harbor Area



## Safe Harbor Agreements (Section 10 ESA)

- *Voluntary* agreements between USFWS and cooperating non-federal agencies to manage habitat for threatened and endangered (T&E) species.
- SHAs benefit T&E species *without placing additional restrictions* on private land use.
- Wyoming Toad 50 year SHA is between the USFWS and Laramie Rivers Conservation District, LRCD then holds agreements with landowners (Landowner Cooperative Management Agreement or LCMA).
- Baseline Toad population for current LCMA is zero.
- LCMA agreements are typically 10-20 years and landowners may opt out.

# How has the Wyoming Toad Safe Harbor program worked?

- No problems in 15 years and 6 SHA agreements.
- One landowner decided to opt out with no problems.
- Neighbors are protected in the agreements.
- FWS wants to see net conservation benefits and is not interested in micromanaging Safe Harbor properties.

# Outrider Safe Harbor Area



*Questions?*