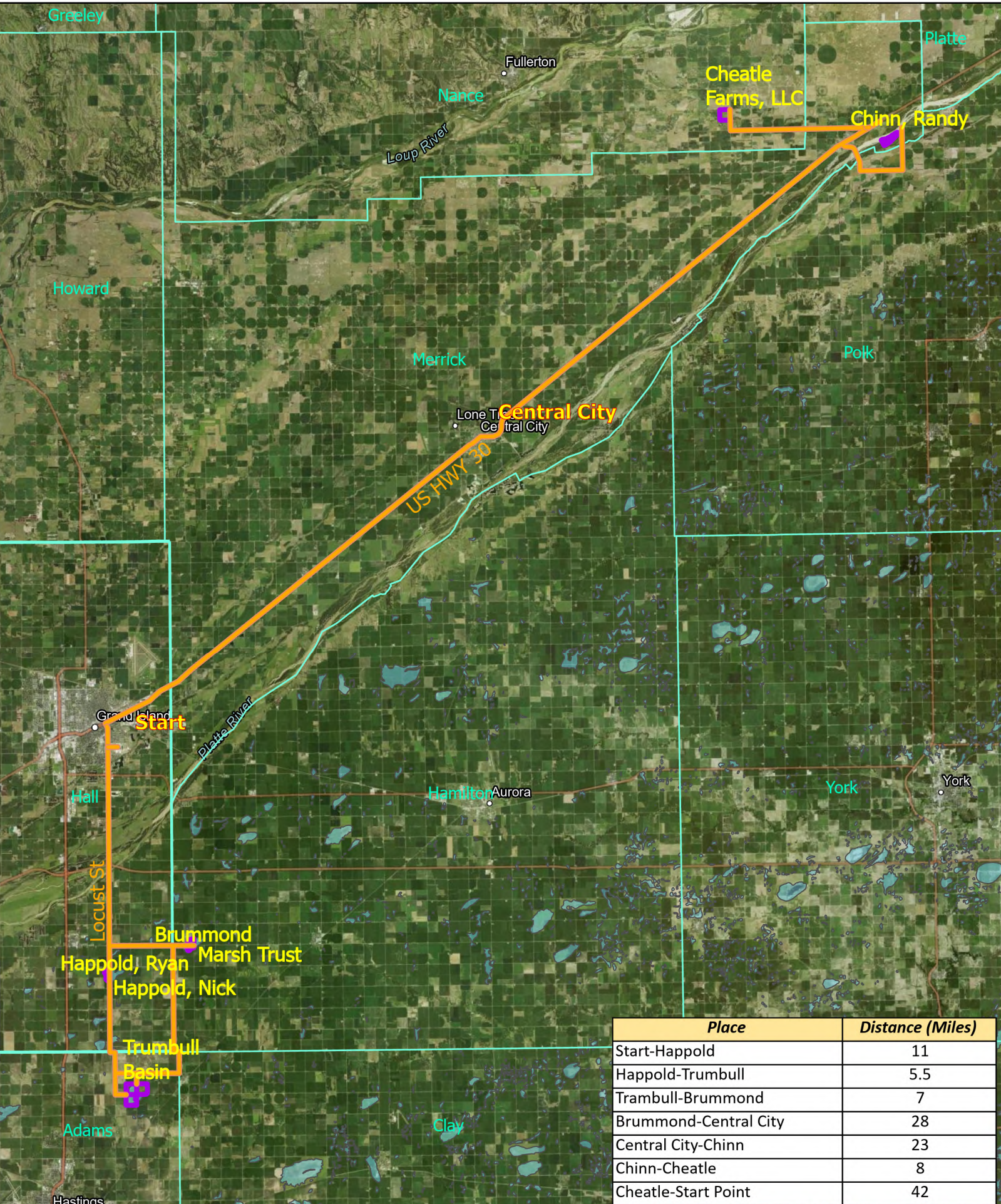


Agriculture Conservation Easement Program Partner Workshop
Heartland Event Center
700 E Stolley Park Rd
Grand Island, NE 68801
December 10 - 12, 2024

- Agenda** **Day II - December 11, 2024: Site Tour Rainwater Basin and Platte River South Central Nebraska**
- 8:00 AM Depart from Heartland Events Center
- 8:25 AM Arrive at **Happold** (Nick & Ryan) tract (45-minute tour stop) – WREP/RCPP restoration.
- 9:25 AM Arrive at **Trumbull Basin** tracts (45-minute tour stop). Adaptive Management Plan in action.
- 10:25 AM Arrive at **Marsh Trust and Brummond** (45-minute tour stop). VRI, pivot bridges, water savings.
- 11:10 AM Depart for Central City
- 12:00 PM Arrive at Central City for Lunch (1 hour)
- 1:00 PM Depart for **Randy Chinn**
- 1:50 PM Arrive at **Randy Chinn** (45-minute tour stop). Riverine restoration considerations
- 2:35 PM Arrive at **Cheatle Farms** (45-minute tour stop)
- 3:20 PM Depart for **Heartland Events Center**
- 4:45 PM Return to **Heartland Events Center**



Sites Route Map



Place	Distance (Miles)
Start-Happold	11
Happold-Trumbull	5.5
Trumbull-Brummond	7
Brummond-Central City	28
Central City-Chinn	23
Chinn-Cheatle	8
Cheatle-Start Point	42



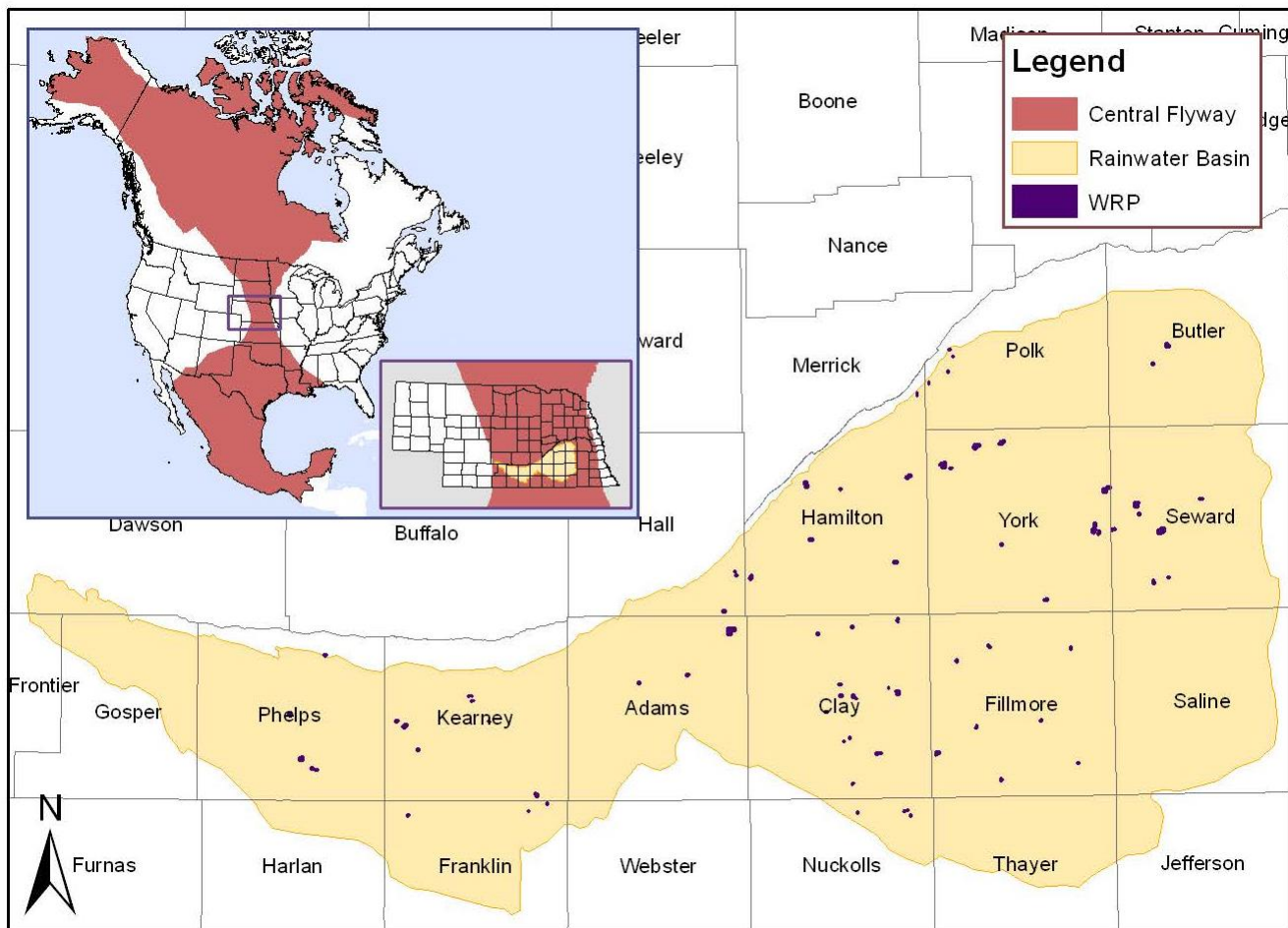
Rainwater Basin Landscape

Landscape Overview: The Rainwater Basin (RWB) landscape is a 3.9 million acre landscape north of the Republican River and south of the Platte River. The RWB encompasses all or portions of the following counties: Adams, Butler, Clay, Dawson, Fillmore, Franklin, Frontier, Gosper, Hall, Hamilton, Harlan, Jefferson, Kearney, Nuckolls, Phelps, Polk, Saline, Seward, Thayer, Webster, and York. The RWB landscape is characterized by rolling loess plains formed by deep deposits of wind-blown silt with a high density of clay pan playa wetlands. Playa wetlands are ephemeral. Each wetland has a unique watershed that funnels runoff from storms or spring snowmelt to the wetland. Historically there were over 11,000 wetlands covering 204,000 acres. The uplands surrounding these wetlands were dominated by mixed grass prairie.

Today this landscape is intensively cultivated. The conversion to row crop agriculture production has dramatically changed landuse. Today less than 1,000 wetlands (40,000 acres) exist and only 770,000 acres of grassland remain on the landscape. There is over 2.8 million acres of cropland with nearly 70% of it irrigated.

Landscape Resources: Despite the loss of wetland habitat in the RWB, the region continues to host an estimated 8.6 million waterfowl, 500,000 shorebirds and the federally endangered whooping crane during their biannual migration from their breeding grounds to their wintering grounds. As a result of the abundant groundwater and fertile soils, counties in the RWB annually rank nationally in the highest tier for both production (total bushels) and yield/acre. Irrigation is the primary driver for this high production.

Rainwater Basin Landscape

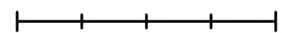


Nick and Ryan Happold



-  Site Boundary
-  Wetland Area
-  Road

0 0.05 0.1 Miles





Happold Brothers Restoration Regional Conservation Partnership Program

Hall County producers Ryan Happold and Nick Happold farm adjacent tracts of land that contain a portion of a large Rainwater Basin Wetland. In the 1960s their father had excavated a large concentration to drain the site and promote better cropping conditions. Even with the three-acre concentration pit the fields would often pond water over extended periods during the growing season significantly reducing yields. Rather than continuing to fight the reoccurring problem the brothers enrolled in RWBJV's Divots in the Pivots program. This program provides cost-share for a whole field approach that restores the wetland and upgrades to irrigation infrastructure to maximize production potential on the adjacent cropland.

The foundation for Divots in the Pivots is the Regional Conservation Partnership Program (RCPP). RCPP is administered by Natural Resources Conservation Service (NRCS) and provides unique program flexibility. For Divots in the Pivots projects the RCPP allows producers to enroll wetland and associated upland buffers into the Agriculture Conservation Easement Program (ACEP) and be eligible for the Environmental Quality Incentives Program (EQIP) to support adoption of Variable Rate Irrigation (VRI) technology.

As part of this project Nick enrolled 42 acres while Ryan enrolled 16 acres into ACEP. This is a perpetual easement that precludes future wetland drainage, but still allows pivot irrigation systems to cross the enrolled acres. This allows pivots to complete full rotations and maximizes the efficiency of these systems. Restoration of the wetland required filling the concentration pit. Over 42,000 cubic yards of material were needed to fill the pit. Road ditches were also filled and recontoured to improve flow into the wetlands and maximize ponded area. A high diversity local ecotype grassland buffer was also planted.

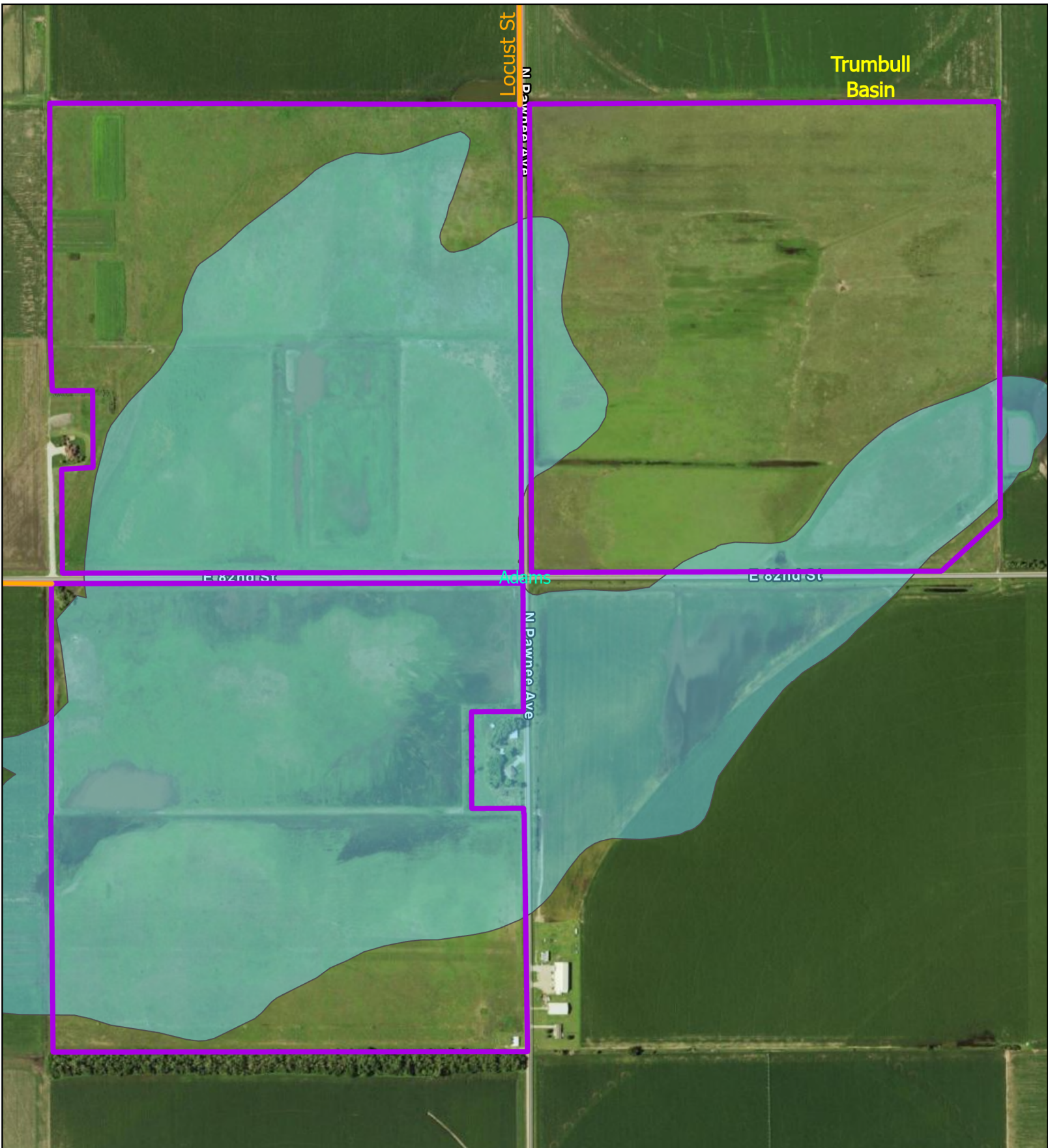
The RWBJV partners developed landowner agreements with the brothers to assist with grazing infrastructure that is not provided through either ACEP or EQIP. As part of these agreements perimeter fence and a livestock well was drilled. Pivot crossing ramps were also installed in the fence to allow the pivot to cross through the fence while ensuring that livestock could not escape. Grazing these sites will help promote desired habitat conditions and help integrate the site into the producer's operation.

In addition to the grazing infrastructure, the landowner agreements also provided cost-share to upgrade the irrigation infrastructure to support VRI. Nick's pivot required software and hardware upgrades to the pivot panel, a new sprinkler package, and telemetry. Ryan's tract was converted from gravity to pivot irrigation with the partners providing 75% cost-share for the purchase of a new pivot. The pivot dealer and agronomists also contributed to the project providing cost-share for the pivot upgrades, precision soil mapping, and installation of soil moisture probes. The whole field approach will allow the pivots to vary irrigation inputs over the cropland based on crop water needs while minimizing irrigation inputs in the wetland. This helps restore natural hydrology and reduces excess irrigation inputs; thereby helping to conserve the underlying aquifer.

Happold tract pre-restoration and during restoration

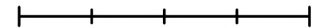


Trumbull Basin



-  Site Boundary
-  Wetland Area
-  Road

0 0.1 0.2 Miles



Whooping Cranes Enjoy Wetland Restored By Nebraska Farmers

GRAND ISLAND, NEB., April 26, 2021 – Nebraska isn't known as a destination for celebrities, but for wildlife enthusiasts and birdwatchers, Nebraska had a visit from a few "A-list" celebrities last week.

Trumbull Basin, a wetland located in Adams County in central Nebraska, was recently graced with the presence of four Whooping Cranes who stopped at the wetland during their migration north.

The Whooping Crane is one of the earth's most endangered species. There are currently just over 800 of these birds in the world.

Trumbull Basin, the wetland where these rare birds called home for several days last week, is in the middle of the Rainwater Basin wetland complex.

The Rainwater Basin Joint Venture, in cooperation with conservation agencies, works with landowners who volunteer to protect and restore wetlands critical to migrating waterfowl.

Rainwater Basin Joint Venture Coordinator Andy Bishop said, "Seeing a Whooping Crane – one of the world's most rare and endangered species – use one of the wetlands that a group of Nebraska landowners worked so hard to restore is extremely exciting and also really gratifying."

At 465 acres Trumbull Basin is one of the largest privately owned playa wetlands in the Rainwater Basin. This wetland was restored through the Wetlands Reserve Program (WRP), a voluntary conservation program available from the U.S. Department of Agriculture's Natural Resources Conservation Service.

When this project was initiated, there were five landowners who each owned a portion of the basin. Initially this project started with the goal to better manage irrigation water to improve cropping potential, but the landowners soon learned that there wasn't much they could do to improve the area's cropping capability.

The alternative to trying to farm such a wet area was to work with the Natural Resources Conservation Service to restore the wetland through its Wetlands Reserve Program (WRP). The Wetlands Reserve Program is a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their property.

Restoration was an incremental process with different tracts being enrolled at different times, beginning in 1999, with the last tract being enrolled in WRP in 2006. Thanks to the work of these five landowners working with conservation organizations like NRCS, the Rainwater Basin Joint Venture, Nebraska Game and Parks, and the U.S. Fish and Wildlife Service, 261 wetland acres at Trumbull Basin were restored.

The restoration required the removal of 66,000 cubic yards of sediment from the wetland, filling a large concentration pit, and the removal of nearly 1.5 miles of berms surrounding the wetland. This work restored how the wetland originally functioned in the landscape, by allowing water to flow back into the wetland where it could provide habitat, prevent flooding, improve water quality and recharge ground water.

Since the completion of the wetland restoration, additional steps have been taken to ensure the wetland continues to function. A management plan was developed that included grazing, prescribed burns, herbicide treatments, and tree cutting. This continued management of Trumbull Basin has helped maintain this site as ideal wetland habitat.

“When we see wildlife using these restored and managed wetlands it’s extremely rewarding. It shows we’re doing something right by creating the type of habitat these extremely rare animals need to make their long journey,” Bishop said.

The Wood Buffalo/Aransas population of Whooping Cranes is the only migratory population. Birds associated with this flock annually migrate between their wintering grounds on the Texas Gulf Coast to their breeding grounds in Wood Buffalo National Park in Canada.

Most Whooping Crane mortality (60-80%) occurs during migration. With so few Whooping Cranes in existence, the species cannot afford to lose a single bird. It would only take the death of seven Whooping Cranes to shift this population from stable to decreasing. Therefore, strategic conservation of habitats along the Whooping Crane migration corridor is essential to the survival of the species. Recognizing the current population of the Wood Buffalo/Aransas population is just 506 individuals, the birds using Trumbull Basin represented nearly 1% of the world’s population.

Restoration of this wetland was a significant accomplishment recognizing the size, complexity of the restoration, and number of landowners. The use of this iconic species is just one of the many benefits of this project. It is estimated that the 260 acres of wetland that were restored through this project can recharge 296 million gallons annually, enough water to meet the municipal drinking water needs for the City of Hastings, the largest city in Adams County. The charged clay soils and wetland vegetation actively remove nitrogen and phosphorus from the water that enters the wetland helping to improve water quality.

“This project has been not just great for an extremely endangered bird, but it’s provided habitat for Nebraska’s wildlife, and helped ensure Nebraskans have clean and abundant drinking water,” Bishop said.


For more information about the Rainwater Basin Joint Venture, its programs and its partners visit www.rwbjv.org.

Marsh Trust and Brummond



-  Site Boundary
-  Wetland Area
-  Road

0 0.1 0.2 Miles





The Marsh Wetland Wetlands Reserve Enhancement Program

Flexibility is crucial in wetland conservation programs, especially if the goal is to integrate the wetlands into local farm operations. Nearly 75% of historic Rainwater Basin (RWB) wetland footprints are intersected by pivot irrigation systems. To maximize irrigation efficiency, these systems must complete full rotations. As a result, most producers have been cautious about enrolling in wetland conservation programs that would impact efficient pivot operation.

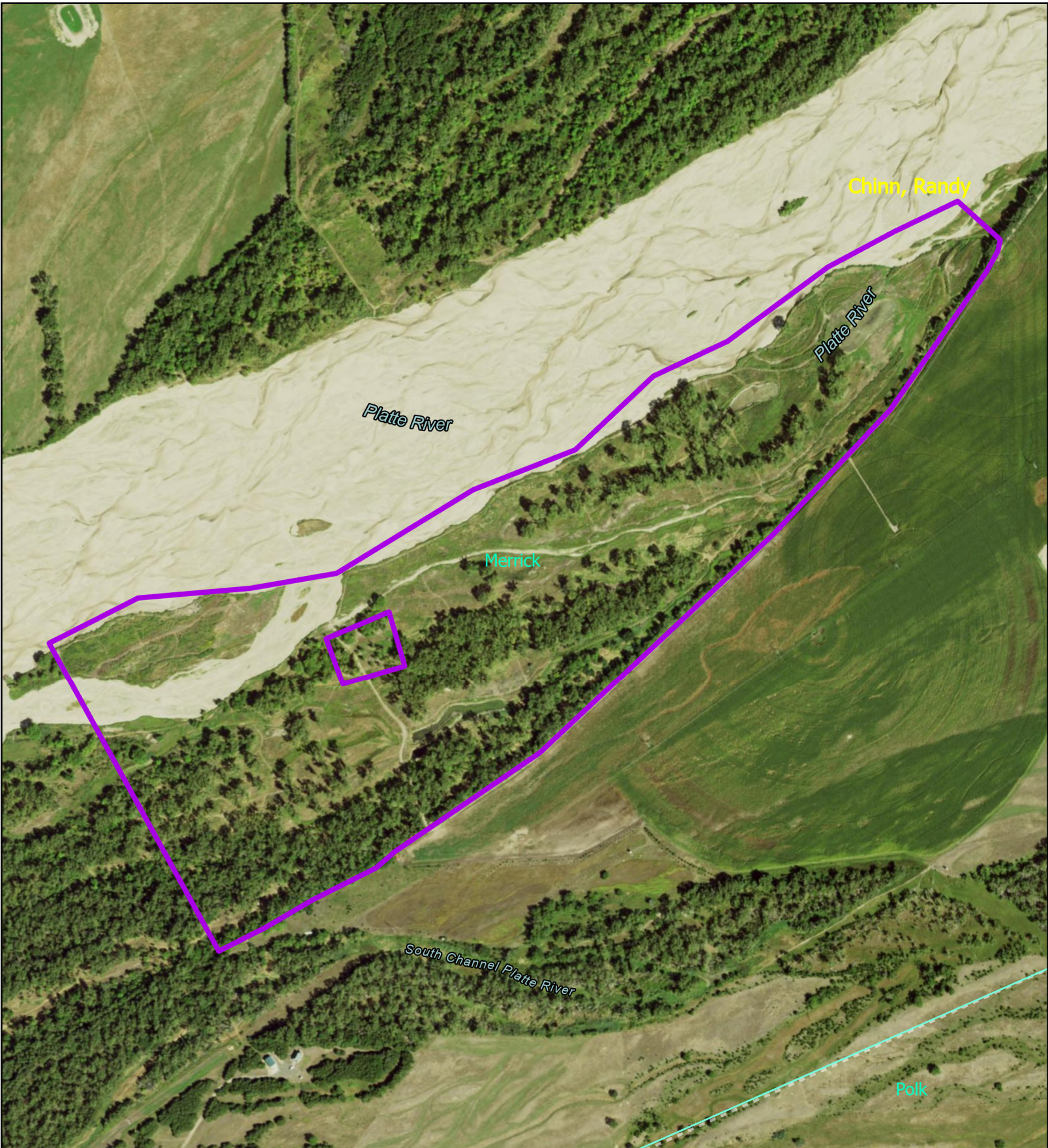
This was the case for the Marsh family when they were considering options for approximately 53 acres of flood-prone cropland. Every fall after harvest, the Marshes would try to increase drainage on the site by deep ripping. This would help with drainage after snowmelt and allow them to plant. Inevitably though, the clay soils would swell and the site would frequently pond water during the growing season. As a result, these acres were only marginally profitable. As input costs continued to increase, the Marsh family reevaluated several wetland programs, but found none fit their operation until the Wetlands Reserve Enhancement Program (WREP) was established in 2011. The WREP was a special option under the Wetlands Reserve Program (WRP) administered by the USDA Natural Resources Conservation Service. Lands enrolled in WRP – and now its successor Wetland Reserve Easement – as part of WREP were allowed to pass pivot irrigation systems over enrolled areas as a reserved right of the landowner. Because of WREP's flexibility, the Marshes signed up 54.5 acres for WREP. The site was restored by removing fill material from the wetland and seeding the tract with native plants.

The Marsh family reinvested the easement payment back into the property by purchasing a corner system for the pivot. This corner system allowed them to effectively irrigate the field corners, thereby increasing the production potential on these acres. At the field level this was a net win. After installation, they could effectively irrigate 15 acres of high quality cropland while transitioning 53 acres of marginal cropland to forage production. To assist with the transition to forage production, the Rainwater Basin Joint Venture (RWB JV) partners provided 85% cost-share to establish perimeter fence, livestock water, and pivot gates. The RWB JV partners also provided cost-share to modify the pivot with Variable Rate Irrigation (VRI) technology. This allows the pivot to precisely apply irrigation inputs to the portions of the field that have the greatest water needs and reduce application to other areas, like the wetland, that do not need irrigation inputs.

After enrollment in WREP, the Marsh family agreed to be a part of the Net Farm Income Study conducted by the RWB JV and the University of Nebraska – Lincoln (UNL). As part of this study, the Marsh tract is being compared to conventional pivot irrigated tracts with farmed wetlands to evaluate economic vitality of conservation programs. The results from this study will be prepared for landowners in a UNL Extension pamphlet. This resource will provide producers additional information when making decisions about enrolling flood-prone cropland into wetland programs.

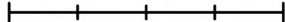


Randy Chinn



-  Site Boundary
-  Wetland Area
-  Road

0 0.07 0.15 Miles



Cheatle Farms, LLC



 Site Boundary

 Wetland Area

 Road

0 0.05 0.1 Miles

