Removal of Certain

Classified Impoundments

From

Administrative Rules of South Dakota

Chapter 74:51:02

October 2022

South Dakota
Department of Agriculture and Natural Resources
Office of Water
Pierre, South Dakota

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Introduction

The Administrative Rules of South Dakota (ARSD) include recreation and fishery uses assigned to certain lakes in chapter 74:51:02. All waters are assigned the beneficial use of (9) Fish and wildlife propagation, recreation, and stock watering. Lakes listed in ARSD 74:51:02 may also be assigned the recreational uses of (7) Immersion recreation and (8) Limited contact recreation in addition to one of the following fish life classifications:

(2) Coldwater permanent fish life propagation
(3) Coldwater marginal fish life propagation
(4) Warmwater permanent fish life propagation
(5) Warmwater semipermanent fish life propagation
(6) Warmwater marginal fish life propagation

The Clean Water Act requires that South Dakota Department of Agriculture and Natural Resources (SDDANR) review these uses and make adjustments where appropriate. The most recent in depth review of the entire list of lakes was conducted in 1990. During that assessment, reviewers were unable to locate or had limited access to some dams located on private property. In many instances, lakes were not visited and paper reviews resulted in no changes to the original uses assigned. It is not uncommon for small earth dams to fail as a result of large runoff events and some of the lakes contained in this review failed prior 1990. They were not removed at that time due to limited access to information on the waterbody.

Resources that have become available since the previous assessment and allow for a more intensive assessment of all waters include multiple years of color imagery from the National Agriculture Imagery Program (NAIP), Digital Ortho-Quads (DOQ), and high resolution elevation models. Over a period of several years, South Dakota Game, Fish and Parks (SDGFP) used these resources to create an updated digital lake layer that is more detailed than any previous data source. Each waterbody on the new layer has been assigned a unique identifier that groups waters into Hydrologic Units (HUCs) as well as common catchments. These new lake ID's are intended to streamline communication of waterbody data between state agencies and should help to eliminate errors, some of which are addressed in this document.

The review found a total of 36 waterbodies which have multiple common names. In three instances, both common names were included as separate listings in ARSD 74:51:02; Sorum or Strool in Perkins County; Eagle Feather or Parmlee in Todd County; and Big Dog Ear or Dog Ear in Tripp County (Figure 1). The initial list of lakes that were included in ARSD 74:51:02 was compiled by contacting regional resource professionals and interpreting their best judgement of the fishery. In the absence of any additional location information, separate professionals submitted recommendations for the same waterbody under different common names.

In the case of the Sorum and Strool entries, both waterbodies had been assigned identical beneficial uses and can be combined into a single entry with both common names listed. The other two waterbodies have differing fish life classifications for each of the common names. In the case of Eagle Feather or Parmlee, recommendations of both permanent and semipermanent warmwater fish life propagation were made respectively. Similarly, Dog Ear and Big Dog Ear were recommended separately for semipermanent and marginal warmwater fish life propagation. The Parmlee and Big Dog Ear listings

should be removed, and those common names appended to the Eagle Feather and Dog Ear listings respectively. Combining the entries in this manner eliminates inaccuracies in ARSD 74:51:02 while maintaining the more stringent beneficial use for each waterbody.

Lakes listed in ARSD 74:51:02 were originally grouped by county and identified by a common name with no additional location information. This method of documentation resulted in some lakes being "lost" to oral history. Successful efforts to locate dams ranged from reviews of historical archive data to cold calls to county residents with similar sounding last names, since lakes were frequently named for the surrounding landowners. As a result, all but two waterbodies were located during the multiyear effort which coordinated resources from SDGFP, SDDANR, SD State Historical Society, US Forest Service and numerous local landowners.

The first, Sharps Dam was listed as being in Todd County and was suspected to be somewhere near Sharps Corner. Several residents in the area were contacted and all were unfamiliar with any dam by that reference. The second was the National Grasslands Trout Dam in Jones County. It was suspected this may be a reference to a small dam in Lyman County that is locally referenced as the Trout Dam and is already included in ARSD 74:51:02. The dam in Lyman County is located less than a mile from the boundary of Jones County, resulting in a duplicate entry.

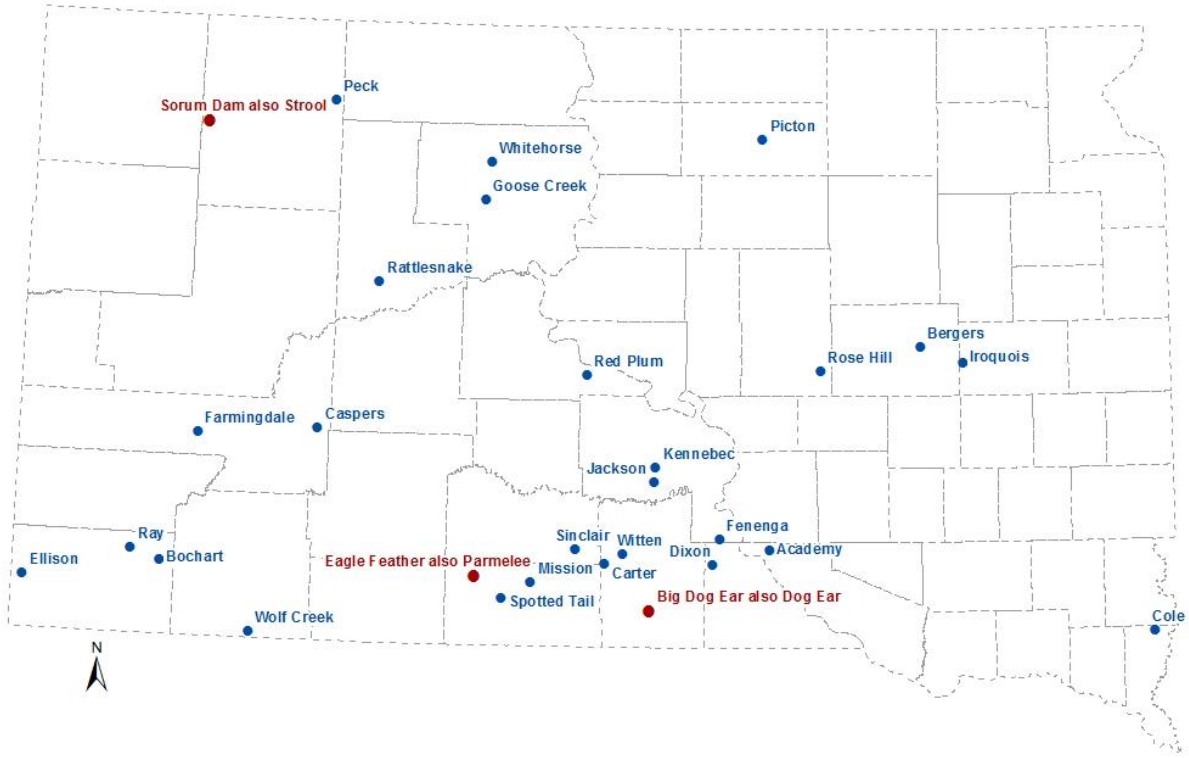

Figure 1. Locations of Breached Reservoirs (Blue) and Replicate Entries (Red) in South Dakota

South Dakotas small earthen dams are primarily built across ephemeral to intermittent drainages. In the case of the 26 breached reservoirs listed in Table 1, none of them are associated with perennial stream networks. Dams were frequently installed to create a more stable source of water in a semi-arid landscape. The most important reason for building these small dams was the absence of a perennial surface water supply. These small structures are prone to failure when runoff volumes exceed outlet

structure capacity. As a product of the intermittent nature of the drainages, the events that initiate the breach rarely remove the entire dam. Subsequent events (which may occur over a span of months, years, or even decades) continue to erode the structures and diminish the water holding capacity of the structure. An example of this is visible with Academy Dam. In the 2016 imagery (Figure 4), a small pool remained. During heavy runoff in 2019, the drainage network further developed cutting a channel through the lakebed sediments eliminating the remnant pool, this channel is visible in the 2020 NAIP image (Figure 5).

The construction funding for many of the dams in South Dakota originated through Federal Programs such as the Civil Works Administration (CWA) and the Works Progress Administration (WPA) (Writers Program of the WPA, 1941). The cost of repairing or replacing many of these structures has become too great for agencies or private owners to absorb and it is a common practice for breached reservoirs to be allowed to return to a natural state, which is a dry draw.

Recommendations

SDDANR is recommending that the 26 breached reservoirs listed in Table 1, and detailed in the Site Descriptions portion of this document be removed from ARSD 74:51:02. In the absence of a waterbody, all of the following 40 CFR 131.10(g) criteria apply:

> 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met
>
> - In the absence of a manmade dam structure, there is naturally no water present to support a fish life propagation or recreation uses.
>
> 4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such a modification in a way that would result in the attainment of the use
>
> - The absence of a dam results in the hydrology reverting to a natural state that is unable to support a fish life propagation or recreation uses.
>
> 5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses
>
> - Insufficient water quantity prevents fish life propagation or recreation uses.

In the cases of the three waterbodies that were entered into ARSD 74:51:02 multiple times under differing common names, SDDANR recommends that the entries be consolidated reflecting both common names with the more stringent fish life propagation use maintained as identified in Table 1.

The department further recommends that Sharps Lake in Todd County and National Grasslands Trout Dam in Jones County be removed from ARSD 74:51:02. In each case efforts to locate either dam have been unsuccessful and removing the fish life propagation uses (2,3) and recreation uses (7,8) is appropriate.

Table 1. Breached Reservoirs Listed as Supporting Fisheries and Immersion Recreation.

Breached				
Common Name	**STATE ID**	**COUNTY**	**Fishery**	**Ownership**
Academy	FTR-Lake-5208-000	Charles Mix	Warmwater Permanent	SDGFP
Bergers	MJA-Lake-638-000	Beadle	Warmwater Semipermanent	Private
Bochart	MCS-Lake-180-000	Fall River	Warmwater Marginal	Buffalo Gap National Grassland
Carter	LWH-Lake-2310-000	Tripp	Warmwater Semipermanent	Private
Caspers	BAD-Lake-2647-000	Pennington	Warmwater Semipermanent	Private
Cole	LBS-Lake-283-000	Union	Warmwater Marginal	Private
Dixon	FTR-Lake-5039-000	Gregory	Warmwater Semipermanent	SDGFP
Ellison	ANR-Lake-74-000	Fall River	Warmwater Semipermanent	Buffalo Gap National Grassland
Farmingdale	RAP-Lake-56-000	Pennington	Warmwater Semipermanent	Private
Fenenga	FTR-Lake-6328-000	Lyman	Warmwater Marginal	Private
Goose Creek	LMO-Lake-1141-000	Dewey	Warmwater Semipermanent	Cheyenne River Reservation
Iroquois	MJA-Lake-640-000	Kingsbury	Warmwater Marginal	SDGFP
Jackson	LWH-Lake-2307-000	Lyman	Warmwater Marginal	Private
Kennebec	MED-Lake-760-000	Lyman	Warmwater Marginal	Private
Mission	KYP-Lake-284-000	Todd	Warmwater Semipermanent	Rosebud Reservation
Peck	GRA-Lake-1002-000	Perkins	Warmwater Marginal	Private
Picton	NFS-Lake-1008-000	Edmunds	Warmwater Marginal	Private
Rattlesnake	CHE-Lake-676-000	Ziebach	Warmwater Marginal	Cheyenne River Reservation
Ray	MCS-Lake-179-000	Fall River	Warmwater Semipermanent	Private
Red Plum	BAD-Lake-3555-000	Stanley	Warmwater Semipermanent	Private
Rose Hill	MJA-Lake-614-000	Hand	Warmwater Permanent	SDGFP
Sinclair	LWH-Lake-2311-000	Mellette	Warmwater Marginal	Private
Spotted Tail	LIW-Lake-282-000	Todd	Coldwater Marginal	Rosebud Reservation
Whitehorse	LMO-Lake-1835-000	Dewey	Warmwater Semipermanent	Cheyenne River Reservation
Witten	LWH-Lake-2309-000	Tripp	Warmwater Semipermanent	Private
Wolf Creek	UWH-Lake-152-000	Oglala Lakota	Coldwater Permanent	Pine Ridge Reservation
Replicate				
Strool	UMO-Lake-25-000	Perkins	Warmwater Semipermanent	SDGFP
Sorum				
Eagle Feather	LIW-Lake-23-000	Todd	Warmwater Permanent	Rosebud Reservation
Parmlee				
Dog Ear	KYP-Lake-116-000	Tripp	Warmwater Semipermanent	SDGFP
Big Dog Ear				
Missing				
Sharps		Todd	Coldwater Permanent	Unknown
National Grasslands Trout Dam		Jones	Coldwater Marginal	Unknown

Site Descriptions

Academy in Charles Mix County, State ID - FTR-Lake-5208-000

Academy Lake was created by damming Snake Creek at S22 T100N R70W in Charles Mix County. The breached dam and dry lakebed are owned by SDGFP and public access is maintained. The lake was assigned the use (4) warmwater permanent fish life propagation and was stocked with fish regularly until 1999 (SDGFP, 2018). Recreation uses assigned to the lake included both (7) immersion and (8) limited contact. During high water in 2000, a breach in the dam grade formed and continued to slowly expand through 2016. In 2016 there was a small pool remnant which is visible in Figure 4. Visible in Figure 3 are the remnants of the spillway structure (circled in red) and the developing channel (circled in blue) consisting of a head cut. Channel reestablishment had completely removed the remnant pool by 2020 (visible in Figure 5). SDGFP indicated the agency has no plans to repair the dam (SDGFP, 2018) and as a result the former channel will continue to reform.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Academy listing in ARSD 74:51:02.

Academy is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 2. DOQ image of Academy Dam in 1996 shows lake at full pool prior to breach formation.

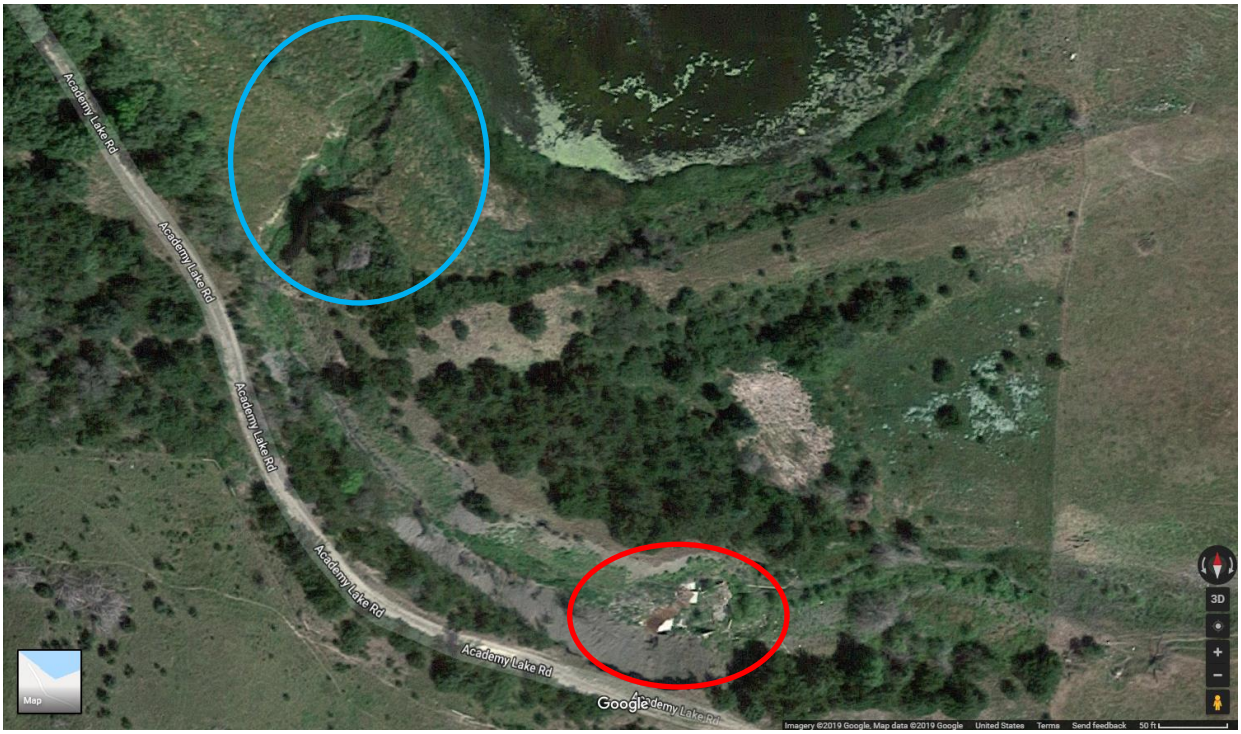

Figure 3. Google image of Academy Dam with cut visible (blue circle) and remnants of the concrete spillway (red circle) laying in the channel (Google, 2015).

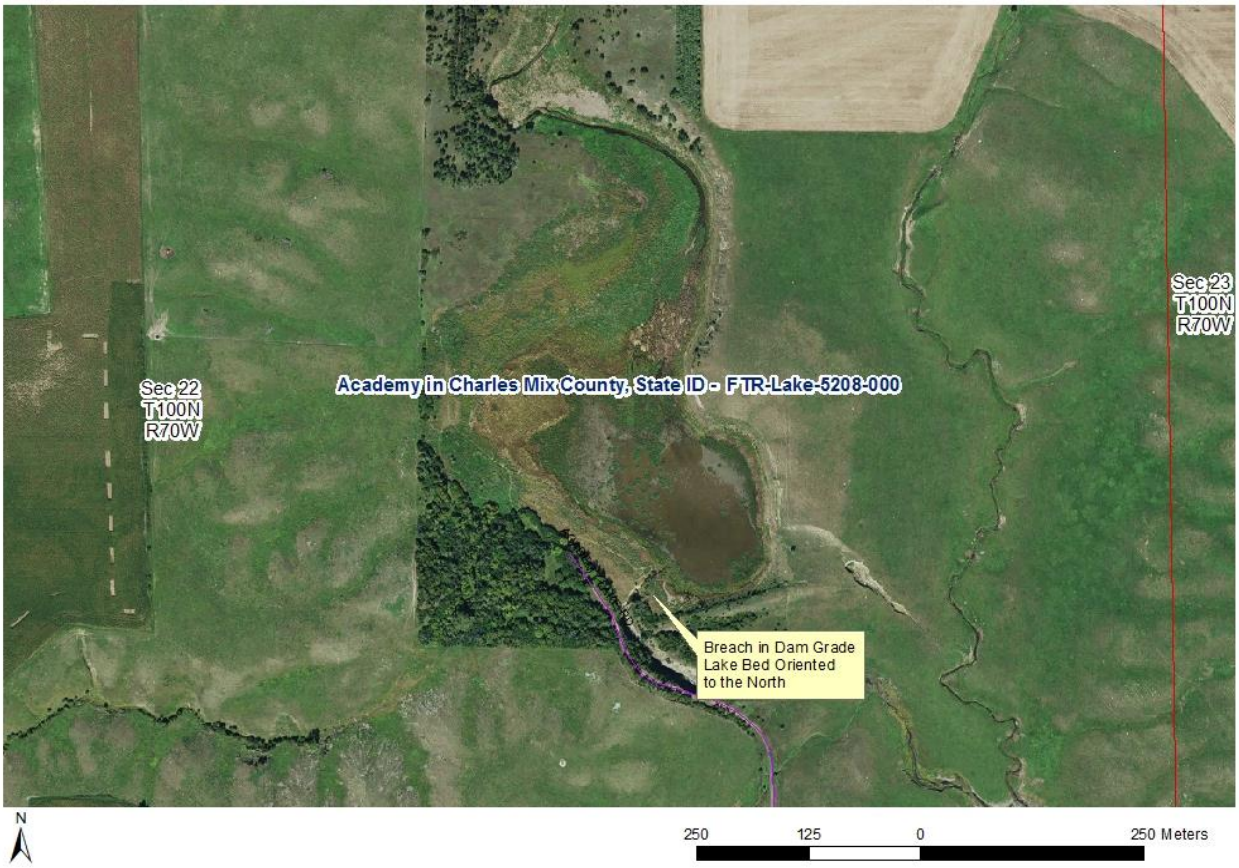

Figure 4. 2016 NAIP Image of Academy Lake in Charles Mix County

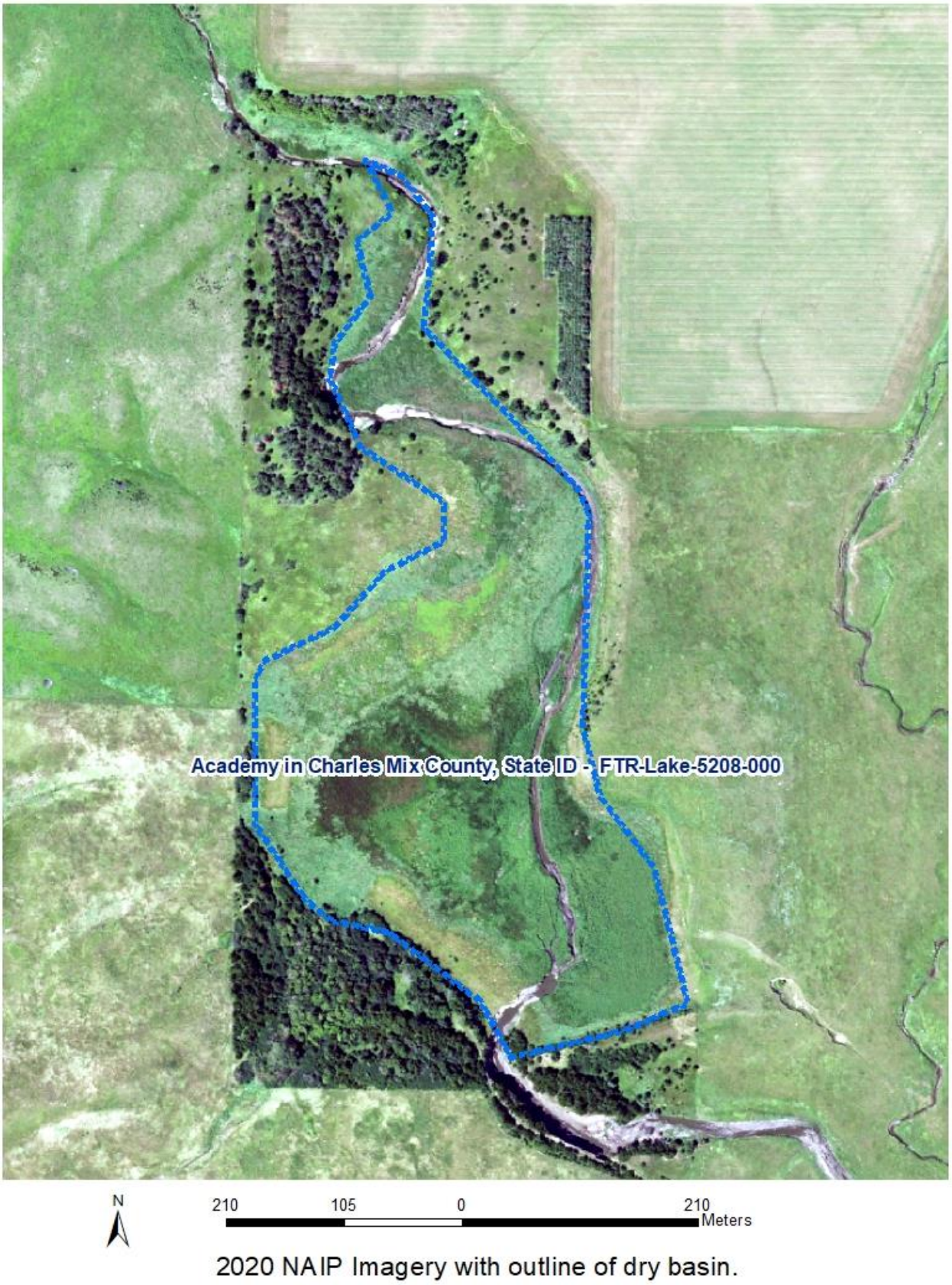

Figure 5. 2020 NAIP imagery of Academy Lake in Charles Mix County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Bergers in Beadle County, State ID - MJA-Lake-638-000

Bergers Lake was created by damming an unnamed tributary to the James River at S11, 12, 13, & 14 T111N R61W in Beadle County. The breached dam and historic lakebed are privately owned and no public access exists. Fish stocking occurred during 1950 and 1956 (SDGFP, 2018) and the lake was upgraded from marginal to semipermanent warmwater fish life propagation in 1990. Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. Review of aerial photography indicates the dam on Bergers failed sometime between 2006 and 2008. The James River Basin was subjected to record rainfalls and significant flooding during May of 2007 that caused many small dams to fail. Compared to other dams included in this document, the breach is relatively recent, however the channel is nearly fully restored (Figure 7) and very little if any remnant water remains in the former lakebed.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Bergers listing in ARSD 74:51:02.

Bergers is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

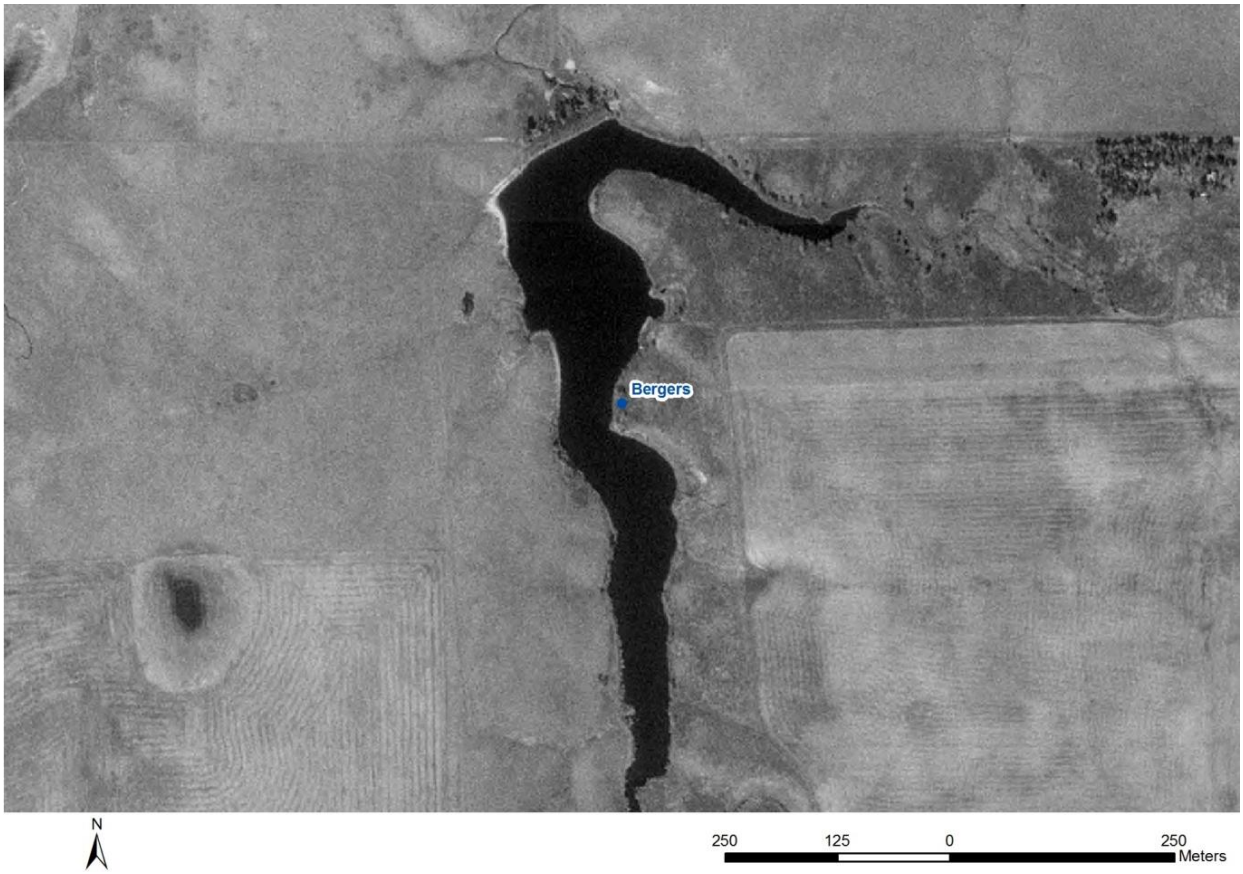

Figure 6. DOQ of Bergers Dam in 1996 shows lake at full pool prior to breach.

Figure 7. Google Image of Bergers Lake Dam and channel formation through dam grade (Google, 2014)

Figure 8. 2016 NAIP Image of Bergers Lake in Beadle County

Figure 9. 2020 NAIP imagery of Bergers Lake in Beadle County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Bochart in Fall River County, State ID - MCS-Lake-180-000

Bochart Lake (also referenced as Bockert Lake) was created by damming an unnamed tributary to the Cheyenne River at S18 T8S R9E in Fall River County. The breached dam and historic lakebed are located on the Buffalo Gap National Grasslands managed by the US Forest Service and the lake is accessible to the public. The lake was assigned the use (6) warmwater marginal fish life propagation, and stocked one time in 1982 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The beneficial use review conducted in 1990 includes a note that the reviewer was unable to locate the lake. The oldest imagery from 1997 shows the lake approximately half full and a partially developed breach in the dam grade. The drainage network has continued to develop and completely eliminated the reservoir pool (Figure 11, Figure 12, and Figure 13). Nebraska National Forest and Grasslands indicated the agency has no plans to repair the dam (Nebraska National Forest, 2018).

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Bochart listing in ARSD 74:51:02.

Bochart is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

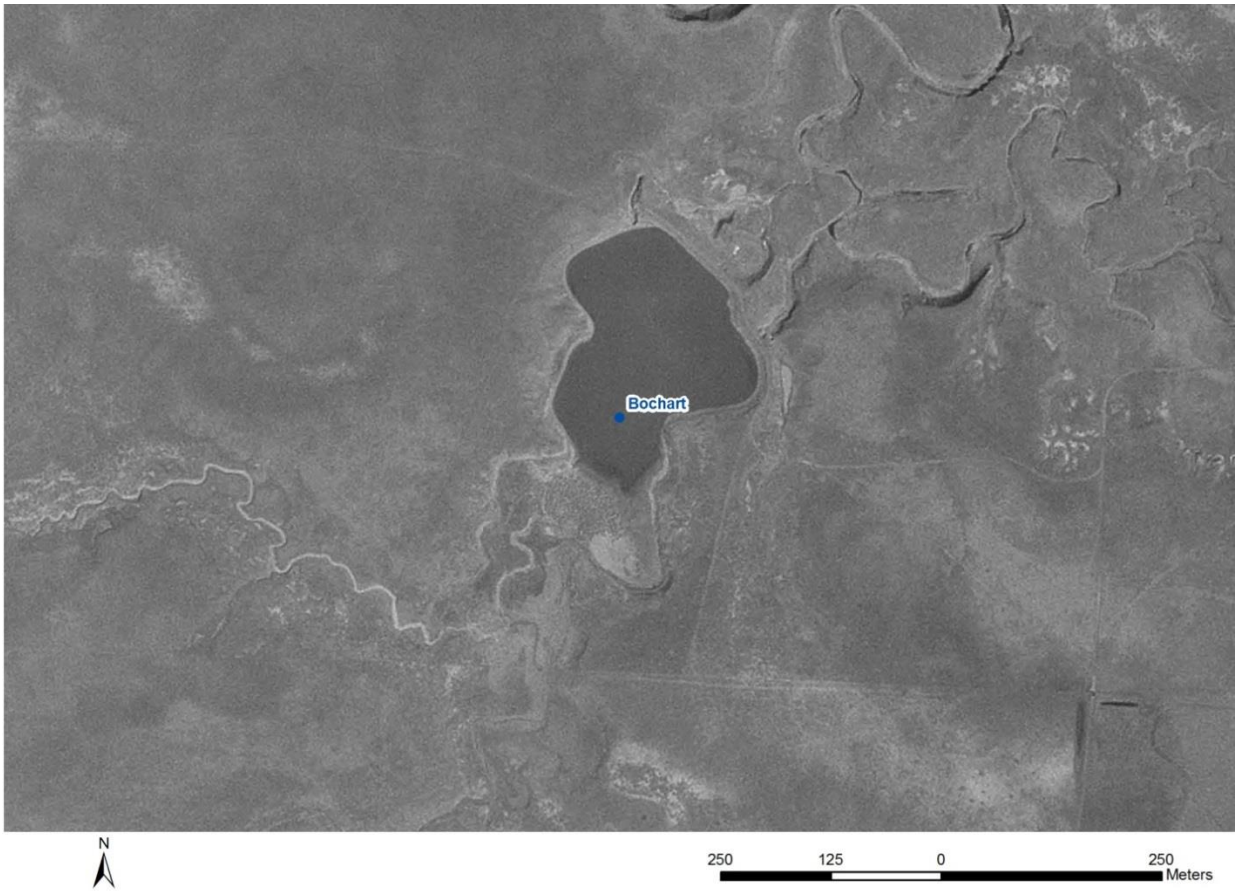

Figure 10. DOQ image of Bochart Dam in 1997 shows lake with partial pool and developing breach.

Figure 11. Google image of the Bochart Dam breach and stream channel in the lakebed (red arrows) (Google, 2013).

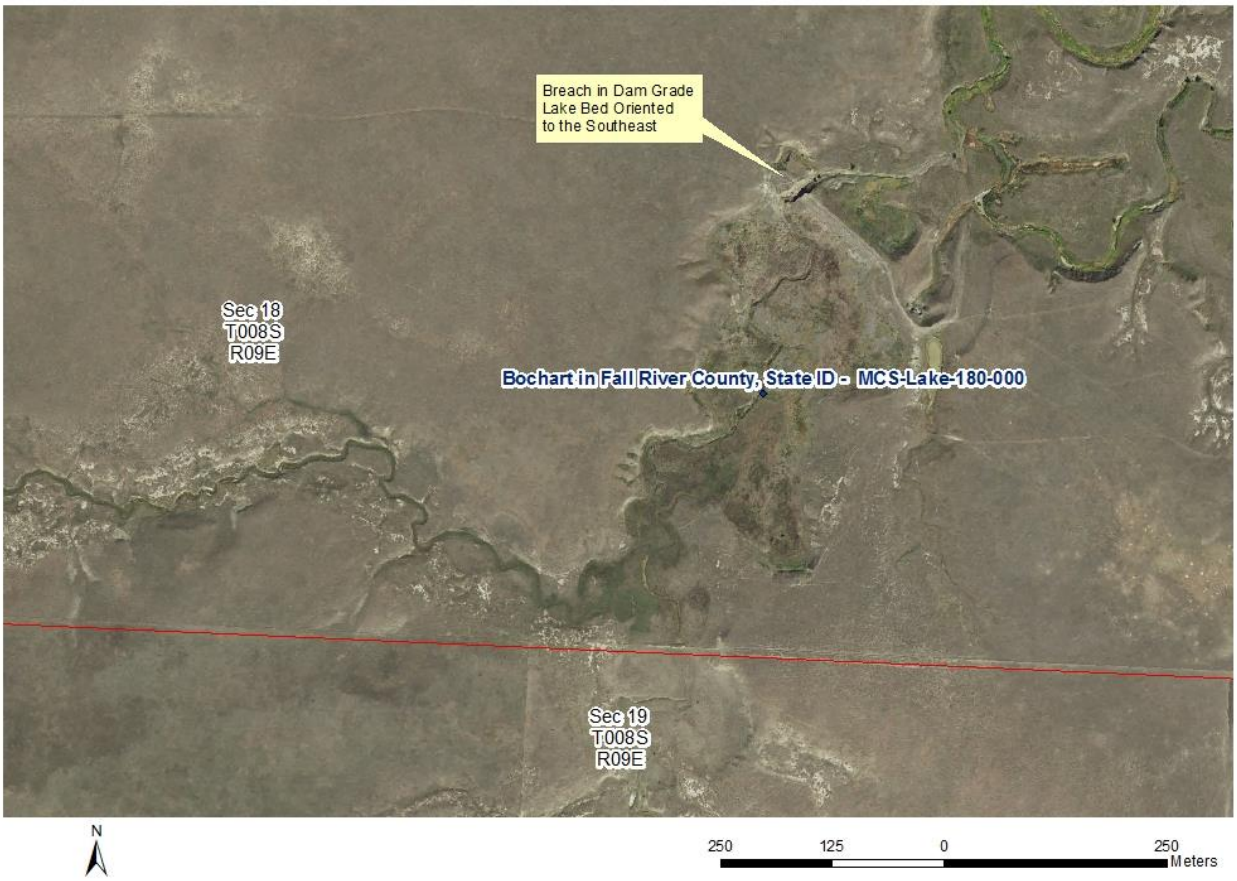

Figure 12. 2016 NAIP Image of Bochart Lake in Fall River County

Figure 13. 2020 NAIP imagery of Bochart Lake in Fall River County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Carter in Tripp County, State ID - LWH-Lake-2310-000

Carter Lake was created by damming an unnamed tributary to Oak Creek at S16 T99N R79W in Tripp County. The breached dam and historic lakebed are privately owned, and no public access exists. The lake was assigned the use (5) warmwater semipermanent life propagation. It was stocked with fish from 1932 until 1983 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The 1990 beneficial use review indicated the lake was "a shallow mud hole" and recommended the fishery use be changed to marginal. The DOQ image from 1996 (Figure 14) appears to reaffirm this with what appears as almost no water in the lakebed. The dam appears to have breached prior to the 1990 review and that the stream channel had not adequately developed to eliminate the remnant pool at that point. The 2016 and 2020 NAIP imagery (Figure 16 and Figure 17) shows both mature trees and a well-developed channel in the historic lakebed. Due to the long duration since the dam was breached, it is unlikely that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Carter listing in ARSD 74:51:02.

Carter is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 14. DOQ image of Carter Dam in 1996.

Figure 15. Google image of breach in Carter Dam, mostly obscured by trees in center of image (Google, 2013).

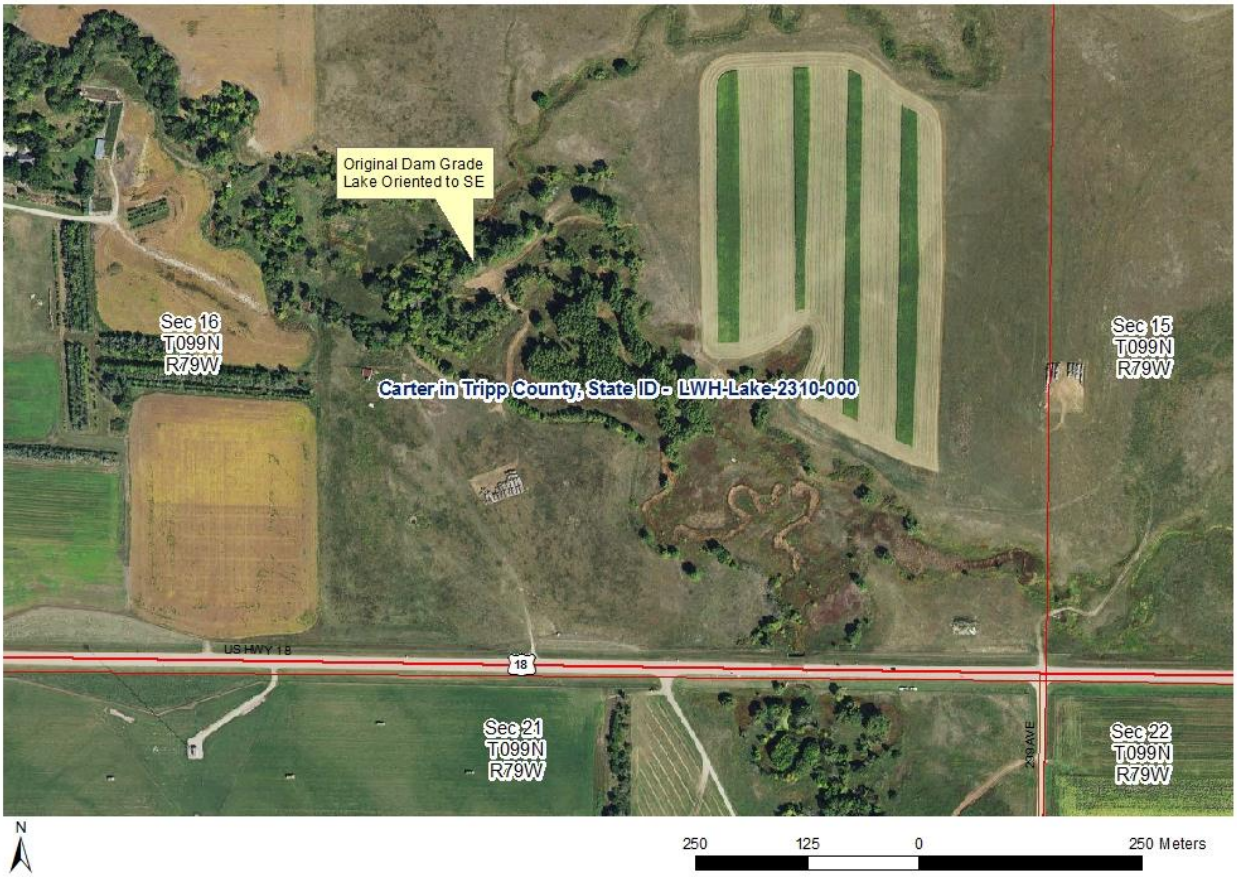

Figure 16. 2016 NAIP photo of Carter Lake in Tripp County

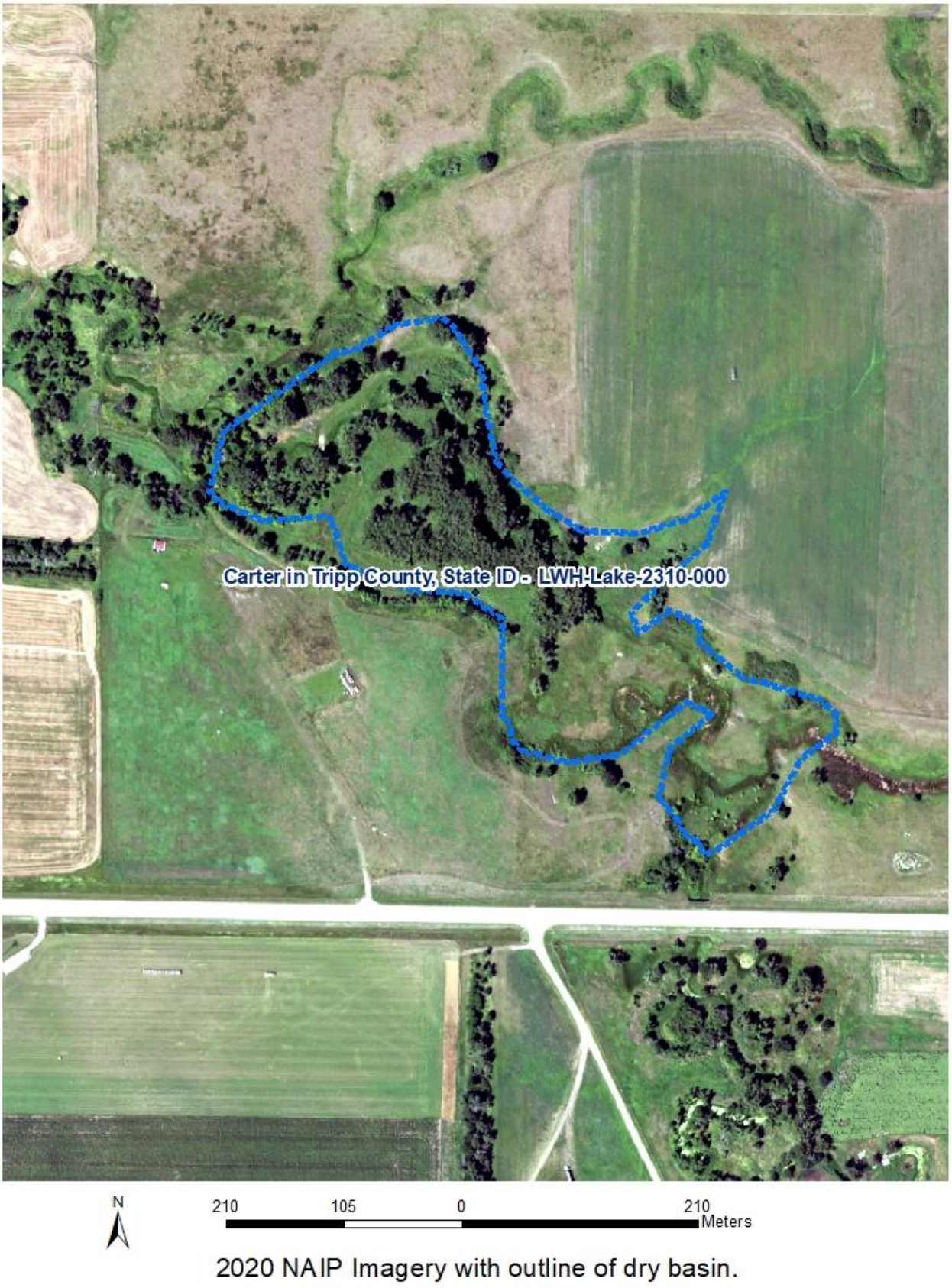

Figure 17. 2020 NAIP imagery of Carter Lake in Tripp County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Caspers Dam in Pennington County, State ID - BAD-Lake-2647-000

Caspers Dam was formed by damming an unnamed tributary to the South Fork Bad River at S32 T1N R17E in Pennington County. The breached dam and historic lakebed are located on private lands and no public access exists. The lake was assigned the use (5) warmwater semipermanent fish life propagation and was stocked with fish in 1938, 1977, and 1978 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. Review of the NAIP imagery shows the lake was dry or nearly dry from 2004 until 2008 when it appears to have filled up. The 2010 image shows that a cut had formed in the dam grade which is visible in the 2016 image in Figure 20. Due to the relatively recent nature of the breach, there remains capacity to hold small amounts of ponded water in the former lakebed, approximately 1 acre of the former 20-acre lakebed. This small pond will continue to diminish in size and eventually be eliminated as the drainage network is restored in the dry lakebed. The absence of any repair work on the minor breach indicates the landowner has no intent to maintain this small dam and it can be expected that it will continue to erode the dam grade and revert to its natural channel.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Caspers Dam listing in ARSD 74:51:02.

Caspers Dam is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

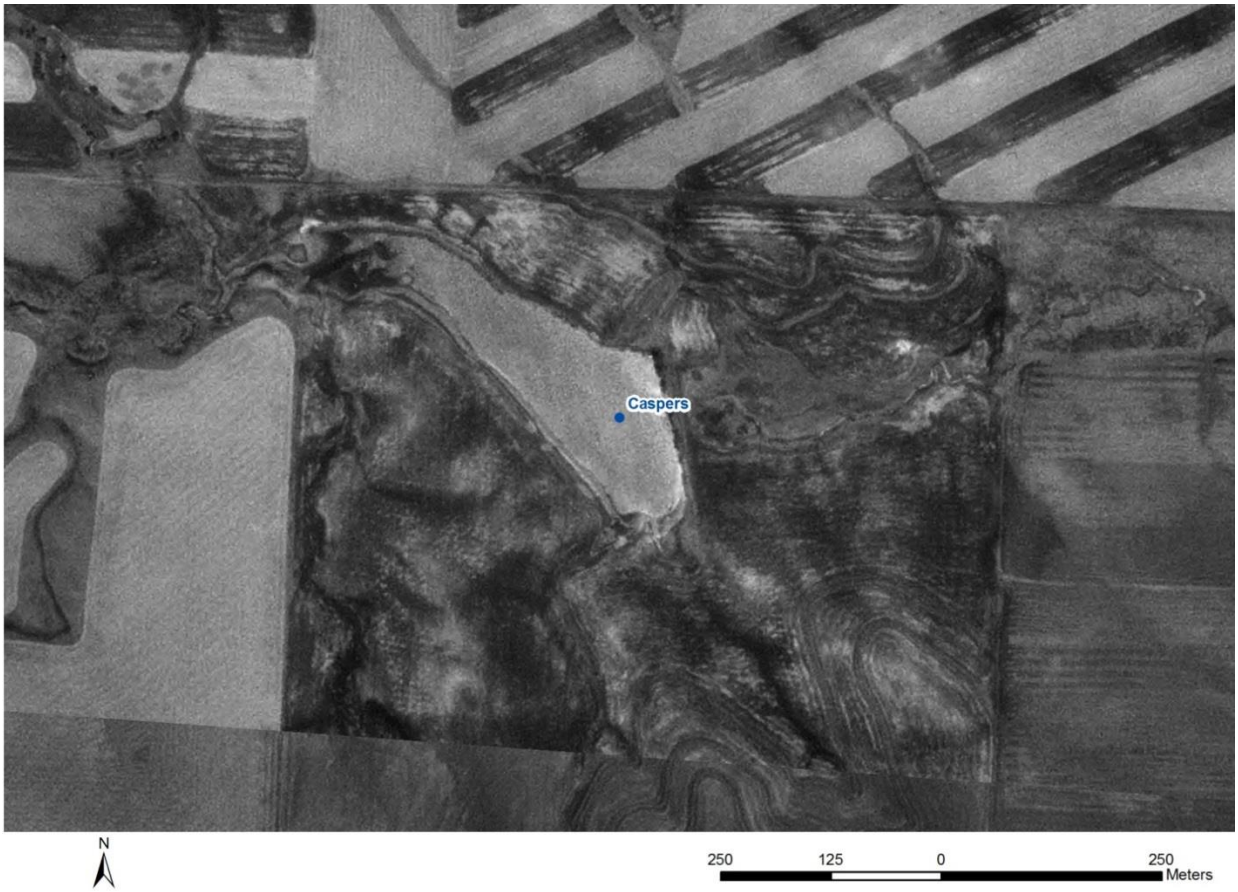

Figure 18. DOQ image of Capers Dam in 1992

Figure 19. Google Image of Caspers Dam with developing breach visible in red circle (Google, 2016).

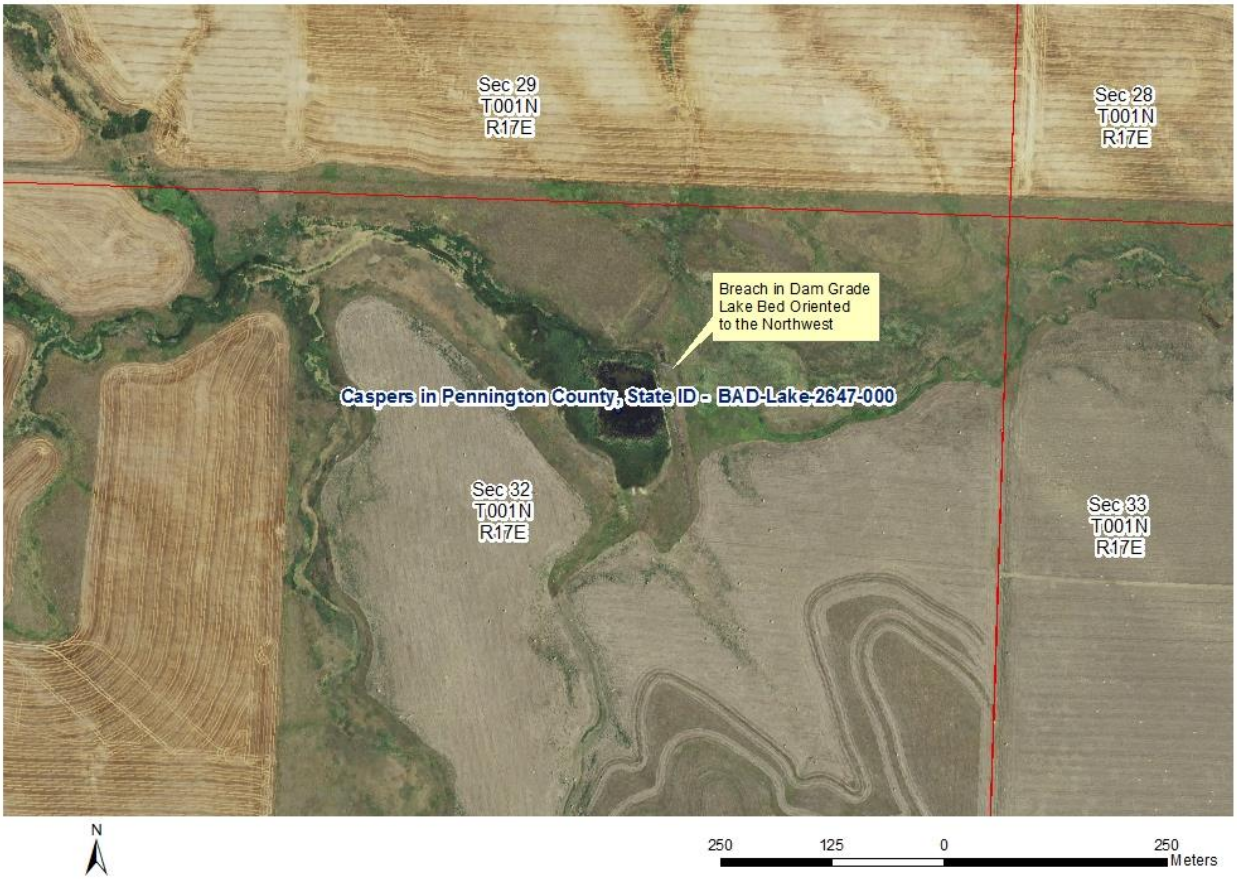

Figure 20. 2016 NAIP image of Caspers Lake in Pennington County

Figure 21 2020 NAIP imagery of Caspers Lake in Pennington County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Cole in Union County, State ID - LBS-Lake-283-000

Cole Lake was formed by damming an unnamed tributary to East Brule Creek at S11 T95N R49W in Union County. The dam and historic lakebed are located on private lands and no public access exists. The lake was assigned the use (6) warmwater marginal fish life propagation and there is no record of fish stocking in the lake. Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. There is no record of this lake in the 1990 review and the earliest images from 1996 (Figure 22) show the presence of a 15-acre lake with large deltas at its inlets covering over 60% of the former lakebed. In the 2003 image, sedimentation had further reduced the pool size to 3 acres and trees had begun to establish on the deltas. The 2010-2014 images show a progression of the pool disappearing, the establishment of a drainage channel in the lakebed, and finally the straightening of the channel and conversion of the historic lakebed to crop land. There is no apparent breach in the dam grade and several of the photos (Figure 23) show a culvert that has been placed through the dam. The conversion of the lakebed to cropland strongly suggests there is no intent to restore the lake.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Cole listing in ARSD 74:51:02.

Cole is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

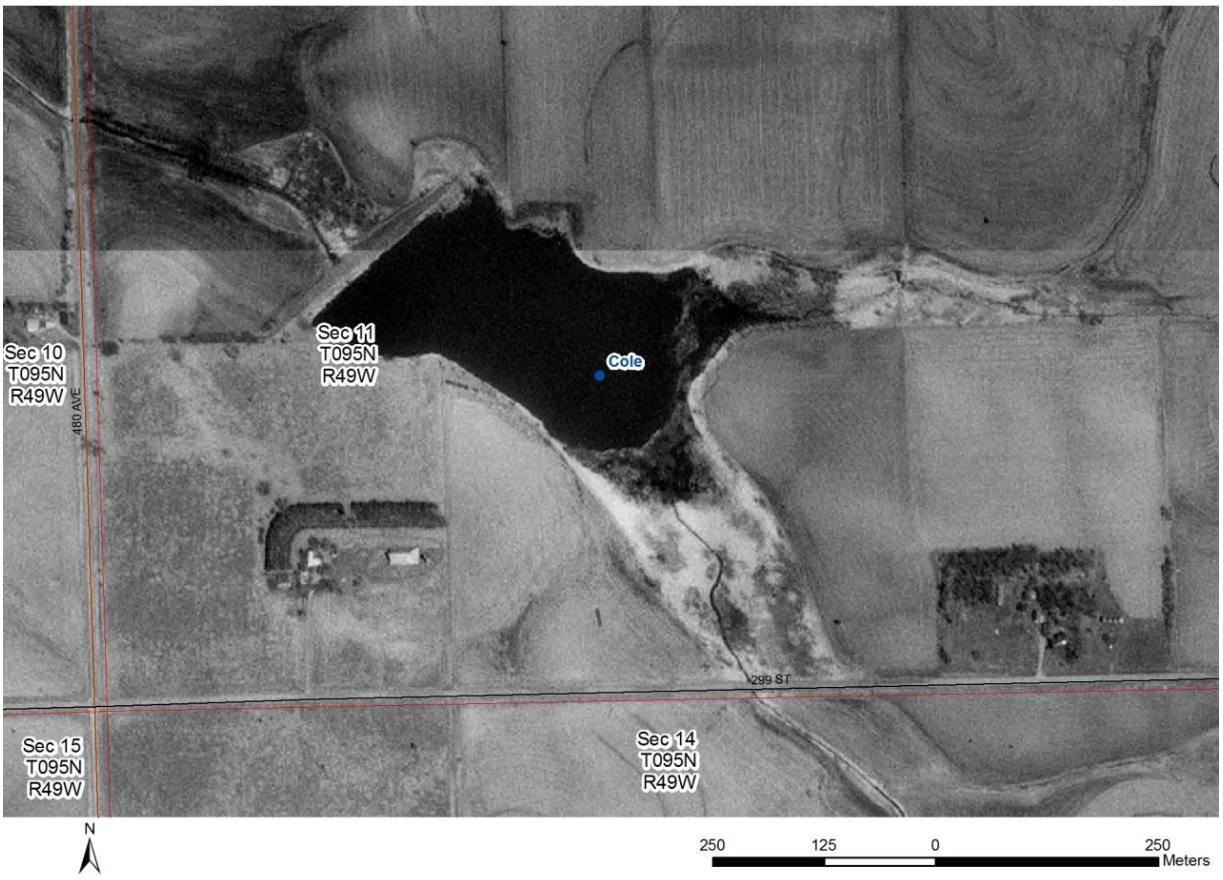

Figure 22. DOQ image of Cole Dam in 1996.

Figure 23. Google Maps Image of the Dam Grade at Cole Lake (Google, 2017). No breach is visible where the stream channel crosses the grade, however a structure, presumed to be a culvert inlet is faintly visible at the center of the circle and the tip of a pipe (arrow) appears at the scour pool to the NW of the red circle.

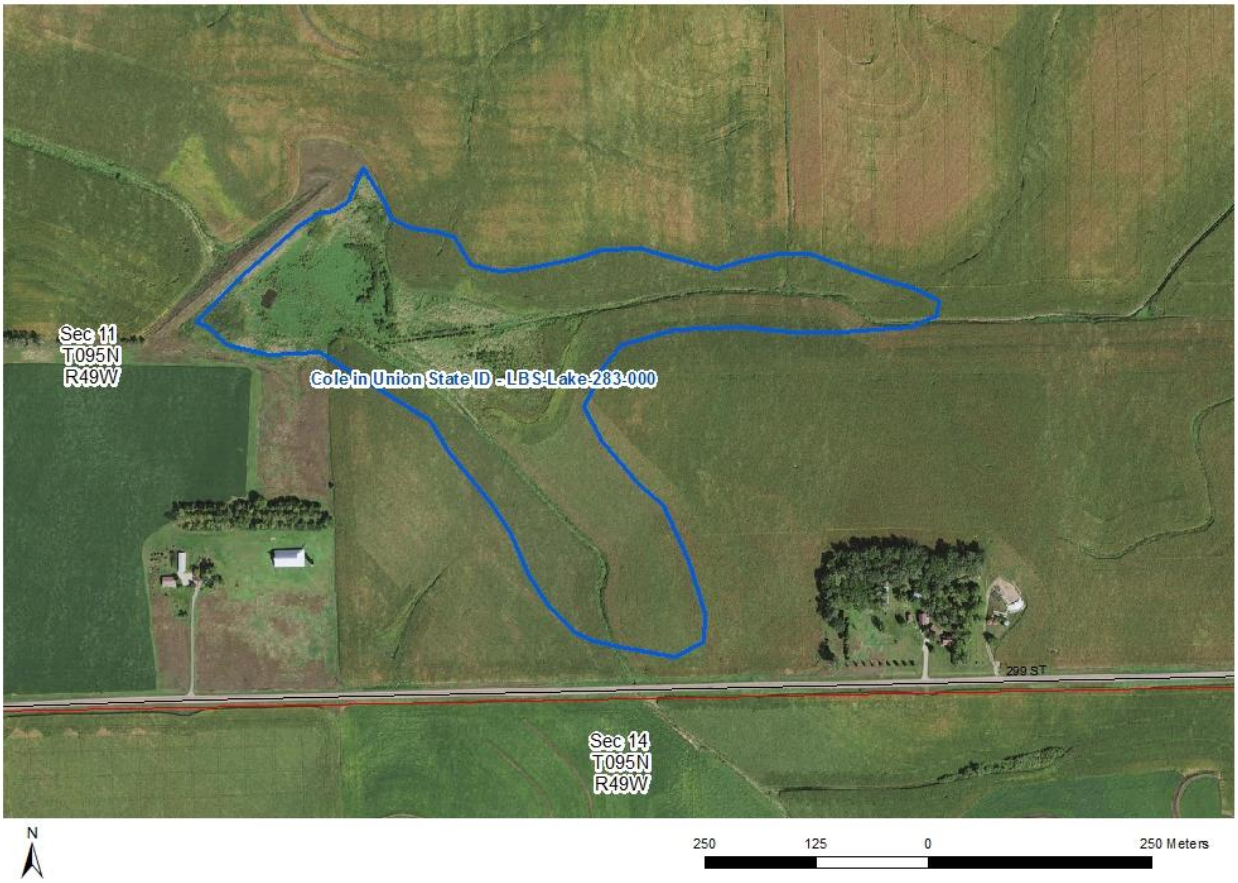

Figure 24. 2016 NAIP Image of Cole Dam in Union County

Figure 25. 2020 NAIP imagery of Cole Lake in Union County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Dixon in Gregory County, State ID - FTR-Lake-5039-000

Dixon Lake (also referenced as Burch Lake) was created by damming an unnamed tributary to Bull Creek at S16 T99N R73W in Gregory County. The breached dam and historic lakebed are owned by SDGFP and public access is maintained. The lake was assigned the use (5) warmwater semipermanent fish life propagation and stocked with fish regularly until 1989 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The dam structure had a concrete spillway on the southwest end of the structure that failed sometime between 2006 and 2008. The 2016 photo in Figure 28 shows the re-establishment of the channel and tree growth in the former lakebed. SDGFP indicated the agency has no plans to repair the dam (SDGFP, 2018).

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Dixon listing in ARSD 74:51:02.

Dixon is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 26. DOQ image of Burch Dam from 1997

Figure 27.Google image of failed concrete spillway on Burch Dam (Google, 2015)

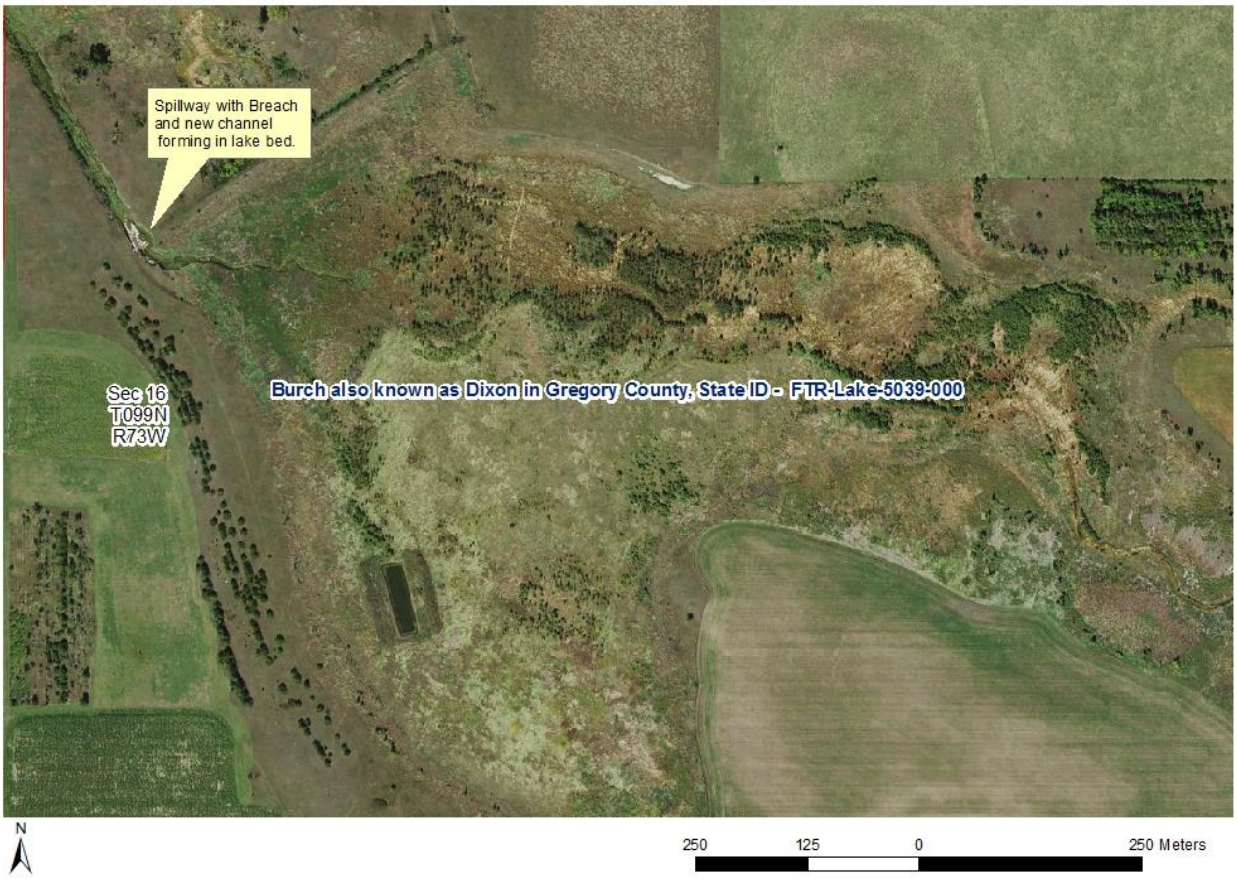

Figure 28. 2016 NAIP Image of Dixon Lake in Gregory County

Figure 29. 2020 NAIP imagery of Dixon Lake in Gregory County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Ellison in Fall River County, State ID - ANR-Lake-74-000

Ellison Lake was created by damming an unnamed tributary to the Cheyenne River at S22 T9S R1E in Fall River County. The dam and historic lakebed are located on the Buffalo Gap National Grasslands managed by US Forest Service and the lake is accessible to the public. The lake was assigned the use (5) warmwater semipermanent fish life propagation; no record of fish stocking could be located. Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The beneficial use review conducted in 1990 indicates that no information on the lake could be found at that time. The oldest imagery from 1997 (Figure 30) shows Ellison in a nearly identical state to what is visible in the 2016 image (Figure 32). A livestock watering dugout appears immediately west of the former lakebed and is not part of the former Ellison Dam classification. Nebraska National Forest and Grasslands indicated the water remaining at the dam is used for stock watering and that it is insufficient for fish life propagation (Nebraska National Forest, 2018).

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Ellison listing in ARSD 74:51:02.

Ellison is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

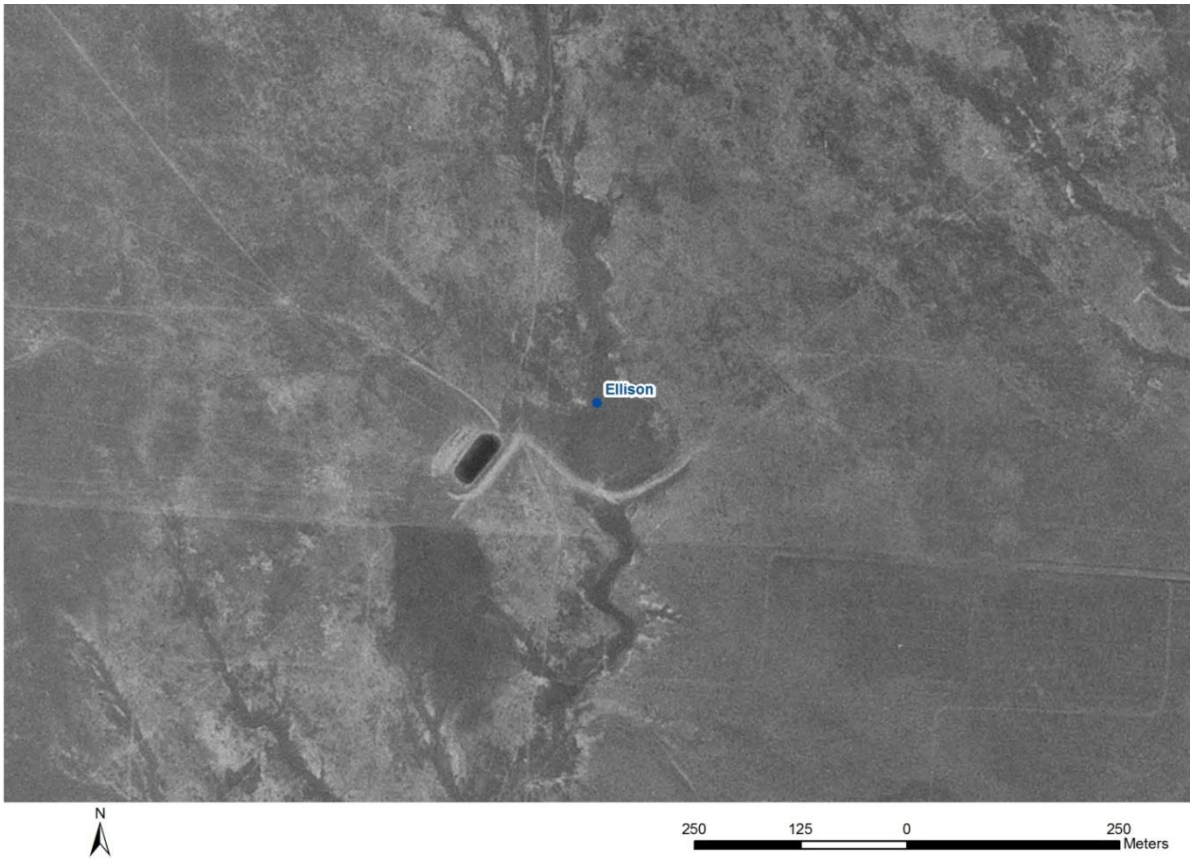

Figure 30. DOQ image of Ellison Dam from 1997

Figure 31. Google image of Ellison Dam (Google, 2014)

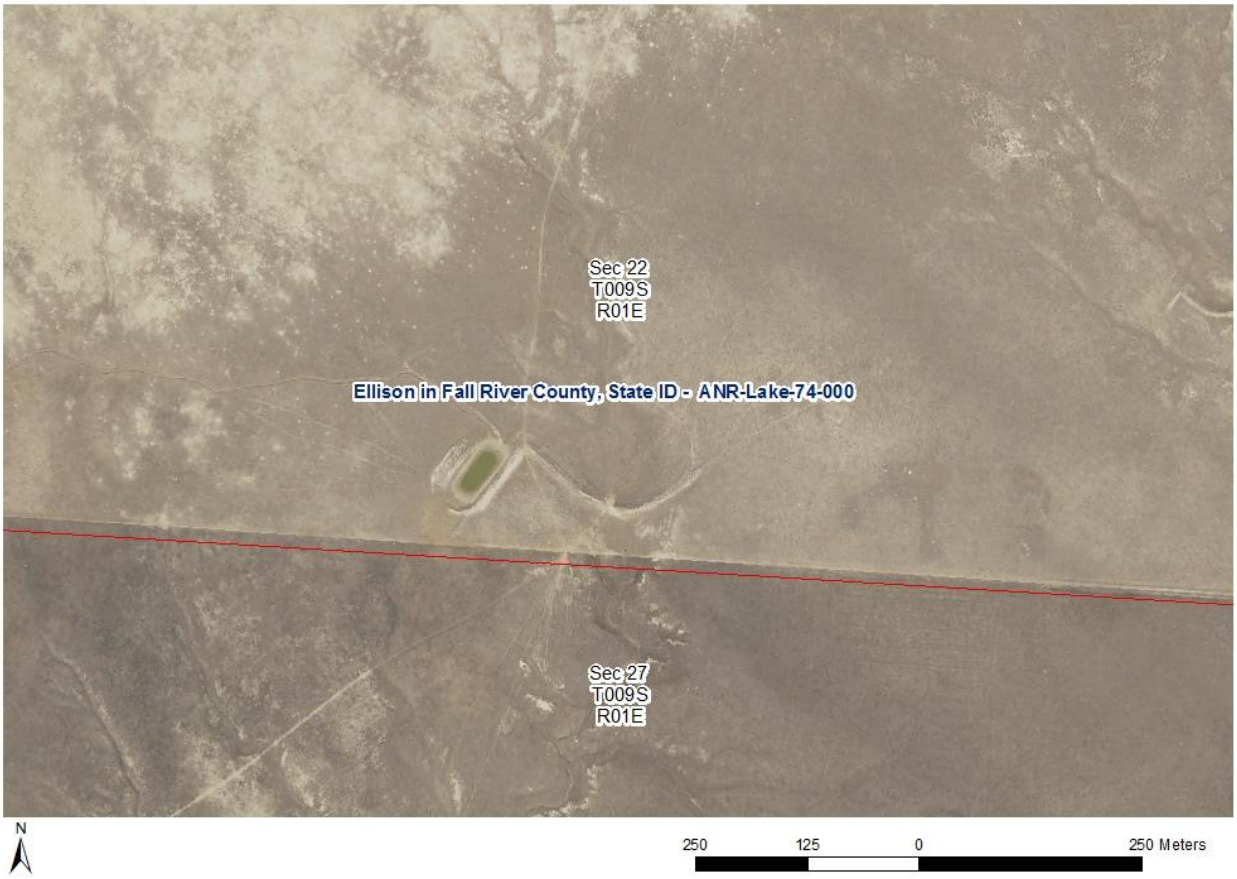

Figure 32. 2016 NAIP image of Ellison Dam in Fall River County

Figure 33. 2020 NAIP imagery of Ellison Lake in Fall River County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Farmingdale Dam in Pennington County, State ID - RAP-Lake-56-000

Farmingdale Dam was created by damming an unnamed tributary to Rapid Creek at S14 T1S R10E in Pennington County. The breached dam and historic lakebed are privately owned, and no public access exists. The lake was assigned the use (5) warmwater semipermanent fish life propagation; however, no history of fish stocking could be located. Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The 1990 review noted "*This dam was breached. The public was upset that this was done*". The note appears to indicate that this was an intentional action taken by the landowner and that changes to the beneficial uses may have been appropriate at that time. Further evidence this was intentional are visible in the Google image (Figure 37). The close up of the breach appears to have evenly sloped sides as though they were mechanically leveled. When compared to other dam breaches that typically have a vertical bank on one or both sides are almost never have the uniform appearance that Farmingdale has. The intentional breaching of this dam and subsequent absence of restoration for over 30 years strongly suggests there is no intent to restore the lake.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Farmingdale Dam listing in ARSD 74:51:02.

Farmingdale Dam is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 34. DOQ image of Farmingdale Dam already breached in 1997

Figure 35. Breach with evenly tapered sides (Google, 2017)

Figure 36. 2016 NAIP Image of Farmingdale Dam in Pennington County

Figure 37 2020 NAIP imagery of Farmingdale Lake in Pennington County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Fenenga in Lyman County, State ID - FTR-Lake-6328-000

Fenenga Dam (also referenced as Agnes or Hamm Lake) is located at S34 T101N R72W in Lyman County. The breached dam and historic lakebed are located on private land and no public access exists. The lake was assigned the use (6) warmwater marginal fish life propagation. SDGFP stocked fish between 1935 and 1938 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The DOQ image (Figure 38) as well as the standards review from 1990 indicates the dam was still in place at that point. The next available photo is the 2004 NAIP where the dam is clearly breached as it is in the 2016 NAIP (Figure 40). Review of imagery from a range of years shows a small channel formed that prevents water from ponding in the former lakebed. The ring of trees in the former lakebed is a remnant of the last partial pool formed while the breach was still developing. It is expected that the drainage will continue to re-establish its former channel and become more defined.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Fenenga listing in ARSD 74:51:02.

Fenenga is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 38. DOQ image of Fenenga Dam in 1991

Figure 39.Google image of Fenenga Dam breach (Google, 2015).

Figure 40. 2016 NAIP Image of Fenenga Dam in Lyman County

Figure 41. 2020 NAIP imagery of Fenenga Lake in Lyman County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Goose Creek in Dewey County, State ID - LMO-Lake-1141-000

Goose Creek Lake was created by damming Goose Creek, a tributary to the Moreau River at S2,11 T13N R 25E in Dewey County. The breached dam and historic lakebed are located within the Cheyenne River Indian Reservation boundary and no public access exists. The lake was assigned the use (5) warmwater semipermanent fish life propagation; and state stocking records indicate it was only stocked one time in 1939 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The oldest available image from 1997 (Figure 42) depicts a well-developed channel in the dry lakebed similar to the one visible in the 2016 NAIP image in Figure 44. Due to the long duration since the dam was breached, it is unlikely that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Goose Creek Lake listing in ARSD 74:51:02.

Goose Creek Lake is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

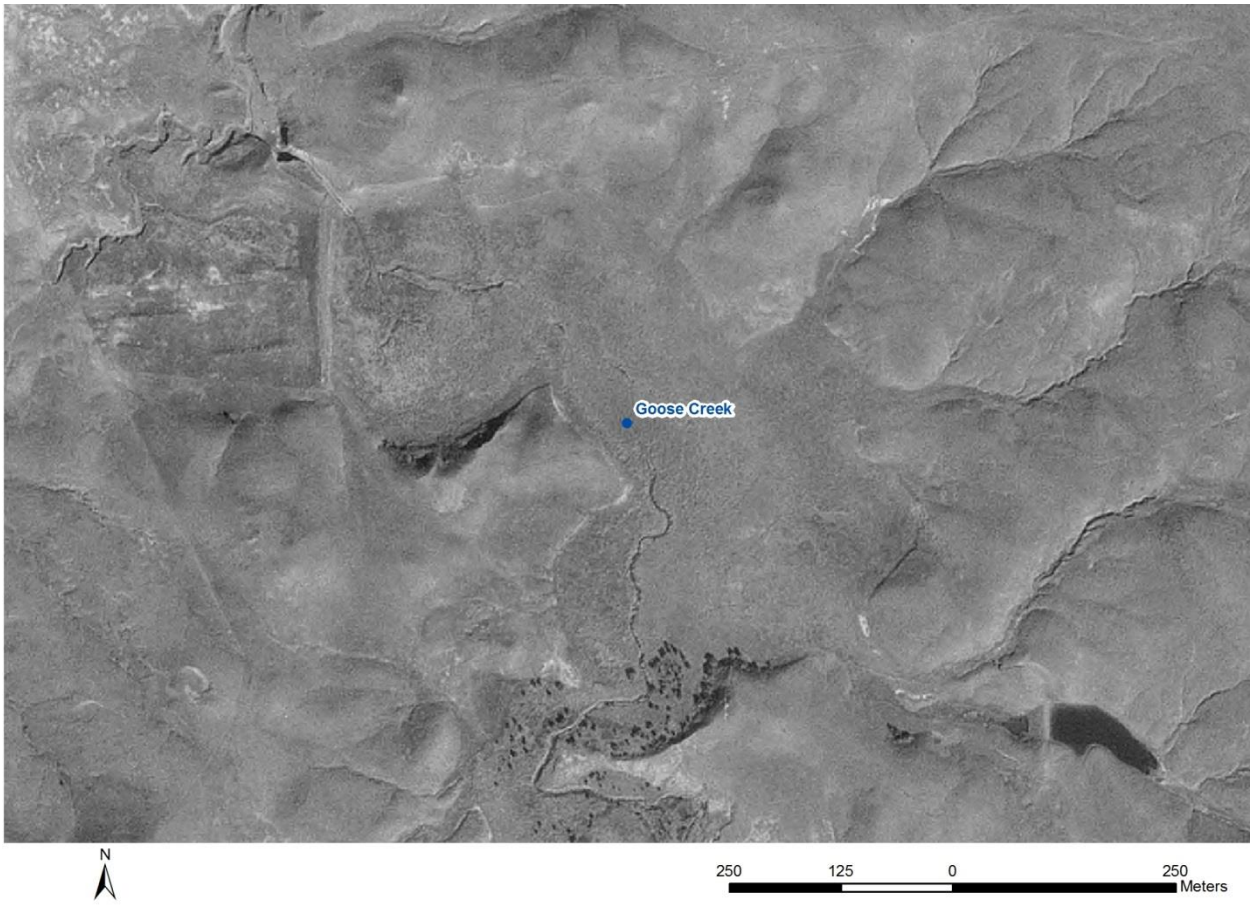

Figure 42. DOQ image of Goose Creek Lake from 1997

Figure 43. Google image of Goose Creek Dam breach and channel eroded into lakebed (Google, 2014).

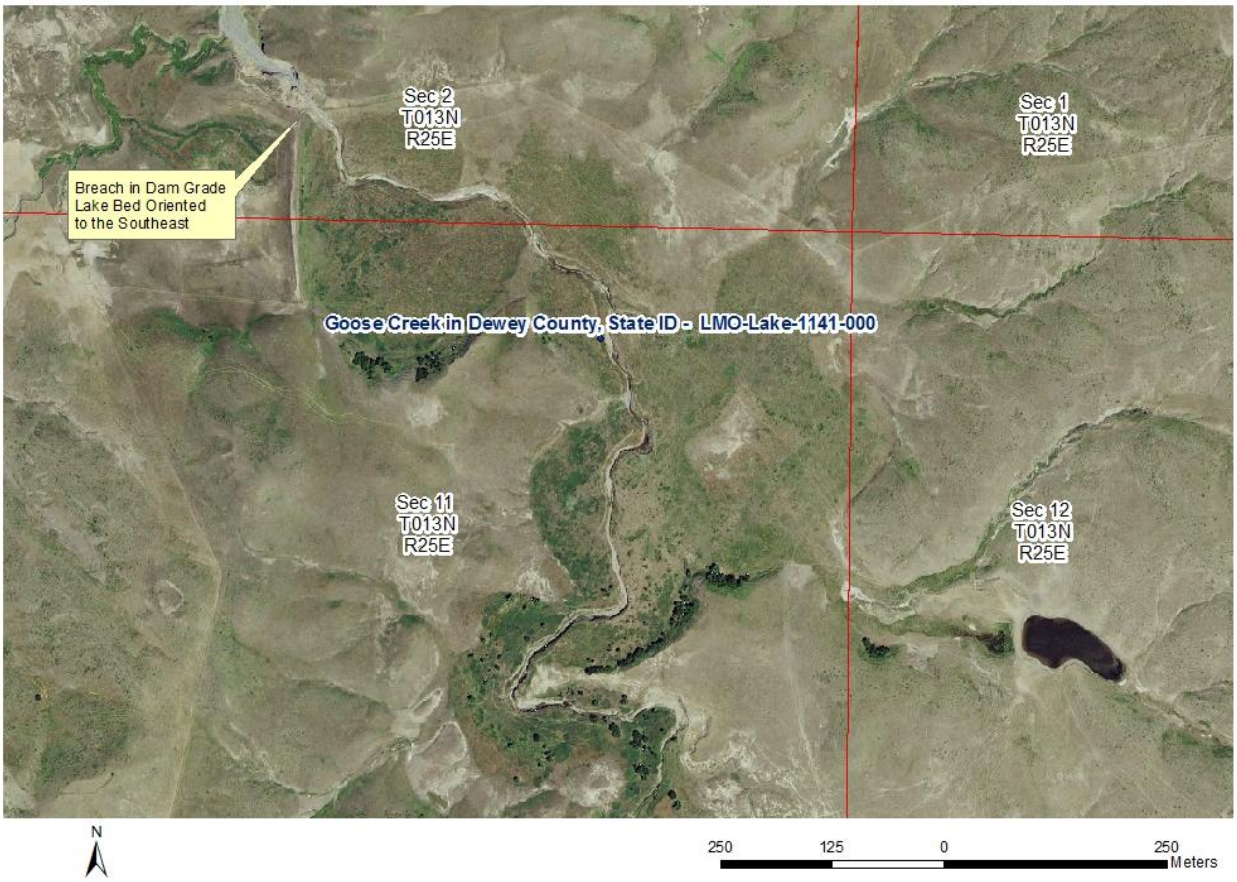

Figure 44. 2016 NAIP Image of Goose Creek Dam in Dewey County

Figure 45 2020 NAIP imagery of Goose Creek Lake in Dewey County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Iroquois in Kingsbury County, State ID - MJA-Lake-640-000

Iroquois Lake was formed by damming an unnamed tributary to Pearl Creek at S8 T110N R58W in Kingsbury County. The breached dam and historic lakebed are owned by SDGFP and public access is maintained. The lake was assigned the use (6) warmwater marginal fish life propagation and stocking occurred from 1935 through 2003 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The dam was rebuilt in 1989 and subsequently failed between 2008 and 2010. SDGFP indicated the agency has no plans to repair the dam (SDGFP, 2018) and as a result the drainage will continue to re-establish its former channel in the historic lakebed.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Iroquois listing in ARSD 74:51:02.

Iroquois is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 46. DOQ image of Iroquois Dam in 1991

Figure 47. Google image of Iroquois Dam breach (Google, 2014)

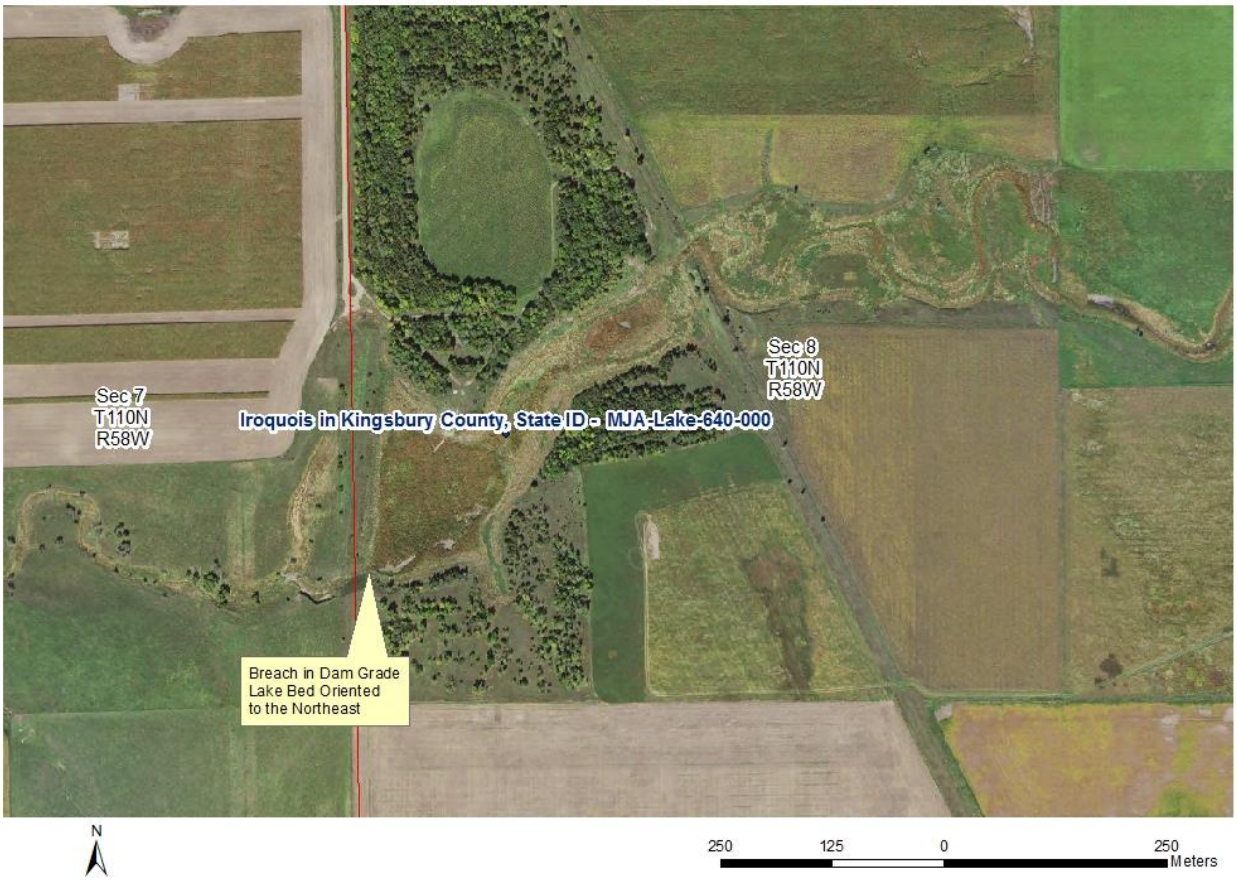

Figure 48. 2016 NAIP Image of Iroquois Dam in Kingsbury County

Figure 49. 2020 NAIP imagery of Iroquois Lake in Kingsbury County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Jackson in Lyman County, State ID - LWH-Lake-2307-000

Jackson Lake was created by damming an unnamed tributary to the White River at S25 T104N R76W in Lyman County. The breached dam and historic lakebed are privately owned and no public access exists. The lake was assigned the use (6) warmwater marginal fish life propagation and only stocked a single time in 1940 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The 1990 beneficial use review indicated the dam was already breached (visible in Figure 50 and Figure 51) and that the lake should be reclassified to just wildlife use. The drainage which was dammed to form the lake has re-established its old channel and the 1990 recommendation remains accurate. Due to the long duration since the dam was breached, it is unlikely that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Jackson listing in ARSD 74:51:02.

Jackson is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

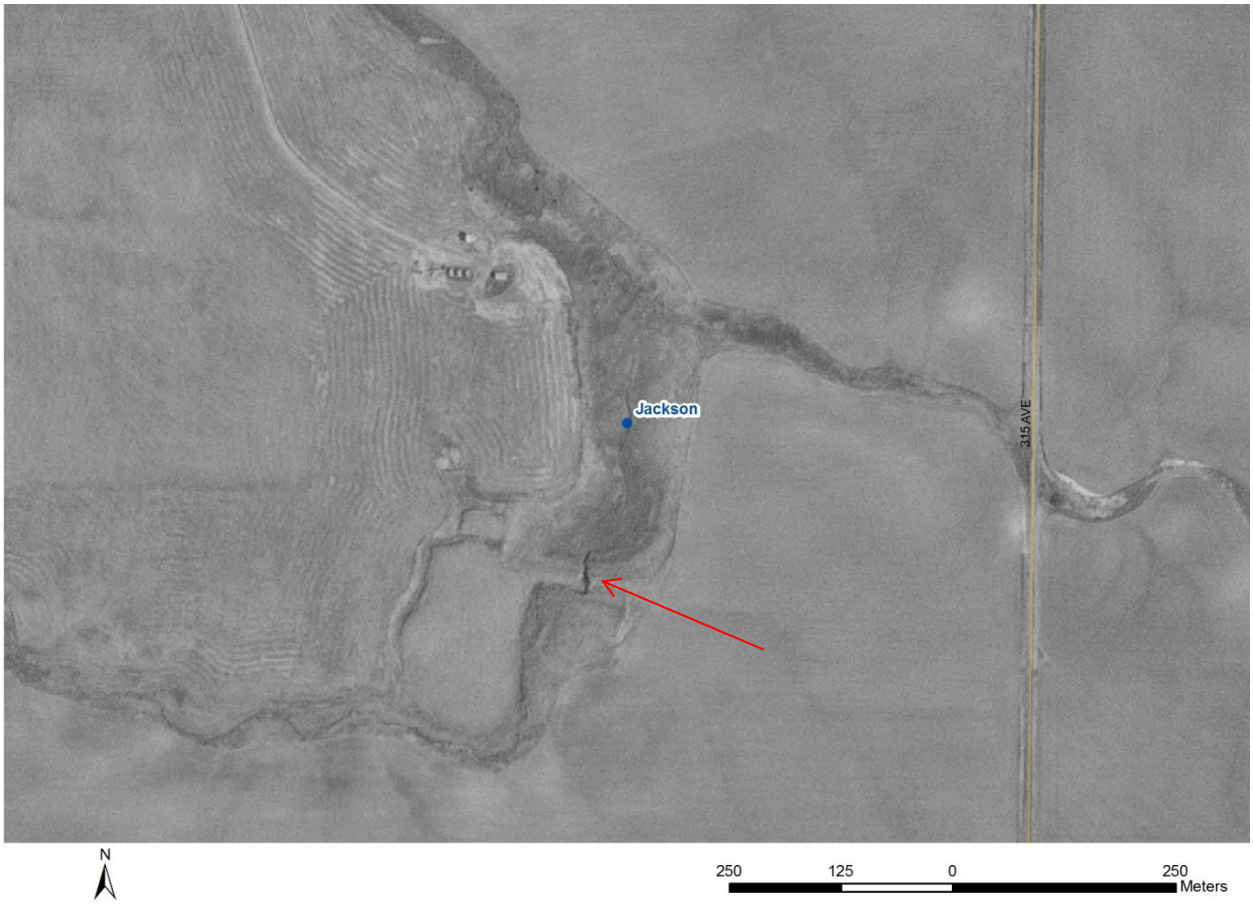

Figure 50. DOQ image of Jackson Dam from 1991 with the dam already breached.

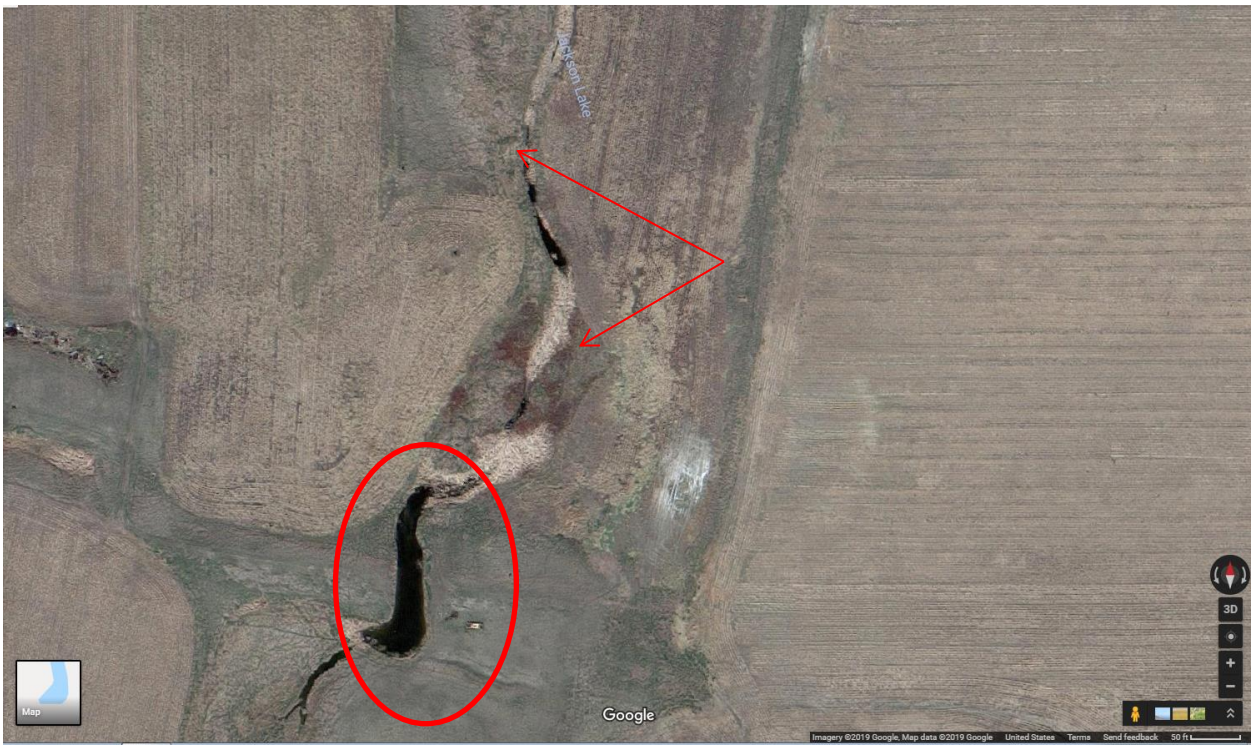

Figure 51.Google image of breach (red circle) in Jackson Dam and developed channel in lakebed (arrows) (Google, 2013).

Figure 52. 2016 NAIP Image of Jackson Dam in Lyman County

Figure 53 2020 NAIP imagery of Jackson Lake in Lyman County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Kennebec in Lyman County, State ID - MED-Lake-760-000

Kennebec Lake was created by damming an unnamed tributary to Medicine Creek at S32 T105N R75W in Lyman County. The breached dam and historic lakebed are privately owned, and no public access exists. The lake was assigned the use (6) warmwater marginal fish life propagation and was last stocked in 1950 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The 1990 beneficial use review indicated the dam was already breached and that the lake should be reclassified to just wildlife use. The DOQ image from 1991 shows what the dam grade had begun to fail at that point and had reduced the pool level in the lake. The 1990 recommendation remains accurate as the 2016 NAIP image (Figure 56) shows that the stream channel has been reestablished through most of the lakebed. Due to the long duration since the dam was breached, it is unlikely that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Kennebec listing in ARSD 74:51:02.

Kennebec is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 54. DOQ image of Kennebec dam from 1991

Figure 55. Google image showing the breach in the Kennebec Dam (Google, 2013)

Figure 56. 2016 NAIP Image of Kennebec Dam in Lyman County

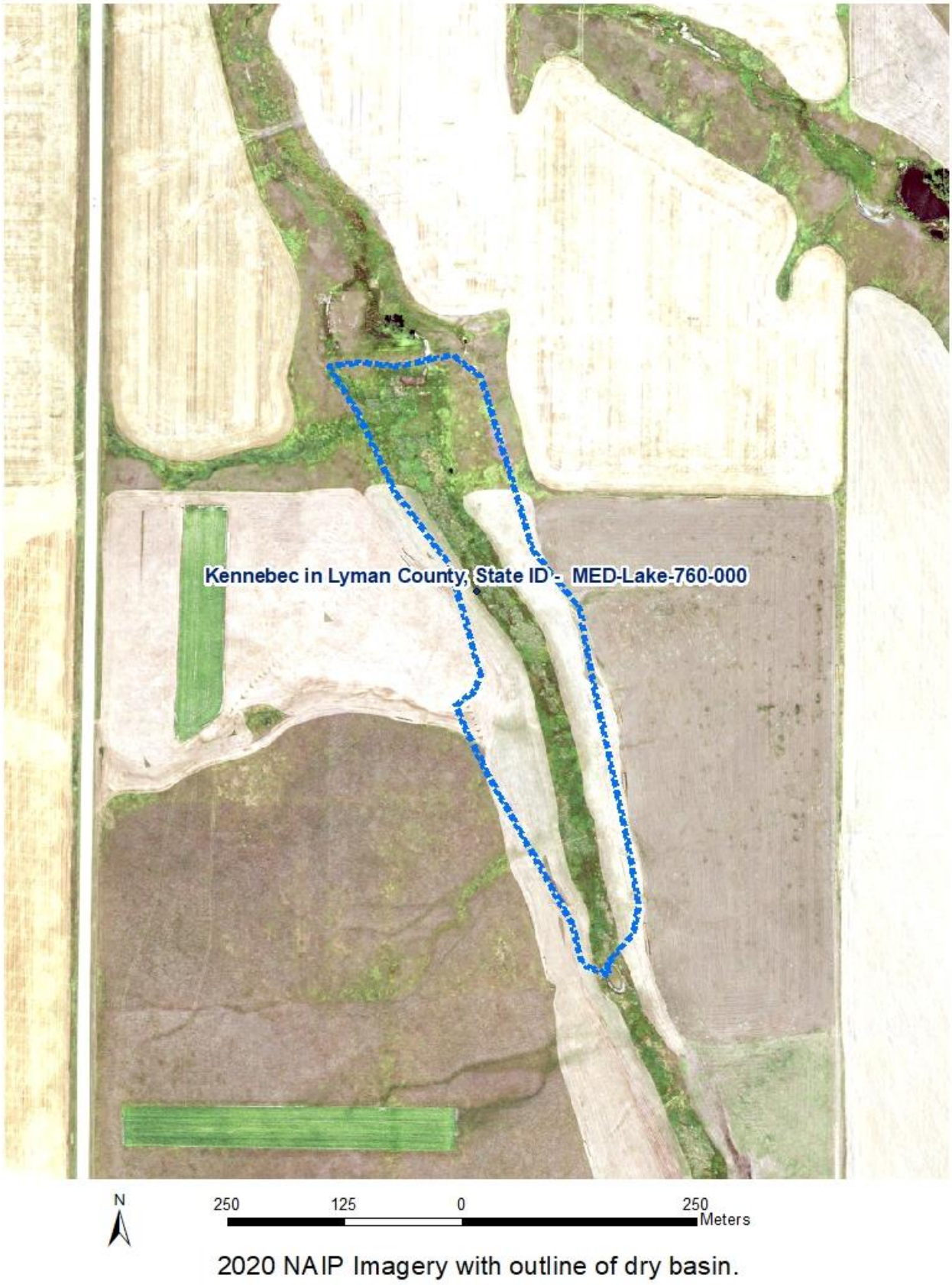

Figure 57. 2020 NAIP imagery of Kennebec Lake in Lyman County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Mission in Todd County, State ID - KYP-Lake-284-000

Mission Lake (also referenced as Hare) was created by damming Antelope Creek at S5, 6 T38N R28W in Todd County. The breached dam and historic lakebed are located within the Rosebud Indian Reservation boundary and no public access exists. The lake was assigned the use (5) warmwater semipermanent fish life propagation and state stocking records indicate it was last stocked in 1965 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The 1990 review indicated the lake had breached in 1987. The DOQ image from 1997 shows a fully developed channel in the lakebed and no remnant pool. In the 2016 imagery, a pool is present and some of the more mature trees are flooded (circle in Figure 61). The Google image (Figure 61) also appears to show that a beaver dam had been recently constructed (red arrow) causing the water to pond. Review of previous NAIP imagery shows that a small beaver dam was present in 2010 that formed a pool one half the size of the 2016 pool. Images between those years including a high-resolution Google image from 2013 show that the beaver dam had washed out and vegetation had reclaimed the dry lakebed. The temporary nature of beaver dams limits their ability to create a permanent lentic system. Drainage networks with beaver dams are included in ARSD 74:51:03 Uses Assigned to Streams and should not be included in ARSD74:51:02 Uses Assigned to Lakes.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Mission listing in ARSD 74:51:02.

Mission is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 58. DOQ image of Mission Dam from 1997, breach and trees in lakebed are already present.

Figure 59.Google image of Mission Dam Breach with flooded trees and beaver dam visible (Google, 2016).

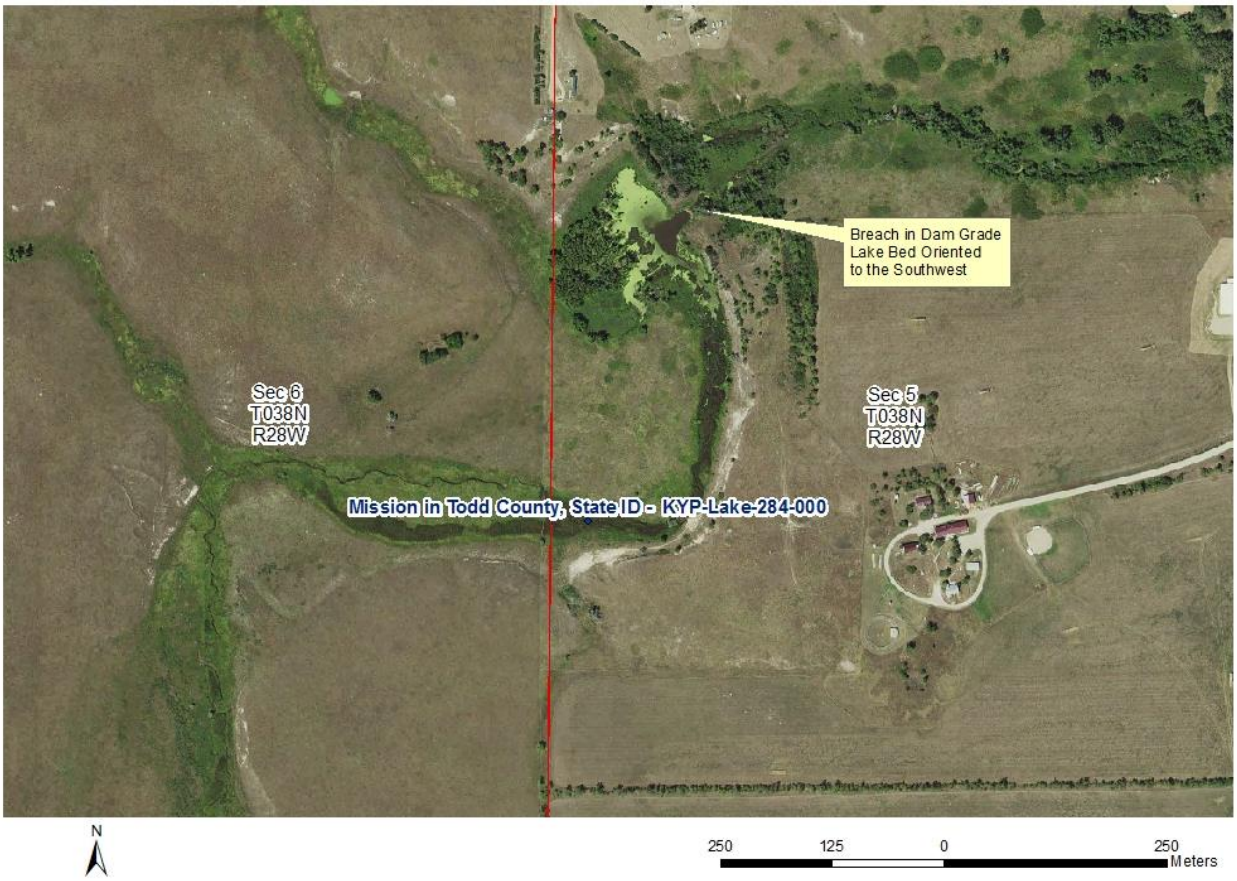

Figure 60. 2016 NAIP Image of Mission Dam in Todd County

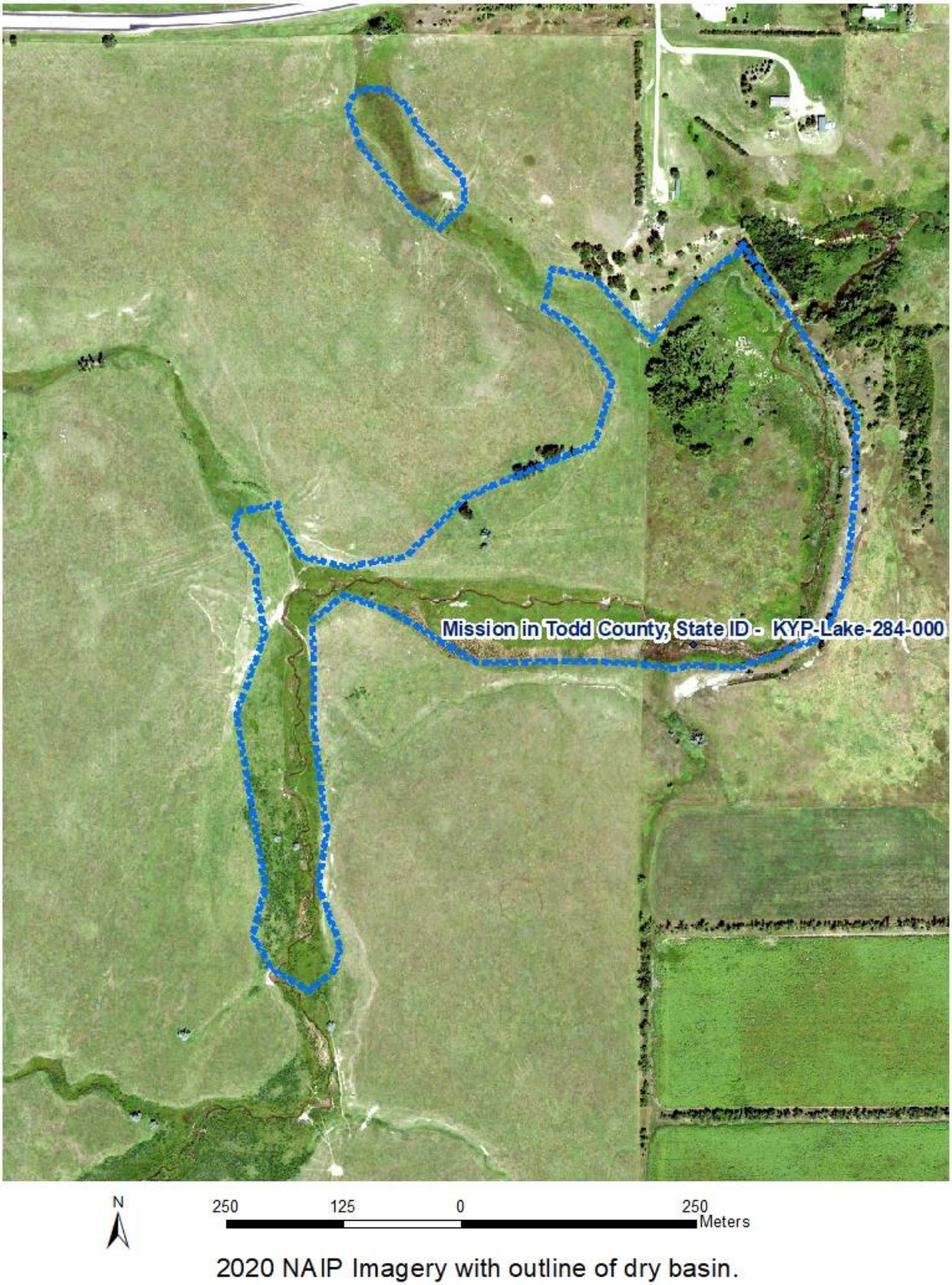

Figure 61 2020 NAIP imagery of Mission Lake in Todd County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Peck in Perkins County, State ID - GRA-Lake-1002-000

Peck Lake was created by damming an unnamed tributary to Black Horse Butte Creek at S32 T19N R17W in Perkins County. The breached dam and historic lakebed are privately owned, and no public access exists. The lake was assigned the use (6) warmwater marginal fish life propagation and no history of fish stocking could be located. Recreation uses assigned to the lake include both (7) immersion and (8) limited contact.

"*The dam was named for Charles Peck Sr., who built the original dam in 1910. During high water a few years later, Peck tried to save the dam by digging an overflow ditch with a garden hoe, but the dam went out and his ditch is now a ravine. The new dam was built by the WPA"* (Writers Program of the WPA, 1941).

The ravine referenced is presumed to be the channel to the north that currently drains the lakebed. The oldest available aerial imagery from 1997 shows a lakebed with a well-developed stream channel and mature trees similar to what is visible in the 2016 NAIP image (Figure 64). The history of failures and long duration since the last rebuild make it unlikely the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Peck listing in ARSD 74:51:02.

Peck is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

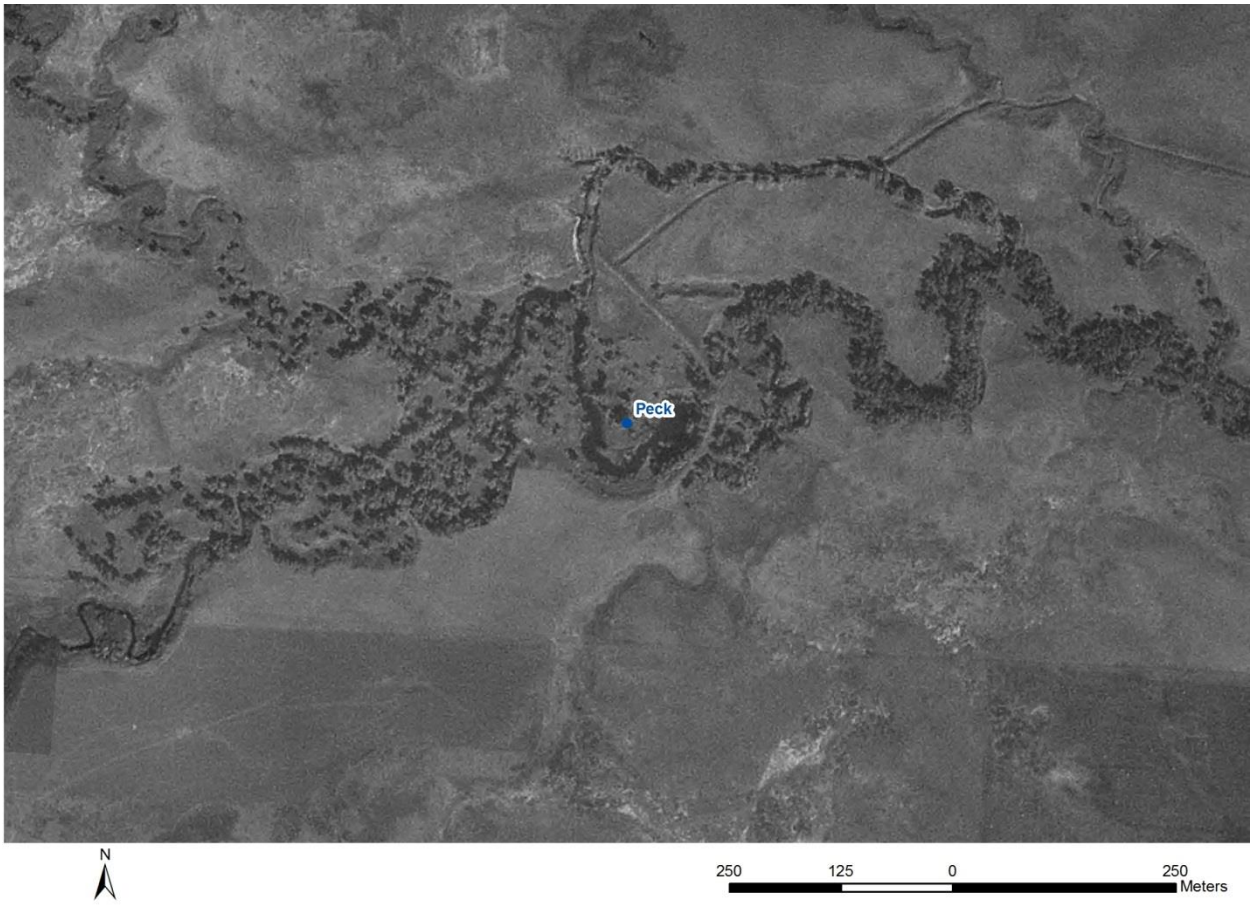

Figure 62. DOQ image of Peck dam from 1997

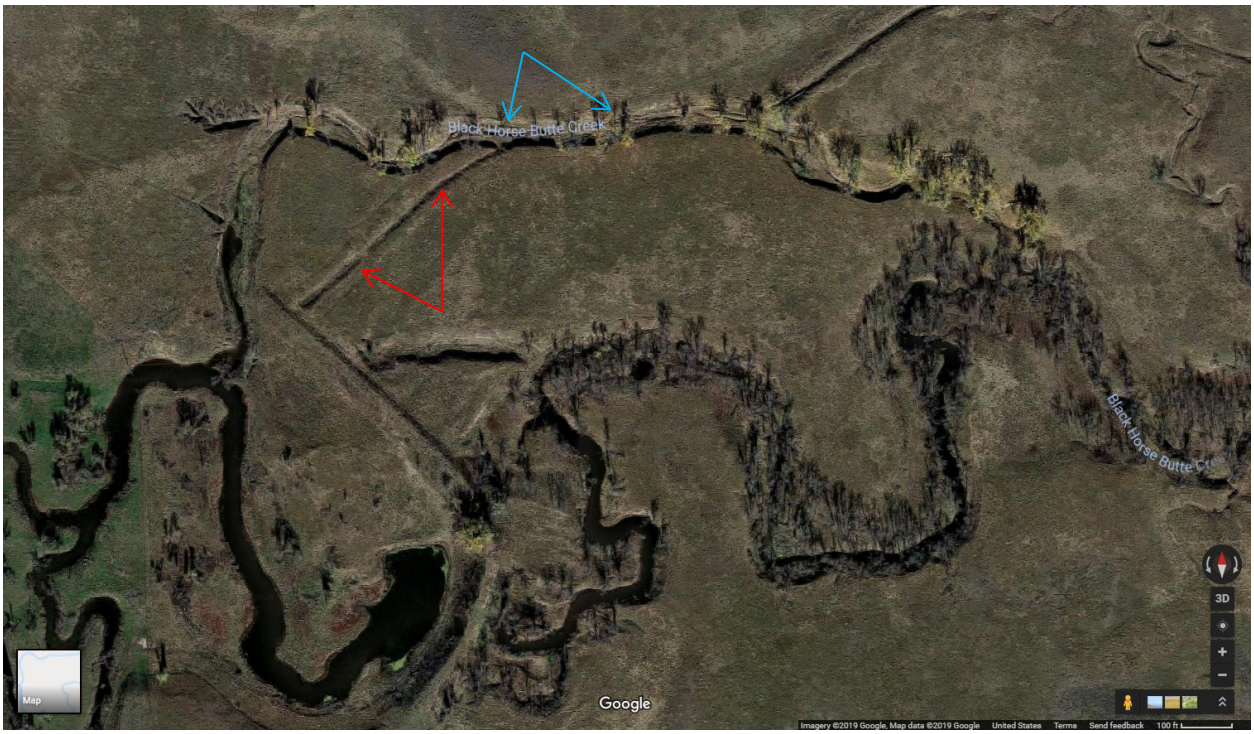

Figure 63. Google image of Peck Dam, ravine (blue arrows) and ditch (red arrows) referenced in writers document visible (Google, 2014).

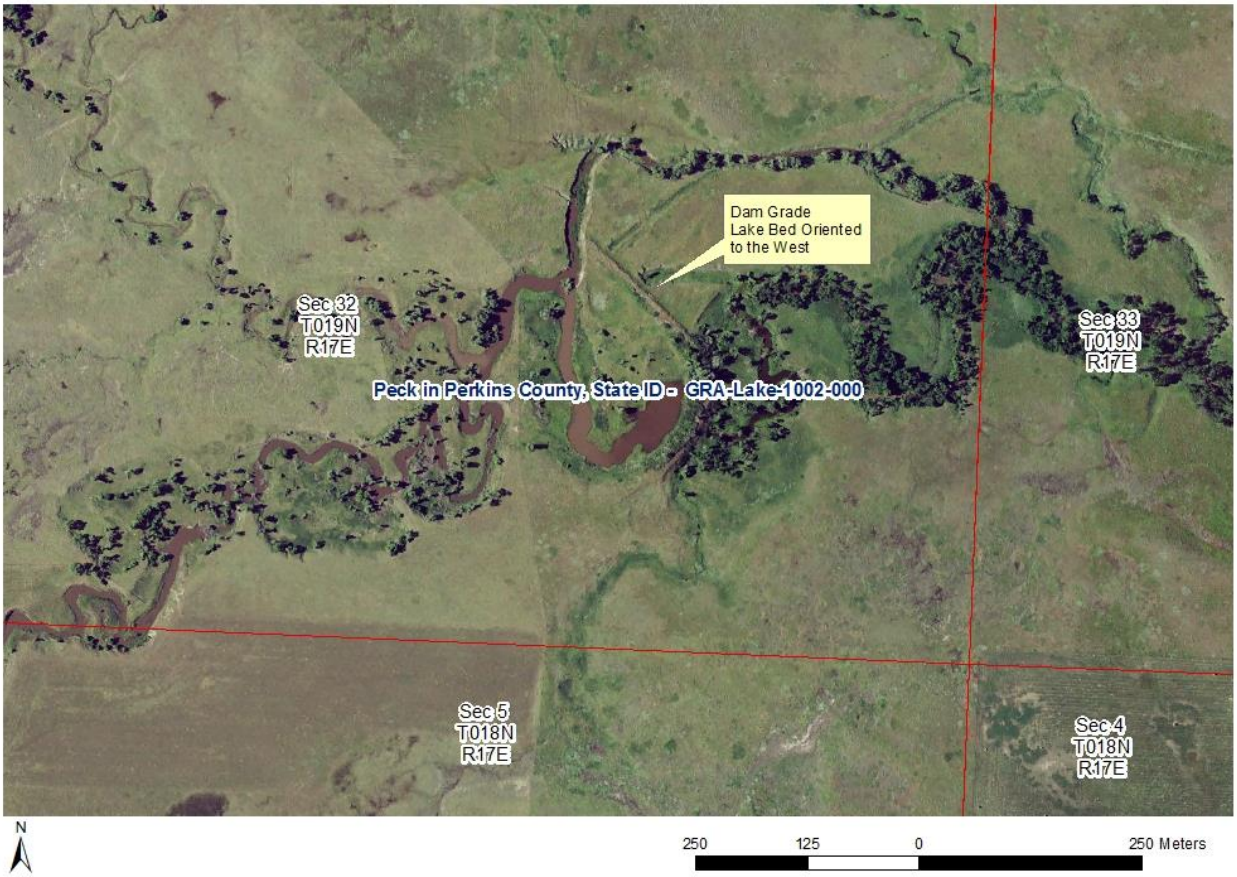

Figure 64. 2016 NAIP Image of Peck Dam in Perkins County

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Figure 65. 2020 NAIP imagery of Peck Lake in Perkins County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Picton in Edmunds County, State ID - NFS-Lake-1008-000

It is not entirely clear which dam grade formed the water body referenced in the water quality standards as Lake Picton. Historical information is limited to a few uncertain facts. The legal location at S4 T122N R69W matches the water body south of 136th street. The physical description of a 40-acre impoundment more closely matches the dry lakebed north of 136th street. In both locations a small earthen grade with a distinct cut in it is visible in the aerial photography. Both dams and historic lakebeds are located on private property and no public access exists. Despite the uncertainty of the location, the potential sites share the same characteristics of a breached dam and dry lakebed.

Recreation uses assigned to Lake Picton included both (7) immersion and (8) limited contact. The lake was assigned the use (6) warmwater marginal fish life propagation and stocking records include an initial report of bullheads in 1936 (SDGFP, 2018). A second entry indicates that rainbow trout were placed in the lake in 1989, however the 1990 use review included a note from the regional fisheries biologist stating the lake was not stocked and that the 1989 entry may have been attributed to the wrong lake. Further notes in this review indicate that the 40-acre lake had already breached at that point. The oldest available aerial imagery from 1997 shows a well-developed drainage network through the south lakebed and recently breached dam in the decreasing water levels in the north lakebed. The Google images in Figure 68 and Figure 69 provide a good view of the dam breaches. Due to the long duration since the failure, it is not expected that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Picton listing in ARSD 74:51:02.

Picton is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 66. Two possible locations for Lake Picton in Edmunds County. The red circles outline the two breached dams while the blue outlines depict the extent of the former lake beds.

Figure 67. DOQ image of Picton dam from 1997.

Figure 68. Google image of the dam breach north of 136th street which may be Picton Lake.

Figure 69. Google image the dam breach south of 136th street and remnant pool (Google, 2014).

Figure 70. 2016 NAIP Image of Picton Dam in Edmunds County.

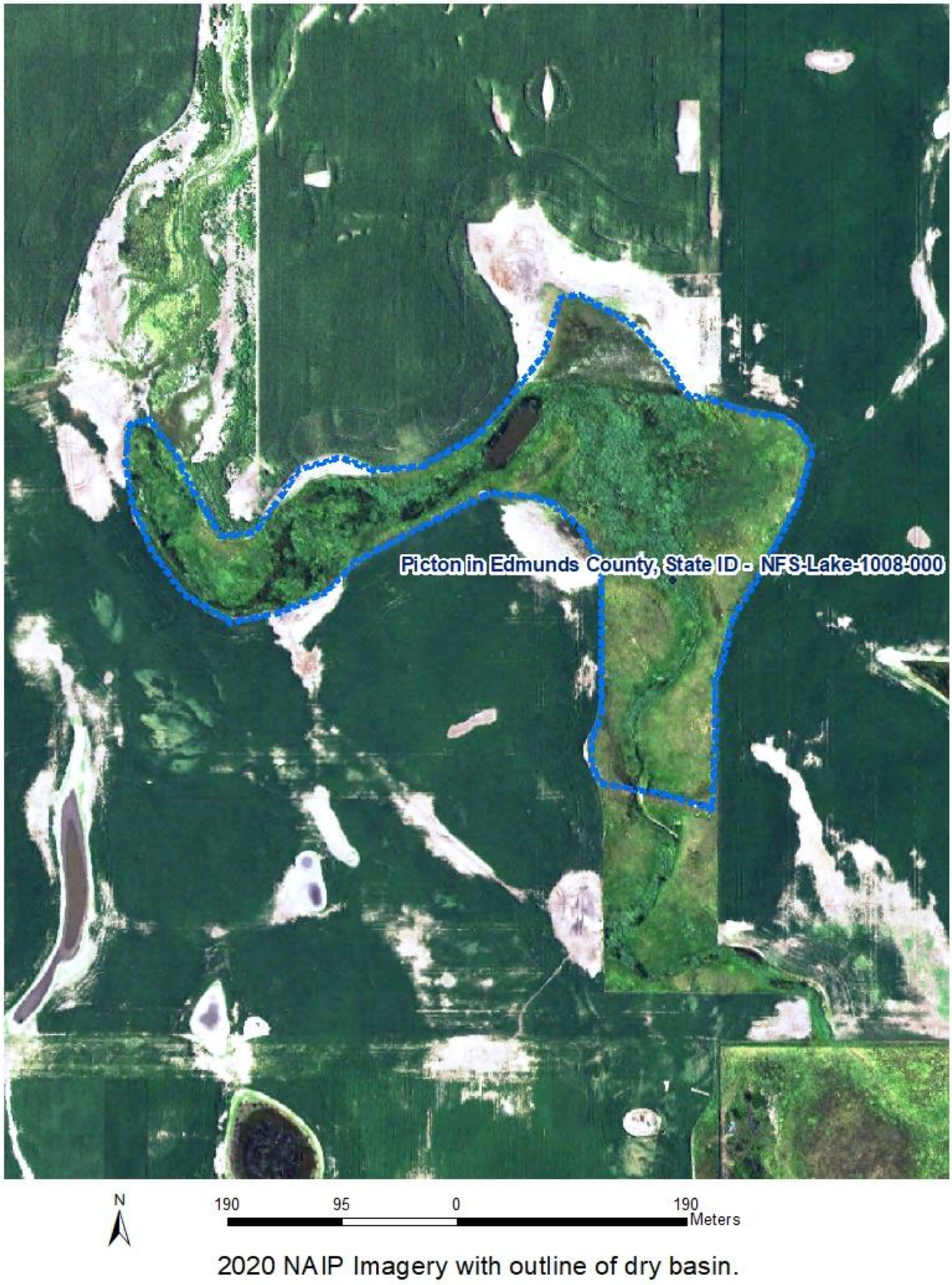

Figure 71 2020 NAIP imagery of Picton Lake in Edmunds County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Rattlesnake in Ziebach County, State ID - CHE-Lake-676-000

Rattlesnake Lake was created by damming an unnamed tributary to Cherry Creek at S29 T9N R20E in Ziebach County. The breached dam and dry lakebed are located within the Cheyenne River Indian Reservation boundary and no public access exists. The lake was assigned the use (6) warmwater marginal fish life propagation and state stocking records indicate it was stocked with fish in 1936 and 1937 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The oldest available image from 1997 depicts mature trees and a well-developed channel in the lakebed similar to those visible in Figure 74. The Google image in Figure 75 shows that mature trees are growing where part of the dam was once located. Due to the long duration since the dam was breached, it is unlikely that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Rattlesnake listing in ARSD 74:51:02.

Rattlesnake is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 72. DOQ image of Rattlesnake Dam from 1997.

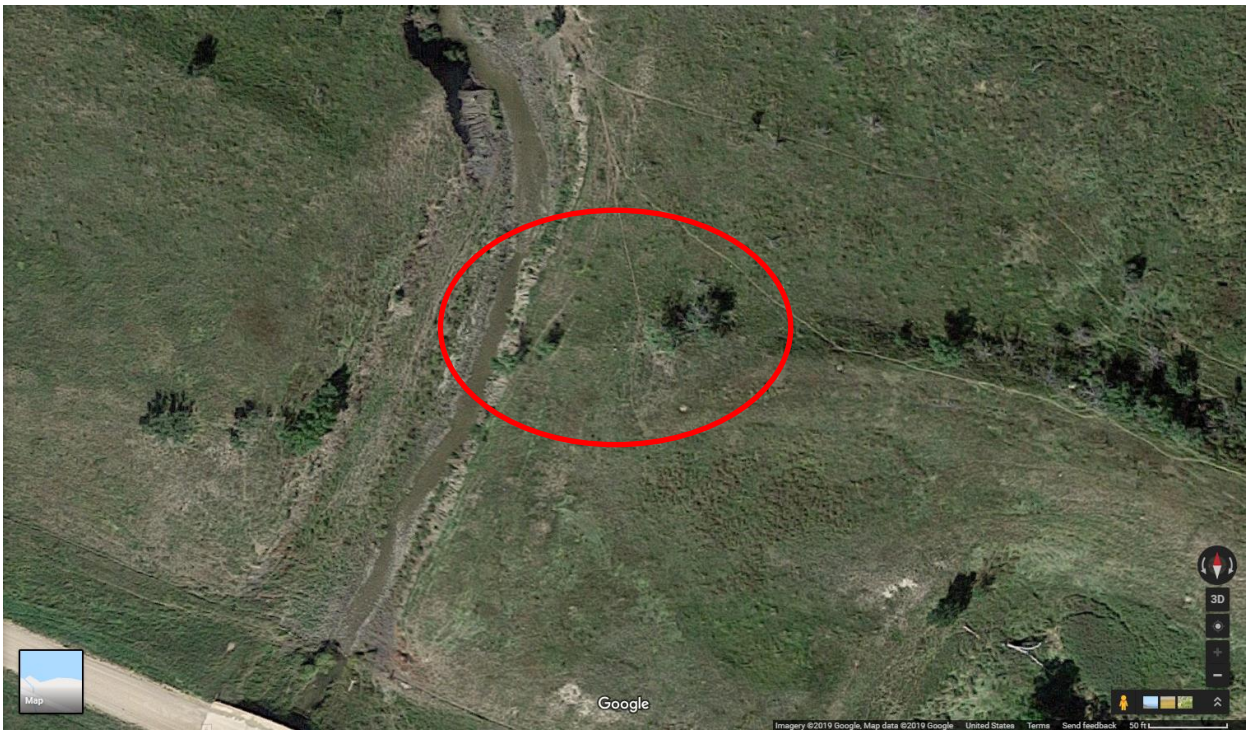

Figure 73. Google image of Rattlesnake Dam with trees growing next to a channel where a portion of the dam once stood demarked by the red circle (Google, 2014).

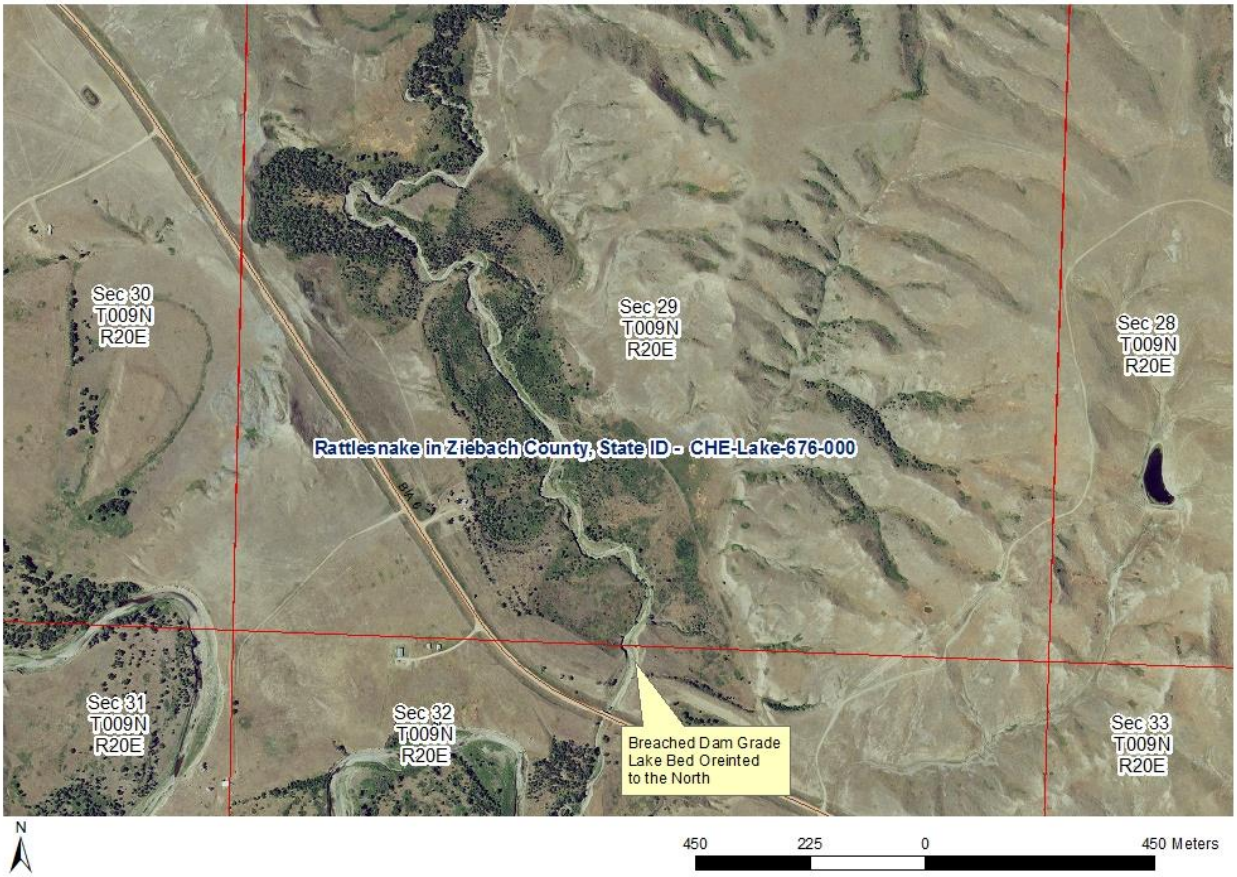

Figure 74. 2016 NAIP image of Rattlesnake Dam in Ziebach County

Figure 75. 2020 NAIP imagery of Rattlesnake Lake in Ziebach County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Ray in Fall River County, State ID - MCS-Lake-179-000

Ray Lake was created by damming an unnamed tributary to the Cheyenne River at S33 T7S R7E in Fall River County. The dam and historic lakebed are located on private property and no public access exists. The lake was assigned the use (5) warmwater semipermanent fish life propagation and was regularly stocked with fish from 1960 through 1971 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The 1990 beneficial use review references 1971 as the last date the lake was netted. The oldest available aerial imagery from 1997 shows a dry lakebed and trees similar to what is visible in the 2016 NAIP image in Figure 78. There is no visible breach of the dam structure in any of the imagery. Other year including NAIP imagery from 2004, 2005, 2006, 2008, 2010, and 2014 show a dry lakebed. It is possible that the breach is concealed under the tree shadows where it is marked in Figure 78. Although the breach is not clearly visible, the lakebed was dry during the review years, in particular 2008 and 2010 which were both hydrologically wet years. The absence of water in all of the images over a 20-year span that included both wet and dry cycles suggests that even though a structural failure was not observed, the dam does not hold water.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Ray listing in ARSD 74:51:02.

Ray is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 76. DOQ image of Ray Lake in 1997.

Figure 77. Google image of the Ray Lake Dam and lakebed (Google, 2013).

Figure 78. 2016 NAIP Image of Ray Dam in Fall River County

Figure 79 2020 NAIP imagery of Ray Lake in Fall River County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Red Plum in Stanley County, State ID - BAD-Lake-3555-000

Red Plum Lake was created by damming an unnamed tributary to the Bad River at S19 T4N R32E in Stanley County. The breached dam and dry lakebed are located on private property and no public access exists. The lake was assigned the use (5) Warmwater semipermanent fish life propagation with stocking records that include three entries: 1936, 1939, and 1976 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. A breach in the dam grade began sometime after the 1990 review and progressed through 2016 where the last of the pool had been replaced with cattails, see Figure 82. A scattered line of trees in the image demarks the original edge of the lake, marked with red arrows in Figure 82. In the absence of any repair efforts over the past 20 years, it is expected that the drainage network will be allowed to continue reestablishment of its old channel.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Red Plum listing in ARSD 74:51:02.

Red Plum is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

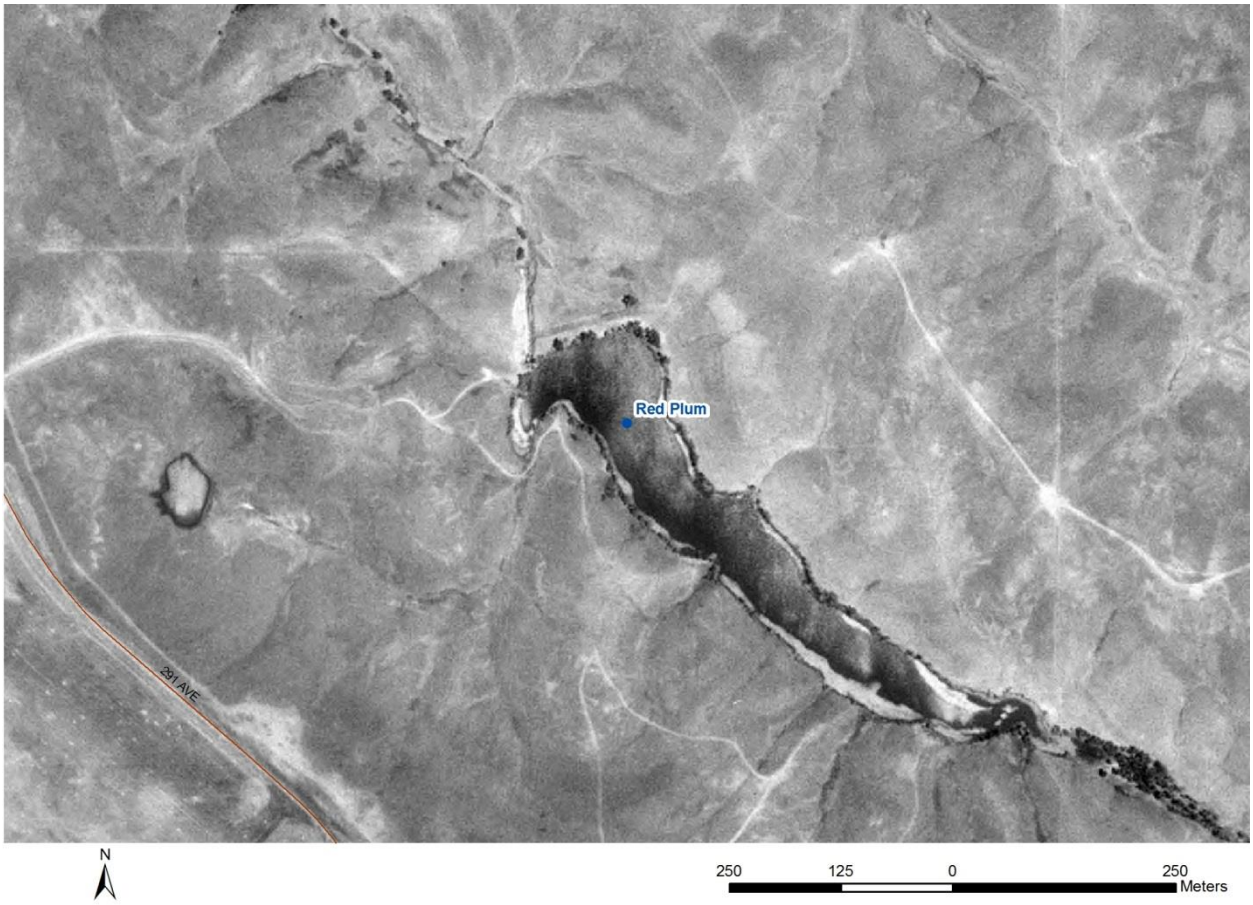

Figure 80. DOQ of Red Plum Dam from 1991 prior to dam failure.

Figure 81. Google image of breached spillway on Red Plum Dam (Google, 2014)

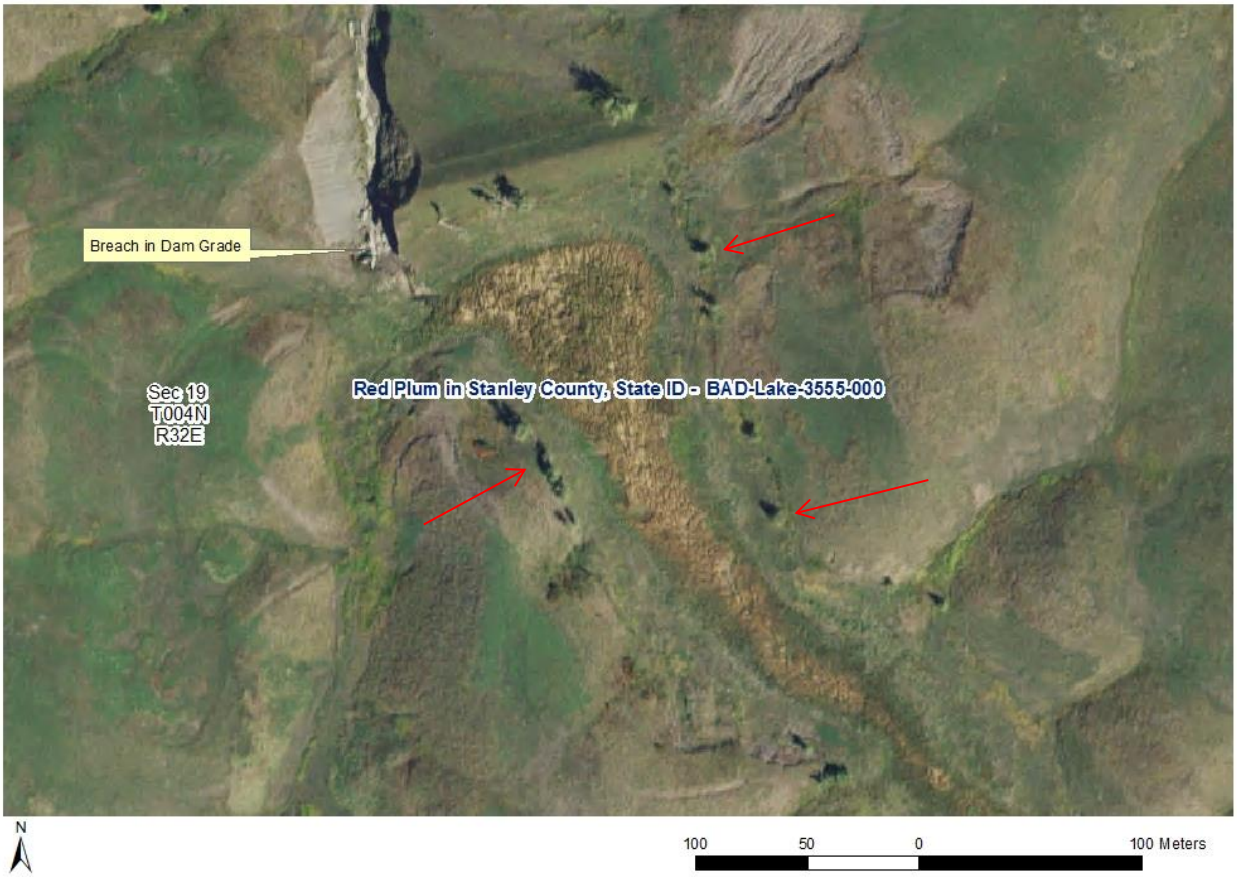

Figure 82. 2016 NAIP Image of Red Plum Dam in Stanley County

Figure 83. 2020 NAIP imagery of Red Plum in Stanley County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Rose Hill in Hand County, State ID - MJA-Lake-614-000

Rose Hill Lake was created by damming Sand Creek at S21 T110N R66W in Hand County. The breached dam is located on SDGFP land while the dry lakebed extends onto private lands to the west. The lake was assigned the use (4) warmwater permanent fish life propagation and stocked with fish regularly until 2004 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The dam first failed in 1955, required repair work in 2007, and then failed again in 2010. The 2016 photo in Figure 86 and the close-up in Figure 87 show the re-establishment of the channel in the former lakebed. Despite the relatively recent breach, the channel is well developed, and no remnant pools remain within the historic lakebed. SDGFP indicated the agency has no plans to repair the dam (SDGFP, 2018) and as a result the drainage network will continue to re-establish its former channel in the lakebed.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Rose Hill listing in ARSD 74:51:02.

Rose Hill is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

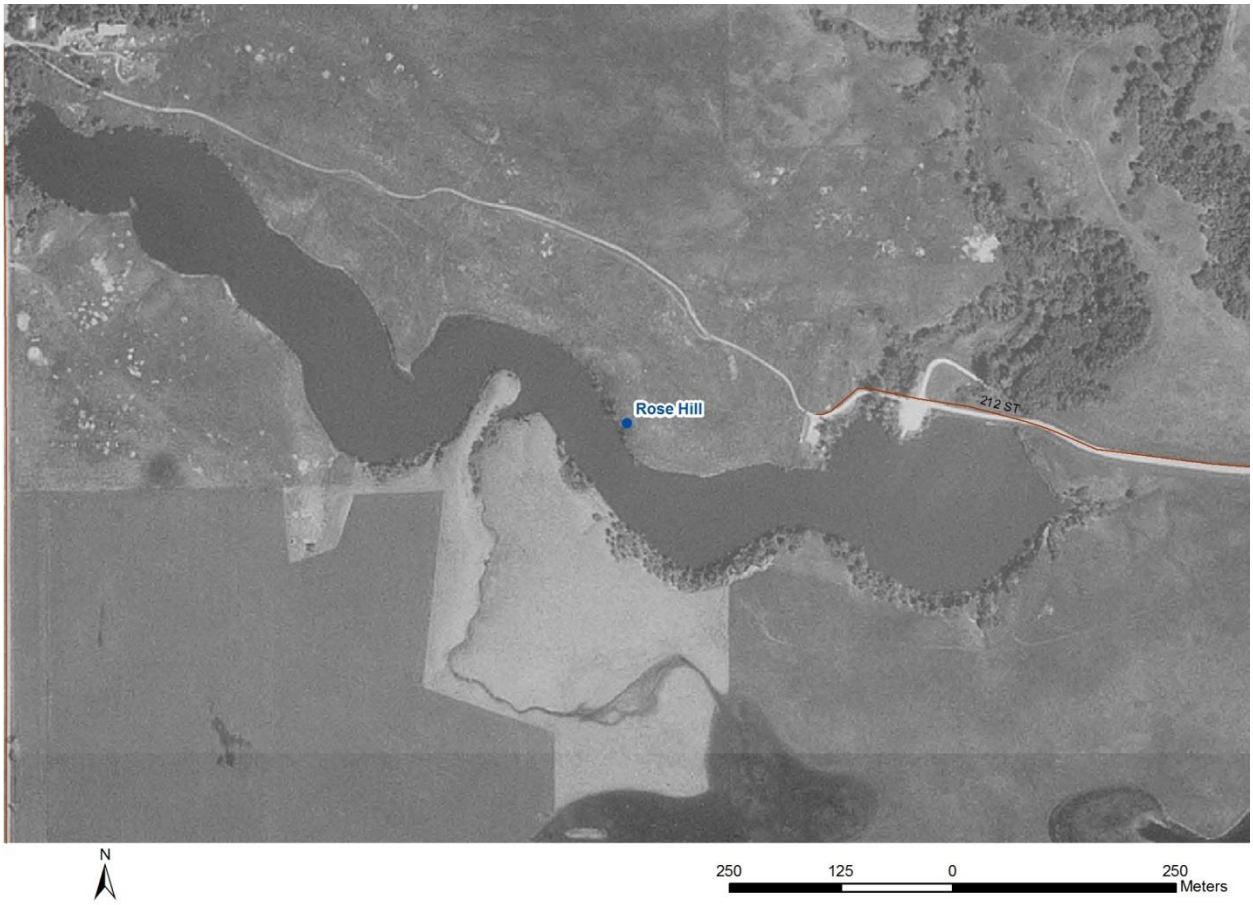

Figure 84. DOQ of Rose Hill Dam from 1996.

Figure 85. Google image of Rose Hill Dam after most recent breach, out let structure (red circle) and boat ramp (blue circle) are visible (Google, 2014).

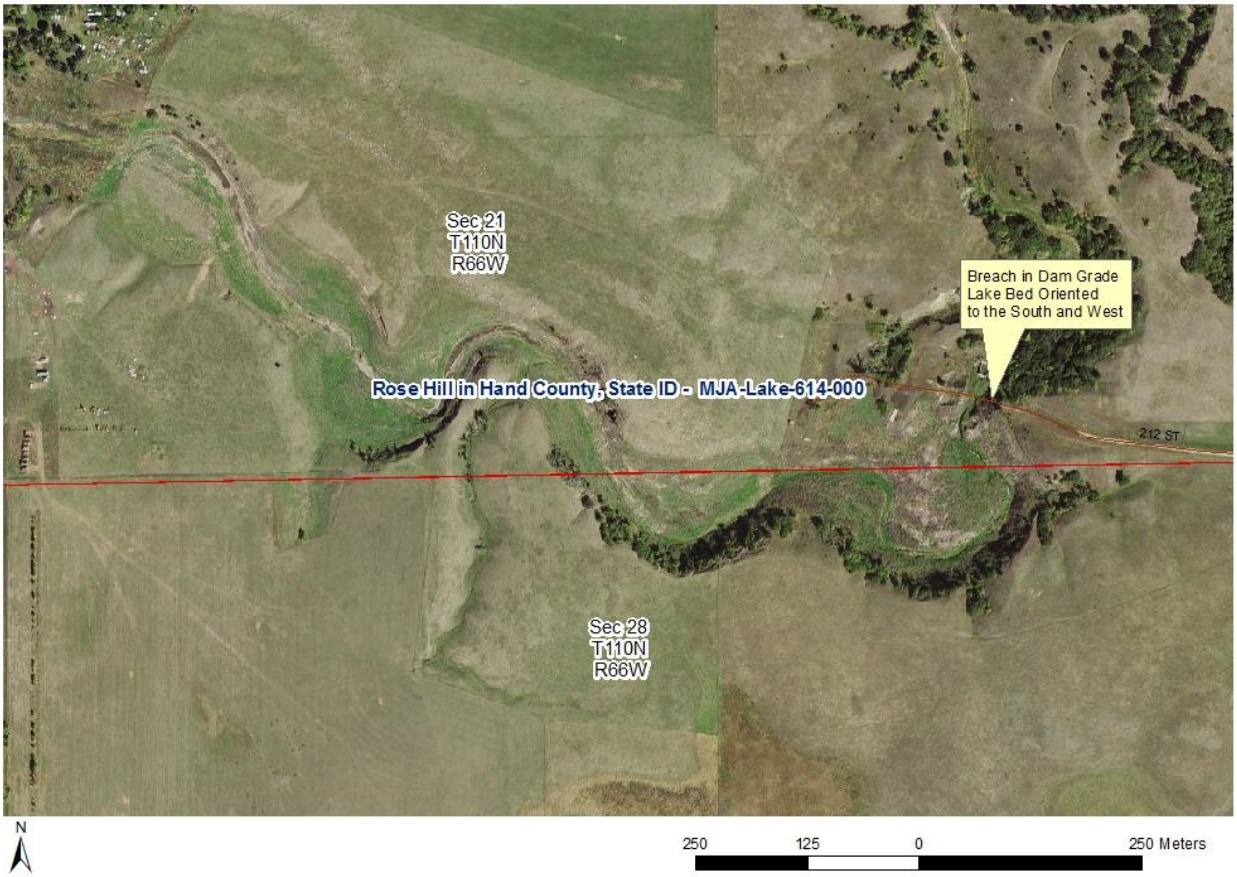

Figure 86. 2016 NAIP Image of Rose Hill Dam in Hand County

Figure 872020 NAIP imagery of Rose Hill Lake in Hand County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Sinclair in Mellette County, State ID - LWH-Lake-2311-000

Sinclair Lake (also referenced as Hugh Sinclair Lake) was created by damming an unnamed tributary to Oak Creek at S10 T40N R26W in Mellette County. The breached dam and dry lakebed are located on private property and no public access exists. The lake was assigned the use (6) warmwater marginal fish life propagation and no stocking history could be located. Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The oldest available aerial imagery from 1997 shows a lakebed with a well-developed drainage network and mature trees similar to what is visible in the 2016 and 2020 images (Figure 90 and Figure 91). Due to the long duration since the failure, it is not expected that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Sinclair listing in ARSD 74:51:02.

Sinclair is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

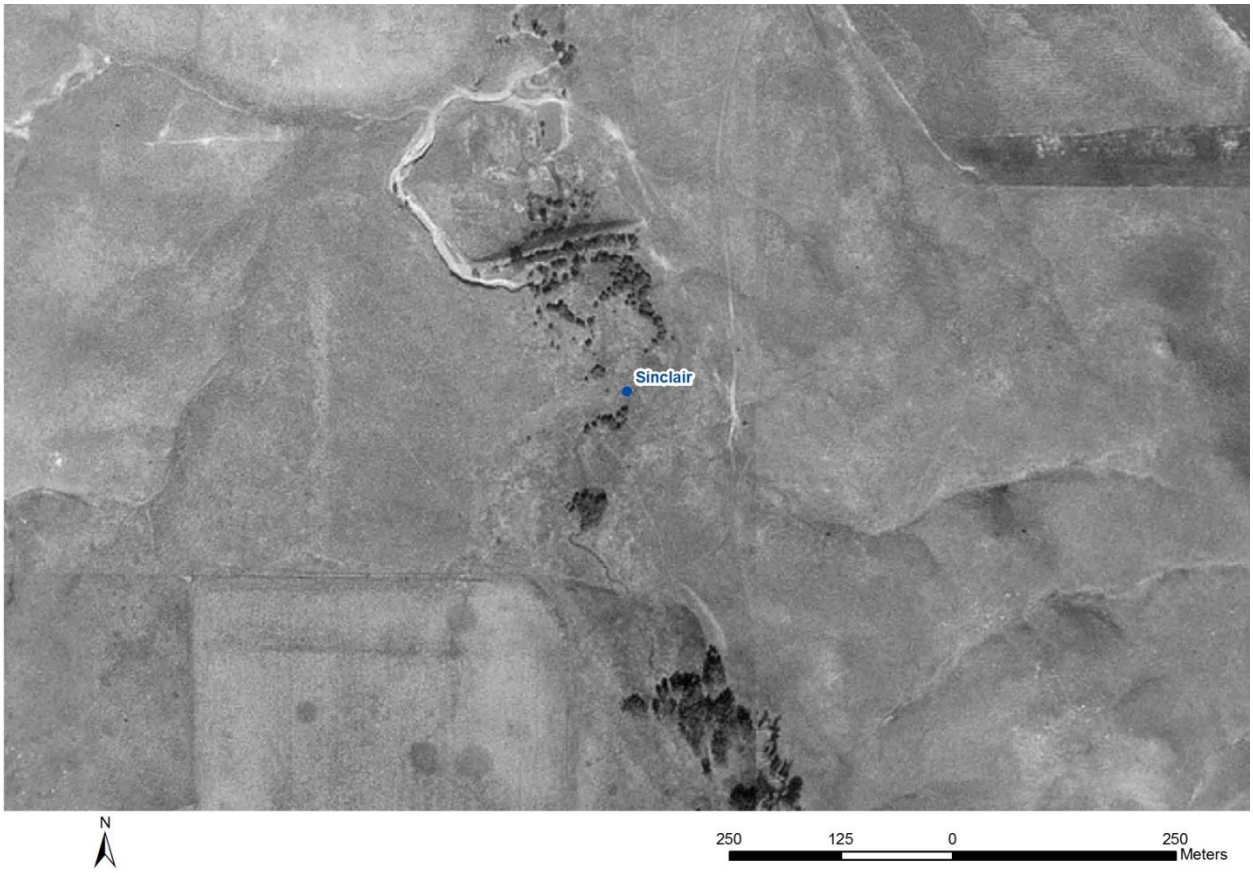

Figure 88. DOQ of Sinclair Dam from 1997 shows a well-developed channel and mature trees in the lakebed.

Figure 89. Google image of Sinclair Dam breach with view of mature trees that were present in the 1997 image (Google, 2016).

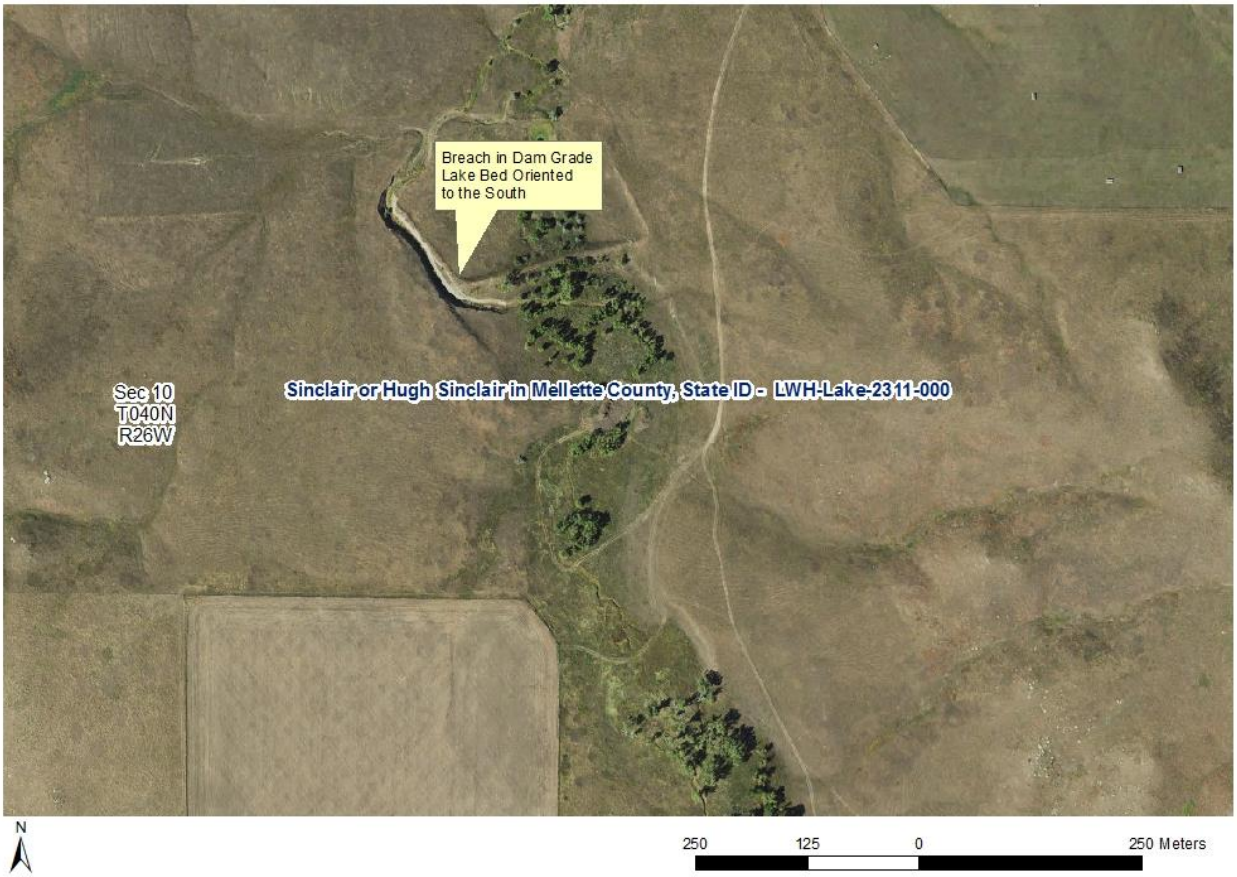

Figure 90. 2016 NAIP Image of Sinclair Dam in Mellette County

Figure 91. 2020 NAIP imagery of Sinclair Lake in Mellette County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Spotted Tail in Todd County, State ID - LIW-Lake-282-000

Spotted Tail Lake was created by damming West Branch Rosebud Creek at S34 T38N R30W in Todd County. The breached dam and dry lakebed are located within the Rosebud Indian Reservation boundary and no public access exists. The lake was assigned the use (3) coldwater marginal fish life propagation; and state stocking records indicate it was only stocked one time with Rainbow Trout in 1972 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The oldest available image from 1997 depicts mature trees and a well-developed channel in the lakebed similar to those visible in the 2016 NAIP image, Figure 94. The Google image from 2016 (Figure 95)shows that there is a well-developed channel crossed by a maintained road supported by either a culvert or small bridge, the presence of which reinforces there is no intent to repair or replace the dam. Due to the long duration since the dam was breached, it is unlikely that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Spotted Tail listing in ARSD 74:51:02.

Spotted Tail is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

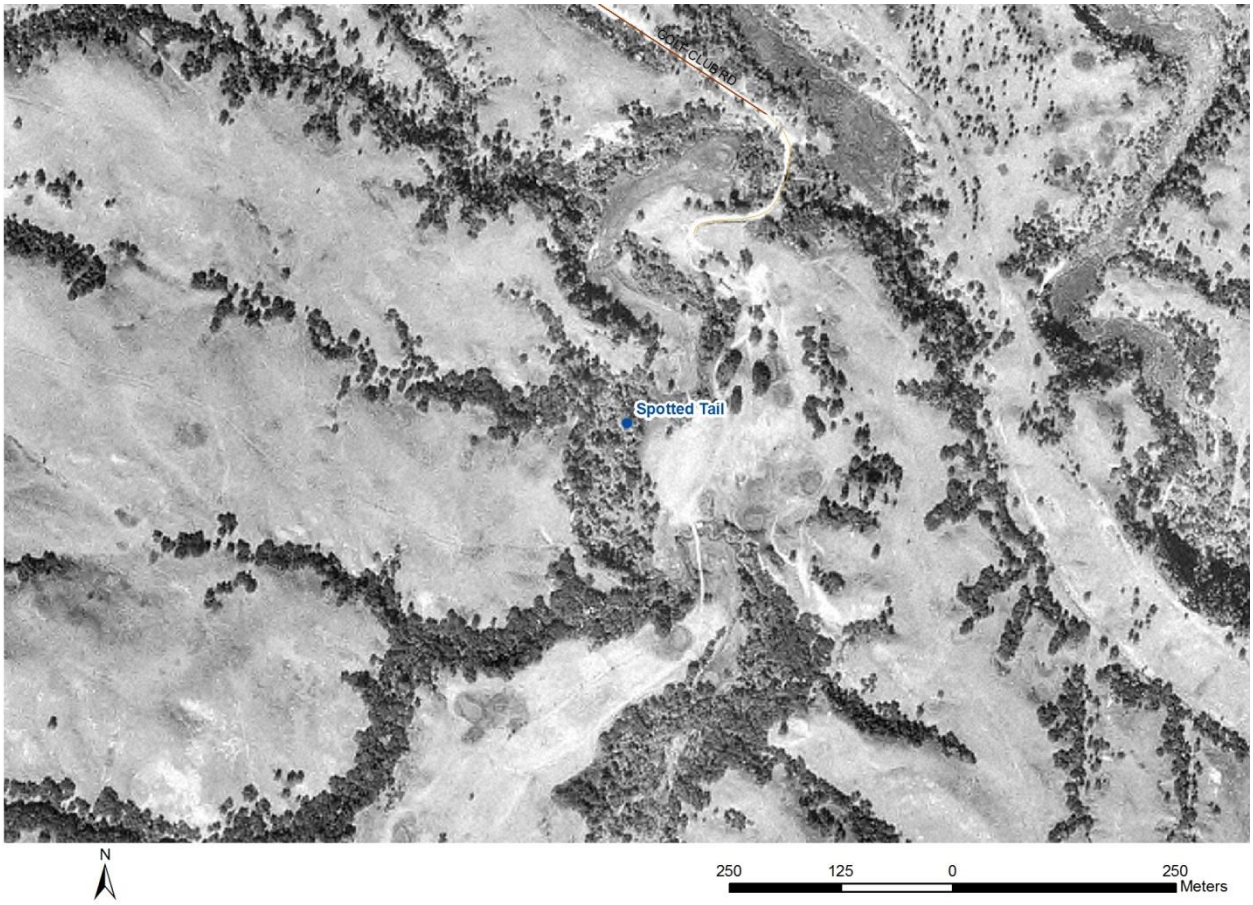

Figure 92. DOQ image of Spotted Tail Lake from 1997.

Figure 93. Google image of Spotted Tail Dam outlet with culvert and roadway established. (Google, 2016)

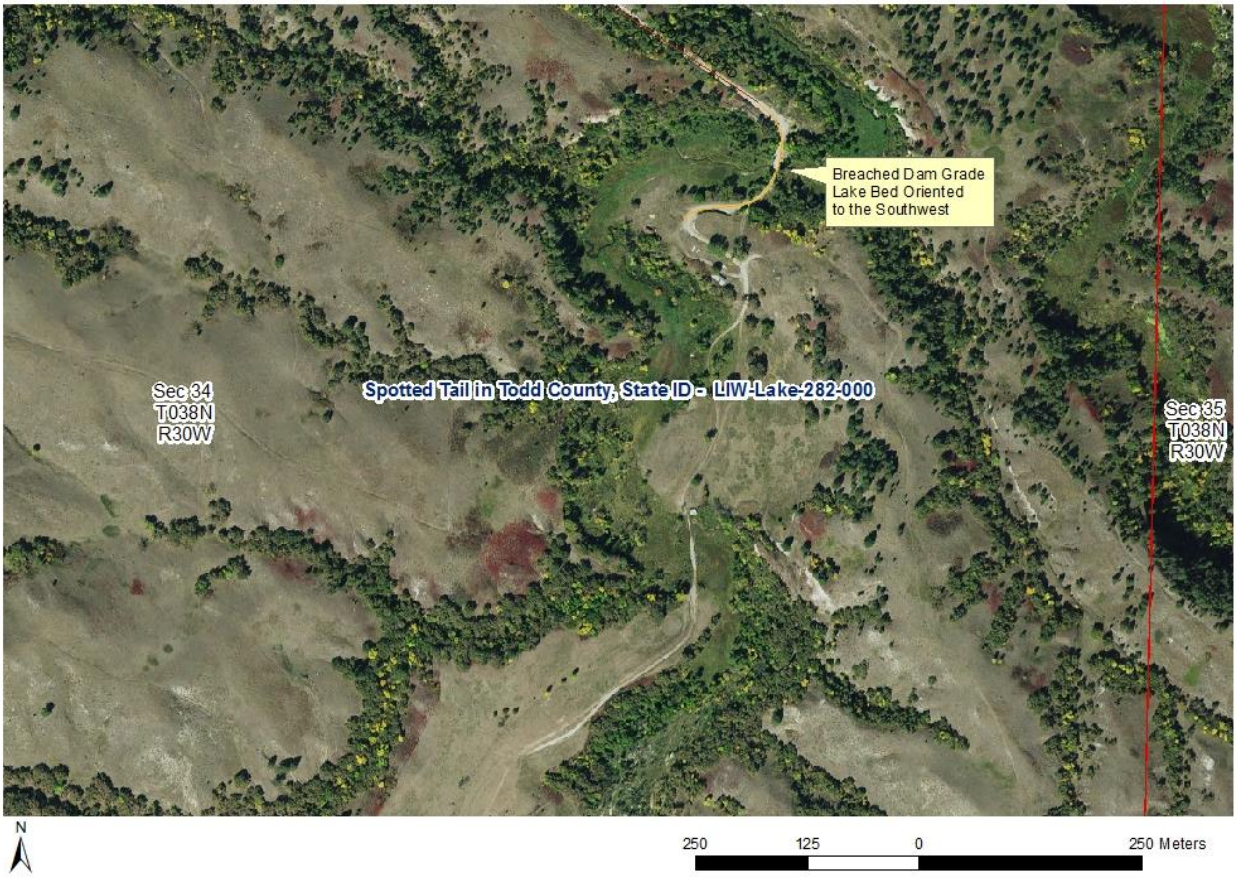

Figure 94. 2016 NAIP image of Spotted Tail Dam in Todd County

Figure 95 2020 NAIP imagery of Spotted Tail Lake in Todd County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Whitehorse in Dewey County, State ID - LMO-Lake-1835-000

Whitehorse Lake was created by damming the Little Moreau River at S6 T15N R26E in Dewey County. The breached dam and historic lakebed are located within the Cheyenne River Indian Reservation boundary and no public access exists. The lake was assigned the use (5) warmwater semipermanent fish life propagation; and state stocking records indicate it was last stocked in 1937 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The oldest available image from 1997 depicts mature trees and a well-developed channel in the dry lakebed similar to those visible in the 2016 NAIP image, Figure 98. Due to the long duration since the dam was breached, it is unlikely that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Whitehorse listing in ARSD 74:51:02.

Whitehorse is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

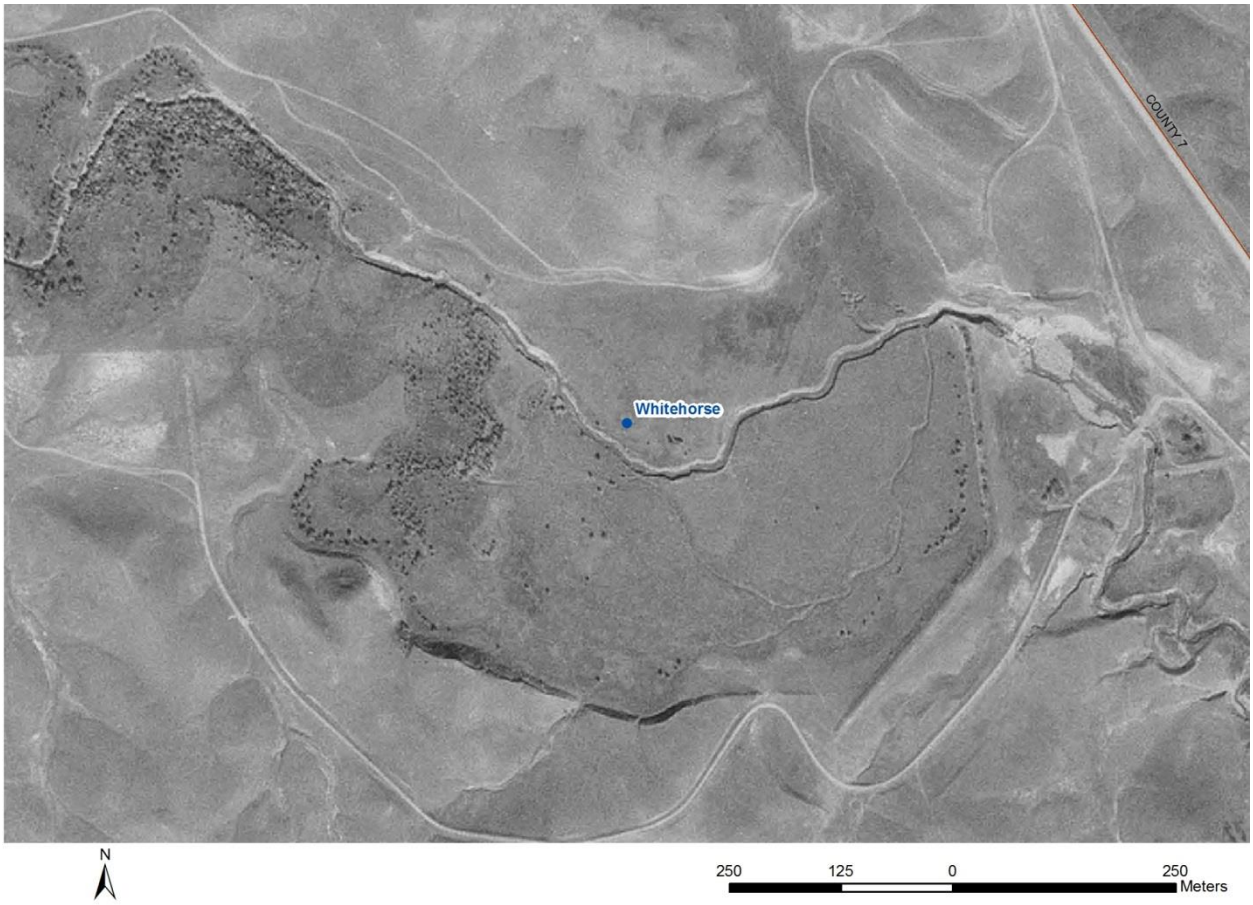

Figure 96. DOQ of Whitehorse Lake in 1997. Trees and a well-developed channel are present in the lakebed.

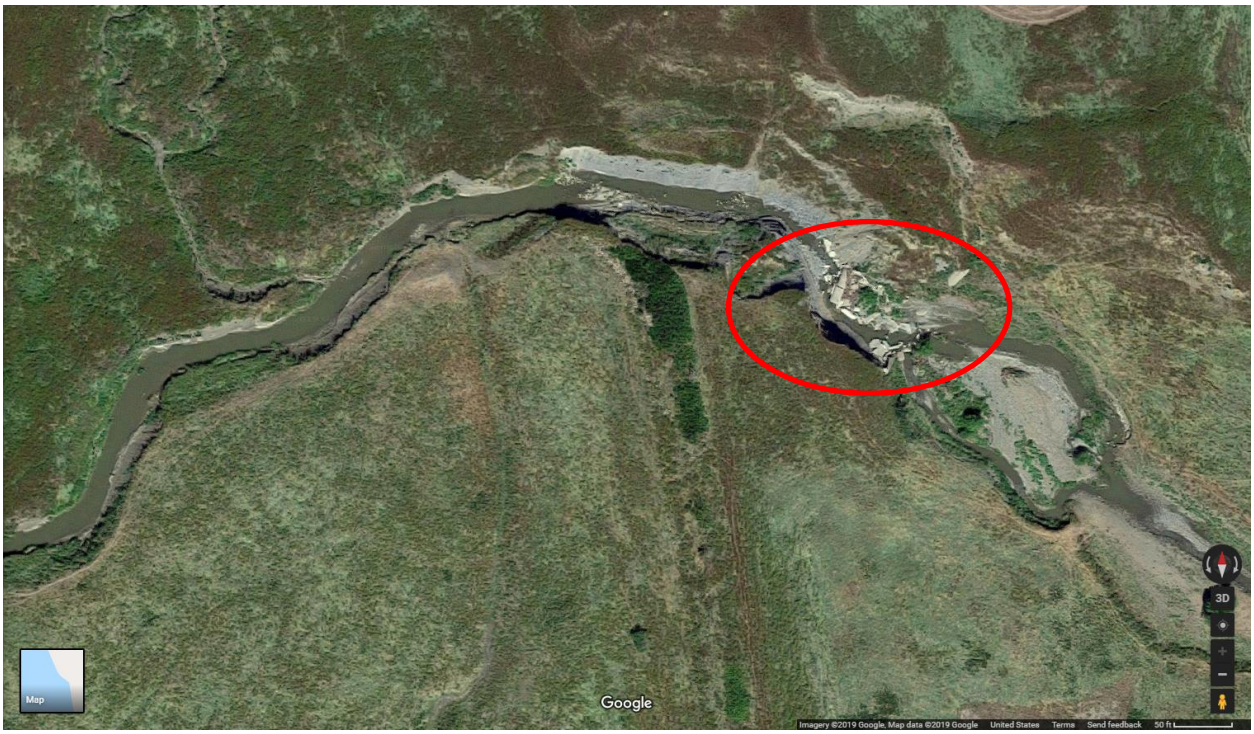

Figure 97. Google image of Whitehorse Dam breach, remnants of the concrete spillway are visible in the red circle (Google, 2014).

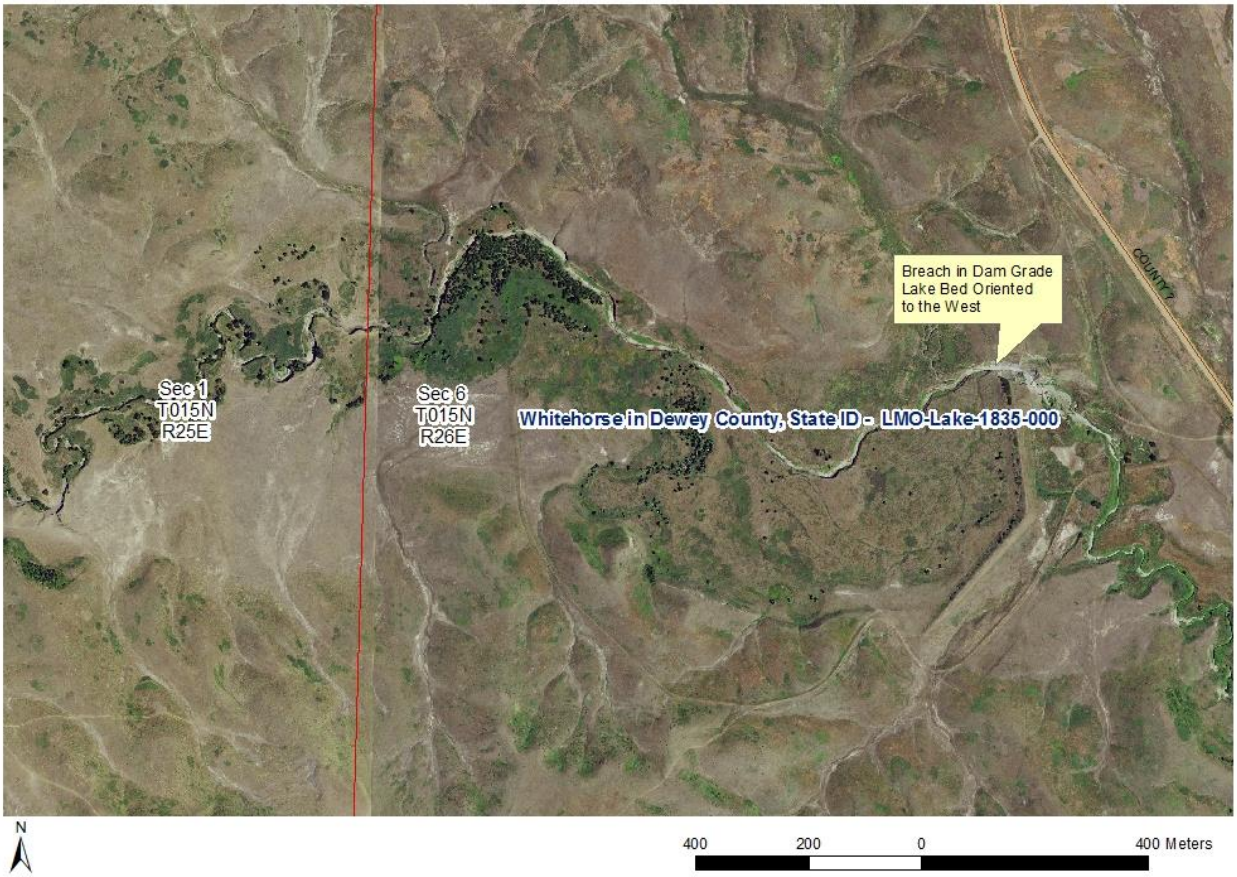

Figure 98. 2016 NAIP Image of Whitehorse Dam in Dewey County

Figure 99. 2020 NAIP imagery of Whitehorse Lake in Dewey County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Witten in Tripp County, State ID - LWH-Lake-2309-000

Witten Lake was created by damming an unnamed tributary to the White River at S33 T100N R78W in Tripp County. The breached dam and dry lakebed are located on private property and no public access exists. The lake was assigned the use (5) warmwater semipermanent fish life propagation and was last stocked with fish in 1964 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. The oldest available aerial imagery from 1997 shows a dry lakebed with a well-developed drainage network and mature trees similar to what is visible in the 2016 image Figure 102. The breach visible in Figure 103 does not go through the dam grade. Instead, it cut a new channel which connects to the drainage north of the dam. Due to the long duration since the failure, it is not expected that the dam will be repaired.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the dry lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Witten listing in ARSD 74:51:02.

Witten is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 100. DOQ of Witten dam from 1997. Mature trees and a well-developed channel are visible in the lakebed.

Figure 101. Google image of the breach at Witten Dam. The breach formed overland to the north and rerouted the stream through the drainage to the north. (Google, 2014)

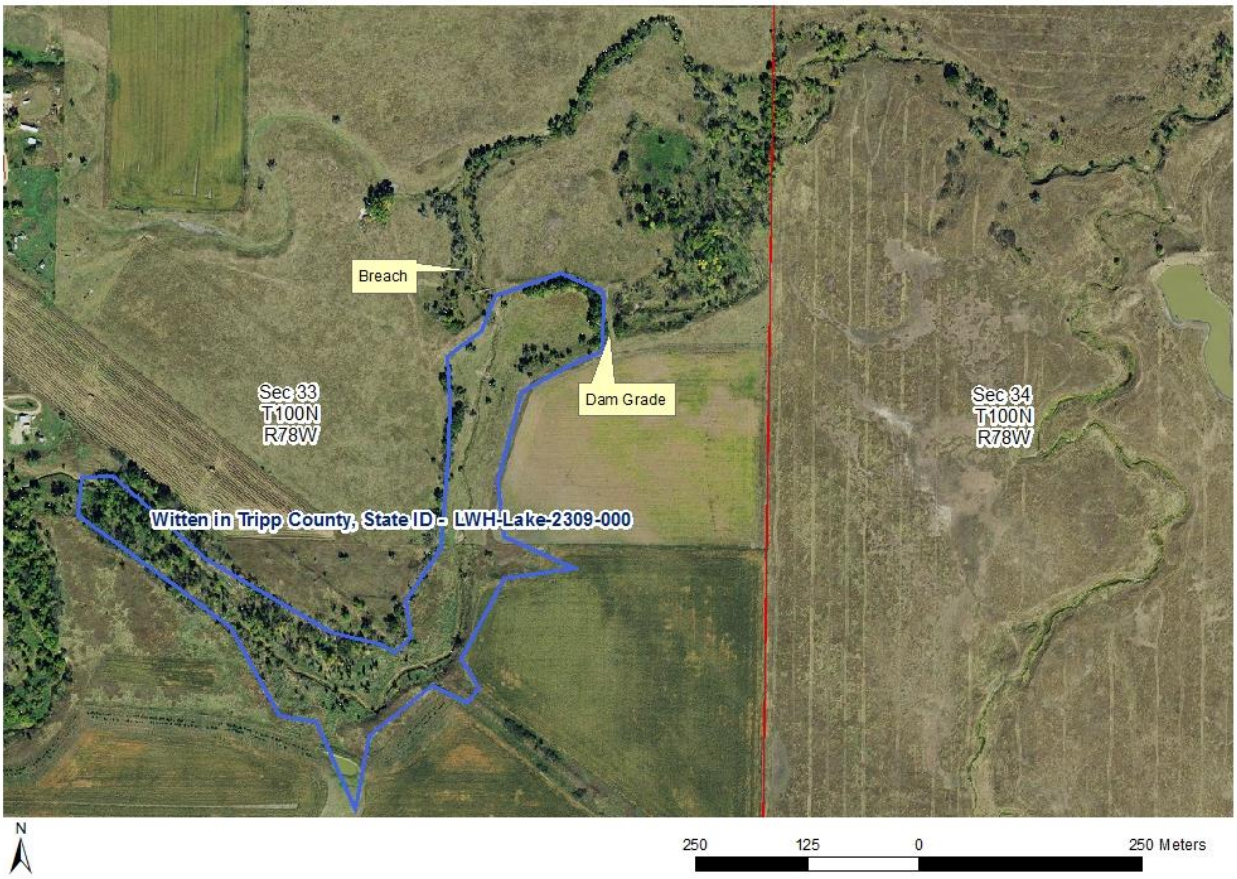

Figure 102. 2016 NAIP Image of Witten Dam in Tripp County

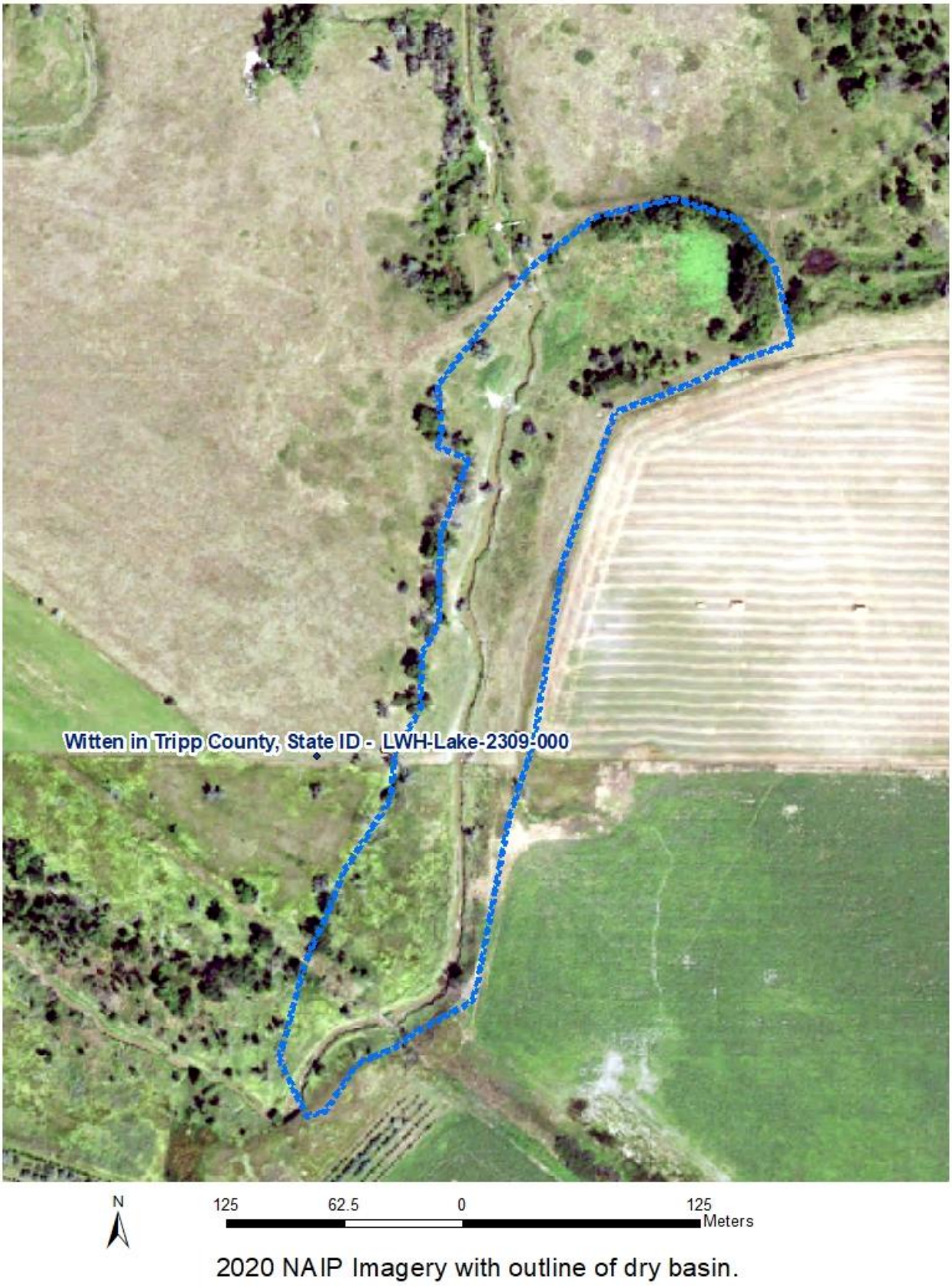

Figure 103. 2020 NAIP imagery of Witten Lake in Tripp County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

Wolf Creek in Oglala Lakota County, State ID - UWH-Lake-152-000

Wolf Creek Lake was created by damming Wolf Creek at S9 T35N R44W in Oglala Lakota County. The breached dam and lakebed are located within the Pine Ridge Indian Reservation boundary and no public access exists. The lake was assigned the use (2) coldwater permanent fish life propagation and state stocking records indicate it was last stocked in 1983 (SDGFP, 2018). Recreation uses assigned to the lake include both (7) immersion and (8) limited contact. Review of aerial photography indicates that the dam began to fail sometime in the 1990's. Due to the relatively recent nature of the breach, there remains capacity to hold small amounts of ponded water in the former lakebed. Prior to the breach, the dam grade served as a roadway (see Figure 104) to reach residences south of the lake. Subsequent to the breach, a culvert was installed in the lakebed near the boundary of sections 9 and 10 and a new road across the lake was established while the dam grade road appears to have been entirely abandoned which is further evidence that there is no intent to rebuild the dam.

This UAA does not address the stream uses in ARSD 74:51:03 and does not intend to assess or amend the stream uses above or below the breached dam grade or within the historic lakebed. The drainage network that includes the historic lakebed will require a UAA which will be conducted as a separate effort. The purpose of this section is to only address the Wolf Creek Lake listing in ARSD 74:51:02.

Wolf Creek Lake is unable to attain the current assigned uses due to the factors identified in 40 CFR 131.10(g) 2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; 4) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; and 5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses. The dam has been breached, the reservoir is no longer able to hold water, and there are no plans to rebuild the dam and restore the reservoir. Because of these factors, SD DANR recommends removing the designated uses assigned in ARSD 74:51:02.

Figure 104. DOQ of Wolf Creek Lake prior to breach in 1991, well used roadway across dam is visible.

Figure 105. Google image of the dam breach at WolfCreek. The breach (red circle) is not fully developed and partially obscured by trees. (Google, 2016)

Figure 106. 2016 NAIP Image of Wolf Creek in Oglala Lakota County

Figure 107 2020 NAIP imagery of Wolf Creek Lake in Oglala Lakota County. Blue outline represents the extent that water was present prior to the dam breach and lake draining.

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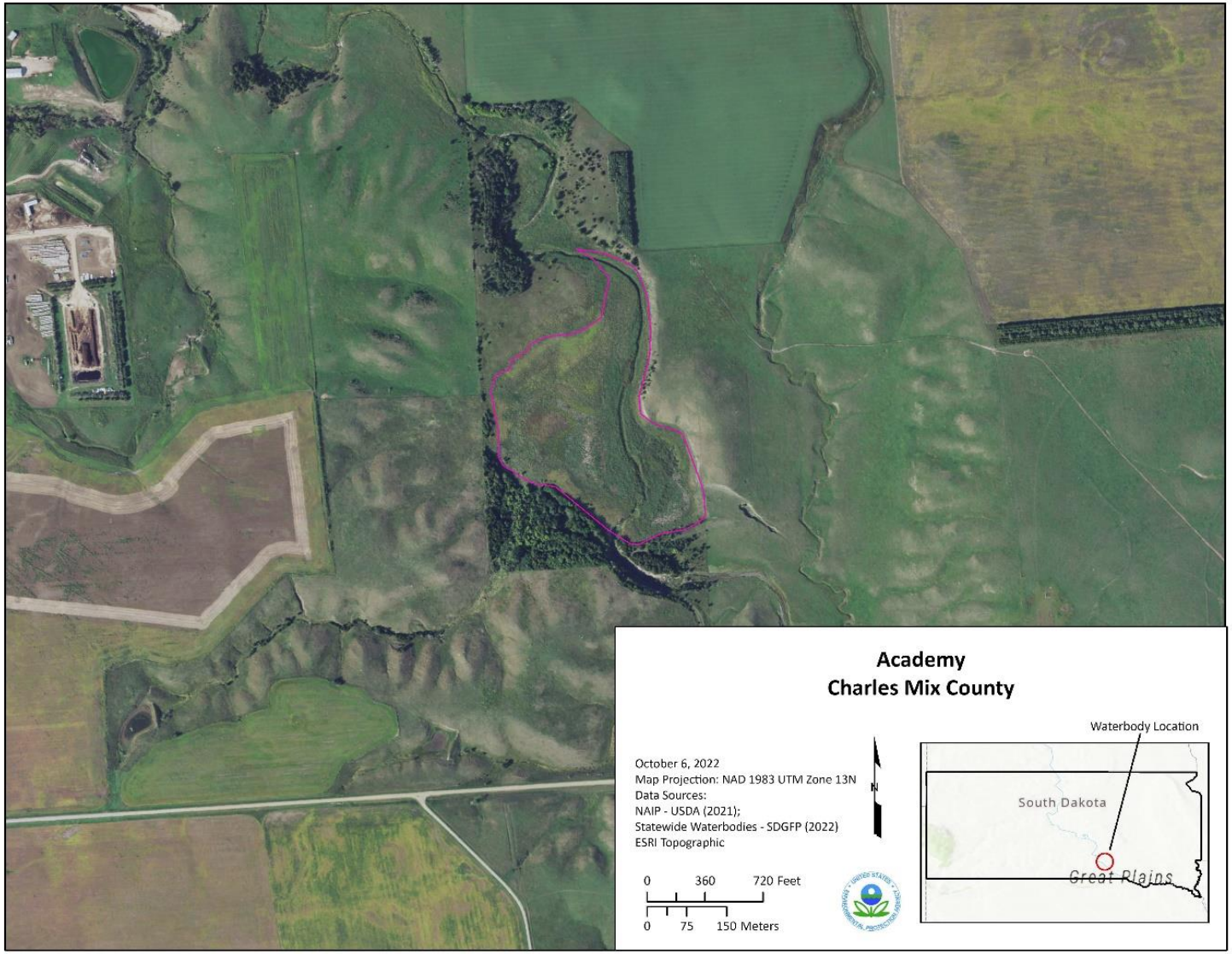
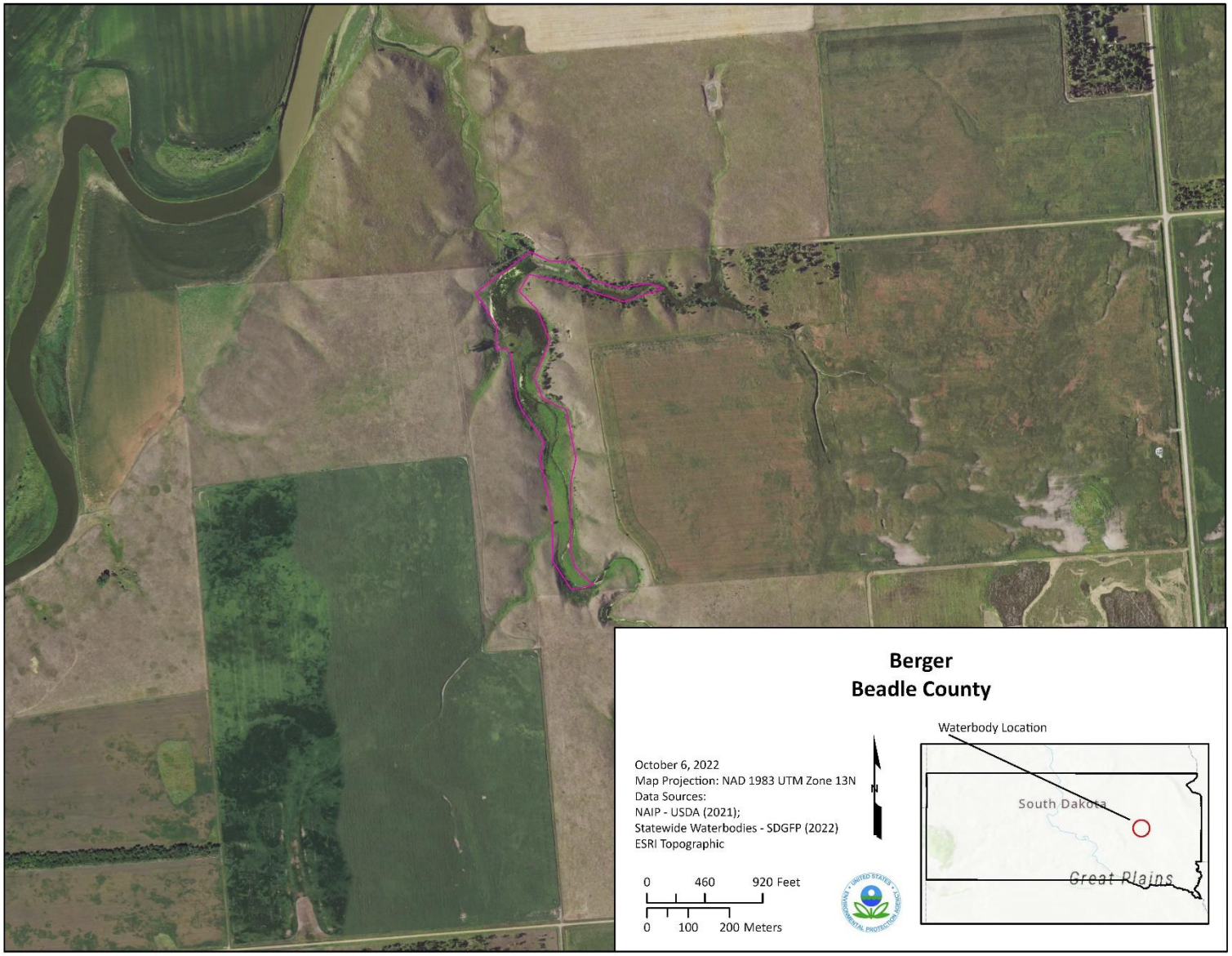
Appendix A. Supplemental imagery for select locations provided by EPA Region 8

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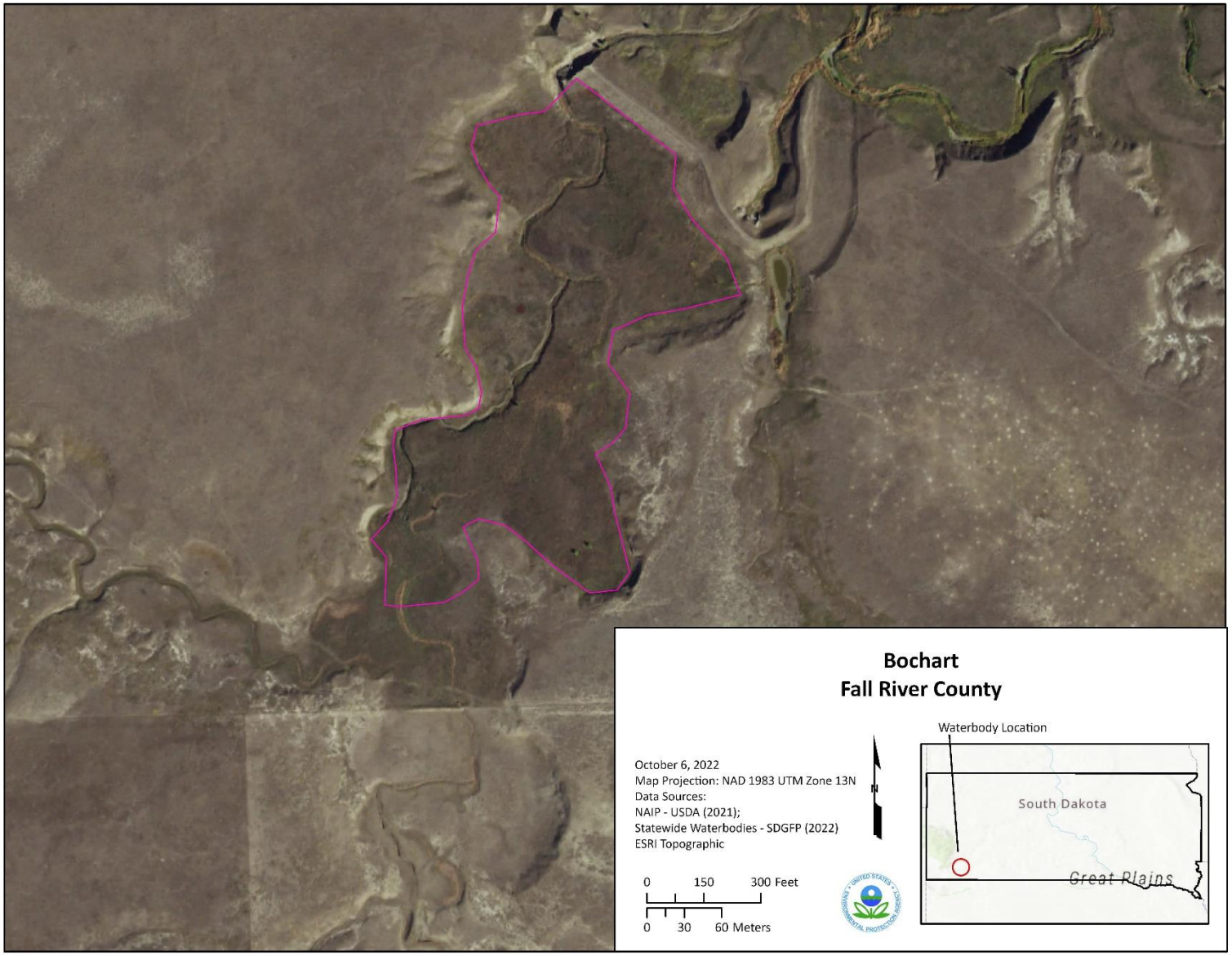
Great Plains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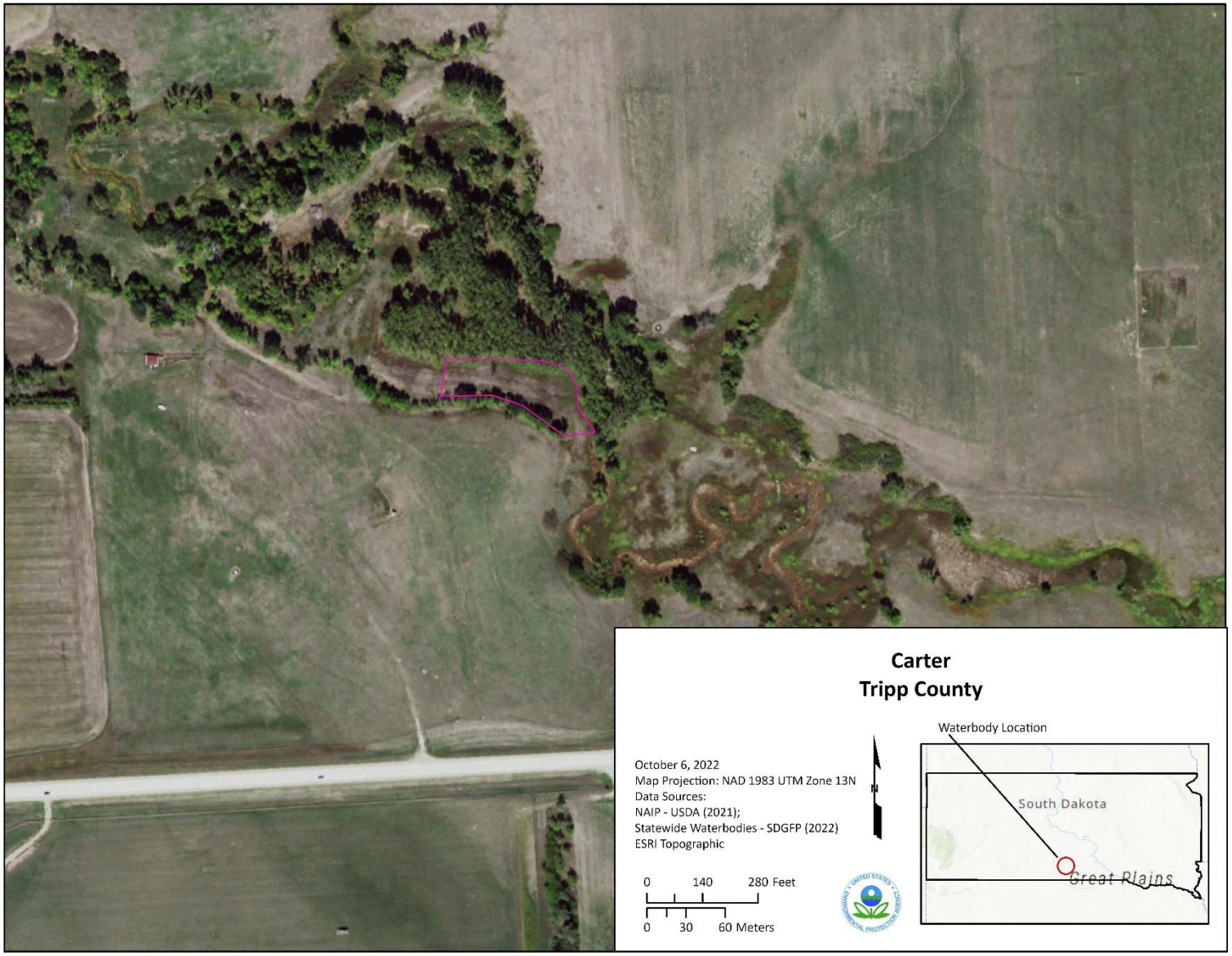
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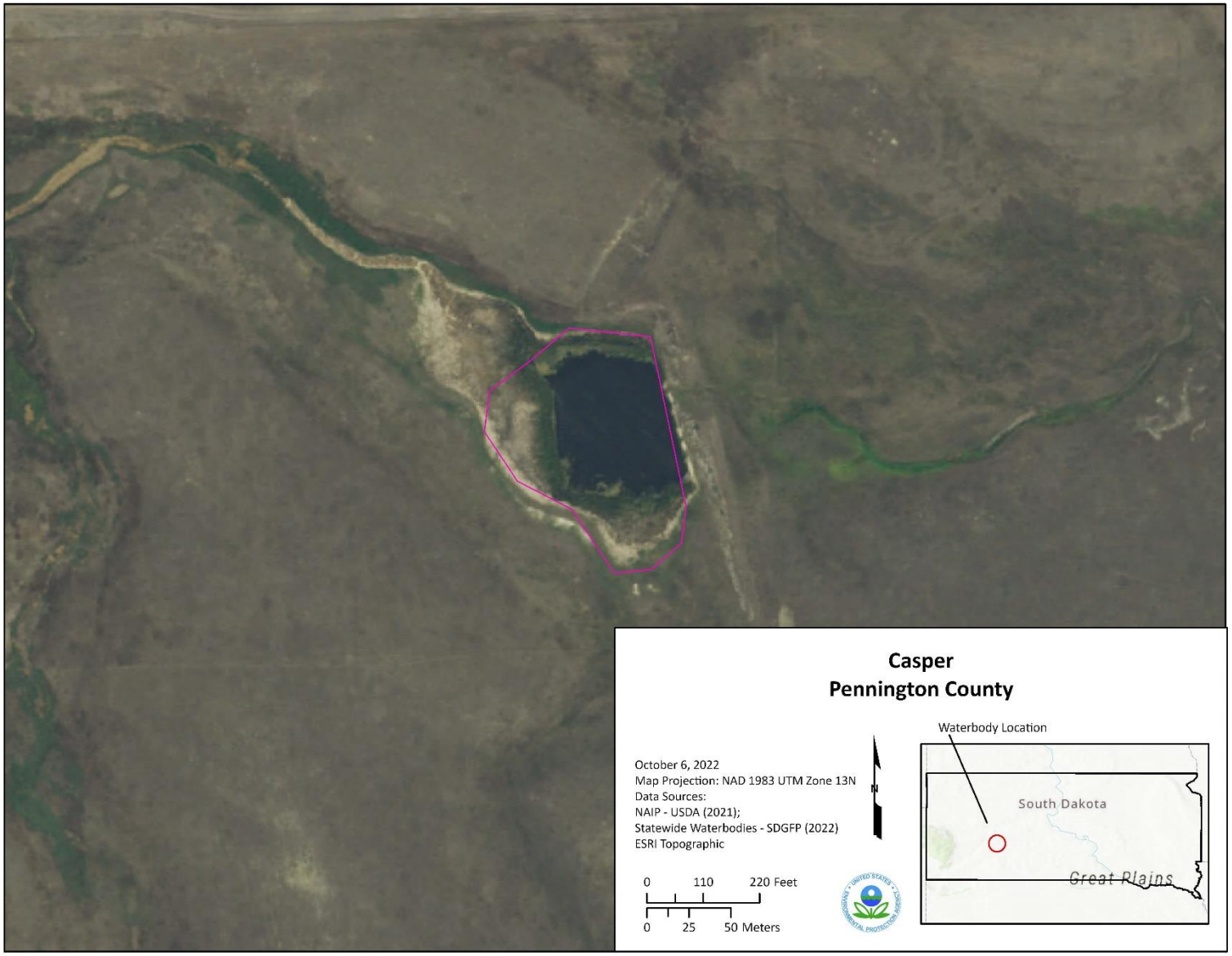
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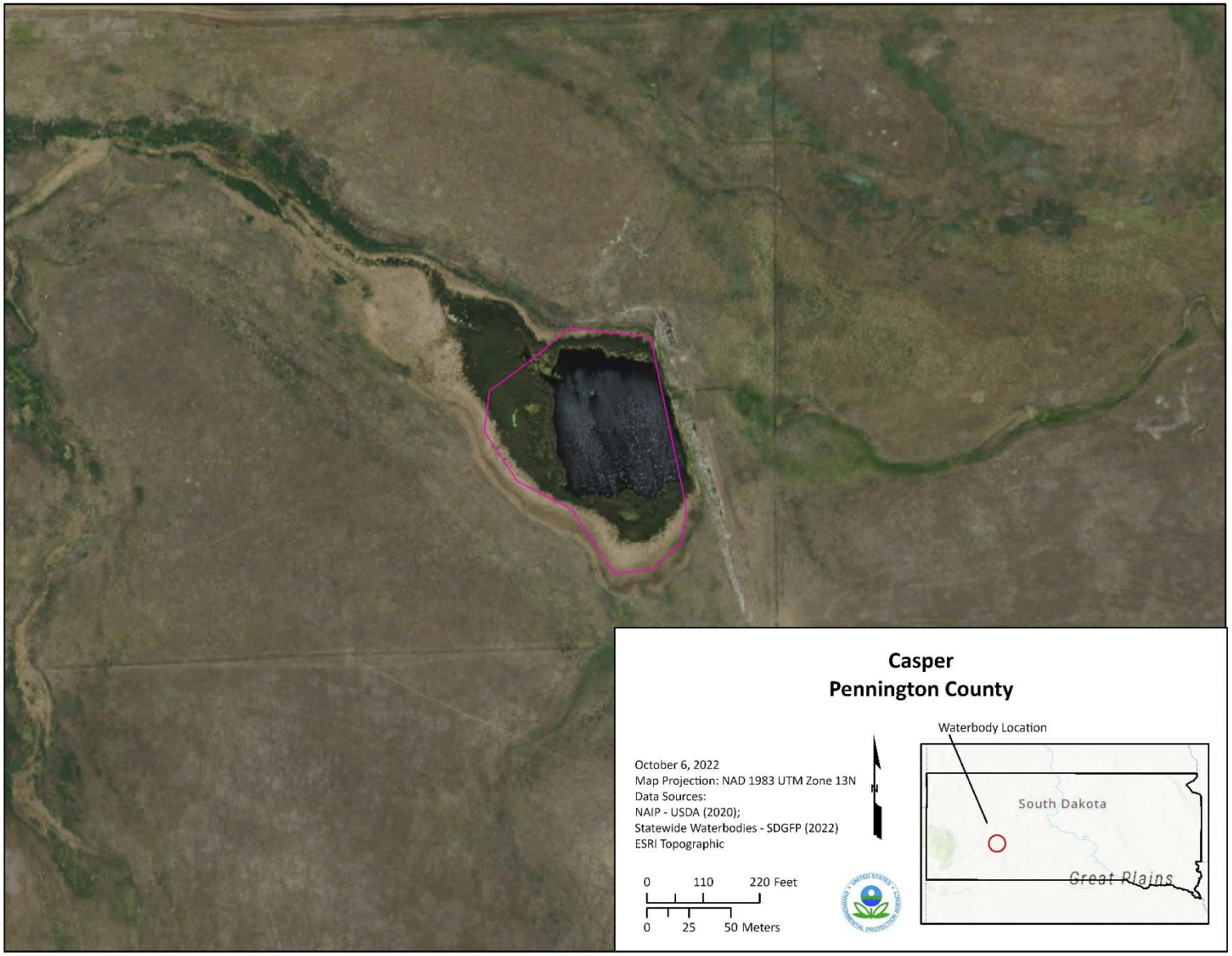
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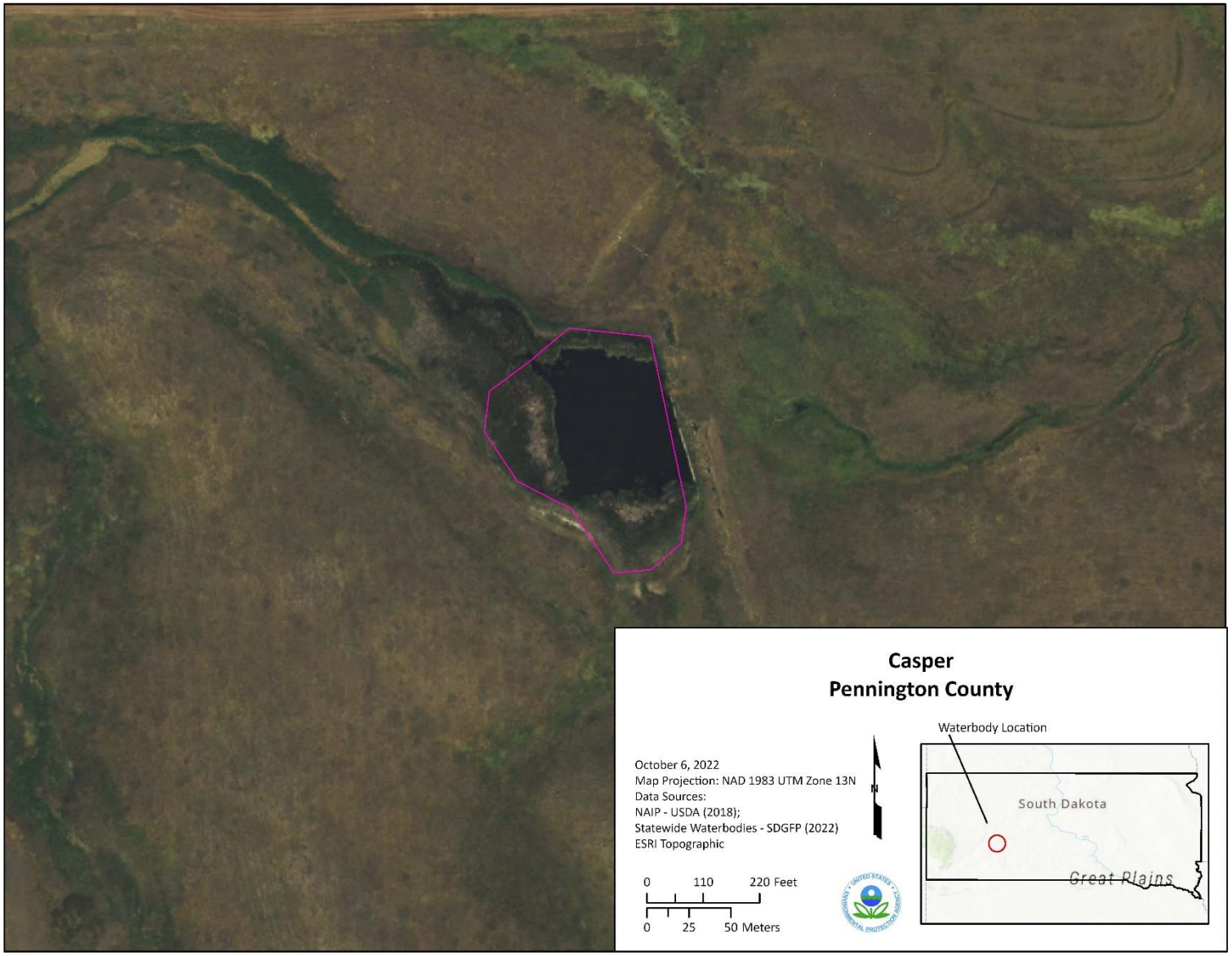
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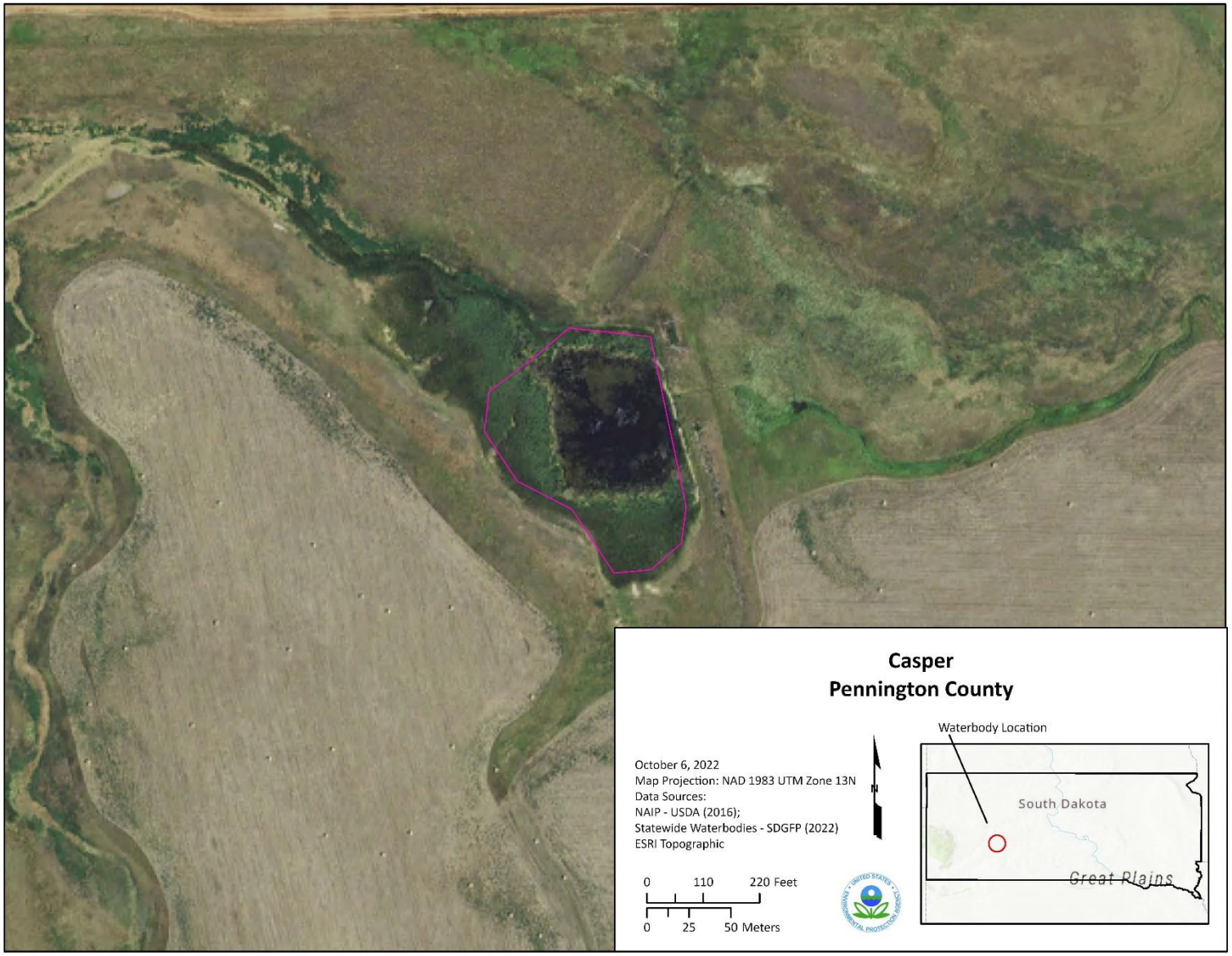
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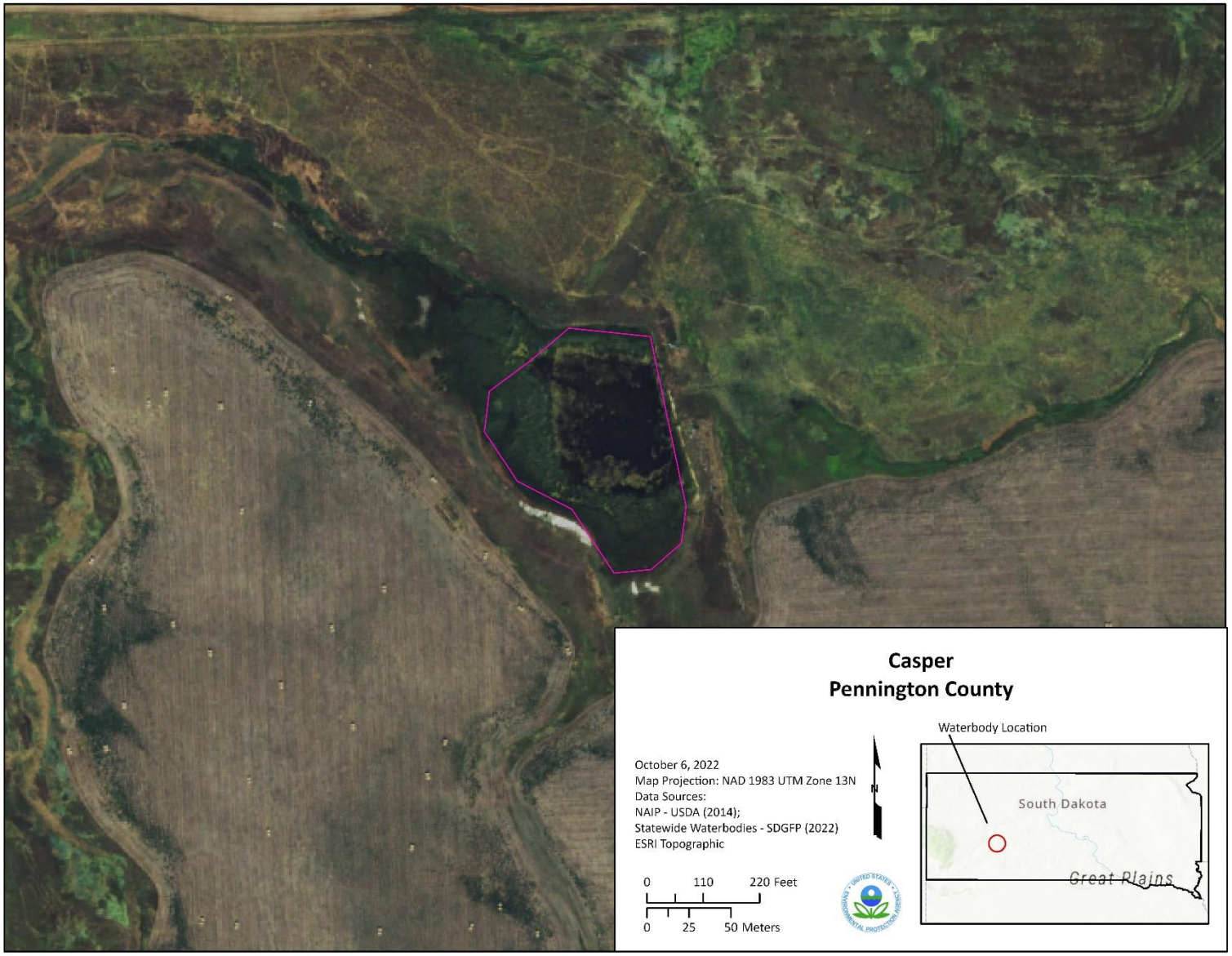
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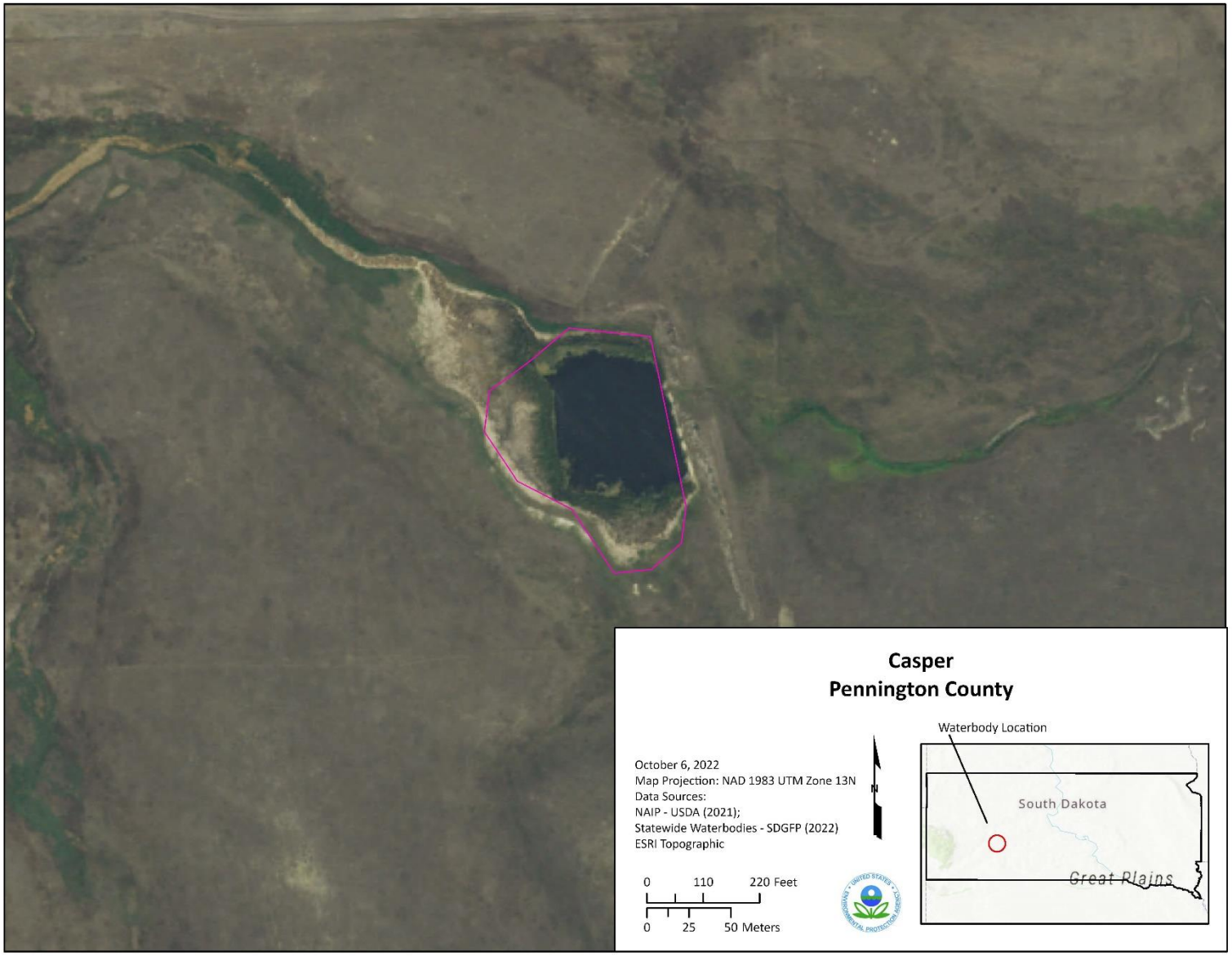
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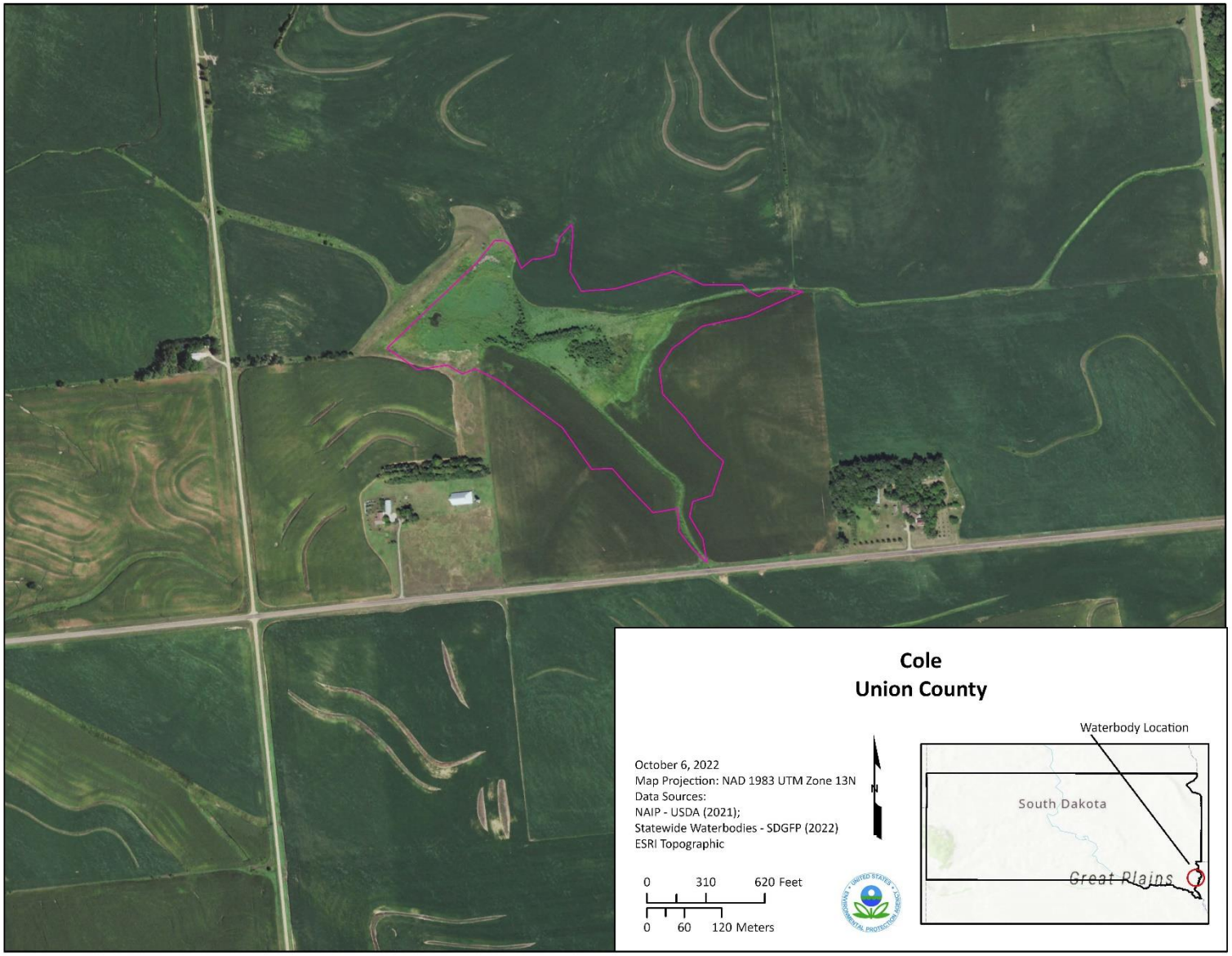
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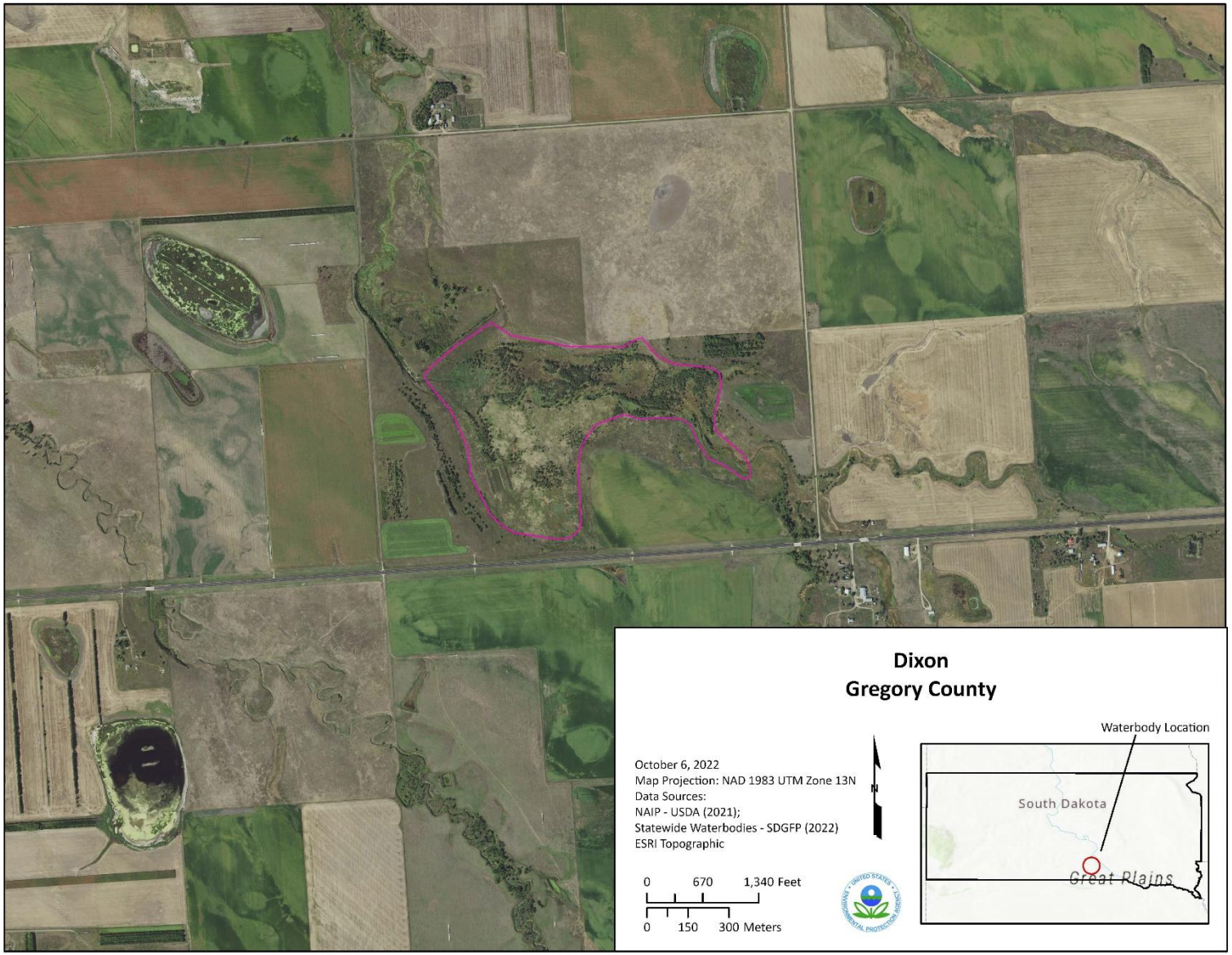
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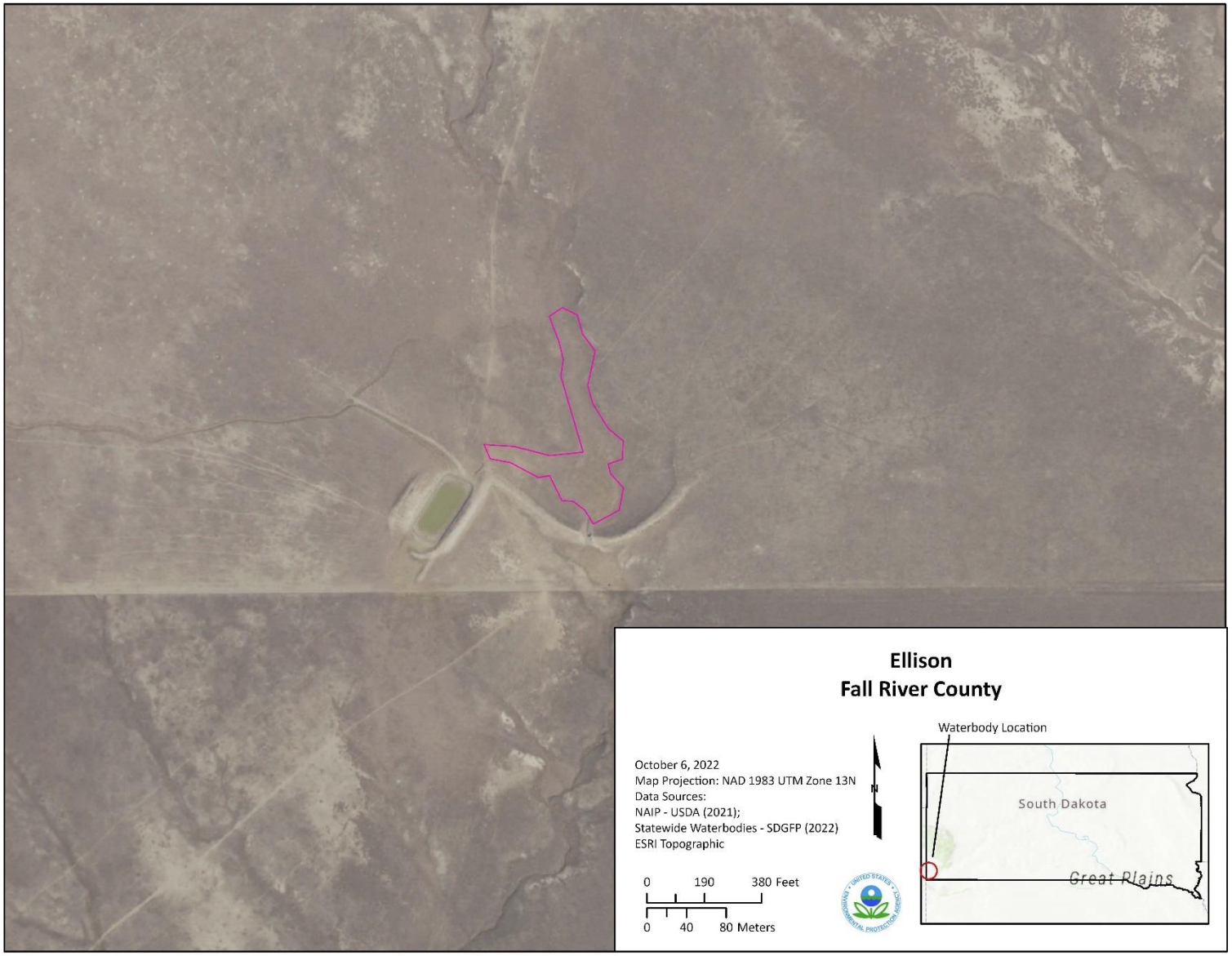
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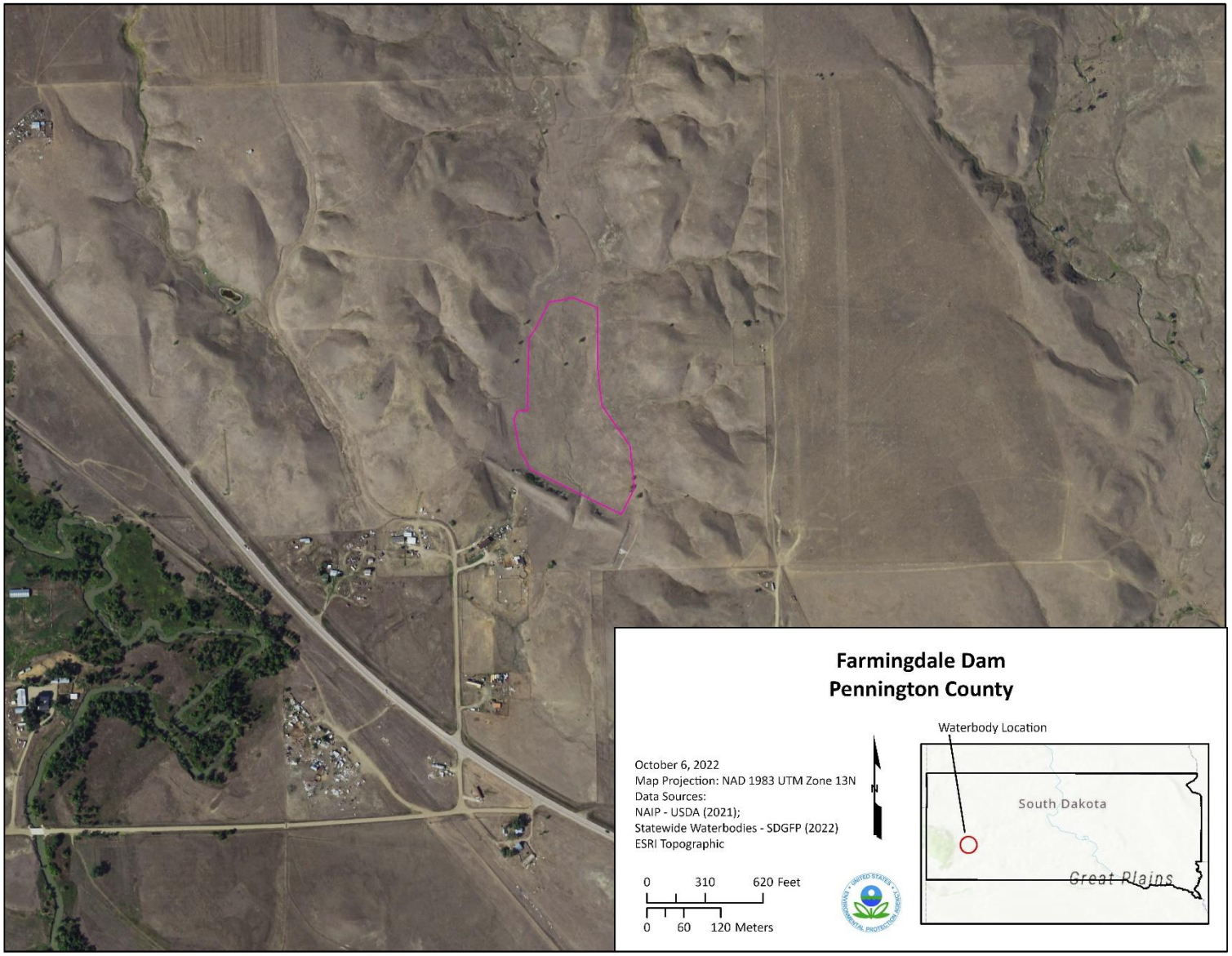
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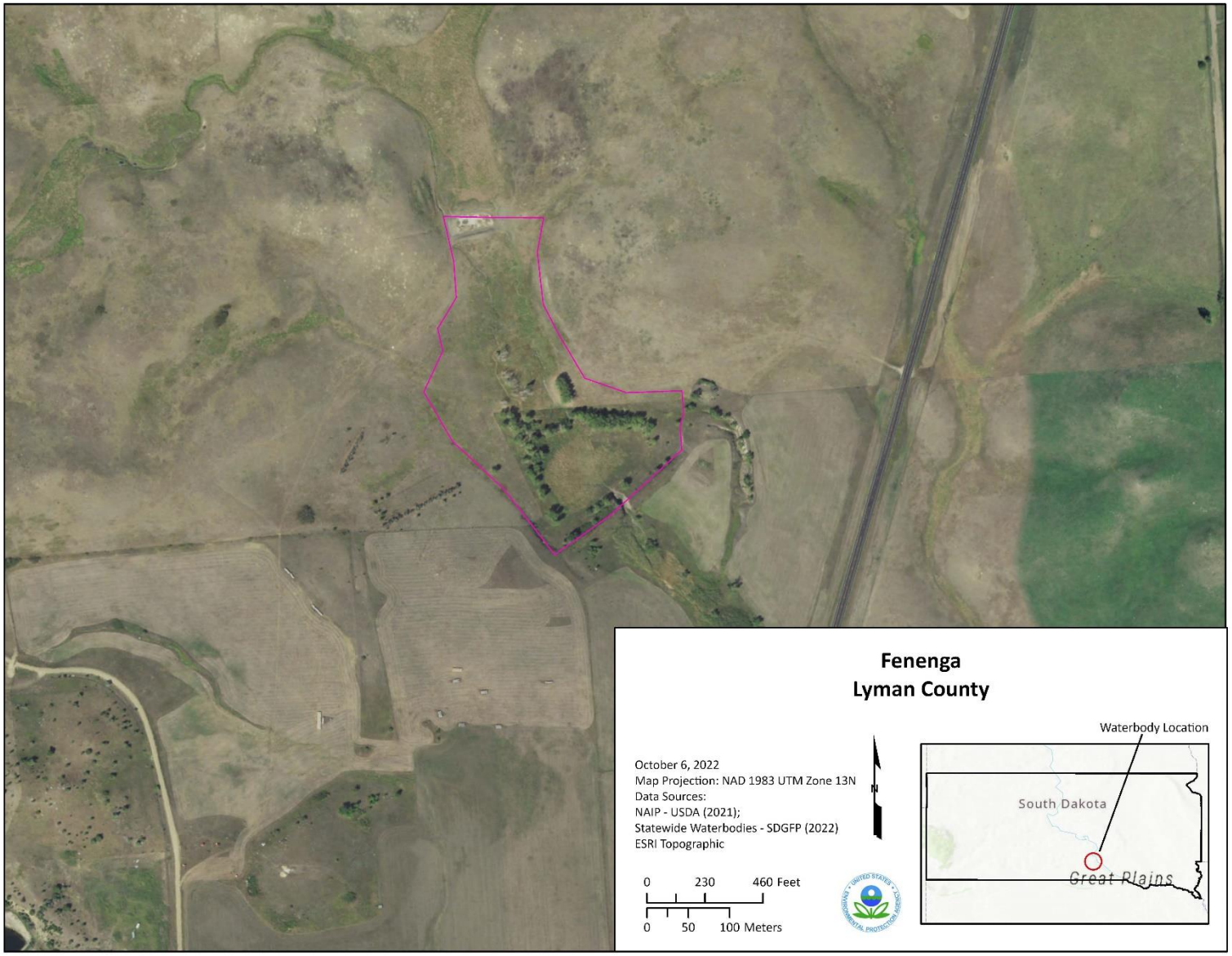
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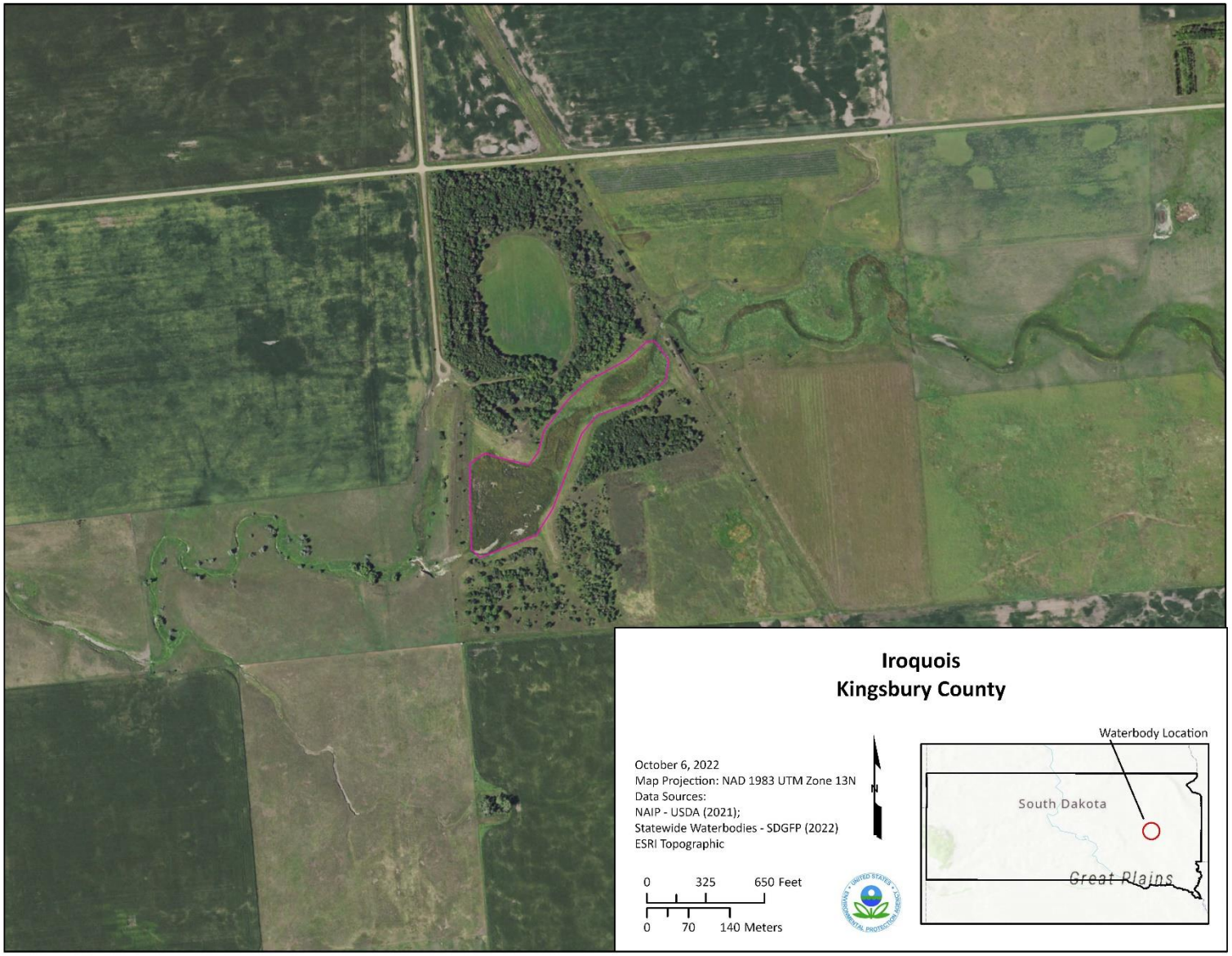
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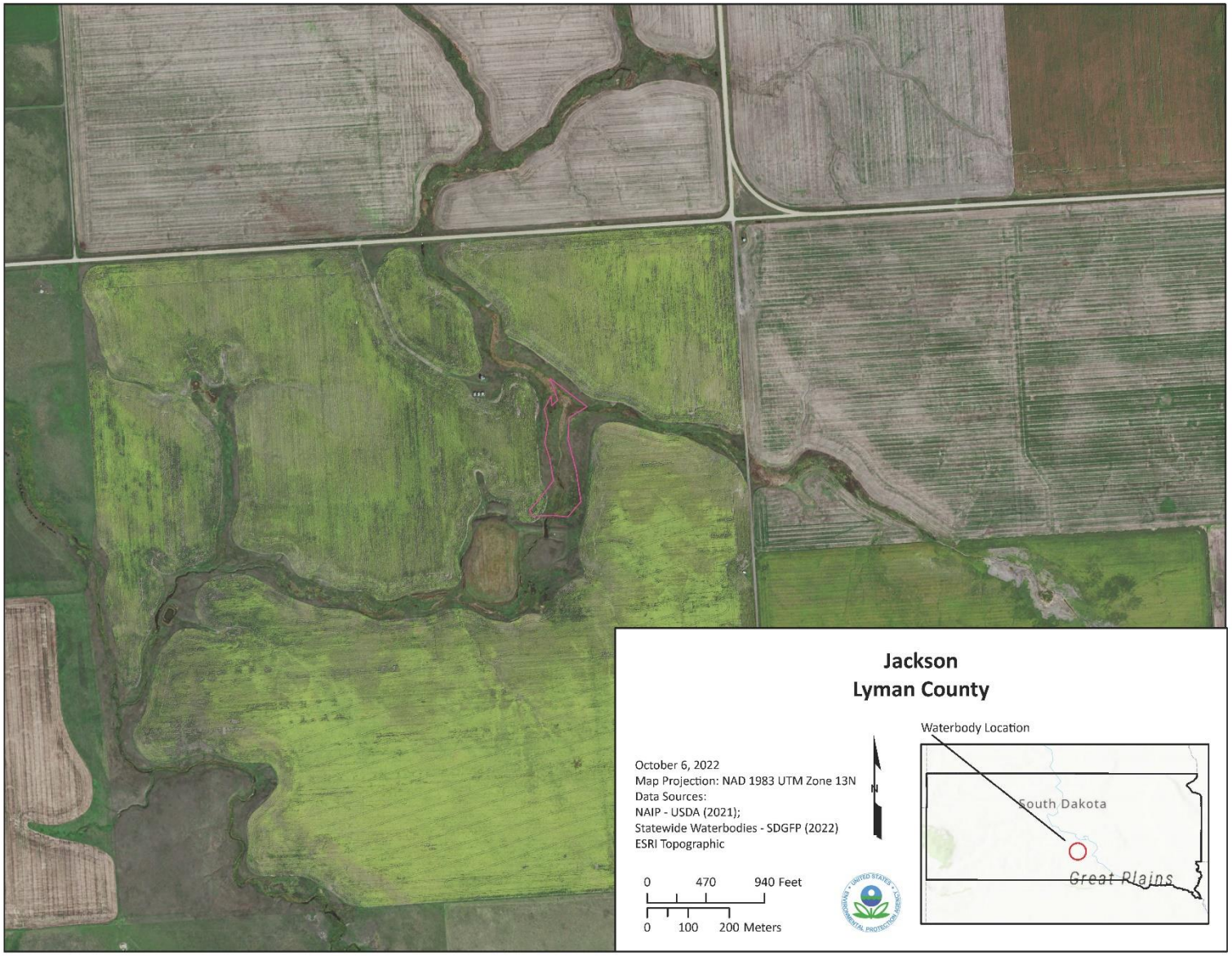
Great Plains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Waterbody Location
South Dakota
Great Plains


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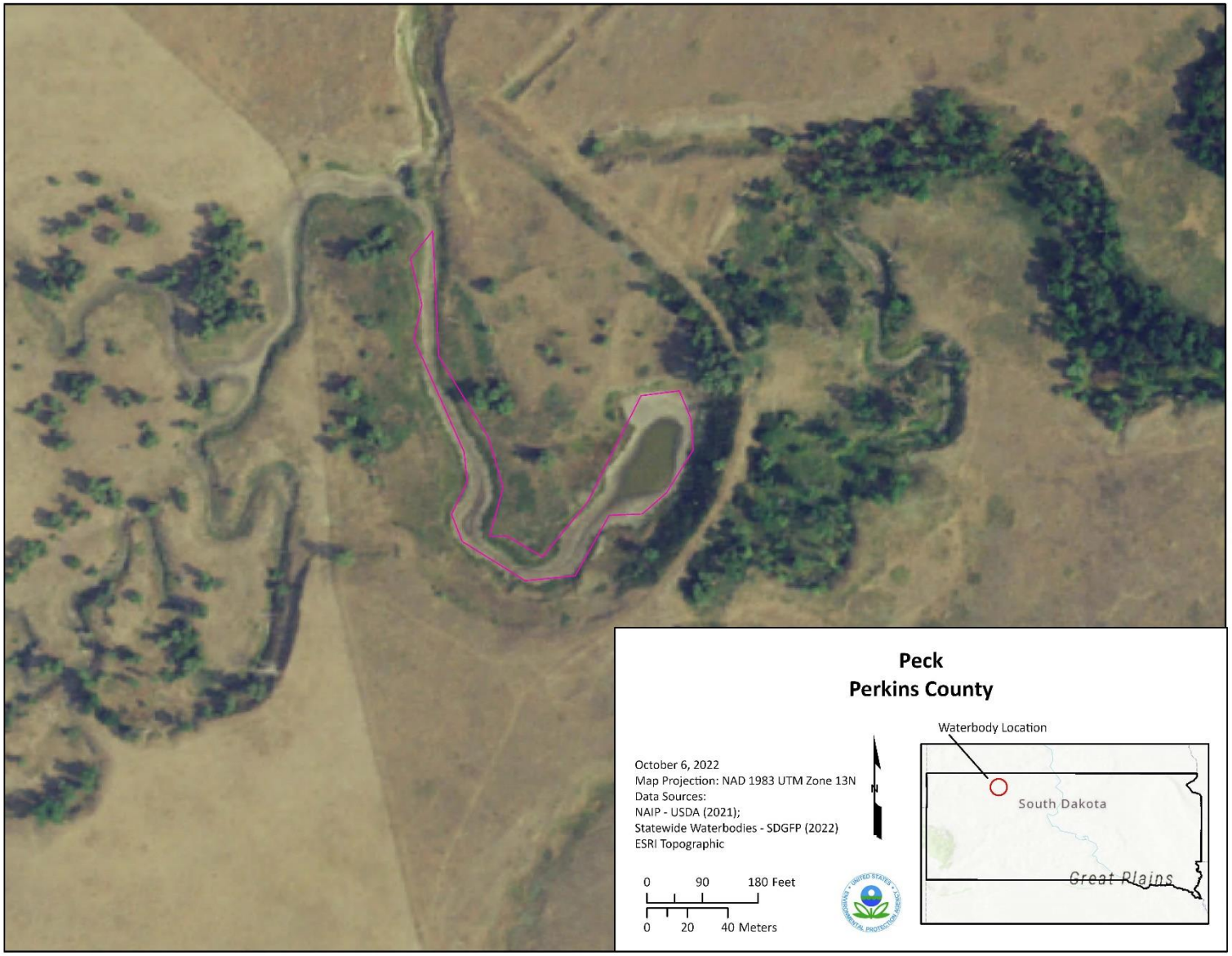
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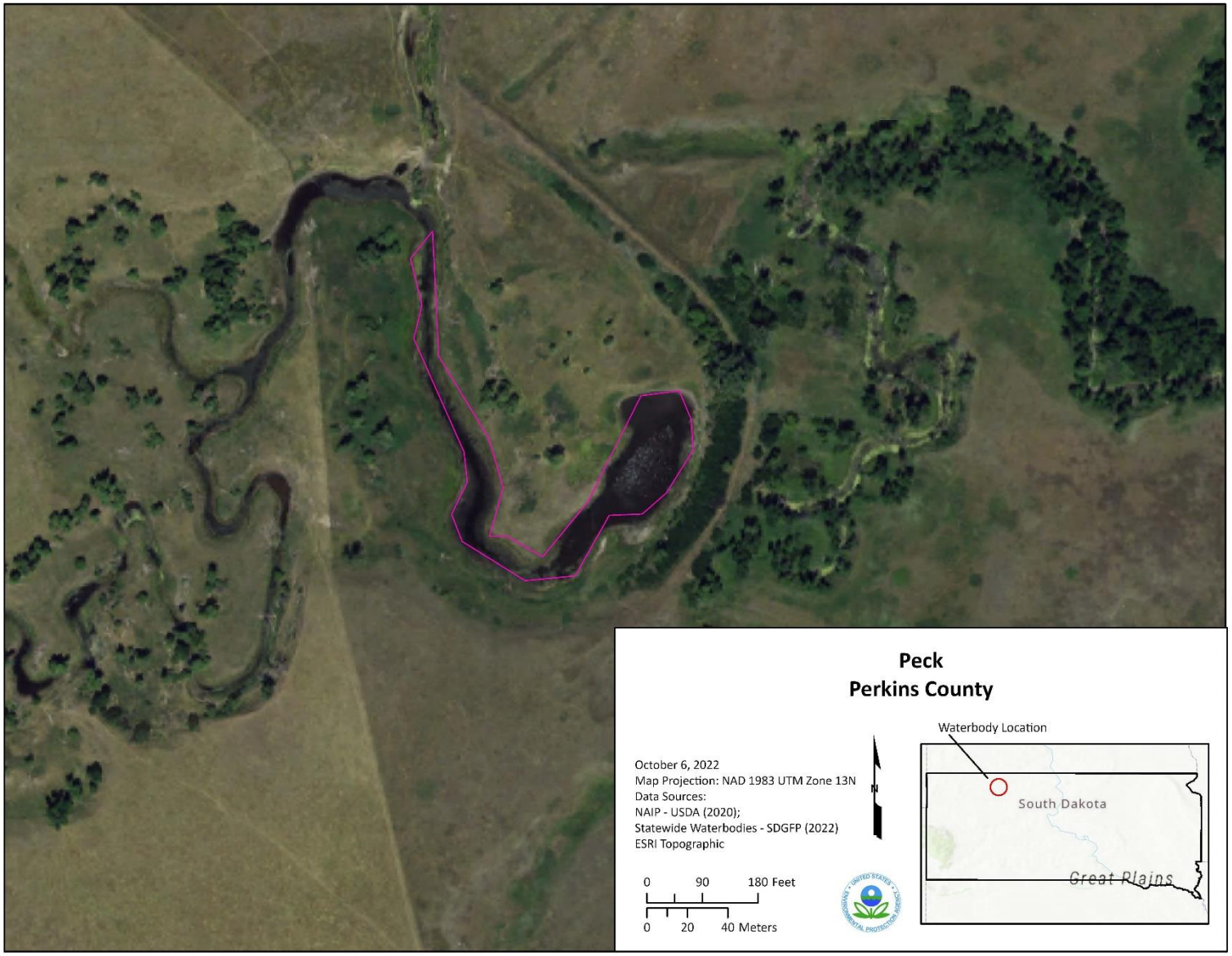
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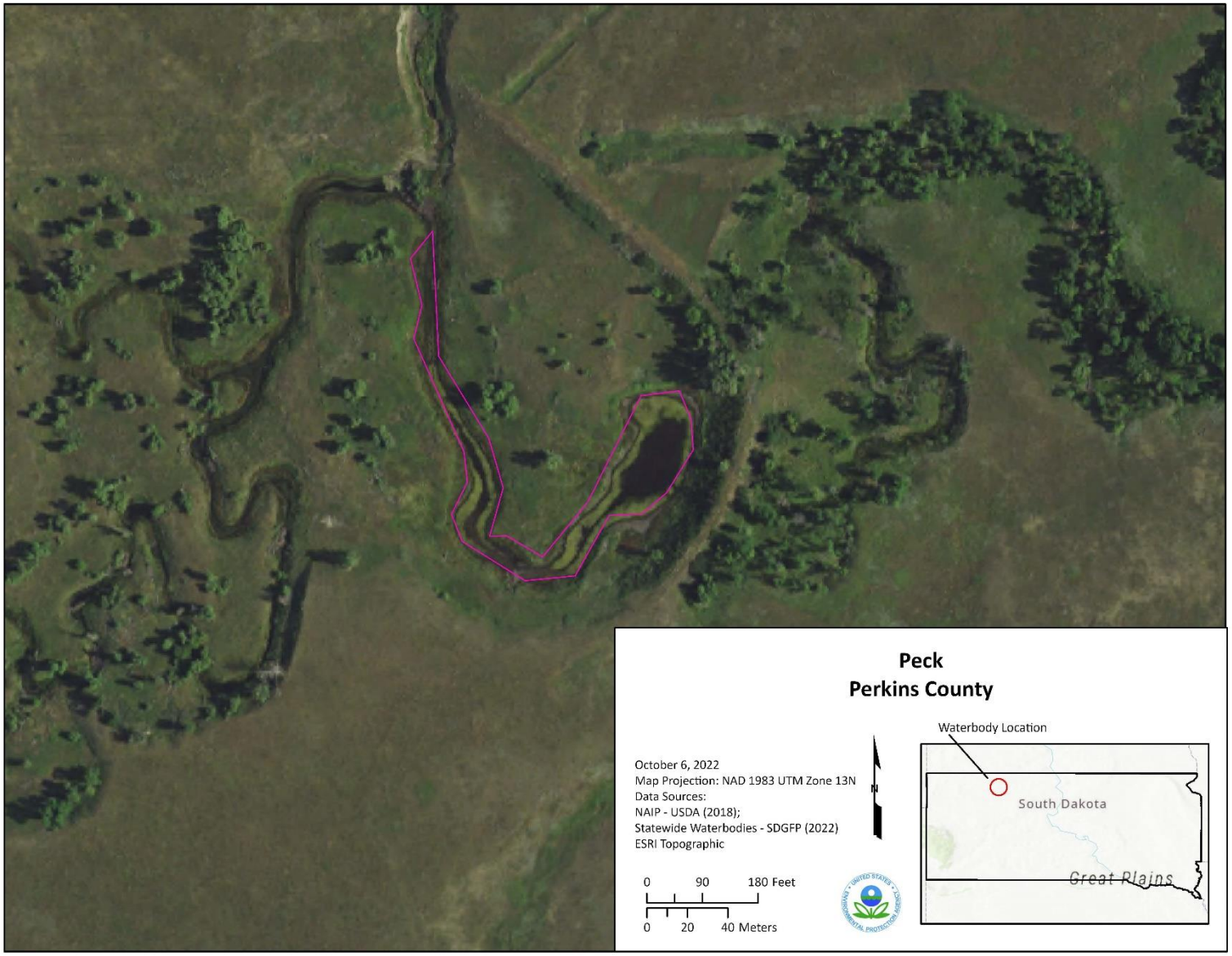
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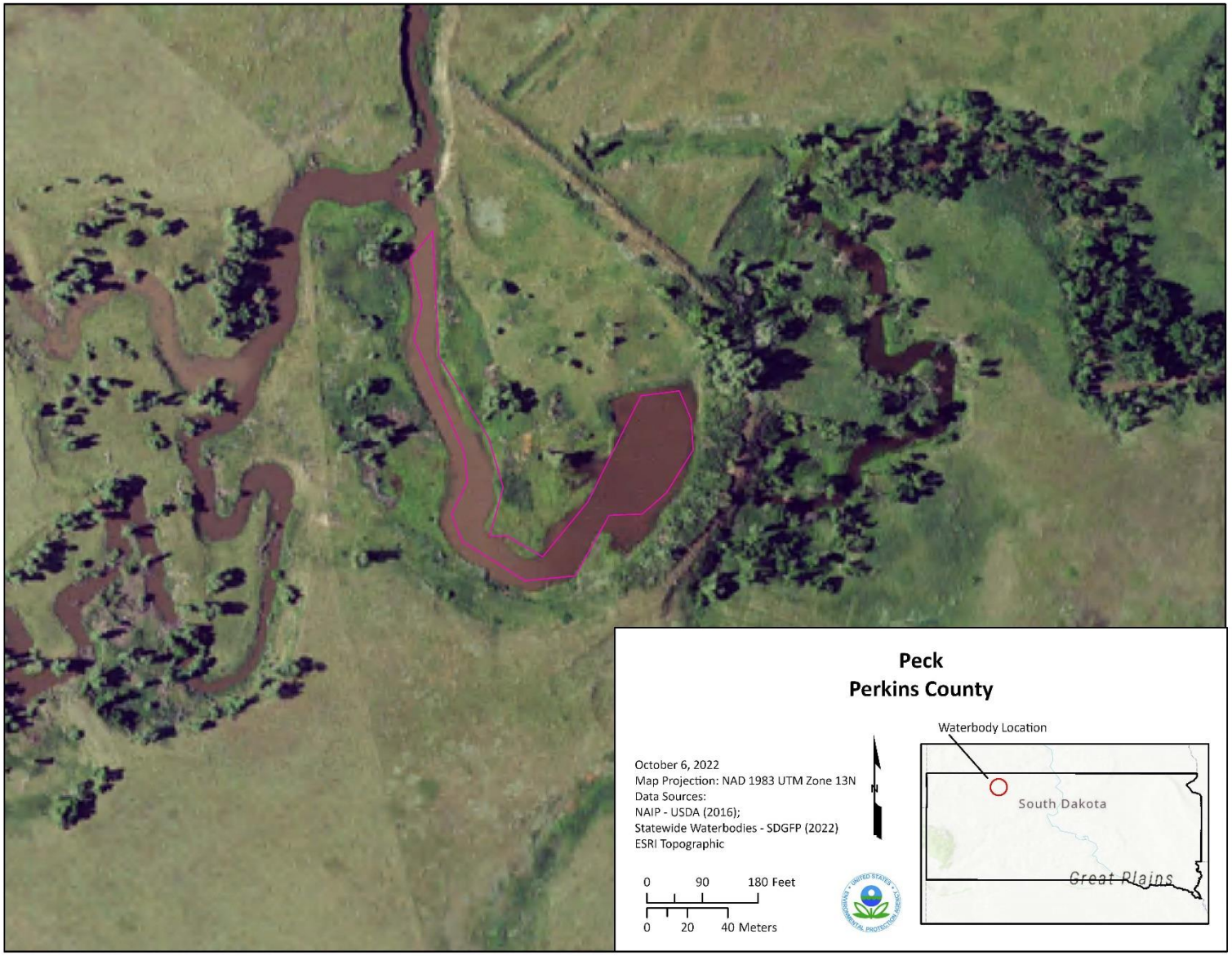
South Dakota
Great Plains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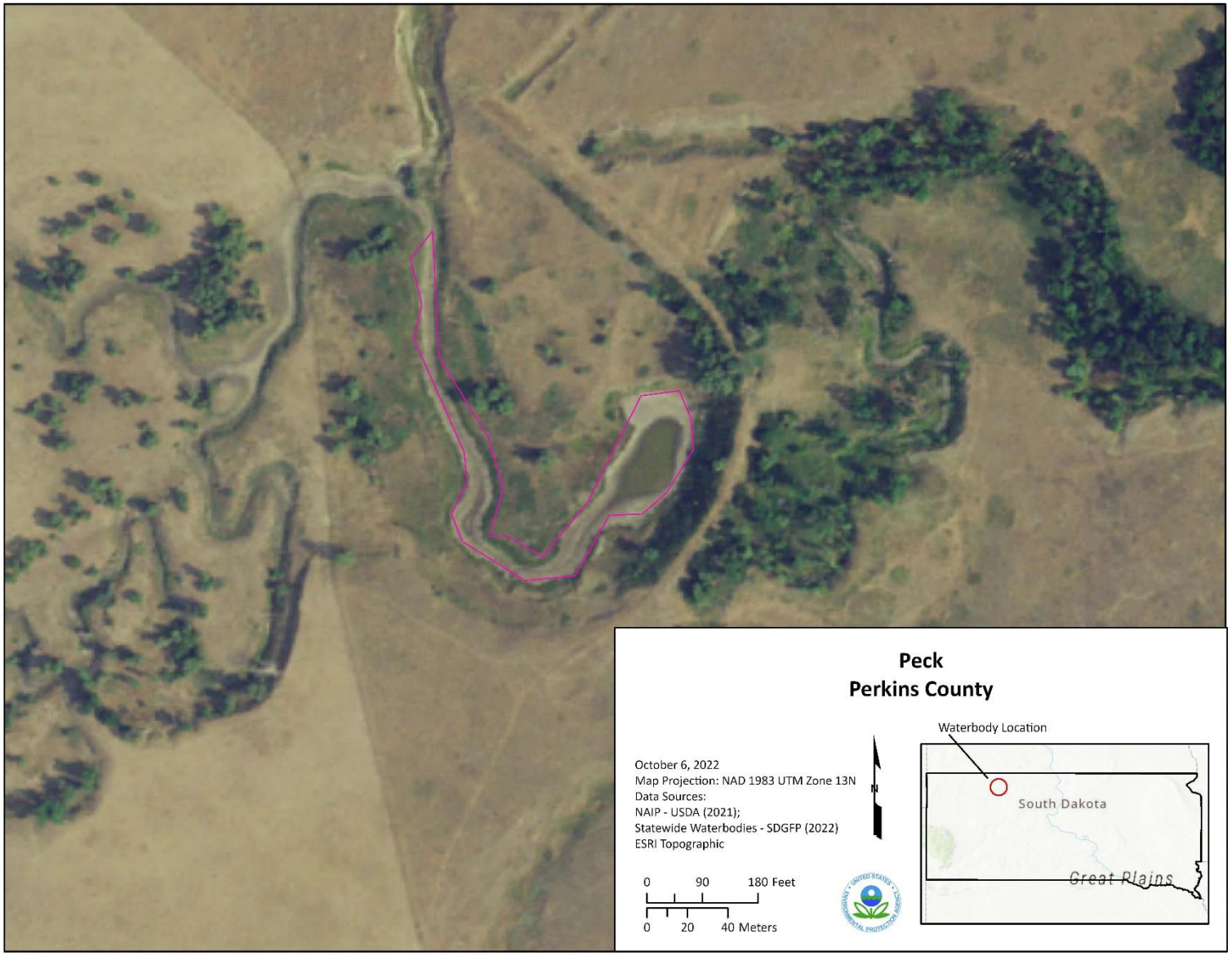
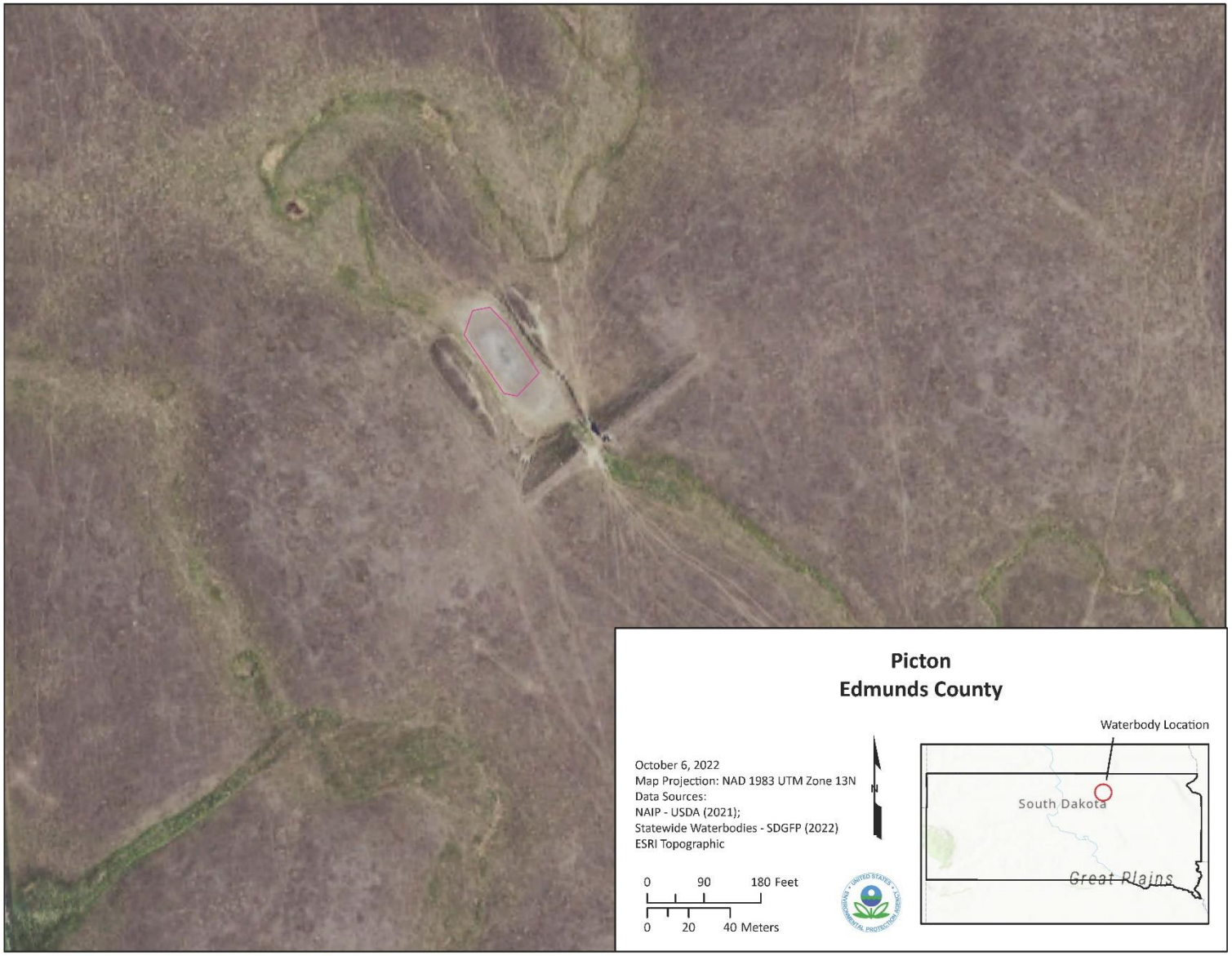
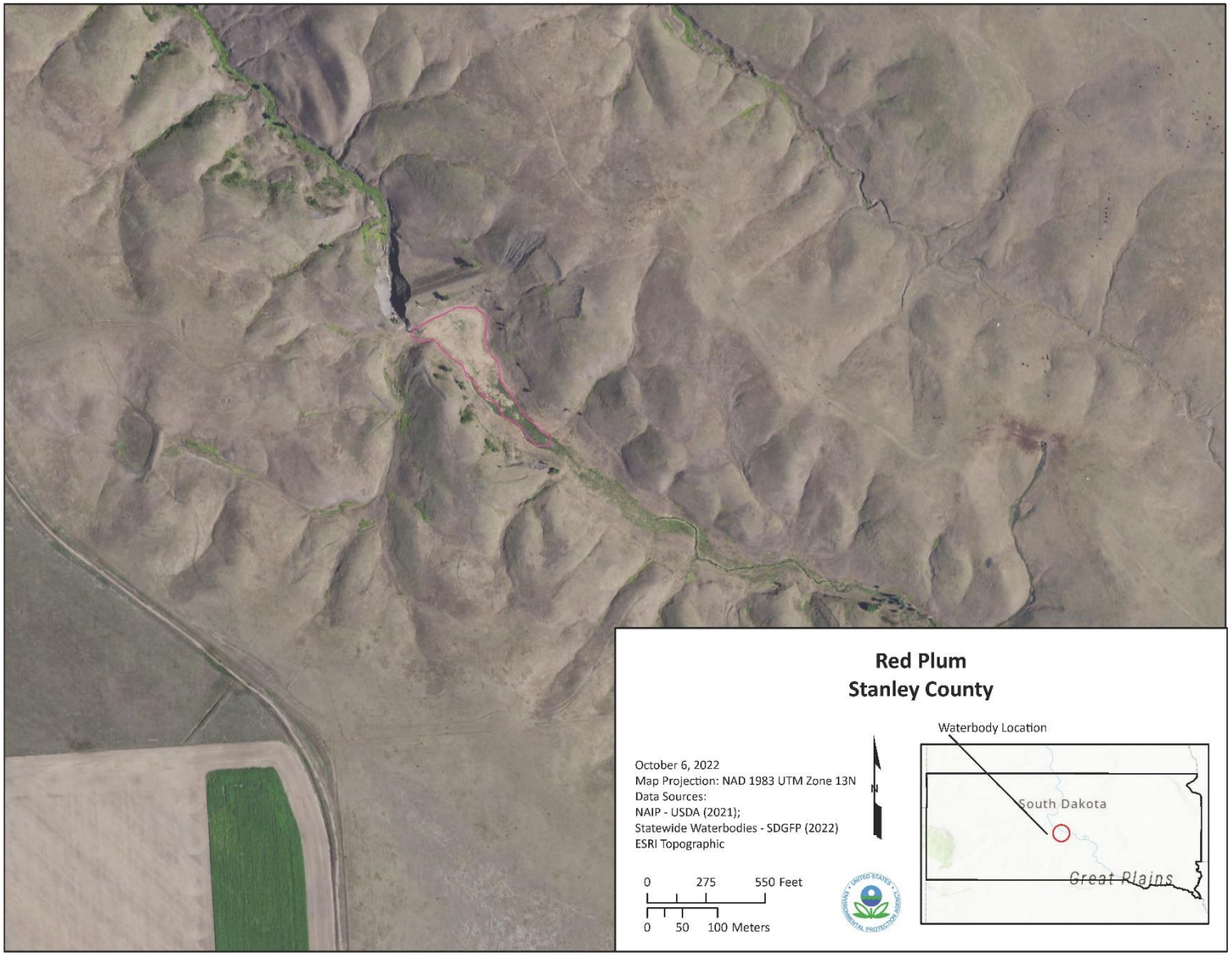
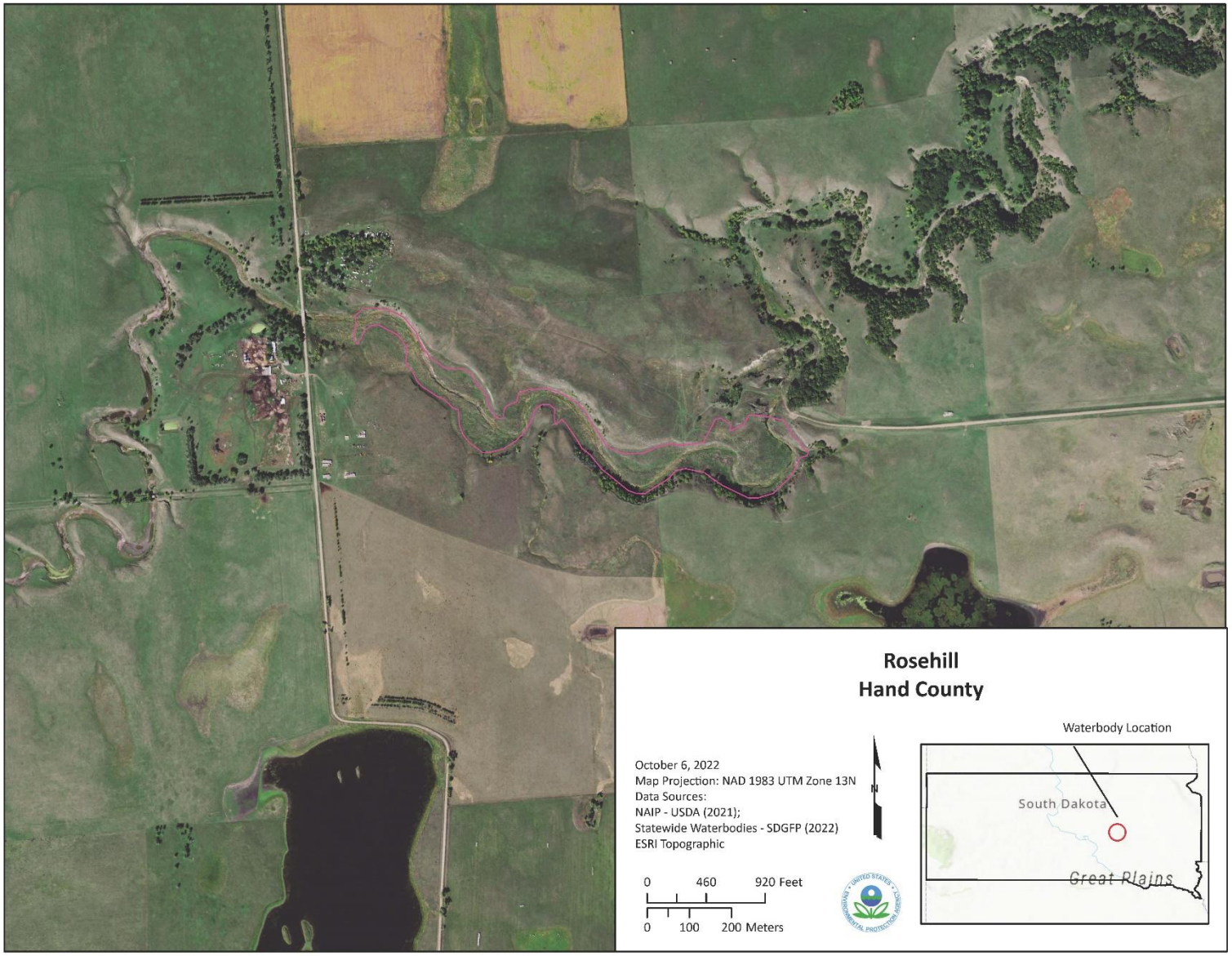
Waterbody Location
South Dakota
Great Plains

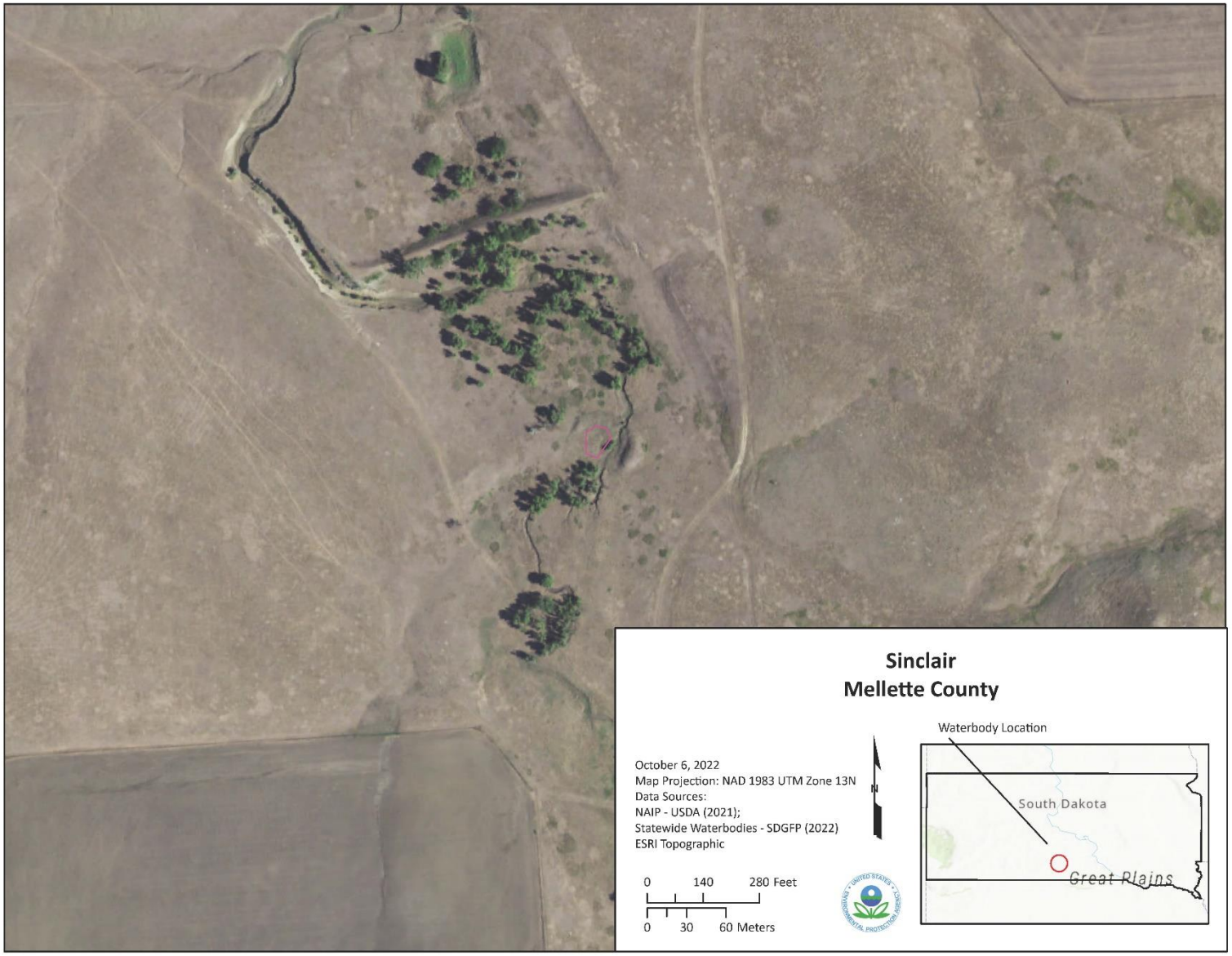

Peck
Perkins County
October 6, 2022
Map Projection: NAD 1983 UTM Zone 13N
Data Sources:
NAIP - USDA (2021);
Statewide Waterbodies - SDGFP (2022)
ESRI Topographic
0 90 180 Feet
0 20 40 Meters
N
Waterbody Location
South Dakota
Great Plains

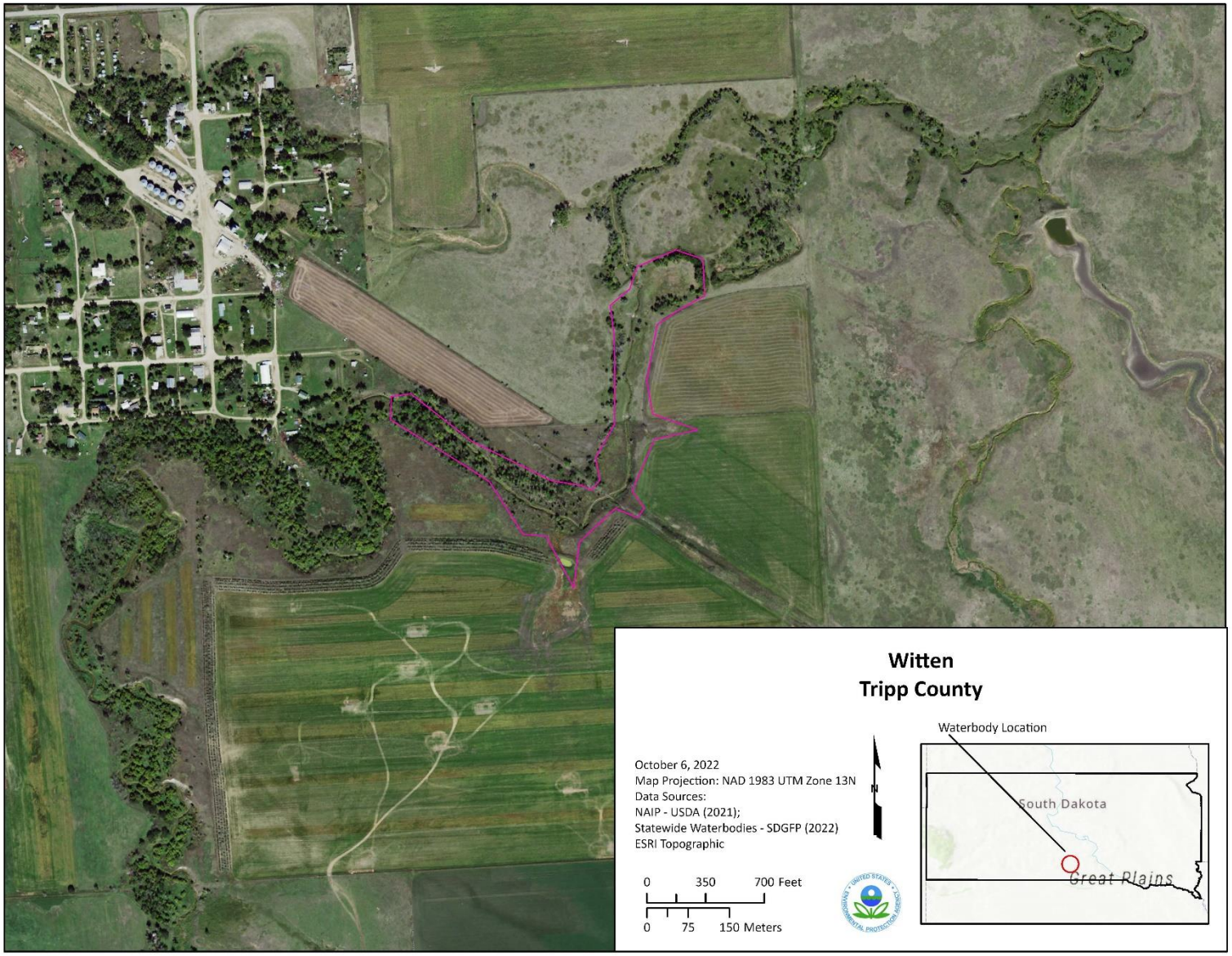

Picton
Edmunds County
October 6, 2022
Map Projection: NAD 1983 UTM Zone 13N
Data Sources:
NAIP - USDA (2021);
Statewide Waterbodies - SDGFP (2022)
ESRI Topographic
0 90 180 Feet
0 20 40 Meters
Waterbody Location
South Dakota
Great Plains


Ray
Fall River County
October 6, 2022
Map Projection: NAD 1983 UTM Zone 13N
Data Sources:
NAIP - USDA (2021);
Statewide Waterbodies - SDGFP (2022)
ESRI Topographic
0 90 180 Feet
0 20 40 Meters
Waterbody Location
South Dakota
Great Plains


Red Plum
Stanley County
October 6, 2022
Map Projection: NAD 1983 UTM Zone 13N
Data Sources:
NAIP - USDA (2021);
Statewide Waterbodies - SDGFP (2022)
ESRI Topographic
0 275 550 Feet
0 50 100 Meters
Waterbody Location
South Dakota
Great Plains


Rosehill
Hand County
October 6, 2022
Map Projection: NAD 1983 UTM Zone 13N
Data Sources:
NAIP - USDA (2021);
Statewide Waterbodies - SDGFP (2022)
ESRI Topographic
0 460 920 Feet
0 100 200 Meters
Waterbody Location
South Dakota
Great Plains


Sinclair
Mellette County
October 6, 2022
Map Projection: NAD 1983 UTM Zone 13N
Data Sources:
NAIP - USDA (2021);
Statewide Waterbodies - SDGFP (2022)
ESRI Topographic
0 140 280 Feet
0 30 60 Meters
Waterbody Location
South Dakota
Great Plains


Witten
Tripp County
October 6, 2022
Map Projection: NAD 1983 UTM Zone 13N
Data Sources:
NAIP - USDA (2021);
Statewide Waterbodies - SDGFP (2022)
ESRI Topographic
N
0 350 700 Feet
0 75 150 Meters
Waterbody Location
South Dakota
Great Plains