

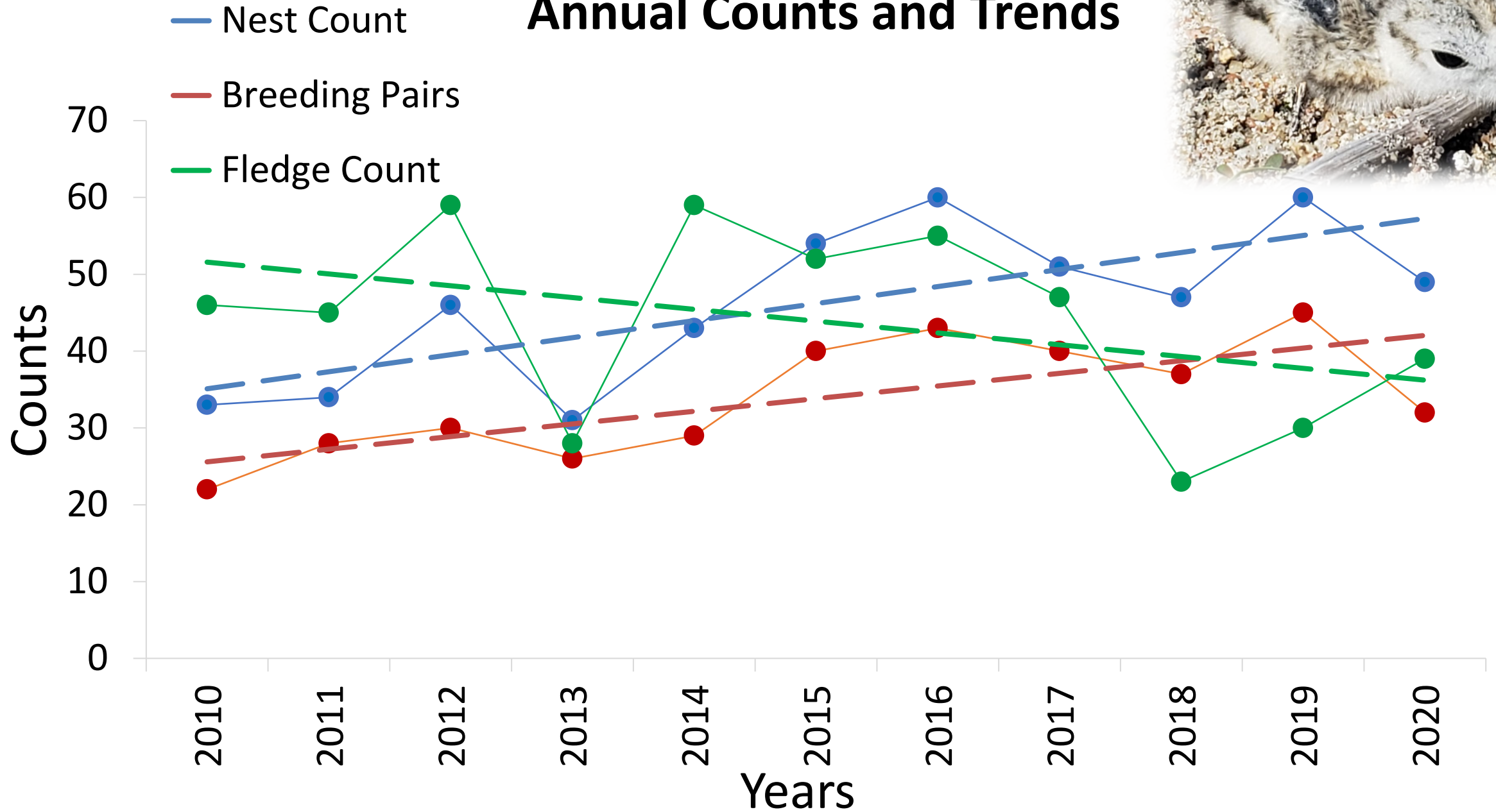


2020 LTPP Update

Kari Mohlman
Biologist
LTPP Lead

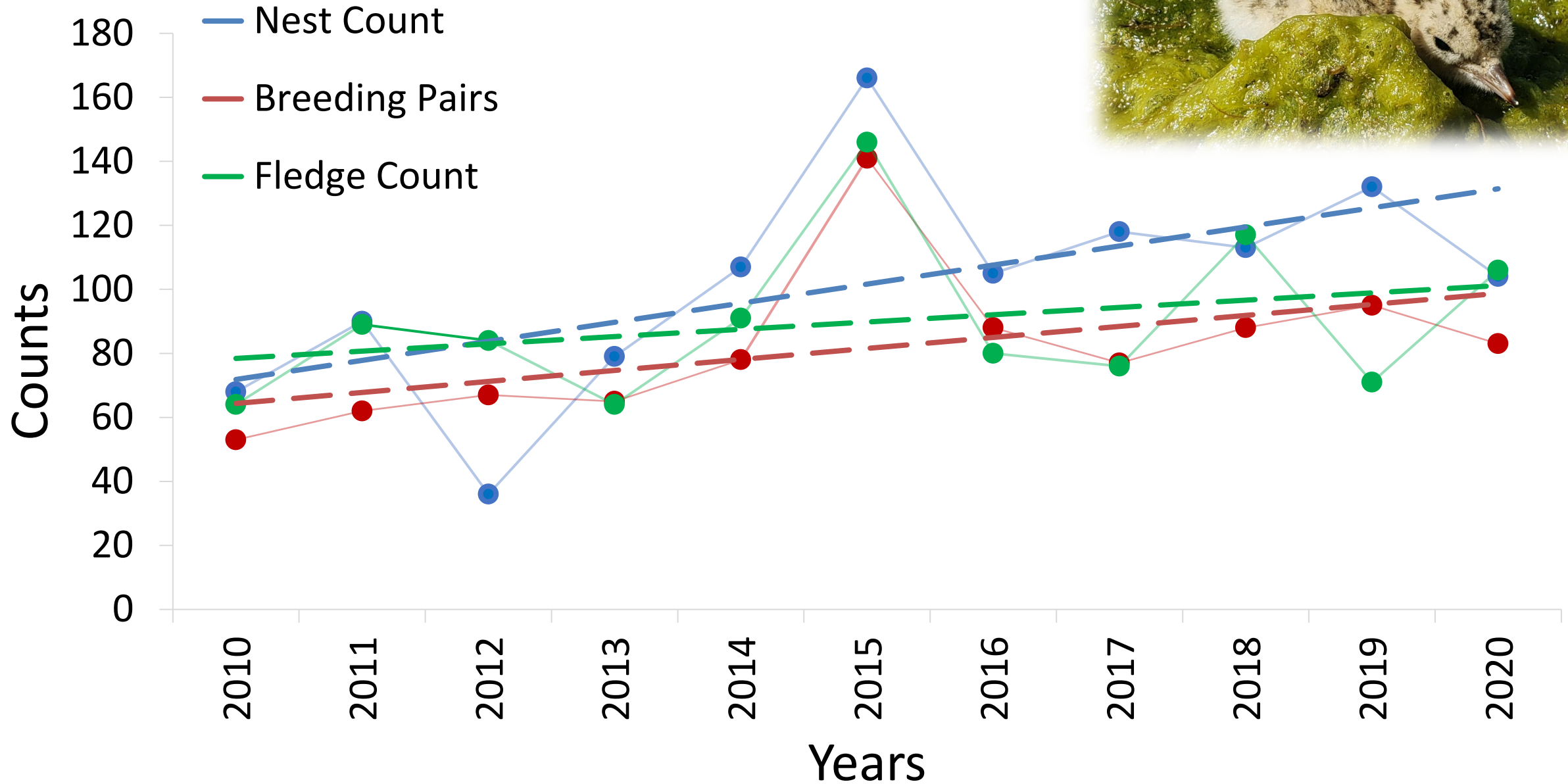
PIPING PLOVER

Annual Counts and Trends

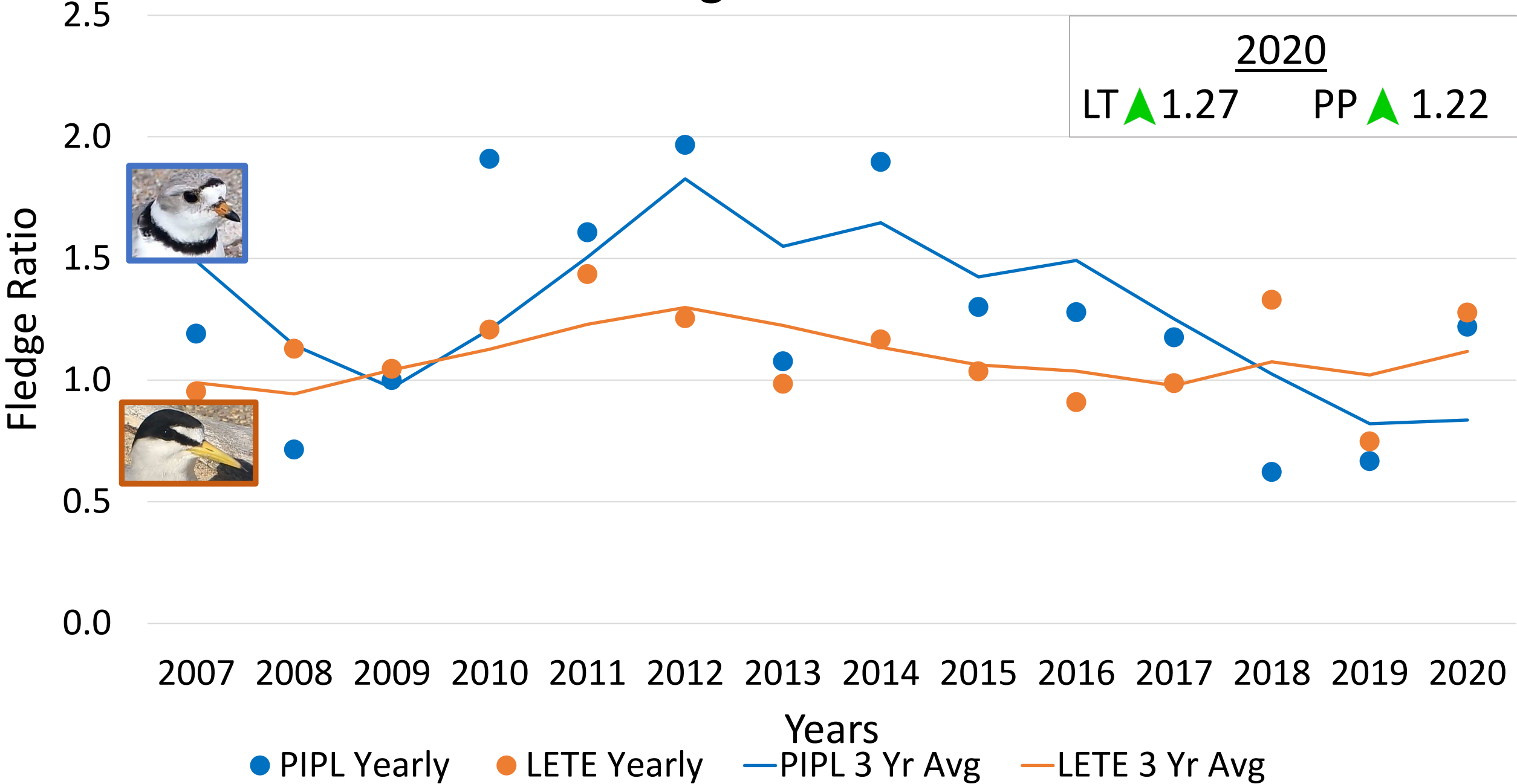


LEAST TERN

Annual Counts and Trends



Fledge Ratios



Failed Nests and Broods Terns and Plovers

Status	2019	2020
Predated	23	18
Weather/ Flooding	18	0
Failed Unknown	87	58
Abandoned	1	3
Total	129	79



Behavior



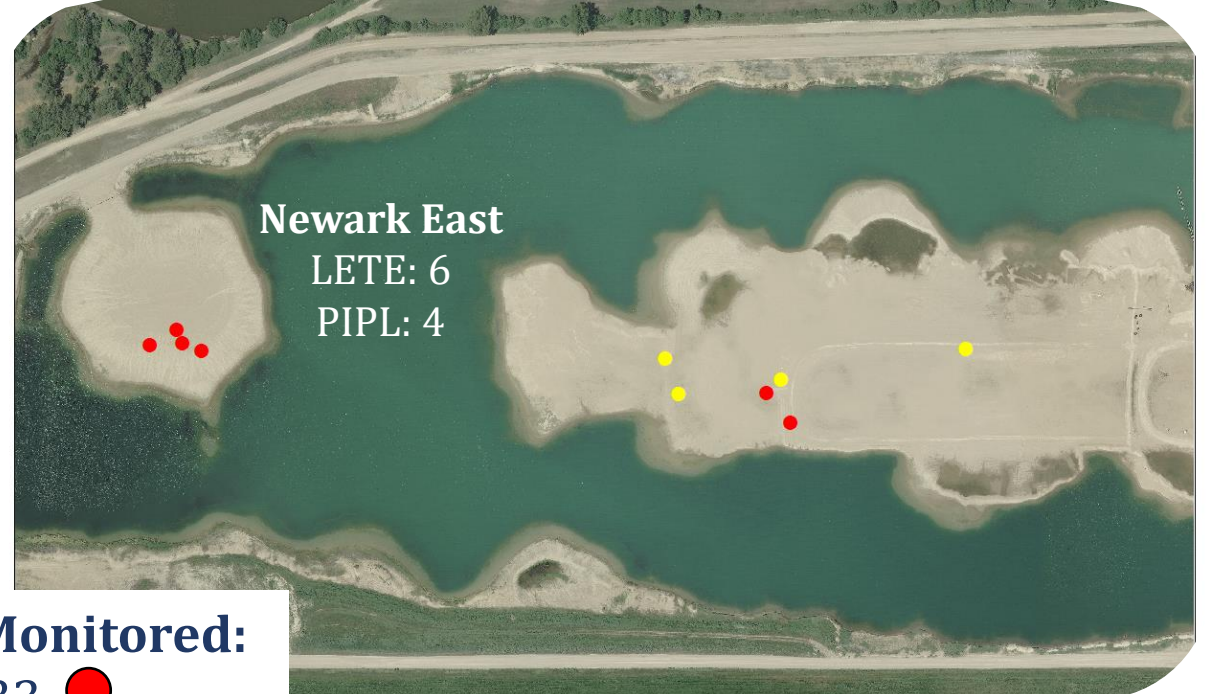
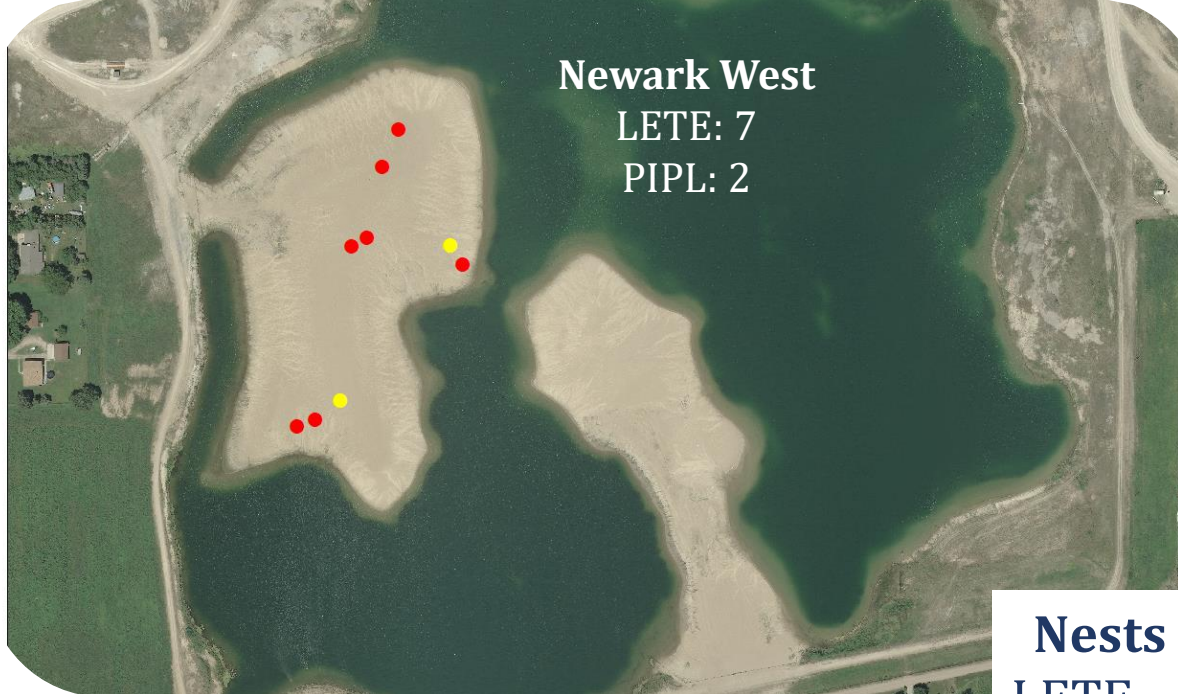


Questions?

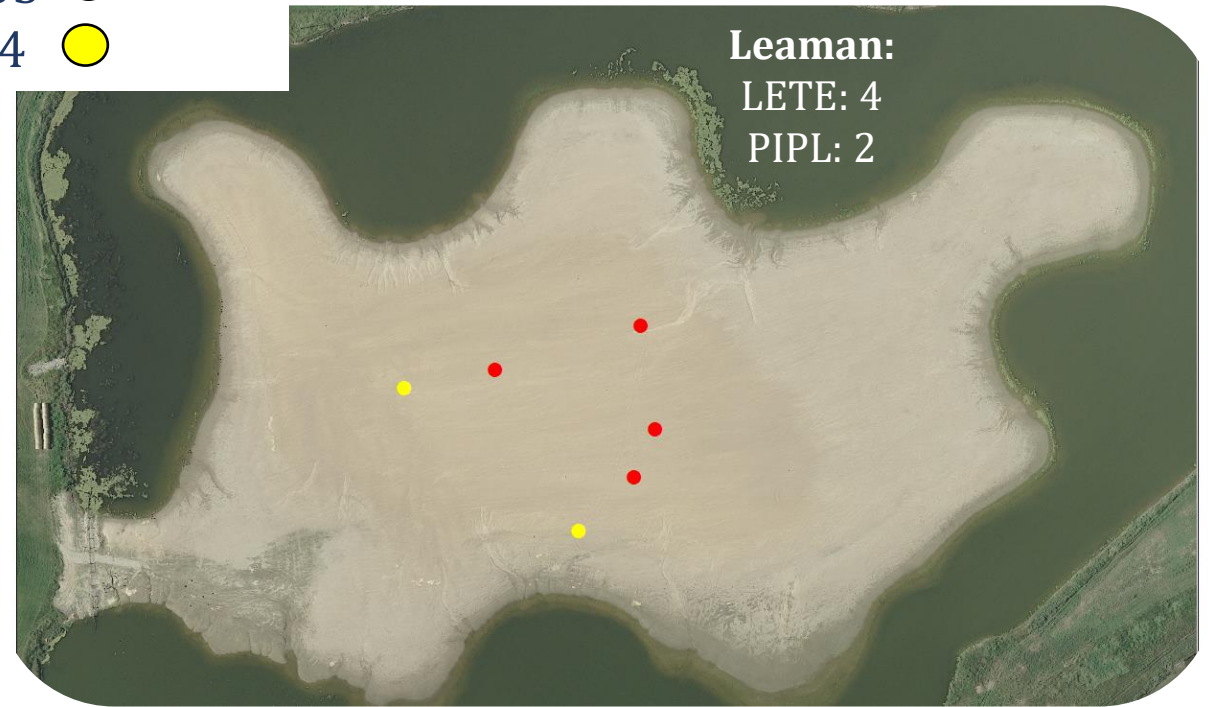
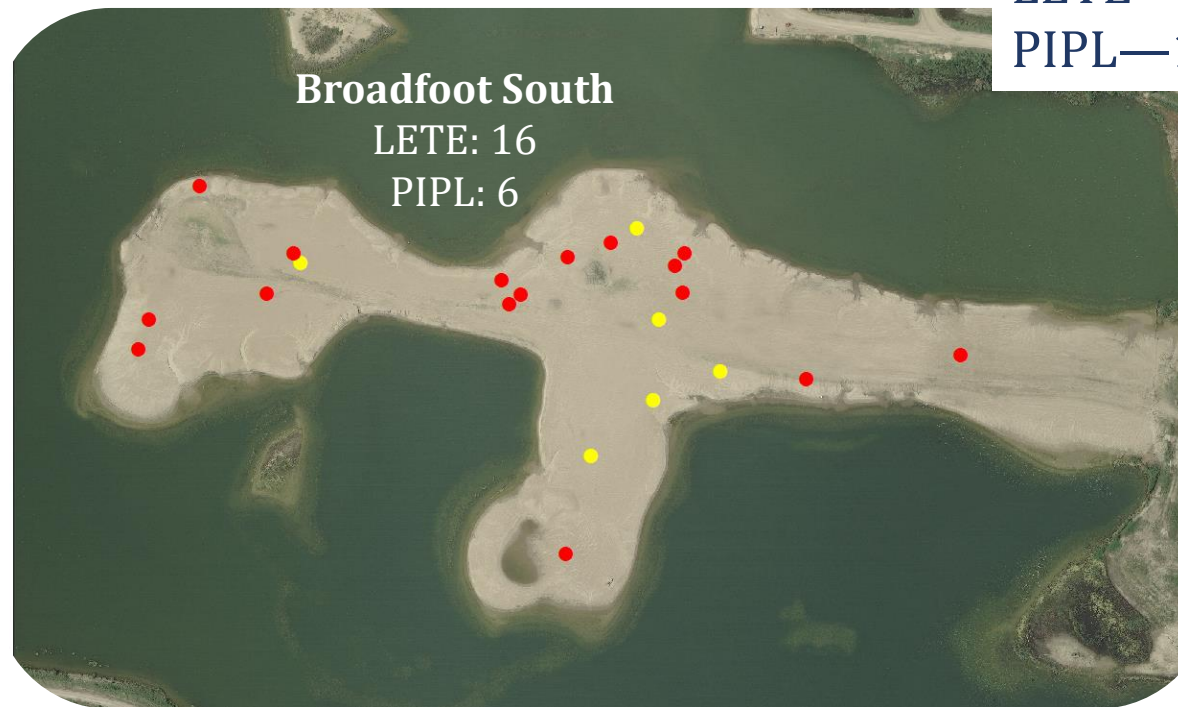
Nest Predator Camera Research and Monitoring

Kaley Keldsen
Predator Research
Biologist

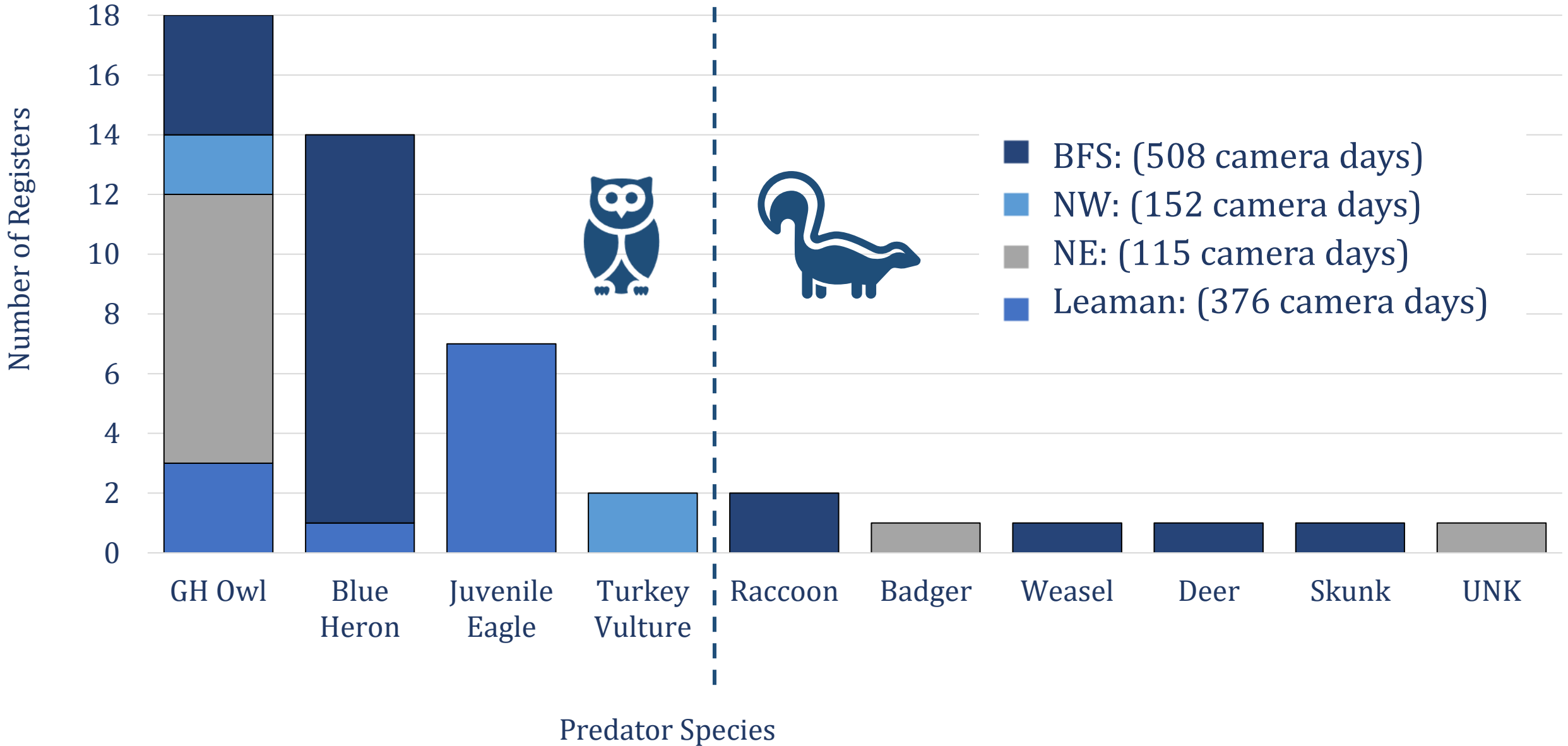




Nests Monitored:
LETE—33 ●
PIPL—14 ●



Predator Species Registered by Nest Cameras



Owl Register Examples



Presence



Predation



Turtle Fencing

Wood



Metal



- No foraging avoidance
- No nesting avoidance

Turtle Fence Effectiveness

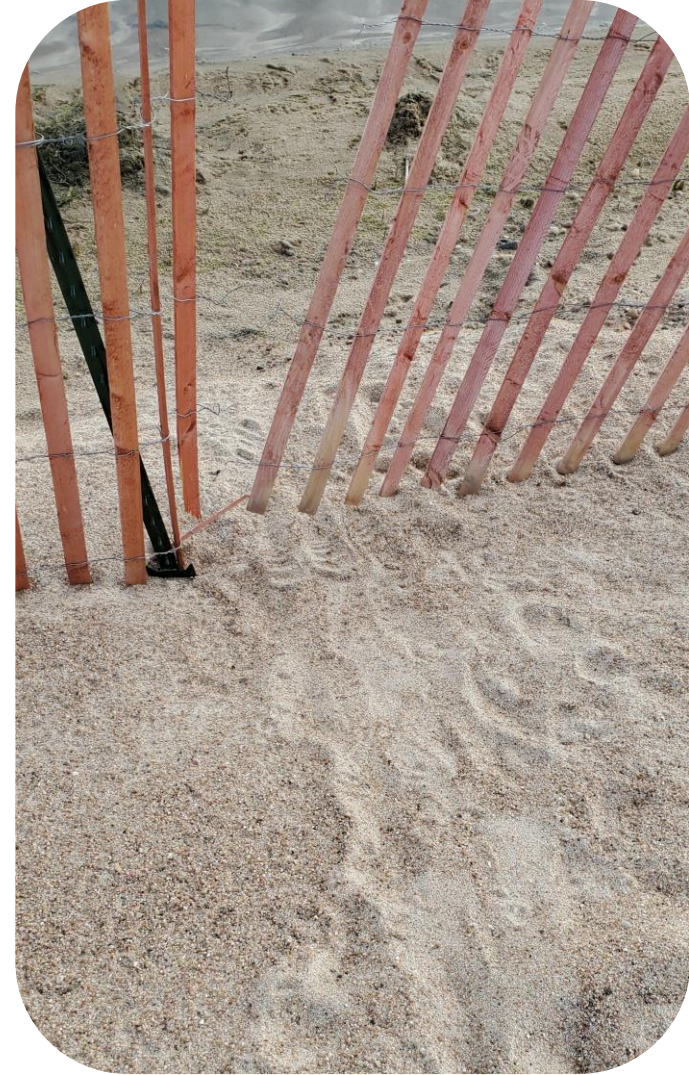
Barrier



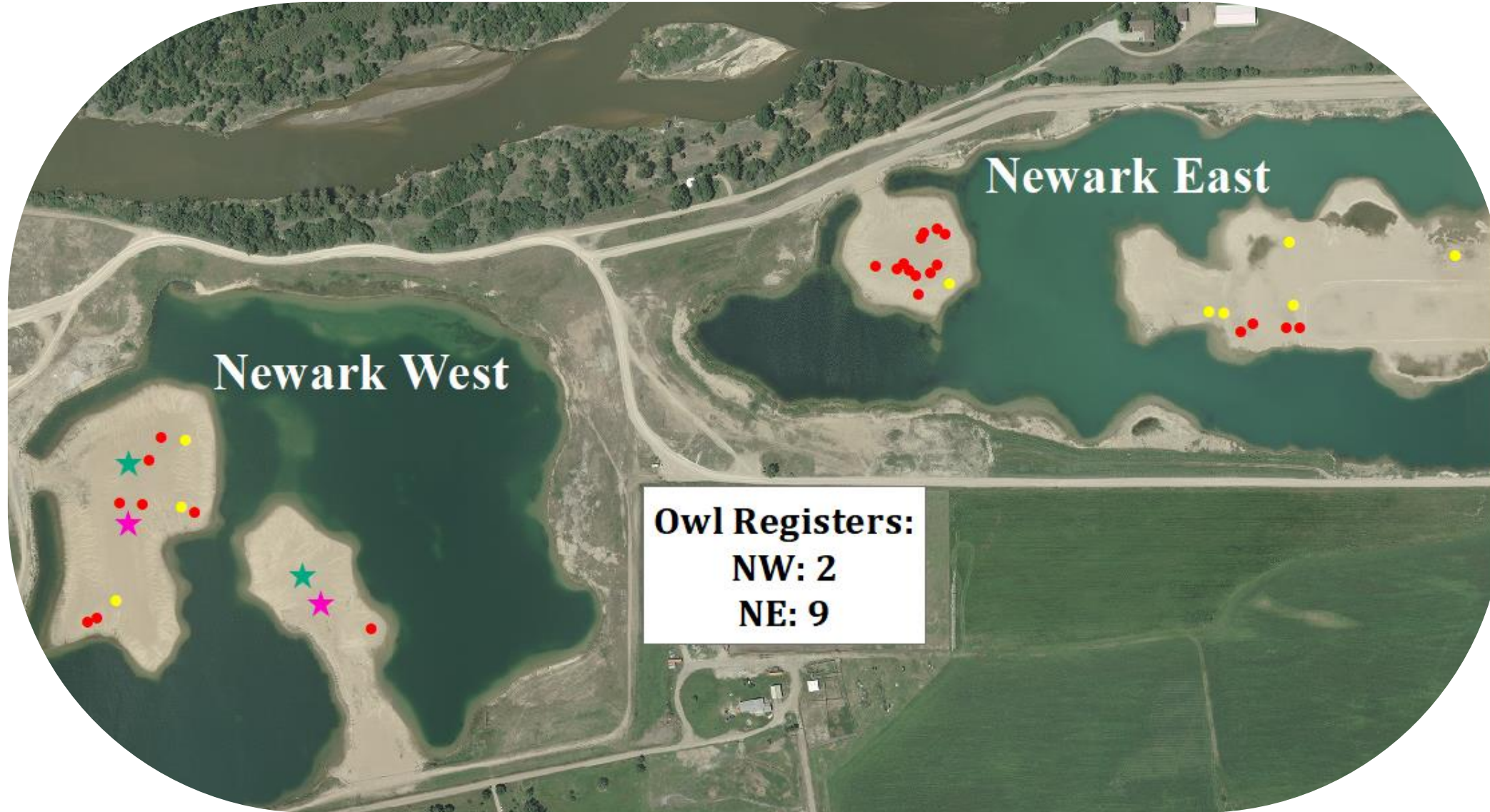
Track Surveys
Outside Observations
Fence Cameras



Breach



Predator Deterrent Lights



★ Motion Light ★ Random Light ● PIPL Nest ● LETE Nest

Concluding Thoughts

- **Nest predator cameras** 
 - Defines nest predator communities
 - Guides future predator management actions
- **Turtle fencing and predator lights** 
 - No LTPP nest or foraging avoidance
 - Continue data analysis of effectiveness



**Taylor Cassidy
Graduate Student
University of Nebraska
at Kearney**





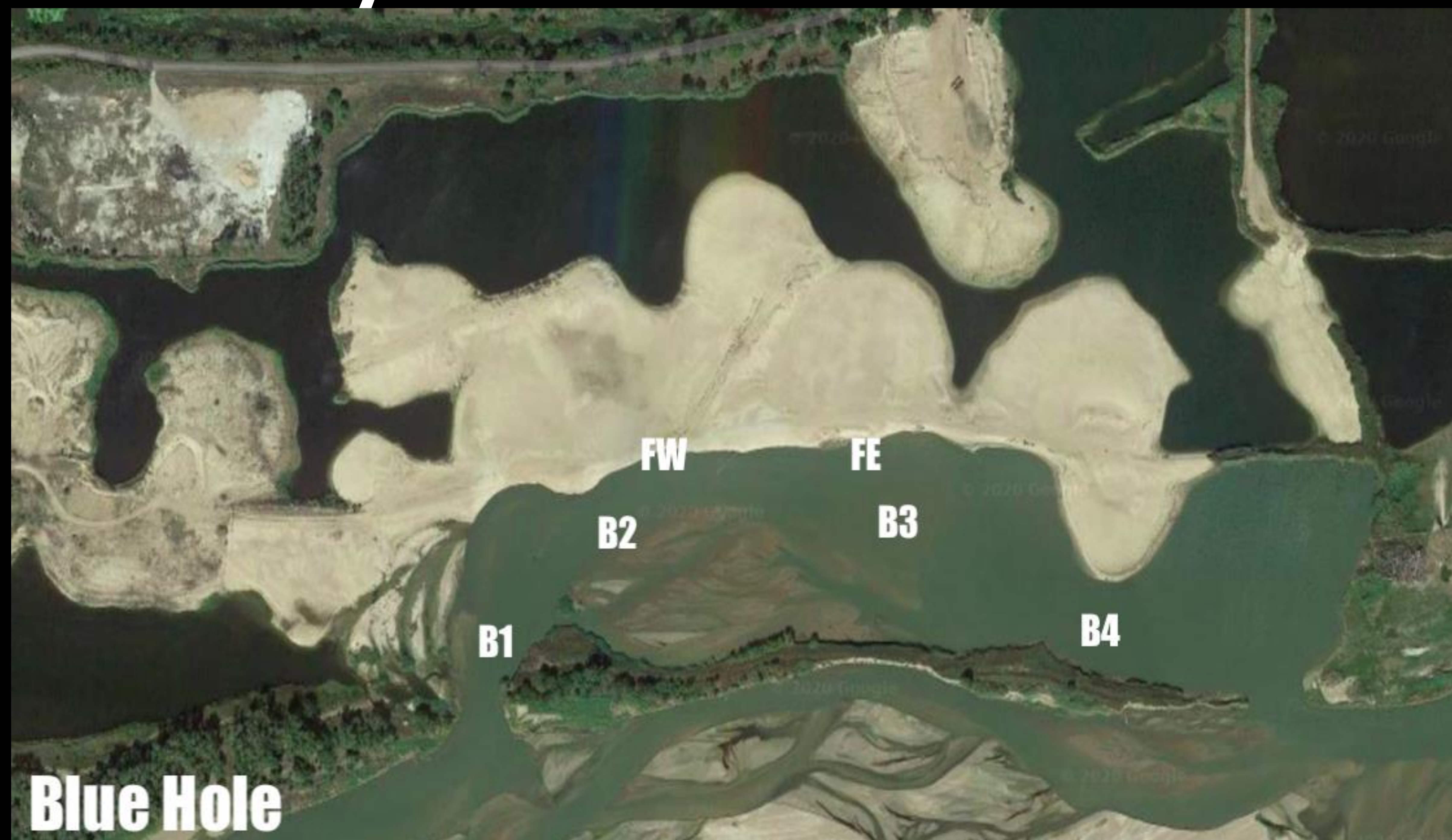
Can the program improve chick survival through additional predator management activities, including turtle exclusion / trapping?



Objectives

- Document Site Usage
- Estimate Population Size

Study Sites



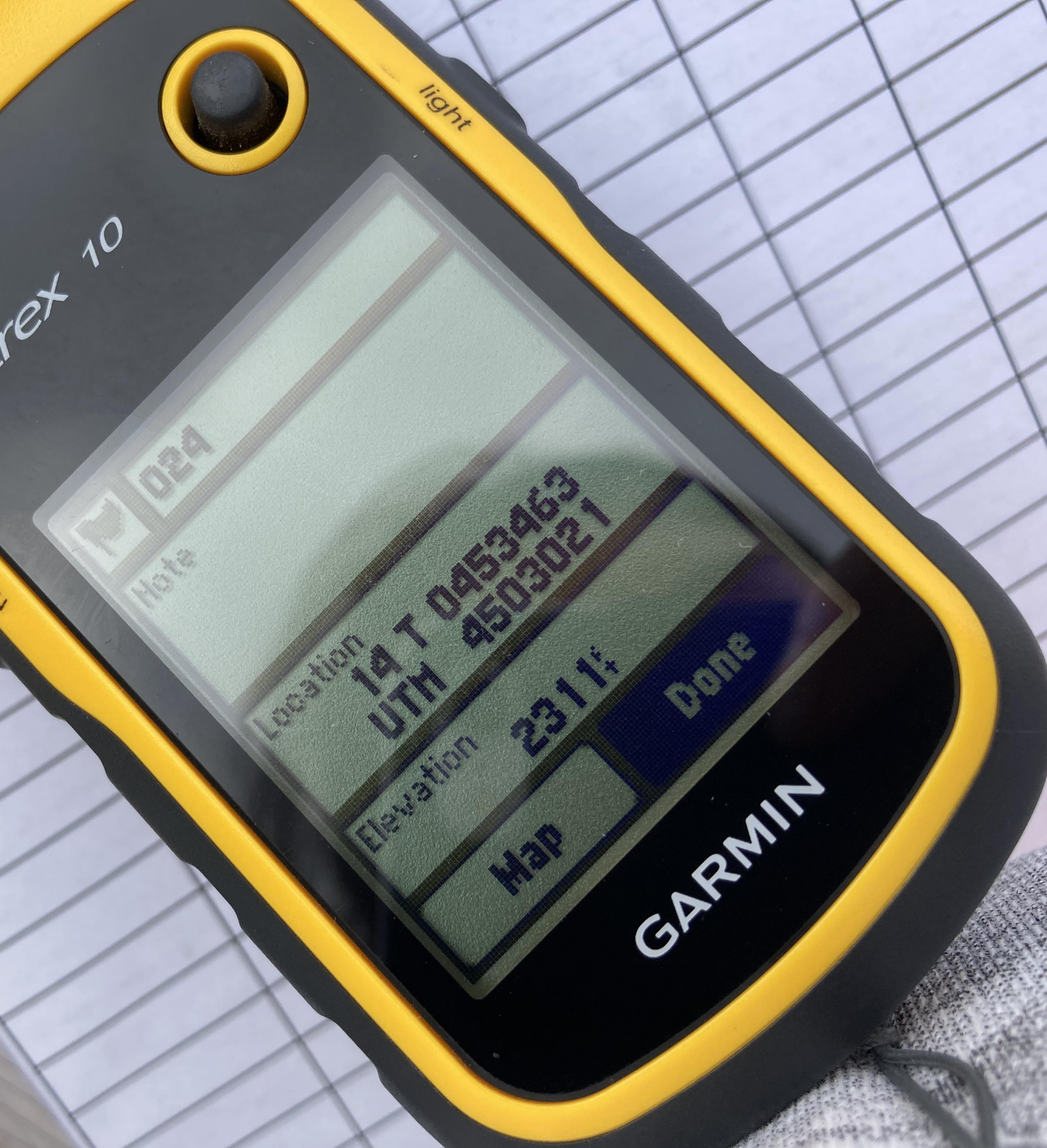


- May-September
- Baited hoop nets
- 2 funnel traps

Methods

- Measured
- Weighed
- Sexed
- Tagged





Blue Hole

Basking and Nest Sites

Blue Hole
Total Captures: 74
Recaptures: 16



Dyer
Total Captures: 7
Total Recaptures: 0



Broadfoot South
Total Captures: 10
Total Recaptures: 1



Cottonwood Ranch
Total Captures: 23
Total Recaptures: 13



Blue Hole
Total Captures: 74
Recaptures: 16



Dyer
Total Captures: 7
Total Recaptures: 0



Broadfoot South
Total Captures: 10
Total Recaptures: 1



Cottonwood Ranch
Total Captures: 23
Total Recaptures: 13





Conclusions

- Highlight high use areas.
- Evaluate and improve trap effectiveness.
- Estimate population size.



Questions?



North Platte Chokepoint Test Flow Release

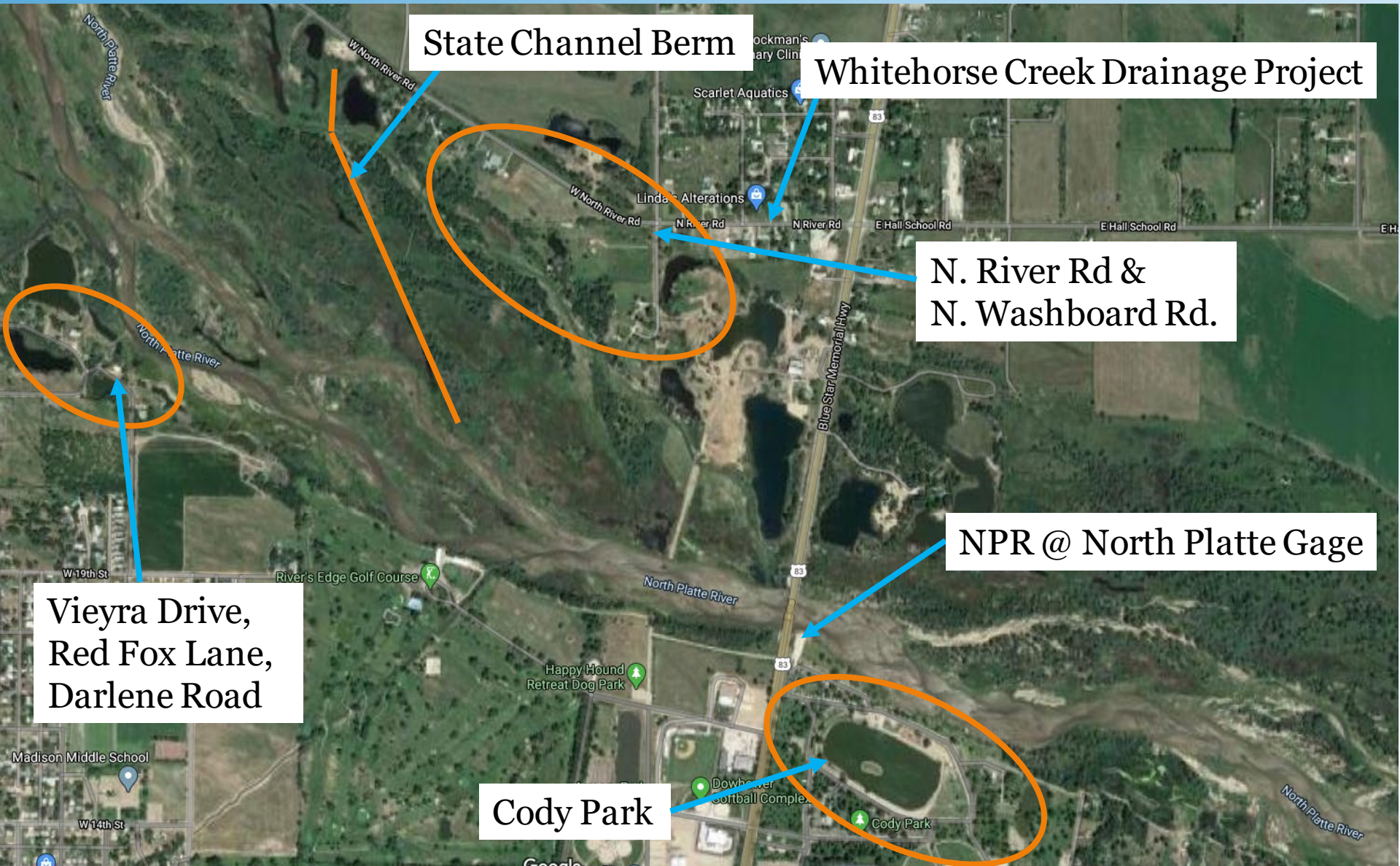
PRRIP Governance Committee
September 16, 2020

North Platte Chokepoint Test

- ❑ Location
- ❑ Program water management activities
- ❑ NPR @ North Platte flood stage/discharge
- ❑ Objectives
- ❑ Planning Workgroup
- ❑ Implementation Plan
- ❑ EA release and observed streamflows
- ❑ Visual observations
- ❑ Outcomes
- ❑ Next steps



North Platte Chokepoint Location Map



State Channel Berm

Whitehorse Creek Drainage Project

N. River Rd &
N. Washboard Rd.

NPR @ North Platte Gage

Vieyra Drive,
Red Fox Lane,
Darlene Road

Cody Park

Program Document*

Program Water Management

- Aggressively continue to implement channel conveyance improvements at North Platte choke point through efforts directed toward achieving and maintaining at least 3,000 cfs conveyance capacity while remaining below flood stage, with additional capacity developed as practicably achievable with available resources.
- Implement water releases including short-duration high flows (SDHF) and target flows once Program water projects are operational and choke point conveyance issues are resolved.
- The Program will continue to evaluate the efficacy of available Program water and choke point capacity through time to ensure Program water meets its intended purposes.

*Addendum to the Final Platte River Recovery Implementation Program – First Increment Extension, Section II.B. June 7, 2017



NWS Flood Stage and Discharge

Vieyra Drive,
Red Fox Lane,
Darlene Road

N. River Rd &
N. Washboard Rd.

Cody Park

NWS Flood Stage	River Stage	Rating Curve Discharge
	[ft]	[cfs]
Minor	6.0	1,930
Moderate	6.5	2,770
	6.63	3,000
	6.75	3,250
Major	7.0	3,760

Chokepoint Test Objectives

- Increase minor flood stage from 6.0 ft to 6.5 ft
 - ▣ Release EA water to achieve target stages
 - ▣ Extensive monitoring and data collection
 - ▣ Document for review by NWS
- Evaluate performance of restored State Channel Berm under high flow conditions



Chokepoint Planning Workgroup



Implementation Plan

- ❑ Staff roles and responsibilities
- ❑ Communication
 - Advisory signs
 - Press release (media outlets, PRRIP website banner, etc.)
- ❑ Schedule for EA release and stage targets at North Platte
- ❑ Monitoring (where, what, when)
- ❑ Triggers for termination

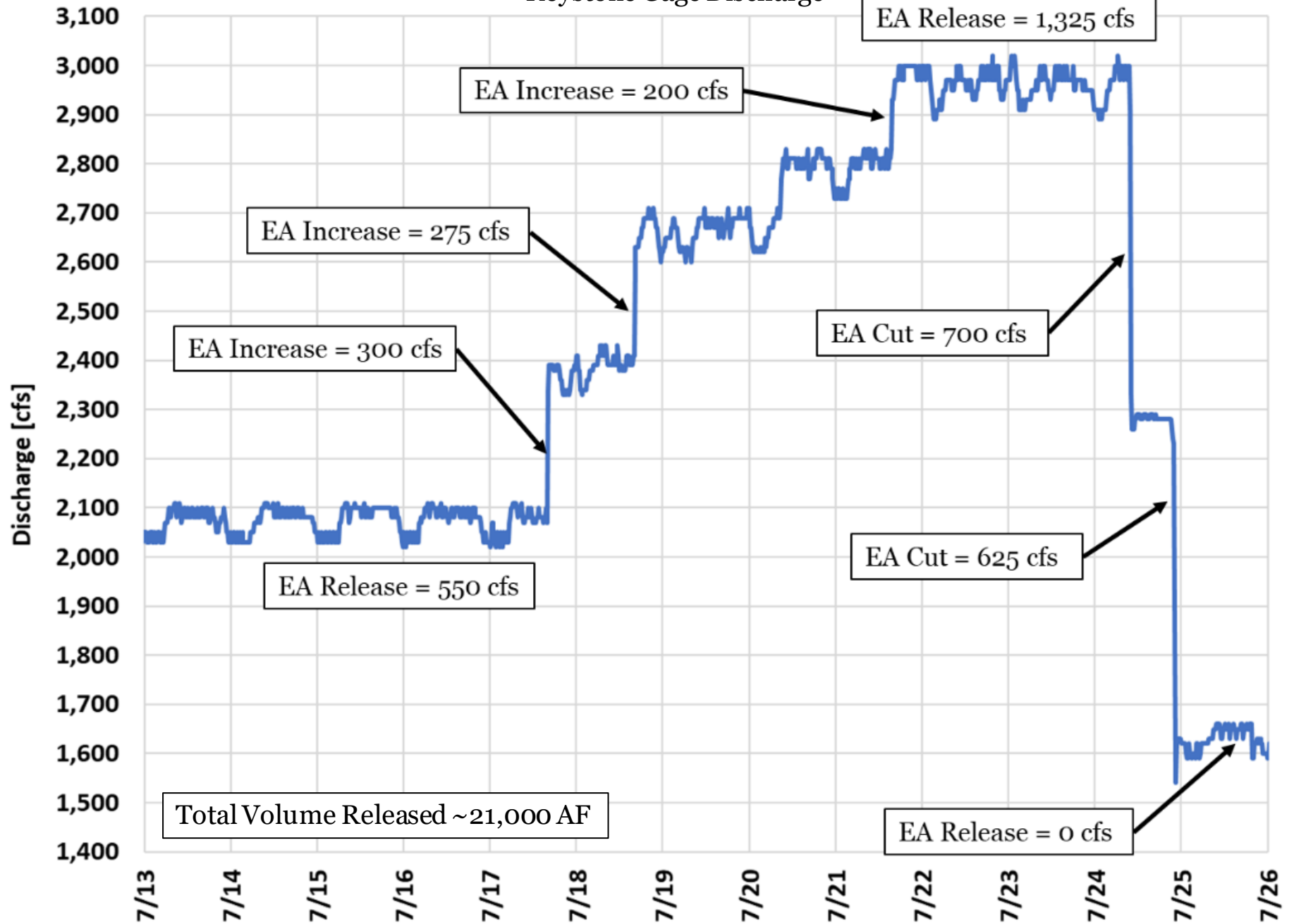
CAUTION

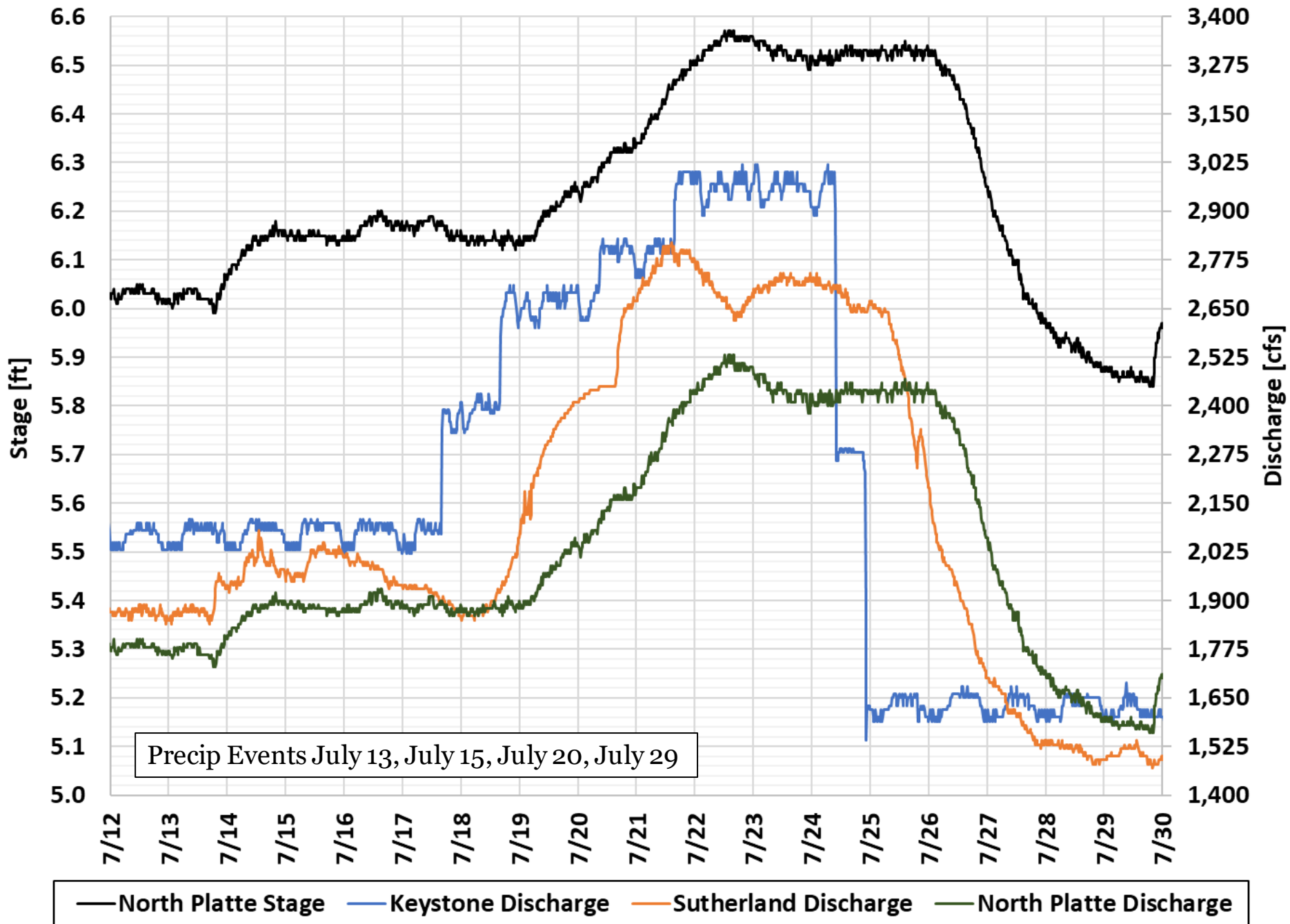
**North Platte River
Temporary High Flows
July 13-August 4**

**For Information
www.platteriverprogram.org**

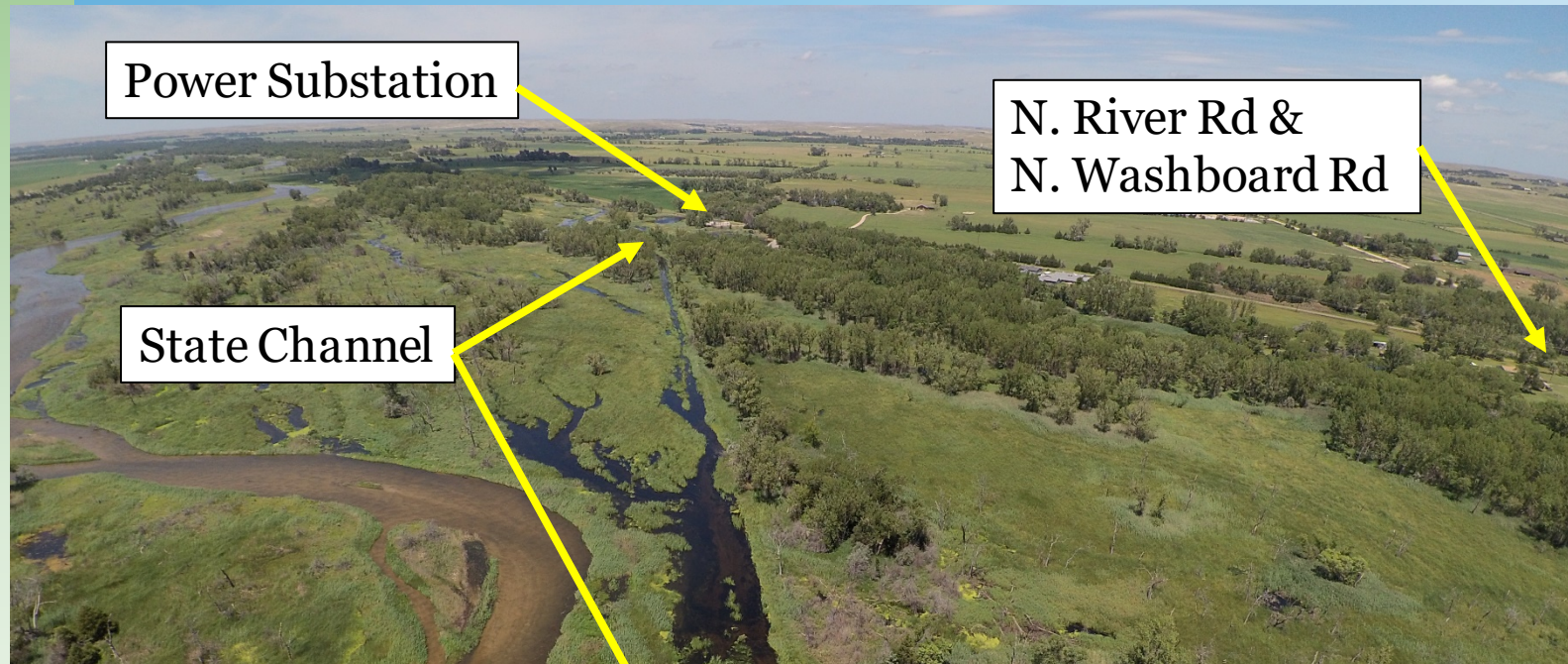


Keystone Gage Discharge





State Channel



July 15, Stage = 6.15 ft

July 24, Stage = 6.52 ft

SW Quadrant, North River Road & North Washboard Road Before State Channel Restoration – Spring 2011 and 2016 Floods



March 31, 2011
Stage = 6.34 ft

May 25-26, 2016
Stage = 6.39 ft – 6.48 ft



SW Quadrant, North River Road & North Washboard Road After State Channel Restoration – Summer 2020 Chokepoint Test

July 9, Stage = 5.93 ft



July 16, Stage = 6.17 ft



July 20, Stage = 6.29 ft



July 24, Stage = 6.52 ft



Checkpoint Test Outcome



Evaluate performance of restored State Channel Berm under high flow conditions

- ▣ Performed as designed
- ▣ Did not observe water in the N. River Rd & N. Washboard Rd area
- ▣ Minor overtopping of low spots in berm, will evaluate maintenance needs





Darlene Road Property

Albrecht Property

Red Fox Lane (Albrecht) Property

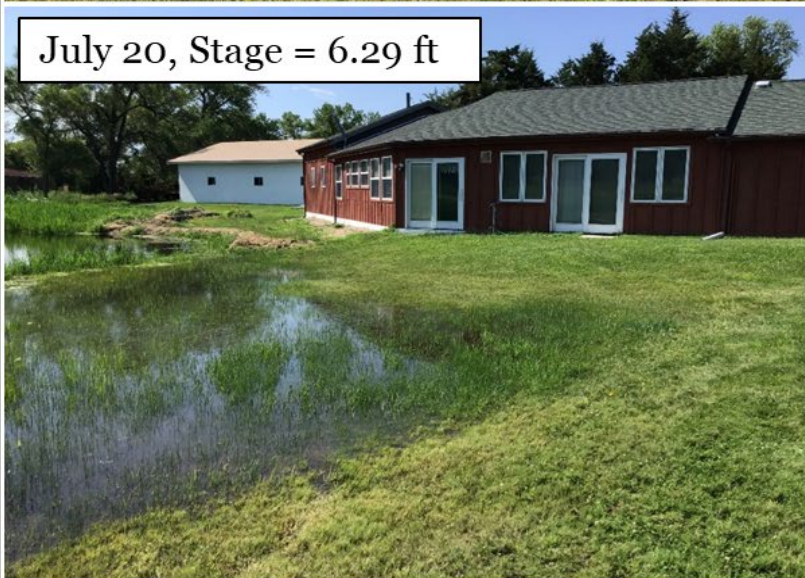
July 16, Stage = 6.17 ft



July 18, Stage = 6.14 ft



July 20, Stage = 6.29 ft



July 23, Stage = 6.53 ft



Red Fox Lane (Albrecht) Property

July 20, Stage = 6.29 ft



July 23, Stage = 6.53 ft



July 24, Stage = 6.52 ft



Red Fox Lane (Albrecht) Property



Darlene Road Property



Checkpoint Test Outcome



Increase minor flood stage from 6.0 ft to 6.5 ft

- NWS declared that observed impacts at Red Fox Lane and Darlene Road properties rose to level of “threat to property.”
- Per NWS July 29 letter, “flood categories will remain the same for the gage on the North Platte River, at North Platte.”
- Flood stage impacts definitions revised to reflect observations.
 - South bank impacts at 6.0 ft and 6.5 ft
 - No mention of north side impacts until 6.8 ft
- EA release to remain limited by flow capacity at 6.0 ft
 - 1,740 cfs with August 18 shift
 - Varied from 1,610 cfs to 1,930 cfs since April 2020



Next Steps

- ❑ Large-Scale Engineering Solutions
 - ❑ Channel widening, dredging, construction of jetties
 - ❑ Dedicated bypass canal
 - ❑ Improvements to existing canals
- ❑ Property buyouts
- ❑ Modify the Program Document
 - ❑ Eliminate “below flood stage” requirement
 - ❑ Accept liabilities
- ❑ Work within existing flood stage and capacity constraints
 - ❑ Let science (AMP Update) guide







PRRIP-CNPPID Irrigator Lease

George Oamek, EDO
Renata Rimsaite, UNL

September 16, 2020



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Historical Perspective

- ❑ Pays irrigators to fallow irrigated lands during years of full surface water allocation; store water in the EA
- ❑ First implemented for the 2016 crop year
- ❑ Payment of \$220/acre, or \$293/acre-foot for 0.75 acre-feet
- ❑ Targeted 3,000 acres – taking 3 years to reach full participation
- ❑ PRRIP pays CNPPID to administer the program
- ❑ Currently fully subscribed – high interest as commodity prices have tanked



What We Learned

- ❑ Established goodwill with irrigators
- ❑ Reduces irrigated acreage and consumptive use
- ❑ Water supply is in the EA
- ❑ Two major drawbacks:
 - ▣ PRRIP's most expensive source of water
 - ▣ Single year leases, only in full allocation years



Future Benefits and Shortcomings of the Irrigator Lease Program

Potential benefits

- ❑ Scalable in size, adaptable to unknown future need
- ❑ EA storage
- ❑ Diversification of PRRIP water portfolio
- ❑ High, but competitive, cost when compared to new water projects
- ❑ Flexibility to adapt to future conditions and water transfer innovations

Potential shortcomings

- ❑ Relatively high cost compared to other PRRIP options
- ❑ Future cost uncertainty -- commodity price volatility will influence future lease prices



Irrigator Feedback

- ❑ Existing program is popular and achieving its goals
- ❑ Desire for multi-year leases, up to 3-5 years
- ❑ Acceptance that lease payment may have to be reduced
- ❑ Lease payment needs to respond to changing commodity prices, citing “flex” cropland leases
- ❑ Slight preference for a lease payment set by PRRIP than through an alternative price discovery method, like a reverse auction
- ❑ Would like a long-term partnership with PRRIP



Future Lease Payments

- Alternative “price discovery” methods for proposed lease payments:
 1. PRRIP sets the price and irrigators respond
 2. Irrigators “reveal” what they will accept through a reverse auction framework

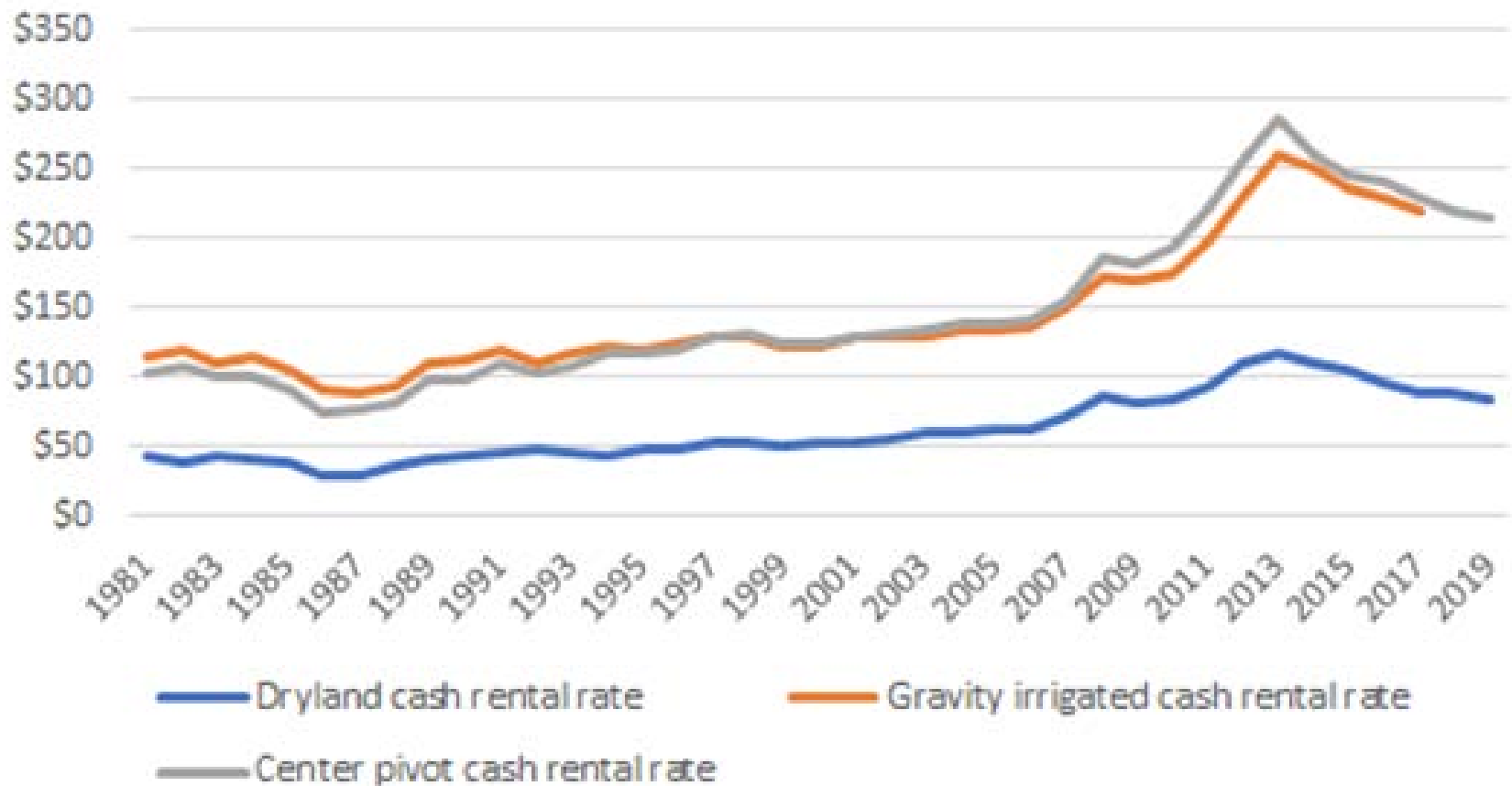


If PRRIP sets the payment

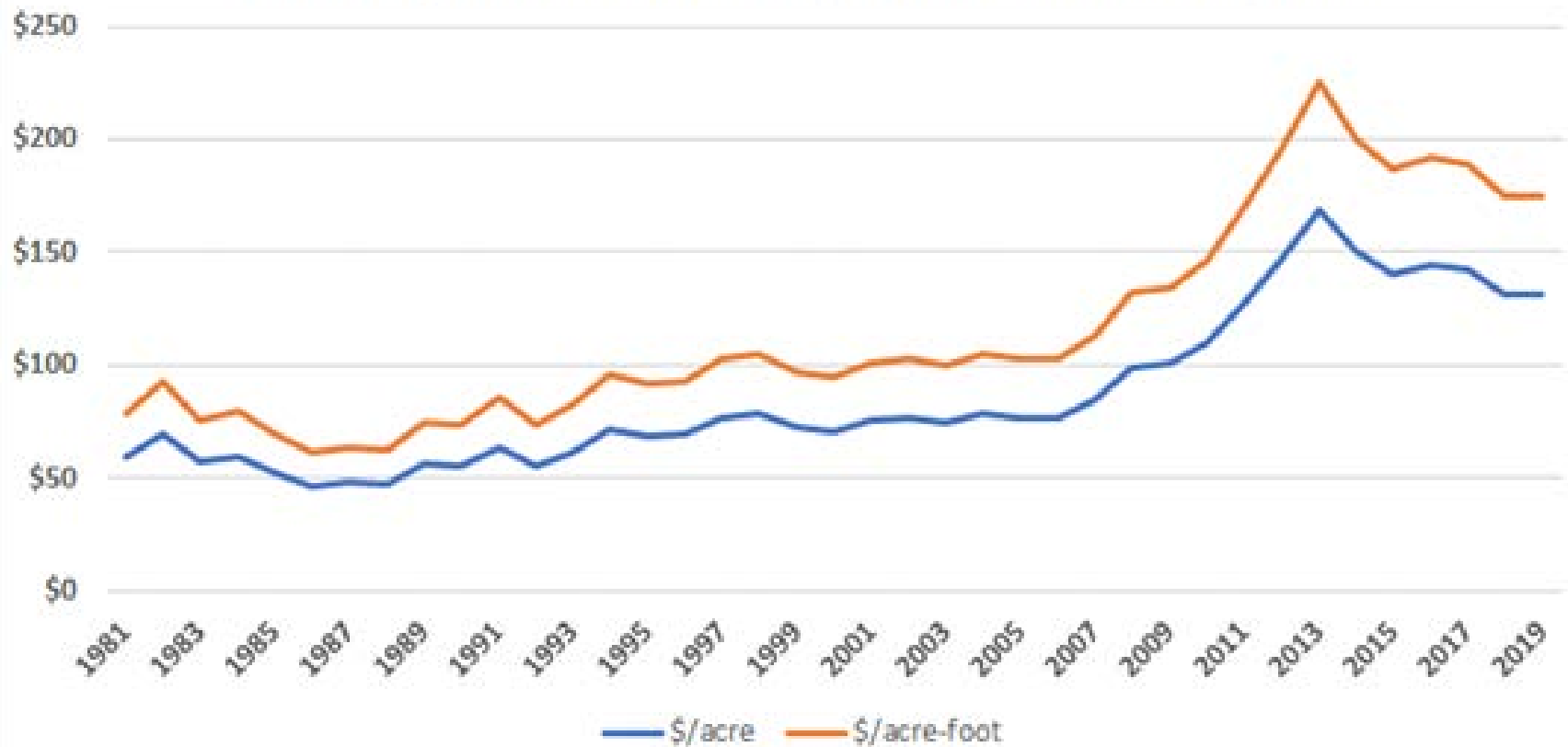
- Needs to be logical and reproducible
- Based on economics of irrigation
- Cropland rental market serves as an example
 - Lease payment is based on the difference between irrigated and dryland cropland rental rates
 - Should implicitly contain most relevant market information and expectations



Cropland Rental Rates for Central Nebraska, \$/acre



Value of Irrigation Water in CNPPID, Cropland Rental Rate Approach



Reverse Auction

- ❑ Irrigators submits bids for how much acreage they would fallow at what price
- ❑ Common approach for markets with one major buyer (like PRRIP)
 - ❑ NRCS's CRP uses this framework
 - ❑ Used by Edwards Aquifer (TX) irrigators to lease water to San Antonio
- ❑ Easiest described by example



Reverse Auction Example -- Hypothetical

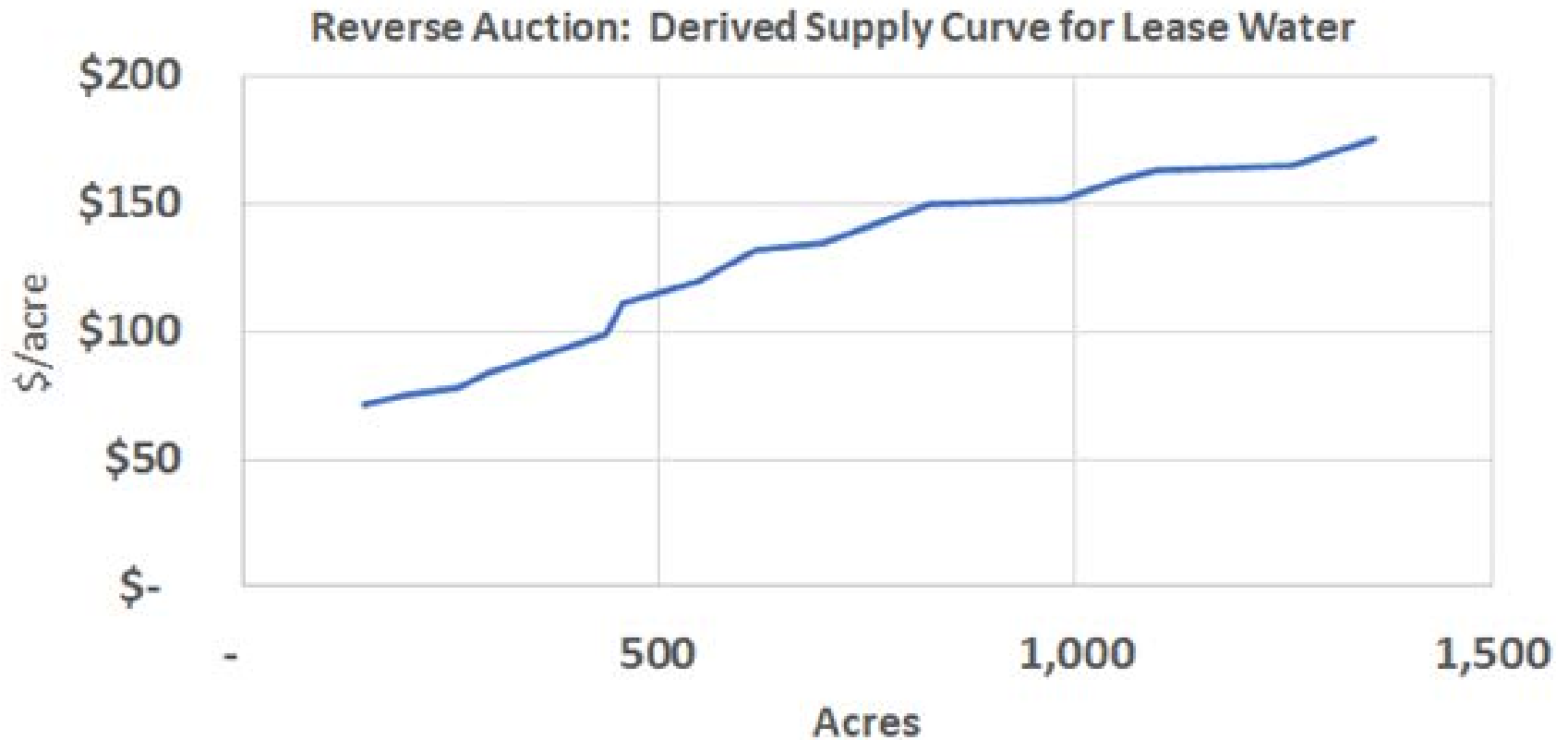
- Assume the PRRIP wants to lease the surface water from 1,000 acres in CNPPID
- The PRRIP asks interested irrigators to submit sealed bids for how many acres they would fallow and at what price
- 15 irrigators submit bids



Unsealed bids		
Bidder	Bid, \$/acre	Acres offered for fallowing
1	\$ 150	130
2	\$ 84	35
3	\$ 71	147
4	\$ 135	80
5	\$ 111	21
6	\$ 163	48
7	\$ 120	90
8	\$ 132	70
9	\$ 78	62
10	\$ 165	160
11	\$ 99	142
12	\$ 152	160
13	\$ 75	49
14	\$ 159	65
15	\$ 175	101
	Total	1,360

Unsealed bids			
Bidder	Bid, \$/acre	Acres offered for fallowing	Cumulative acres
3	\$ 71	147	147
13	\$ 75	49	196
9	\$ 78	62	258
2	\$ 84	35	293
11	\$ 99	142	435
5	\$ 111	21	456
7	\$ 120	90	546
8	\$ 132	70	616
4	\$ 135	80	696
1	\$ 150	130	826
12	\$ 152	160	986
14	\$ 159	65	1,051
6	\$ 163	48	1,099
10	\$ 165	160	1,259
15	\$ 175	101	1,360

The derived price, or supply, curve shows that 1,000 acres corresponds to \$150/acre



For the Governance Committee

1. Discontinue the irrigator lease program?
2. Continue program through 2021, but with a reduced lease payment?
3. Extend the program by offering multi-year leases with reduced payment?
 - Pricing mechanism to be determined



