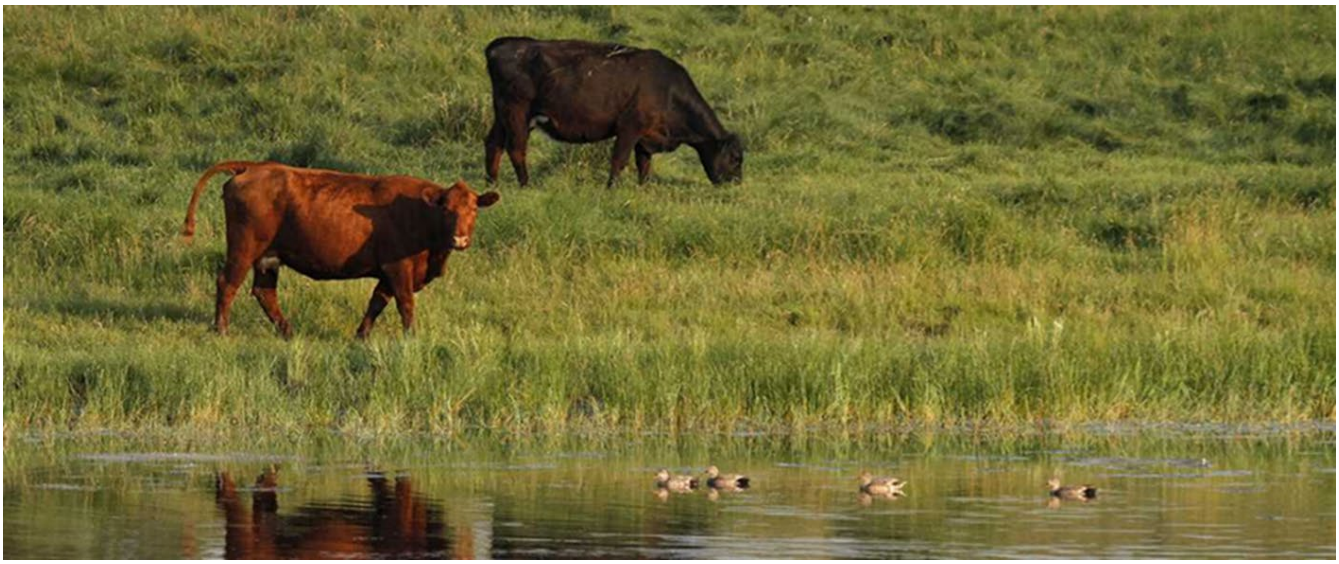
Phillips County Wetland Reserve Easement (WRE) Livestock Infrastructure Targeted Implementation Plan (TIP)



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Summary

With the proper utilization of livestock infrastructure, vegetation will be managed with appropriate grazing practices and guidelines for a wide range of habitat conditions. This will provide diversity reflective of the wide preferences of various waterfowl species. Many other species including grazing ungulates, shorebirds, and grassland songbirds will benefit from these projects as well. The objective of this TIP, through WRE, will be to keep prairie pothole wetlands maintained, increase landscape connectivity and provide nesting habitat between wetland basins with perennial vegetation.

Total Estimated Project Cost to NRCS is $656,036.
Applications for this TIP will be accepted for three consecutive batching periods, for fiscal year 2023 through 2025. Individual contract length will not exceed over three years.

Background

Most of the privately owned land across the Hi-Line is still truly working-ground, with landowners earning their living through ranching and farming operations. Easements and restoration projects are becoming more popular. WRE is a working lands easement that supports ranching families. Re-seeding cropland to grass and development of rotational grazing systems through WRE will restore grassland and wetland habitats and can make ranching operations more profitable. Prescribed grazing systems through WRE and infrastructure through this TIP, improve the economic viability of ranching operations, help to ensure that grass remains on the landscape and properties remain within the ranching community.

Through the 2014 Farm Bill, landowners enrolling into Wetland Reserve Easements (WRE) could retain grazing rights on their offered WRE acres. With it, grazing infrastructure was cost-shared up to 75% with WRE funds. Since the 2018 Farm Bill, WRE policy has changed. Landowners can still retain grazing rights, but grazing infrastructure is no longer cost shared through the WRE program. However, interest and increased demand for WRE on Montana's Hi-line remain, regardless of funding hurdles for infrastructure. Through NRCS's Environmental Quality Incentive Program (EQIP) grazing infrastructure can be cost shared through Montana NRCS's Focused Conservation, Targeted Implementation Plan (TIP).

With the proper and strategic placement of grazing infrastructure, grazing is completely compatible with wetland functions and wildlife habitat on this landscape. Most of the degradation to the wetland basins is due to direct alteration and sedimentation from farming practices. By establishing and managing perennial vegetation through grazing we will limit degradation of the wetland basins through sedimentation from row cropping. We will also greatly reduce the negative effects of fragmentation on wildlife habitat and provide connectivity at a landscape scale.

The proposed TIP boundary is approximately 21,590 acres, of which 6,262 acres are being addressed, and is primarily managed as cropland, pasture and range units with interspersed depressional wetlands and riparian areas (**See maps 1 & 2**). The wetland habitat within the boundary is categorized as the following ecological systems by the Montana Natural Heritage

Program: “Great Plains Open Freshwater Depressional Wetland and Great Plains Closed Depressional Wetland”. These ecological systems occur throughout central and eastern Montana north of the Missouri River. Land adjacent to the wetland systems is classified as Great Plains Mixedgrass Prairie. Wetlands on the cropland acres have been farmed through under natural conditions which has altered hydrologic regime through removal of plant community and sediment deposition. Salinity has also concentrated in many of these wetlands due to cropping practices in the surrounding landscape. Other wetlands have been diked, dredged, or otherwise physically manipulated to facilitate agricultural operations.

Problem Statement

What was once a vast grassland system, the Prairie Pothole Region (PPR) in now dominated by cropland. Between 50-90% of the potholes in some regions have been lost due to landscape conversion in order to facilitate agricultural operations. Surrounding those potholes, 60-90% of the original native grasslands have been lost due to conversion as well. The loss of natural hydrological regimes compromises wetland function along with excess chemical runoff from fertilizer, herbicides and pesticides has resulted in degraded wetland health and habitat value. Throughout the PPR are millions of basins varying from temporary to permanently flooded wetlands. The complexity of these highly productive wetlands and surrounding grasslands are critically important to wildlife. The PPR provides invaluable wetland and grassland habitat for millions of migratory birds and other grassland dependent species and supports over 50% of North Americas migratory waterfowl.

The extensive loss of native prairie with the conversion to row crop agriculture has further compromised this region’s ability to provide the resources necessary to meet the needs of the vast array of migratory birds that depend upon on it (USFWS 2019). It is the core of what was once the largest grasslands in the world. Despite these losses, millions of wetlands and large tracts of native prairie remain to make the PPR focal area “one of the most altered yet one of the most important migratory bird habitats in the Western Hemisphere” (Prairie Pothole Joint Venture 2005 Implementation Plan).

The proposed TIP boundary is situated in a landscape comprised of grassland and cropland interspersed with prairie pothole wetland basins. Based on the National Land Cover database in 2013, it was estimated that Montana’s PPR is comprised of 48% grassland. Of this grassland, only 2.5% is wetland. As you move east to west in the PPR, the number of wetland basins decline. Montana’s prairies are “drier” than adjacent states as they receive less precipitation. However, drier does not mean less productive. Montana’s PPR has some of the highest nest success rates for upland nesting waterfowl and is critically important to many species of grassland wildlife. Recent four-square mile counts through U.S. Fish and Wildlife Service (USFWS) Habitat and Population Evaluation Team (H.A.P.E.T.) has estimated some of the highest breeding waterfowl pair densities throughout the PPR region of Montana **(See map 3).**

Goals and Restoration Objectives

This TIP is directly in-line with the Phillips County Local Working Group (LWG) and the Malta Field Office Long Range Plan (LRP). In the LRP “Stockwater” is identified as a number two priority resource concern. This TIP will directly address this issue by providing adequate livestock water to grazing lands.

The primary restoration objectives for this TIP will be to maintain functioning grassland and wetland complexes by incorporating livestock infrastructure onto re-seeded crop and pasture (expired CRP). Grazing is completely compatible with wetland function and wildlife habitat within the PPR of Montana. Grazing will be used to maintain healthy, vigorously growing stands of grass without excessive litter accumulation. Maintaining perennial cover in the watershed surrounding a wetland basin is critical in maintaining the following wetland functions including water quality, water storage, carbon sequestration and wildlife habitat. The wetland basins in the TIP boundary are an integral part of the landscape. The functions of these wetlands are directly connected to their adjacent land. Vegetation will be managed through a grazing system. Existing and planted perennial vegetation will be managed for long-term sustainability in order to maintain water quality, reduce erosion, increase carbon sequestration, provide habitat connectivity and provide nesting substrate for upland nesting birds.

Proposed Alternatives and Actions:

No action alternative: Water availability will continue to be the limiting factor for improved grazing management within the TIP boundary. Wetland and grassland habitat will continue to be degraded due to continued farming of prairie wetlands. This alternative does not meet the goals and objectives of the producers in the TIP boundary or the goals and objectives of engaged partners.

Alternative one: Through WRE, grassland and wetland complexes will remain protected farming. However, livestock grazing on the WRE with minimal to no water infrastructure placed on the acres could lead to poor grazing practices and management. Livestock watering and loitering in the wetlands will result in declining wetland function and health. Surrounding upland vegetation trends would decline over time due to poor pasture and range utilization from the lack of available quality water sources. This alternative does not meet the goals and objectives of the producers in the TIP boundary or the goals and objectives of engaged partners.

Alternative two: Installation of grazing infrastructure on the WRE's will maintain healthy, vigorously growing stands of grass without excessive litter accumulation. Maintaining perennial cover in the watershed surrounding a wetland basin is critical in maintaining function and health. This alternative DOES meet the goals and objectives of the producers in the TIP boundary along with the goals and objectives of engaged partners.

Selected Alternative (Alternative two): Cropland will be seeded to grass. Sediments will be removed from wetlands as needed. Old fences will be removed, new fences will be constructed to facilitate a rotational grazing system. Stock water system will be installed to limit the need for stock to water in wetlands. Infrastructure needed would include wells, pipelines, pumps, tanks and wildlife friendly fencing.

Partnerships and Other Funding Sources

This TIP will be funded with NRCS EQIP dollars, with producers sharing a portion of the expense. Other partner contributions will be site specific, but there is project interest from Ducks Unlimited, Ranchers Stewardship Alliance (RSA). USFWS Partners for Fish and Wildlife and Prairie Pothole Joint Venture. Each partner has vested interest in this landscape and meets their individual mission by prioritizing prairie habitat conservation within working lands.

Partners	Estimated Contribution
Ducks Unlimited	Partner Biologist support through staff time
Ranchers Stewardship Alliance/Pheasants Forever	Biologist support and in-kind support with outreach/education
US Fish and Wildlife Service PFW	Outreach and support through staff time and TA
Prairie Pothole Joint Venture (PPJV)	Biologist support and in-kind support with outreach/education

*Though not guaranteed, complimentary work with MT FWP will include their Migratory Bird Program as these initiatives share common goals and objectives. For producers willing to work through the Migratory Bird Program, additional cost share on water infrastructure, fence, and other practices may be available.

Conservation Practices and Activities Required for TIP Restoration (EQIP)

- **Fence (Cross and Perimeter) (NRCS Conservation Practice Code 382)** Four strand barbed wire. Wildlife friendly provisions for Pronghorn.
- **Livestock Watering Facility (NRCS Conservation Practice Code 614**) 1,000-2,000 gal. water troughs.
- **Livestock Pipeline (NRCS Conservation Practice Code 516)** Installation of pipe at frost-free depth.
- **Water Well (NRCS Conservation Practice Code 642)** New well to supply livestock water system. Expected depth approximately 550 feet.
- **Pumping Plant (NRCS Conservation Practice Code 533)** Well pump sized according to well production and livestock watering system design.

Conservation Practices and Activities Required for WRE Restoration

- **Fence (Some Perimeter) (NRCS Conservation Practice Code 382)** Four strand barbed wire. Wildlife friendly provisions for Pronghorn.
- **Obstruction Removal (NRCS Conservation Practice Code 500)** Obstruction removal will be used to remove old perimeter/cross fence and rock piles within the wetlands.
- **Minor shaping/grading (NRCS Conservation Practice Code 462)** Shape/grade contour spoil around livestock pits to restore natural wetland hydrology.
- **Wetland Restoration (NRCS Conservation Practice Code 659)** Wetland restoration will be used to selectively remove accumulated sediment and other debris in wetland basins. It will also be used to plug drainage ditches to restore natural wetland function.
- **Perennial Cover Re-seeding (NRCS Conservation Practice Code 512/550)** Re-seeding a diverse grass mix on the cropland acres.

Implementation

The timeframe for this TIP will include two 30-day batching periods annually for FY ’23, ’24 and ‘25. The contracts will be three years in length. Currently, there are four producers willing and able. One landowner for FY ‘23 a second for FY ’24 and two more landowners for FY ‘25.

*Further funding opportunities will depend on other WRE project obligation and timing of easement closing.

Proposed Timeline for Conservation Practice Implementation

- **Year 1-** Obstruction Removal (WRE), Wetland Restoration (WRE), Perimeter fence construction (WRE), Grass re-seeding (WRE), Stockwater system installation (TIP), Pump Test (TIP).

- **Year 2 –** Cross fence construction (TIP), Stockwater system installation continued (TIP), Obstruction removal (WRE), Wetland Restoration (WRE), Grass re-seeding (WRE).

- **Year 3 –** Remaining Fence construction (WRE/TIP), Obstruction removal (WRE) and wetland Restoration as needed (WRE).

Proposed Budget Year 1 WRE

Practice Code	Practice Name	Unit Cost	Units	Est. Cost
533	Pumping Plant (2)	$1,808	2 HP/pump	$3,616
642	Water Well (2)	$48.16/ft.	~550 ft	$52,976
614	Watering Facilities (7)	$2.37/gal.	2,000 gal.	$33,180
516	Livestock Pipeline	$2.15/ft.	25,000 ft.	$53,750
382	Fence	$2.20/ft.	17,000 ft.	$37,400
	+ ~ 10% overage for inflation and minor changes			$20,000

Proposed Budget Year 2 WRE

Practice Code	Practice Name	Unit Cost	Units	Est. Cost
533	Pumping Plant (2)	$1,808	2 HP/pump	$3,616
642	Water Well	$48.16/ft.	~550 ft.	$26,488
614	Watering Facilities (7)	$2.37/gal.	2,000 gal.	$33,180
516	Livestock Pipeline	$2.15/ft.	29,000 ft.	$62,350
382	Fence	$2.20/ft.	32,000 ft.	$70,400
	+ ~ 10% overage for inflation and minor changes			$20,000

Proposed Budget Year 3 WRE

Practice Code	Practice Name	Unit Cost	Units	Est. Cost
533	Pumping Plant (1)	$1,808	2 HP/pump	$1,808
642	Water Well (1)	$48.16/ft.	~550 ft.	$26,488
614	Watering Facilities (5)	$2.37/gal.	2,000 gal.	$23,700
516	Livestock Pipeline	$2.15/ft.	20,370 ft.	$43,796
382	Fence	$2.20/ft.	56,040 ft.	$123,288
	+ ~ 10% overage for inflation and minor changes			$20,000

TIP Year	Cost Per Year
Year 1	$200,922

Year 2	$216,034
Year 3	$239,080
TIP Total	**$656,036**

Anticipated Outcomes and Progress Evaluation

Over the past few years, Montana has ranked in the top three in the nation for conservation easement applications and closed acres. It's no surprise that easements are becoming more popular and valuable tool for Montana landowners. In an ever-growing demand for property in Montana, conservation easement has become a popular voluntary tool to keep mixed agricultural operations on the ground and keep the Montana way of life protected. WRE is a working lands easement. Prescribed grazing systems through WRE and infrastructure through this TIP, improve the economic viability of ranching operations, help to ensure grass remains on the landscape and properties remain within the ranching community.

Farm Bill conservation programs clearly provide many quantifiable benefits for wildlife and the environment, but another less-publicized benefit of these programs is the measurable contribution they make to the economy, especially in the agricultural sector and in rural communities. Consequently, WRE contribute significantly to the economy by providing an abundance of habitat for wildlife and places for people to participate in outdoor recreation. The USFWS reported in 2006 approximately 87 million U.S. resident's, participated in recreational activities related to fish and wildlife. Outdoor recreationists are passionate about their hobbies. Each year they spend billions of dollars on hunting. According to the Congressional Sportsmen's Foundation, expenditures by the 34 million sportsmen and women who hunted and fished in 2006 directly supported 1.6 million jobs; provided $25 billion in federal, state, and local tax revenue; and generated $192 billion for the nation's economy. (S. McLeod, DU)

It is well documented in peer-reviewed literature that restored wetlands in the Prairie Pothole Region of North America store carbon4. These WRE projects present a unique opportunity for NRCS to restore prairie pothole wetlands and their associated grasslands. The conversion of cultivated cropland to perennial vegetation (or the protection of existing grassland habitat around a wetland) can reduce nutrient enrichment in restored wetlands and lower emissions of nitrous oxide and methane from the wetland basin. Over time, the amount of carbon that can be stored in grasslands surrounding wetland basins will exceed the amount of carbon stored in the individual wetland basins. Using the COMET planner tool, by re-seeding and establishing approximately 5,000 acres of crop back to perennial cover is estimated that 2,300 metric tonnes of carbon dioxide will be sequestered per year. This is equivalent to approximately 230,000 gallons of fuel consumed, 2,500,00 pounds of coal burned, and 500 gasoline powered passenger vehicles driven for a single year.

Monitoring Plan

On site monitoring will occur annually to determine the grazing effects on the program objectives with emphasis on wetland function and wildlife habitat. Grazing monitoring locations will be determined after grasses are established on the former cropland.

A minimum of one key area will be selected in each grazing unit to monitor productivity and grazing utilization. Areas selected for monitoring should be either representative of the grazing unit as a whole or strategically placed to monitor an area of special concern such as a sensitive

area or noxious weed invasion. Monitoring will consist of establishing permanently marked 100' transects. Transects will be oriented East (0') to West (100'). Ground shot photos will be taken by centering a 3'X3' frame at each of the prescribed intervals. Landscape photos will be taken facing the transect from each end of the transect. Photos are intended to document the exact same locations each year in order to observe changes in residue, productivity, and species composition. Monitoring should be supplemented with grazing records and before/after photos of each graze on each unit.

If monitoring indicates a declining trend in the health, productivity, or vigor of the grazing unit or a resource concern associated with grazing management, NRCS and the landowner will cooperatively develop a plan that adjusts management to correct the problem.

WRE Grazing Plan

Grazing may occur during the dormant or growing season. Growing season use should not occur during the same portion of the growing season during consecutive years.

Grazing of introduced grasses will be limited to no more than 21 consecutive days in each grazing unit or when key grass species is grazed to its minimal stubble height. If available forage remains after 21 days of grazing, the grazing unit may be grazed a second time after a period of rest to remove the balance of available AUM's. This is not intended to remove re-growth of previously grazed plants. Re-growth of plants grazed early in the growing season is essential to plant recovery and providing residual cover for wildlife habitat. Grazing rotation will be used to limit grazing of regrowth especially around sensitive areas such as wetlands. Temporary fence may be employed and is encouraged to limit use on these areas.

Although estimates are useful for planning purposes, it will be noted that productivity and available forage will vary from year to year. The producer will be limited to grazing half of the available forage and/or maintaining a minimal stubble height in each grazing unit rather than being allocated a set number of AUMs. The landowner's reserved grazing rights are absolutely important. However, considerations must be made and management adjusted with mutual agreement between the landowner and NRCS to provide for wetland function and wildlife habitat.

Note

(1) Land currently enrolled in other conservation programs may be ineligible for EQIP, including the following:

(ii) Land enrolled in the Agricultural Conservation Easement Program (ACEP) under the wetland reserve easement (WRE) component or its predecessor, the Wetlands Reserve Program (WRP).

***Exception:** Under reserved grazing rights of the ACEP-WRE, EQIP may be available for certain grazing-related practices not covered by ACEP.

All WRE applications/projects within this TIP will have reserved grazing rights throughout the duration of the easement (Perpetual or 30-year).

Prioritization & Ranking:

1. **Has the project been obligated to FY 2020, 2021, 2022 or 2023 WRE funds?**

Local Ranking questions

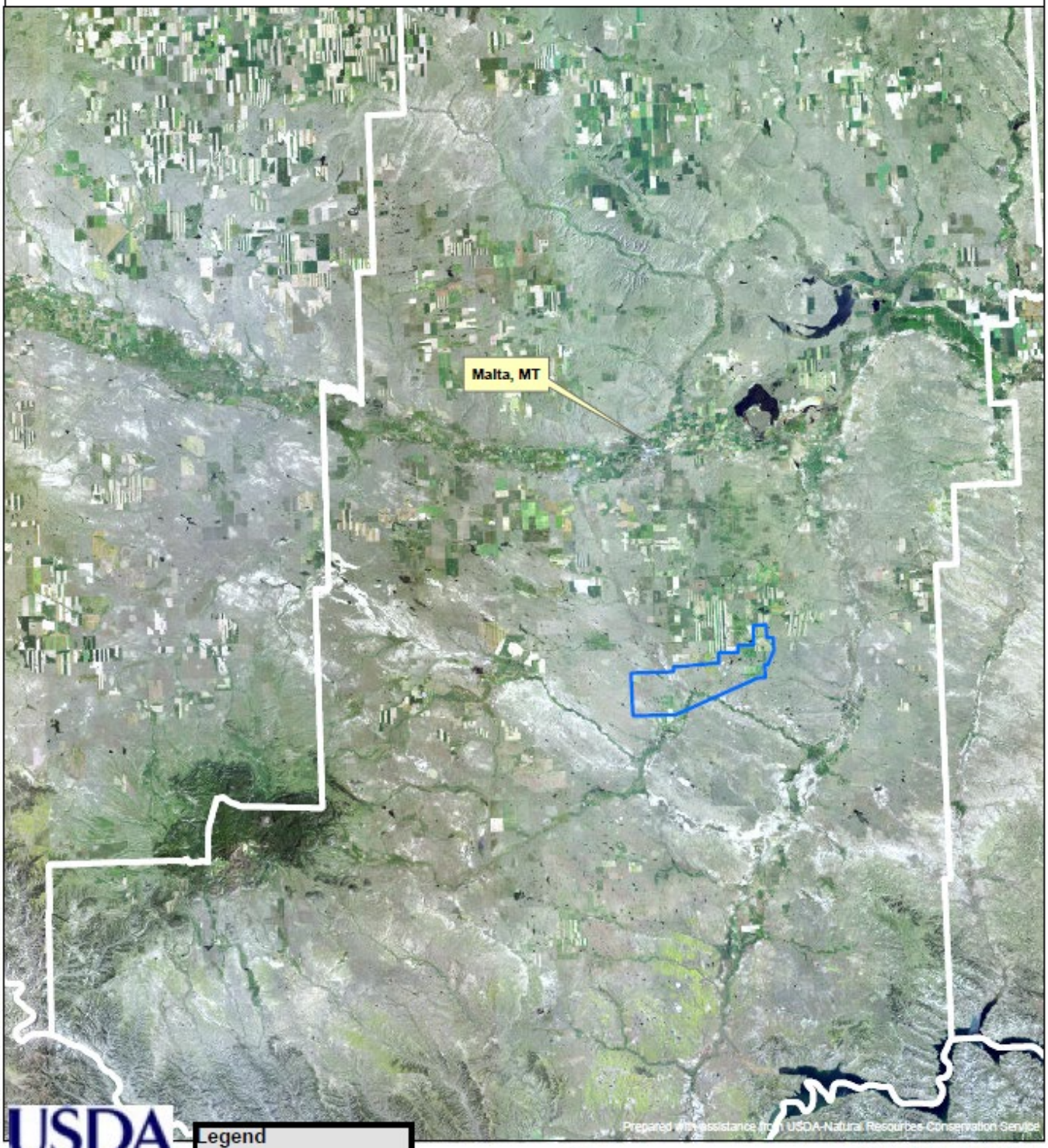
1. **Is the WRE under a 30-year or perpetual contract?**

2. **Does the application have (answer yes to one of the following)?**
    a. Majority breeding pair density of 100 pairs or greater?
    b. Majority breeding pair density of 99-60 pairs?
    c. Majority breeding pair density of 59-20 pairs?

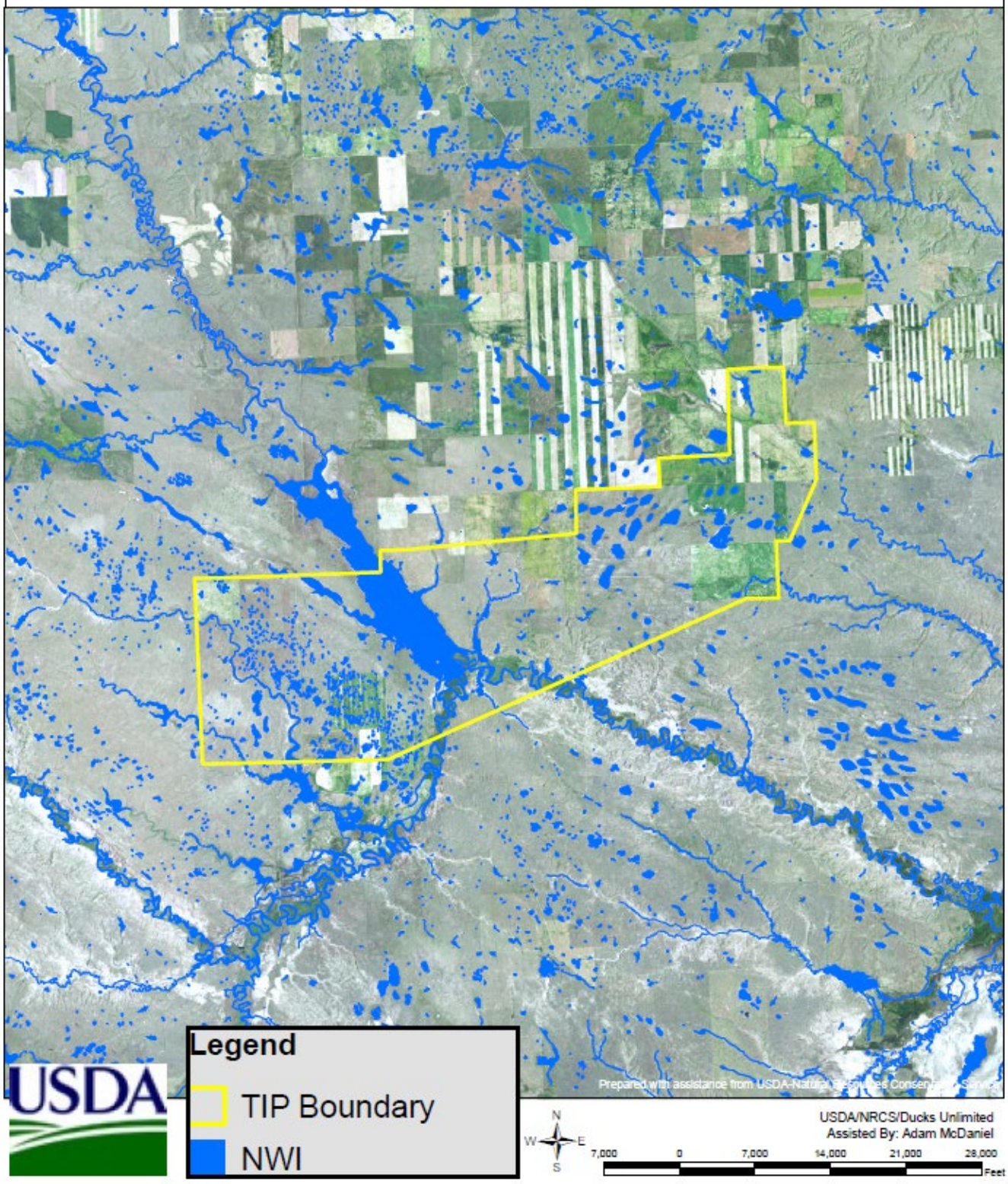
3. **Are the acres contiguous with other pasture or rangeland acres?**

4. **Are there expired/expiring CRP acres within the proposed WRE boundary**

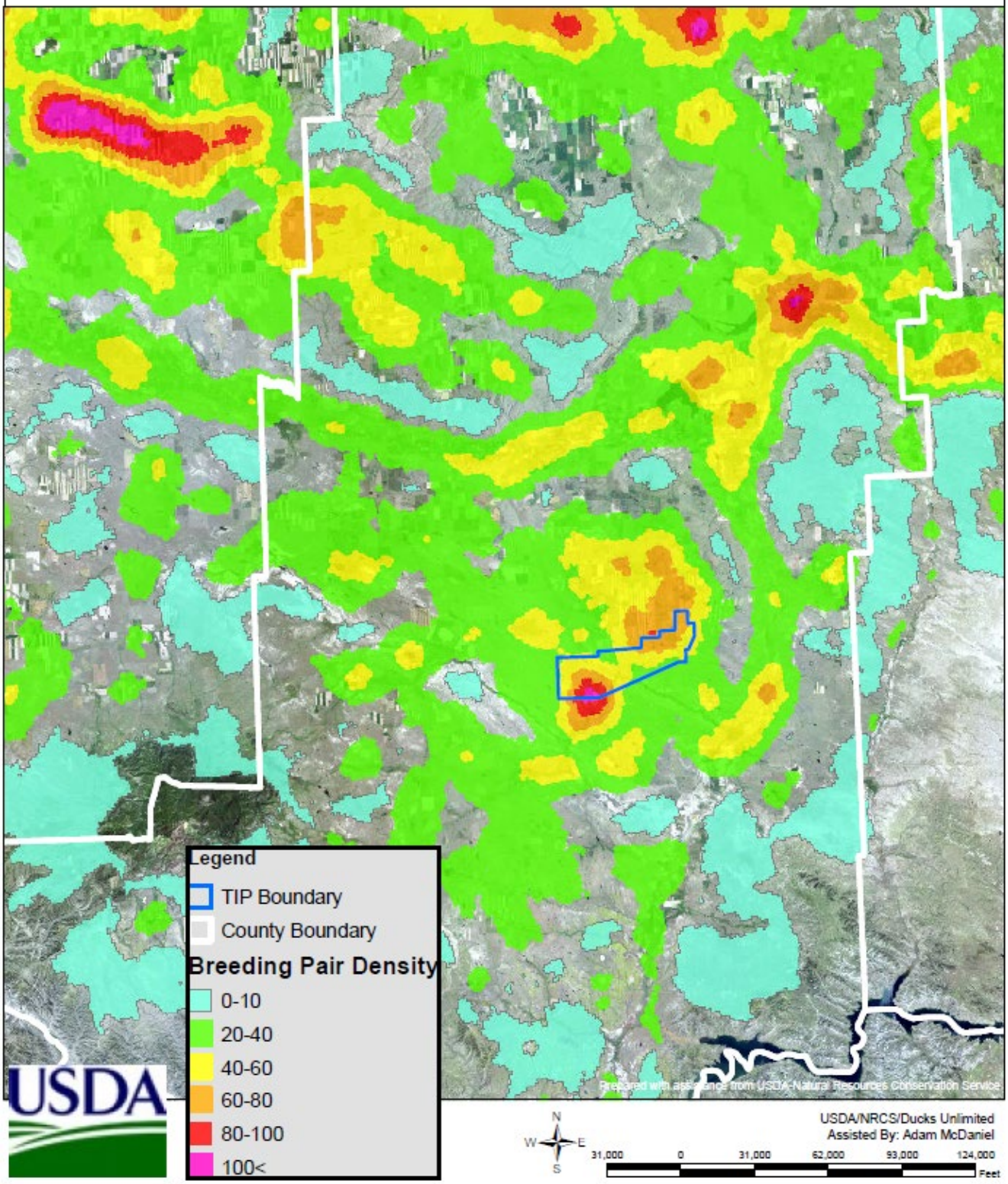
Map #1 WRE Grazing Infrastructure TIP Boundary



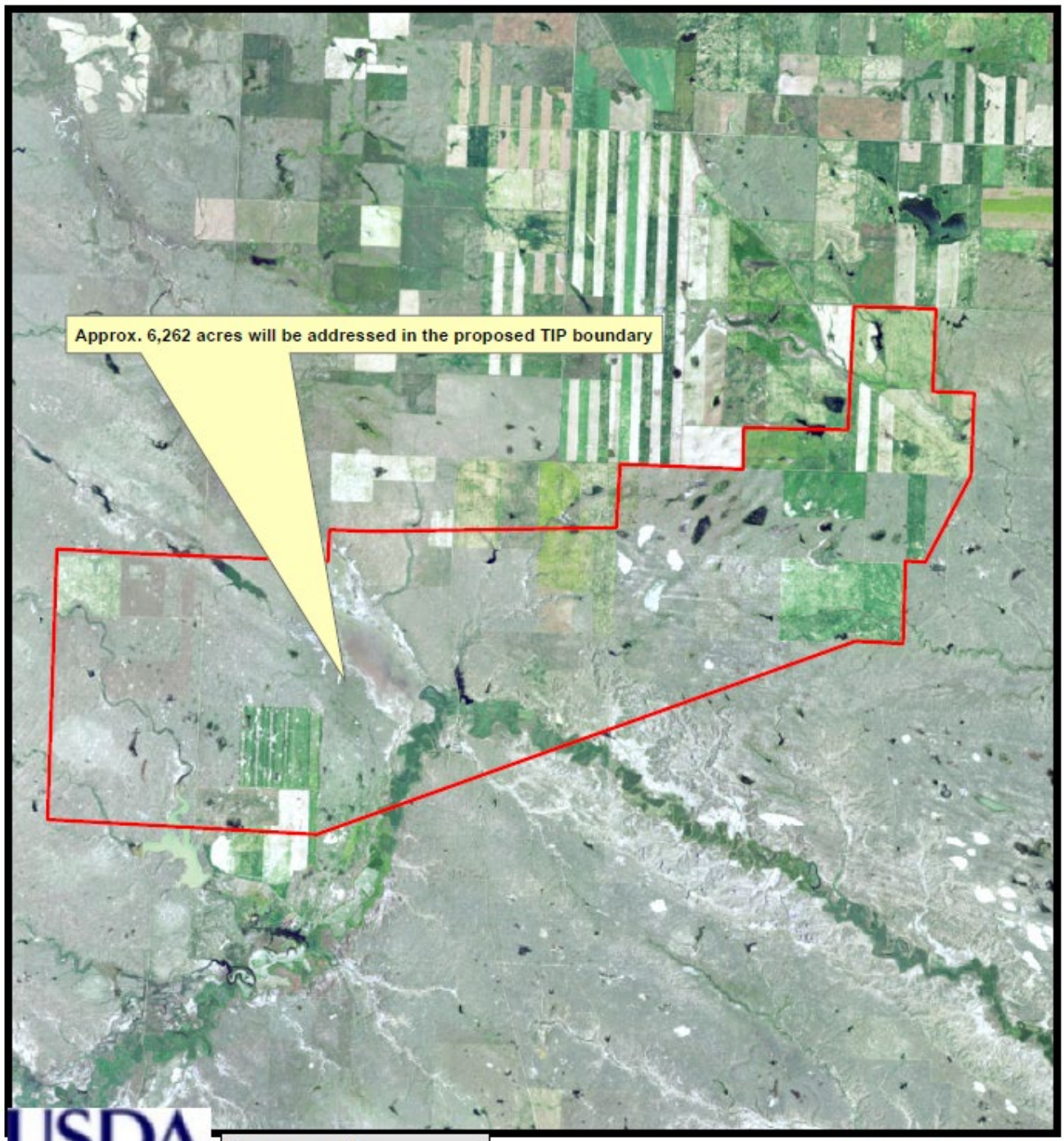
Map #2 WRE Grazing Infrastructure TIP
National Wetland Inventory



Map #3 WRE Grazing Infrastructure TIP
Waterfowl Breeding Pair Density (T-Storm)



Map #4 WRE Grazing Infrastructure TIP
Addressed Acres



Map #5 WRE Grazing Infrastructure TIP
Government Land Connectivity