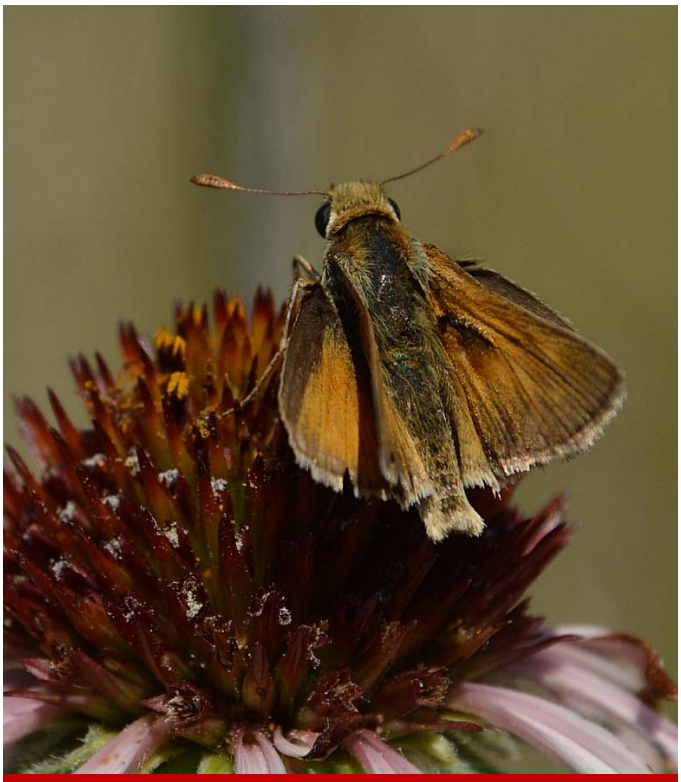
Exhibit A13-10



2017 Dakota skipper (*Hesperia dacotae*) and Poweshiek skipperling (*Oarisma poweshiek*) Survey Report

Crocker Wind Farm

Clark County, South Dakota
November 1, 2017

Summary

Crocker Wind Farm, LLC (Crocker) plans on constructing wind generation facilities in eastern South Dakota. The Crocker Wind Farm (Project) is sited on privately-owned parcels in northwestern Clark County.

Crocker's consultant Western Ecosystems Technology, Inc. (WEST) retained HDR Engineering, Inc. (HDR), to conduct flight surveys for the presence of Dakota skippers (***Hesperia dacotae***) and Poweshiek skipperlings (***Oarisma poweshiek***). In October 2014, the Dakota skipper was designated as threatened and the Poweshiek skipperling was designated as endangered and both are protected under the federal Endangered Species Act.

The survey objective was to determine the presence or absence of these butterflies during the peak flight period on tracts that exhibited characteristics consistent with their habitat requirements.

HDR identified suitable Dakota skippers or Poweshiek skipperling habitat by first identifying potential habitat blocks using remote sensing tools, followed by conducting post-flight (September 2016) and pre-flight (May 2017) site assessments. Sites identified during these evaluations were verified as habitat during the 2017 flight period and were included in the flight surveys for Dakota skipper and Poweshiek skipperlings or were eliminated from further review when habitat was determined to be unsuitable for these species.

Biologists conducted three sets of ground surveys between June 29 and July 12, 2017. The survey dates fell between the earliest reports of adult Dakota skipper emergence on June 25, 2017 and the last reported observation of July 13, 2017. Dakota skipper and Poweshiek skipperling surveys were conducted on parcels that harbor grassland tracts containing an abundance of native plant species within the Project that were crossed by or adjacent to areas of potential impacts associated with the July 2017 Project layout. Habitat capable of supporting the presence of the Dakota skipper and Poweshiek skipperling include native prairie areas adjacent to wetlands and native prairie remnants on slopes where topography limited land conversion to crop production.

No Dakota skippers or Poweshiek skipperlings were observed during the 2017 surveys on lands that may be impacted by the Project facilities and were therefore determined to be absent from the surveyed Crocker Wind sites.

Table of Contents

Introduction

Crocker Wind Farm, LLC (Crocker) is proposing to develop the Crocker Wind Farm (Project) in Clark County, South Dakota. Crocker's consultant Western Ecosystems Technology, Inc. (WEST) retained HDR to conduct presence/absence surveys for the federally endangered butterfly Poweshiek skipperling (***Oarisma poweshiek***) and federally threatened butterfly Dakota skipper (***Hesperia dacotae***), which are both prairie obligate species. HDR evaluated numerous habitat areas in five general areas within the Project boundary as depicted in Figure 1 for habitat that could harbor Dakota skippers or Poweshiek skipperlings, and then conducted surveys for the presence/absence of these two species of butterflies on the sites that had suitable habitat.

Survey methods follow the ***Guidance for Interagency Cooperation under Section 7(a)(2) of the Endangered Species Act for the Dakota Skipper , Dakota Skipper Critical Habitat, and Poweshiek Skipperling Critical Habitat Version 1.1 U.S. Fish & Wildlife Service Regions 3 and 6*** (May 2016) (2016 Guidance). Surveyors conducting searches for Dakota skipper and Poweshiek skipperling hold permits obtained from the U.S. Fish and Wildlife Service (USFWS) to conduct surveys for these species.

Dakota Skipper and Poweshiek Skipperling Status

On October 23, 2014 the USFWS added the Poweshiek skipperling to the list of endangered species and the Dakota skipper as a threatened species under the Endangered Species Act. During the summers of 2013 - 2016 the USFWS evaluated federal and state owned lands with recent (2000-2008) records of Poweshiek skipperling occurrence. The results of these surveys indicated that the Poweshiek skipperling populations remain extant in Wisconsin, Michigan and Manitoba. No Poweshiek skipperlings were observed by the USFWS, state regulators, or their sub-contractors in Iowa, North Dakota, Minnesota, and South Dakota. The results of these recent monitoring efforts indicate that there are fewer than 500 of these butterflies remaining at sites in Wisconsin, Michigan, and Manitoba and they are likely extirpated from sites with recent records in Iowa, North Dakota, Minnesota, and South Dakota.

The results of surveys for the Dakota skipper by these same agencies found that the species remains extant at sites in Manitoba, Canada, North Dakota and South Dakota and two locations in Minnesota. Sites where the Dakota skipper remains in South Dakota are primarily on lands managed by the Sisseton Wahpeton Oyate of the Lake Traverse

Reservation. These tribal lands are managed as hay lands that are cut after a dominant grass porcupine grass (***Hesperostipa spartea***) seed is set, usually during the fall. These lands fit the "Type B" habitat type described by Royer ***et al.*** (2008, p14) and occur on dissected topography where slopes and hills have limited lands from being converted to crop production. Although lands surveyed within the Project share some characteristics with tribal hay lands, the lands surveyed by HDR were used as pasture and exhibited plant communities that are characterized by abundant purple coneflower (***Echinacea angustifolia***), leadplant (***Amorpha canescens***), upright prairie coneflower (***Ratibida columnifera***), blanket flower (***Gaillardia aristata***), silverleaf scurfpea (***Pediomelum argophyllum***), grasses such as little bluestem (***Schizachyrium scoparium***), porcupine grass, blue grama (***Bouteloua gracilis***) and side-oats grama (***B. curtipendula***) and patches of western snowberry (***Symphoricarpos occidentalis***).

Photograph 1. Photograph showing vegetative structure and composition on Crocker "Type B" habitat.

Methods

The methods discussed in this section are outlined in 2016 Guidance.

Site Assessment Survey

Habitat Assessment Methods

HDR and WEST biologists identified habitat blocks in two phases using GIS desktop methods and by conducting field reviews after the flight season in September, 2016, and prior to the flight season in May, 2017 (Phase 1). The habitat assessment (Phase 2) evaluated grassland habitats within these blocks for presence of native plant assemblages used by the Dakota skipper and Poweshiek skipperling.

Phase 1: Desktop Assessment and Preliminary Field-Verification Surveys

Phase 1 consisted of a desktop assessment which mapped areas of potential native prairie habitat within the Project area. These areas were digitized on aerial photographs. A WEST biologist conducted preliminary field-verification surveys at the Project in September 2016 and HDR conducted its assessment in May 2017. During these preliminary field-verification surveys, areas mapped as potential native prairie habitat during the desktop assessment were visually assessed, primarily from public rights-of-ways, to identify whether native prairie habitat existed and the extent of this habitat in these areas. Boundaries of areas mapped as potential native prairie habitat during the desktop assessment were revised following field-verification surveys. During the field-verification surveys, dominant species presence of native grasses and forbs, and shrub or tree encroachment were also noted.

Phase 2 Flight Season Habitat Identification

During Phase 2, HDR evaluated the extent and overall quality of native prairie occurring within the potential native prairie areas identified during Phase 1. An ecologist holding a

USFWS permit to conduct surveys for Dakota skippers reviewed the areas identified during Phase 1 prior to conducting flight surveys. The Phase 2 evaluation identified habitats that exhibit vegetative characteristics consistent with the presence of Dakota skippers and Poweshiek skipperlings that were crossed by or adjacent to areas of potential impacts associated with the July 2017 Project layout, and included a subjective measure of the relative abundance of key indicator species (forbs and graminoids) and an overall subjective ranking of the habitat quality. HDR took photographs of each site and noted the presence or absence of habitat that could support target species. The following minimum habitat characteristics are necessary for larval and adult forms of the Dakota skipper and Poweshiek skipperling to persist and were used to identify sites for flight survey efforts.

1. Sites dominated by native graminoids or co-dominant with shrubs, throughout unshaded portions of the site. Overall plant species diversity is low because of the loss of native prairie associated species.

2. Sites may contain moderately abundant cover of invasive species, including smooth brome (***Bromus inermis***), Kentucky bluegrass (***Poa pratensis***), Canada bluegrass (***P.compressa***), desert wheatgrass (***Agropyron desertortum***), timothy (***Phleum pratense***), sweetclover (***Melilotus albus, M.officinalis***), black medic (***Medicago lupulina***), white clover (***Trifolium repens***), or creeping bentgrass (***Agrostis stolonifera***), but the sites are still recognizable as harboring native graminoids and forbs as dominant species.

3. Sites containing native graminoids and forbs as the dominant species but are grazed by cattle, where the ground surface has undergone moderate compaction or has terraced slopes.

Survey Timing and Location

Royer and Marrone, 1992, and Dana, 1991 indicate that the flight period for adult Dakota skippers occurs between mid-June and early July. HDR coordinated survey timing with USFWS personnel, used a degree day model predicting adult emergence, communicated with other biologists conducting surveys for these species, and used plant phenology to predict when Dakota skippers and Poweshiek skipperlings would emerge from pupae and begin the adult flights. Royer and Marrone (1992) noted that the following plants are almost always present and blooming during the Dakota skipper flight period: wood lily (***Lilium philadelphicum***), harebell (***Campanula rotundifolia***), death camas (***Zigadenus elegans***), purple coneflower, and blanket flower (***Gaillardia aristata***).

Thirty four (34) sites identified in Phase 2 as exhibiting plant community characteristics indicative of native prairie were surveyed using Transect Survey methods described in the following section.

Figure 1 depicts habitat blocks identified by WEST and HDR for potential habitat during off-site and out-of-season habitat assessments (Phase 1), Figure 2 depicts areas exhibiting habitat during the 2017 flight season (Phase 2), and Figure 3 shows 2017 flight survey tracklog coverage of habitat.

Transect Surveys

For the sites exhibiting potential habitat HDR used habitat-centered Pollard-style random walks according to the following parameters:

- The sampling day began after 9:00 am and ended after butterfly activity was visibly diminished (usually after 5:00 pm).

- Only individual butterflies identified within an estimated 5.0 meters on either side of the surveyor, within 5.0 meters of the ground, or 5.0 meters to the front were considered an “encounter”.

- Identification was initially made with binoculars, captured with a net, or confirmed by close-up observation and photographic documentation.

Biologists conducting the surveys focused on suitable habitat where native grasses and an abundance of nectar sources including purple coneflower occurred and on sites where other butterflies were observed; more time was allotted to higher quality habitats than on areas degraded by plowing, overgrazing or where non-native grasses, trees or shrubs dominated the landscape. Butterfly observations were recorded using a hand-held GPS when confirmed to species level.

Results

Site Assessment Survey

Approximately 65 habitat blocks within the Project were reviewed for suitable Dakota skipper and Poweshiek skipperling habitat characteristics. These habitat blocks are depicted in Figure 1. Approximately 31 habitat blocks were removed from further analysis due to the lack suitable habitat on the site during the 2017 flight survey period. HDR surveyed the remaining 34 habitat blocks containing sites with Dakota

skipper and Poweshiek skipperling habitat. In many cases, flight surveys were continuous across habitat site boundaries, so the resulting tracklogs cover multiple sites during a single survey effort. In all, there were 13 flight survey tracklogs that covered the 34 habitat sites where butterfly numbers are documented on the Project (Appendix).

The Project is a large site with numerous geographical and land use features. Areas with steeper slopes are pastured and contain grassland exhibiting a high level of ecological integrity. These sites occur along creeks, intermittent drains and along Coteau- type dissected slopes. Other areas with level ground to moderate slopes are used as cropland and contain few areas that display native grassland plant assemblages. Crops are located on level to gently rolling lands and are planted to crops such as corn/soybean or alfalfa. Many sites that appeared to harbor suitable habitat in May were heavily grazed with no forbs during June or were dominated by more non-native grasses and forbs during flight survey evaluations.

Native grassland habitats surveyed within the Project were primarily dry hill prairie types that correspond to Royer “Type B” plant communities. This community type occurs on droughty or gravelly soils that occur on moderate to steep slopes and where the land use is pasture. Most slopes were grazed at varying intensities with the less intensely used areas containing the highest quality plant communities. Plant communities are graminoid-dominated and forb-rich herbaceous types that vary according to soils and topography. Sites on the steepest slopes exhibited the highest quality plant composition due to the difficulty experienced by cattle when grazing on steep slopes.

Midheight and shortgrass species are dominant and include species such as little bluestem, side-oats grama, prairie dropseed (***Sporobolus heterolepis***), porcupine grass, and junegrass (***Koeleria pyramidata***), and hairy grama (***Bouteloua hirsuta***). Forb cover varied according to grazing intensity but included; hairy golden aster (***Chrysopsis villosa***), harebell, purple coneflower, prairie coneflower, Canadian anemone (***Anemone canadensis***), candle anemone (***Anemone cylindrica***), green milkweed (***Asclepias viridiflora***), purple prairie clover (***Dalea purpurea***), Carolina larkspur (***Delphinium carolinianum ssp. virescens***), grooved flax (***Linum sulcatum***), rush skeletonplant (***Lygodesmia juncea***), scarlet gara (***Oenothera suffrutescens***), marbleseed (***Onosmodium bejariense*** var. ***occidentale***), silverleaf Indian breadroot (***Pediomelum argophyllum***), lilac penstemon (***Penstemon gracilis***), white milkwort ***(Polygala alba),*** tall cinquefoil ***(Potentilla arguta*** ssp. ***arguta***), prairie rose ***(Rosa arkansana***), western snowberry, hoary vervain (V***erbena stricta***), and mountain death-camas.

Photograph 2 – Photograph of some habitat within the Crocker Wind site showing dissected landscape and abundance of native grasses and forbs.

Flight Transect Surveys

HDR conducted flight surveys for the Dakota skipper and Poweshiek skipperling due to their proximity to the project footprint and on adjacent lands that harbor native prairie communities or suitable habitat. Grazing practices on these sites have increased the dominance of Kentucky bluegrass, smooth brome, and other weed species such as nodding plumeless thistle (***Carduus nutans)***,yellow sweetclover (***Melilotus officinalis)***, and red clover (***Trifolium pretense)***. Native grasses and forbs that could be used by larvae and adult Dakota skippers and Poweshiek skipperling are restricted to patches on slopes adjacent to the project footprint.

The 2017 surveys conducted by HDR complied with USFWS survey conditions outlined in 2016 Guidance and provide information that the USFWS can use for clearance of Project activities related to the documented absence of Dakota skippers and Poweshiek skipperlings on all surveyed Project sites.

Surveys for Dakota skipper and Poweshiek skipperling were conducted between June 29, 2017 and July 13, 2017. Weather during surveys was generally seasonal to warm.

Generally, butterfly activity was moderate. Dakota skippers were observed beginning June 25, 2017, until July 13, 2017, at other sites outside of the Project in Minnesota, North Dakota and South Dakota. The presence of Dakota skippers at sites evaluated by others conducting surveys for the same species indicate that surveys conducted by HDR at Crocker Wind fell within suitable detection limits for the Dakota skipper in 2017.

Butterfly activity ranged from 3 observations per hour (obs/hr) on small isolated sites to 44 obs/hr on some larger sites. The average number of species observed for all sites and surveys was 19.63 obs/hr. Thirty (30) different butterfly species were observed on all sites evaluated over the course of all three survey efforts during the 2017 Dakota-Poweshiek flight season. Over 1100 individual butterflies were documented. Regal fritillaries (***Speyeria idalia***) were the most abundant species observed during the 2017 flight survey period with over 470 individuals documented. Common wood-nymphs (***Cercyonis pegala***) were the second most abundant species with over 300 individuals documented on all surveys. Five different skipper species were documented on survey sites and no observations of Dakota skipper or Poweshiek skipperling were recorded during any of the flight surveys conducted on the Project. The target species were therefore determined to be absent from the Project sites. Species lists, survey length, site locations, weather conditions, site descriptions and activity levels for each survey site are located in the Appendix.

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Dana, R.P. 1991. Conservation Management of the Prairie Skippers Hesperia dacotae and ***Hesperia ottoe***: basic biology and threat of mortality during prescribed burning in spring. Minnesota Agricultural Experiment Station Bulletin 594-1991 (AD-SB-5511-S). University of Minnesota, St. Paul. 63pp.

Marone, Gary M. 2002. Field Guide to Butterflies of South Dakota. South Dakota Department of Game, Fish and Parks. pp 396-398.

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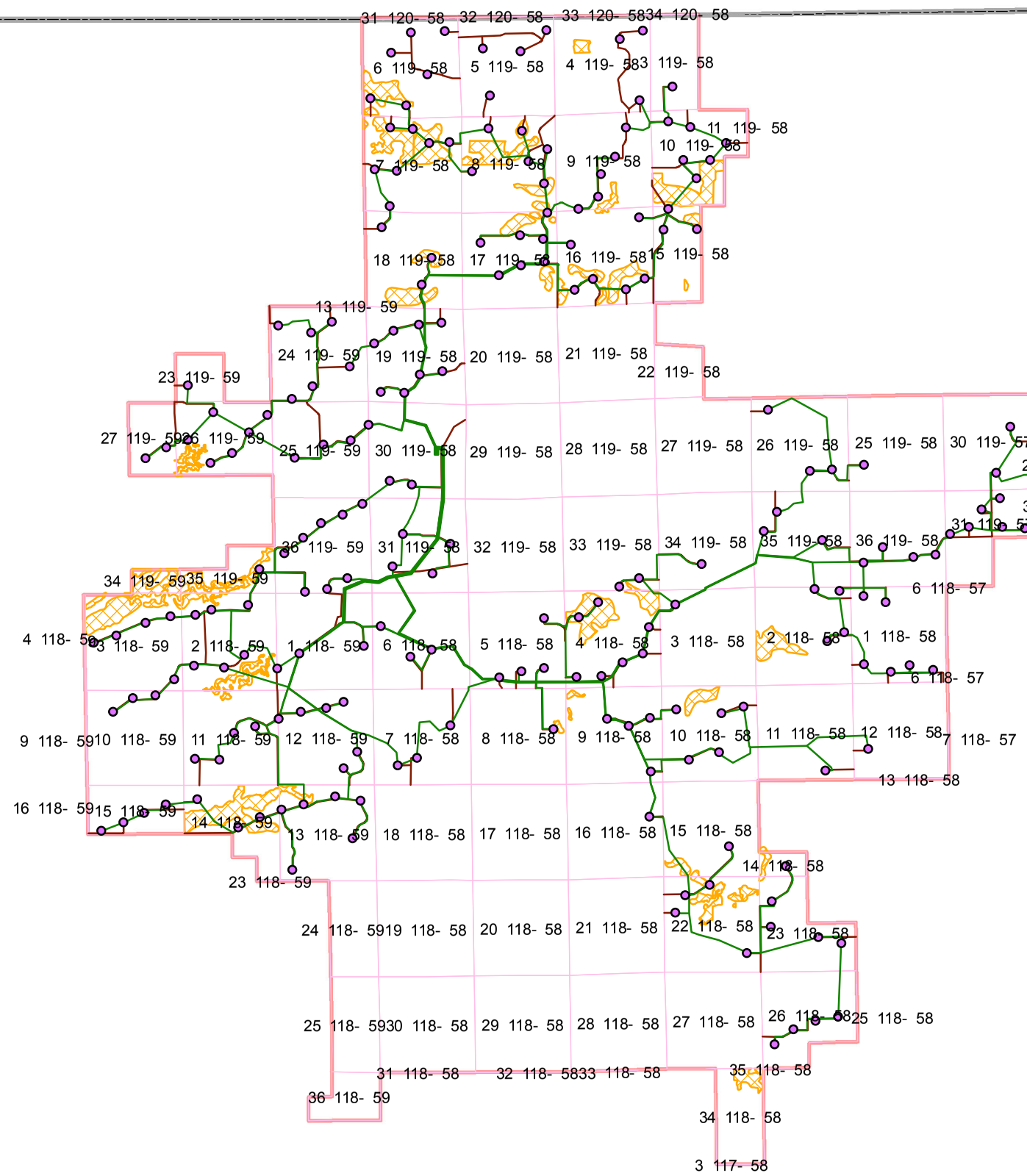
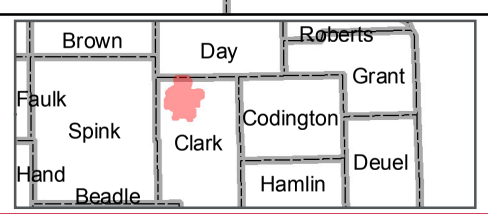
Figures

Day

Spink

Clark





Legend

- Crocker Habitat Blocks
- County Boundary
- Township, Range, Section
- CR_PreliminaryLayout
- CR_PreliminaryCollection
- CR_PreliminaryAccess

FIGURE 1.
CROCKER WIND HABITAT ASSESSMENT
PHASE 1 SKIPPER HABITAT ASSESSMENT
CLARK COUNTY, SOUTH DAKOTA

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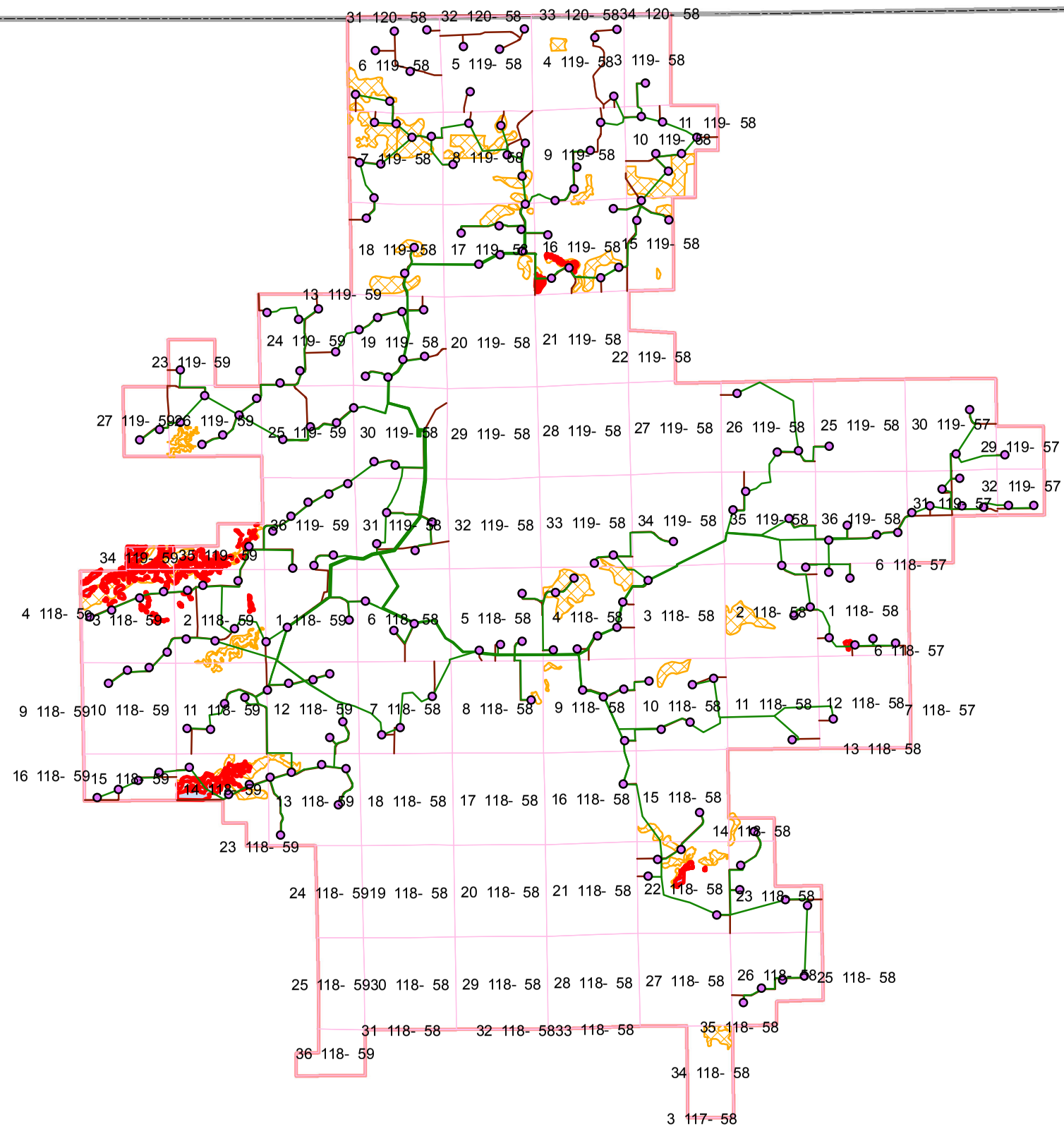
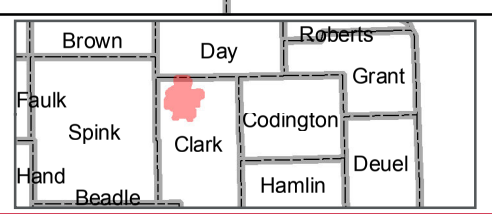
Day

Spink

Clark





Legend

- Cattle_PreliminaryLayout
- Delineated Habitat Areas West
- Delineated Habitat Sites HDR
- Crocker Habitat Blocks
- County Boundary
- Township, Range, Section
- CR_PreliminaryLayout
- CR_PreliminaryCollection
- CR_PreliminaryAccess

FIGURE 2.
CROCKER WIND HABITAT ASSESSMENT
PHASE 2 SKIPPER HABITAT DELINEATION
CLARK COUNTY, SOUTH DAKOTA

PATH: \\MSPE-GIS-FILE\GISPROJ\WEST\10063721_CROCKER_WIND\7.2_WORK_IN_PROGRESS\MAP_DOCS\FIGURE2_CROCKER_FIELD.MXD - USER: SKRYCH - DATE: 10/18/2017

Day

Spink

Clark

Hamlin

Deuel

Brown

Beadle

Roberts

Grant

Day

Faulk

Spink

Clark

Codington

Hand

nd

Delineated Habitat Areas West

Delineated Habitat Sites HDR

Crocker Habitat Blocks

CR_PreliminaryLayout CR_PreliminaryCollection CR_PreliminaryAccess

PATH: \\MSPE-GIS-FILE\GISPROJ\WEST\10063721_CROCKER_WIND\7.2_WORK_IN_PROGRESS\MAP_DOCS\FIGURE3_CROCKER_FIELD.MXD - USER: SKRYCH - DATE: 10/18/2017

Appendix

Crocker Wind

Table 1 – Details on Surveys Conducted at Site Crocker Wind T118 R58 Sec. 3, T118 R59 Sec. 2, T118 R58 Sec. 3, T118 R59 Sec. 2

Survey 1			
Clark County, South Dakota			
Date	June 30, 2017		
Surveyor	Scott Krych		
Time	2:23 p.m. – 6:30 p.m.	4 hr.07 min.	4.12hrs
Weather			
2:23 p.m.	Temp. 68°F	Wind = 6-8 NW	%Clear = 25-50
6:30 p.m.	Temp. 73°F	Wind = 5-10 NW	%Clear = 75-90
Survey 2			
Date	July 1, 2017		
Surveyor	Scott Krych		
Time	11:10 a.m. – 3:18 p.m.	4 hr.03 min	
Weather			
11:10 a.m.	Temp. 71°F	Wind = 8-10 SW	%Clear = 75-90
3:18 p.m.	Temp. 82°F	Wind = 10-12 W	%Clear = 90-100
Survey 3			
Date	July 4, 2017		
Surveyor	Scott Krych		
Time	10:20 a.m. – 3:20 p.m.	4 hr 55 min	
Weather			
10:20 a.m.	Temp. 80°F	Wind = 8 SW	%Clear = 100
3:20 p.m.	Temp. 91°F	Wind = 12-14 SW	%Clear = 100

Primary Target Species Observed: None, No Dakota skippers or Poweshiek skipperlings

Survey Comments:

Butterfly activity was moderate to high during the three surveys. Non-target skippers such as *Polites mystic* were present in vegetation along the intermittent stream that cuts through this parcel. Regal fritillaries and wood nymphs were observed in good numbers during all surveys but were highest during the last survey. No Dakota skippers or Poweshiek skipperlings were observed during any of the surveys conducted on these parcels.

Upland portions of the site exhibit abundant native grasses and forbs. Steep slopes and hills exhibited good quality habitat. These portions of the site also show minor changes in the plant community and structure due to moderate to severe grazing pressure.

Krych	Site Location T118 R58 Sec. 3, T118 R59 Sec. 2				
Species Observed (Binomial)	Common name	Survey 1 (6/30)	Survey 3 (7/4)	Survey 4 (7/8)	Total
Unknown skipper	Unknown skipper	4	2	1	9
Polites mystic	Long-dash skipper		3	4	10
Polites origenes	Crossline skipper	1	3	4	11
Polites peckius	Peck's skipper				0
Polites themistocles	Tawny-edged skipper			4	4
Ancyloxypha numitor	Least skipper				0
Belloria bellona	Meadow fritillary	1	3	8	15

Krych	Site Location T118 R58 Sec. 3, T118 R59 Sec. 2				
Species Observed (Binomial)	Common name	Survey 1 (6/30)	Survey 3 (7/4)	Survey 4 (7/8)	Total
Cercyonis pegala	Common wood nymph	11	15	40	81
Colias eurytheme	Orange sulphur	3	8	3	22
Colias sp.	sulphur sp.	7	23	18	71
Coenonympha tullia	Common ringlet	1	1		3
Cupido comyntas	Eastern tailed-blue				0
Danaus plexippus	Monarch	1	2	3	8
Echinargus isola	Reakirt's blue				0
Euptoieta claudia	Variegated fritillary		6	3	15
Glaucopsyche lygdamus	Silvery blue				0
Junonia coenia	Common buckeye				0
Papilio polyxenes	Black swallowtail		1		2
Pieris rapae	Cabbage white				0
Phyciodes tharos	Pearl crescent				0
Plebejus melissa	Melissa blue		3	4	10
Pontia protodice	Checkered white				0
Satyrium titus	Coral hairstreak	1	2		5
Satyrodes eurydice	Eyed brown				0
Speyeria cybele	Great spangled fritillary			1	1
Speyeria aphrodite	Aphrodite fritillary				0
Speyeria idalia	Regal fritillary	12	43	102	200
Vanessa atalanta	Red admiral	1	1	1	4
Vanessa cardui	Painted lady	4	3	1	11
Vanessa virginiensis	American painted lady	1	1		3
Total Count		**48**	**120**	**197**	**485**
Total Species		**13**	**17**	**15**	**62**
Total Hours		**60.58**	**4.92**	**6.94**	**26.23**
Observations/Hour		**11.65**	**24.39**	**28.39**	**18.49**

Target Species Observed **None**

Photograph of T118N R59 Sections 2 and 3 of Crocker Wind showing abundance of native grasses on slopes.

Crocker Wind

Table 2 – Details on Surveys Conducted at Site Crocker Wind T118 R59 Sec. 14

Survey 1			
Clark County, South Dakota			
Date	July 4, 2017		
Surveyor	Scott Krych		
Time	3:40 p.m. – 5:37 p.m.	1 hr.57 min.	1.95hrs
Weather			
3:40 p.m.	Temp. 91°F	Wind = 12-15 SW	%Clear = 80-100
5:37 p.m.	Temp. 93°F	Wind = 12-15 SW	%Clear = 75-90
Survey 2			
Date	July 8, 2017		
Surveyor	Scott Krych		
Time	10:10 a.m. – 12:18 p.m.	2 hr.08 min	
Weather			
10:10 a.m.	Temp. 79°F	Wind = 2 NE	%Clear = 100
12:18 p.m.	Temp. 82°F	Wind = 3-5 N	%Clear = 90-100

Primary Target Species Observed: None, No Dakota skippers or Poweshiek skipperlings

Survey Comments:

Butterfly activity was moderate to high during survey of this site. Non-target skippers such as *Polites themistocles and P. origenes* were present in slopes and on remnant patches of prairie on more level hill tops. No Dakota skippers or Poweshiek skipperlings were observed during any of the surveys conducted on these parcels.

Upland portions of the site exhibit abundant native grasses and forbs. Steep slopes and hills exhibited good quality habitat. These portions of the site also show minor changes in the plant community and structure due to moderate to severe grazing pressure.

Krych	Site Location T118 R59 Sec. 14			
Species Observed (Binomial)	Common name	Survey 1 (7/4)	Survey 2 (7/8)	Total
Unknown skipper	Unknown skipper	1	1	2
Polites mystic	Long-dash skipper			0
Polites origenes	Crossline skipper		1	1
Polites peckius	Peck's skipper			0
Polites themistocles	Tawny-edged skipper	1	1	2
Ancyloxypha numitor	Least skipper			0
Belloria bellona	Meadow fritillary	2		2
Cercyonis pegala	Common wood nymph	3	6	9
Colias eurytheme	Orange sulphur	1		1
Colias sp.	sulphur sp.	1	1	2
Coenonympha tullia	Common ringlet			0
Cupido comyntas	Eastern tailed-blue			0
Danaus plexippus	Monarch	1		1
Echinargus isola	Reakirt's blue			0
Euptoieta claudia	Variegated fritillary	2	1	3
Glaucopsyche lygdamus	Silvery blue			0
Junonia coenia	Common buckeye			0
Papilio polyxenes	Black swallowtail			0
Pieris rapae	Cabbage white			0
Phyciodes tharos	Pearl crescent			0
Plebejus melissa	Melissa blue	1	4	5
Pontia protodice	Checkered white			0
Satyrium titus	Coral hairstreak	1		1
Satyrodes eurydice	Eyed brown			0
Speyeria cybele	Great spangled fritillary			0
Speyeria aphrodite	Aphrodite fritillary			0
Speyeria idalia	Regal fritillary	10	24	34
Vanessa atalanta	Red admiral	1		1
Vanessa cardui	Painted lady			0
Vanessa virginiensis	American painted lady			0
Total Count		**25**	**39**	**89**
Total Species		**17**	**15**	**32**
Total Hours		**1.54**	**1.92**	**3.46**
Observations/Hour		**16.23**	**20.31**	**25.72**

Target Species Observed **None**

Photograph of T119N R59 Sections 34 and 35 of Crocker Wind showing abundance of native grasses on slopes.

Crocker Wind

Table 3 – Details on Surveys Conducted at Site Crocker Wind Site 1T118 R58 Sec. 22, Site 2 T118 R58 Sec. 1, Site 3 T119 R58 Sec. 16

Site 1			
Clark County, South Dakota			
Date	June 30, 2017		
Surveyor	Scott Krych		
Time	11:17a.m. – 1:30 p.m.	2 hr.13 min.	
Weather			
2:23 p.m.	Temp. 68°F	Wind = 6-8 NW	%Clear = 25-50
6:30 p.m.	Temp. 73°F	Wind = 5-10 NW	%Clear = 75-90
Site 2			
Date	July 10, 2017		
Surveyor	Scott Krych		
Time	10:15 a.m. – 12;45 p.m.	2 hr.30 min	
Weather			
10:15 a.m.	Temp. 73°F	Wind = 6-8 N	%Clear = 75-90
12;45 p.m.	Temp. 82°F	Wind = 6-8 N	%Clear = 75-90
Site 3			
Date	July 10, 2017		
Surveyor	Scott Krych		
Time	1:20 p.m. – 3:14 p.m.	1 hr 54 min	
Weather			
1:20 p.m.	Temp. 82°F	Wind = 6-8 N	%Clear = 20-50
3:14 p.m.	Temp. 80°F	Wind = 6-8 N	%Clear = 0-10

Primary Target Species Observed: None, No Dakota skippers or Poweshiek skipperlings

Survey Comments:

Butterfly activity was moderate during surveys of these areas. One non-target skippers (*Polites mystic)* was present on the slopes at Site 1. Regal fritillaries and wood nymphs were observed in at all three sites. No Dakota skippers or Poweshiek skipperlings were observed during any of the surveys conducted on these parcels.

Upland portions of the site exhibit abundant native grasses and forbs. Steep slopes and hills exhibited good quality habitat. These portions of the site also show minor changes in the plant community and structure due to moderate to severe grazing pressure.

Krych		**Site Location** T118 R58 Sec. 22	**Site Location** T118 R58 Sec. 1	**Site Location** *T119 R58 Sec. 16*	
Species Observed (Binomial)	**Common name**	**Survey 1 (6/30)**	**Survey 1 (7/10)**	**Survey 1 (7/10)**	**Total**
Unknown skipper	Unknown skipper				0
Polites mystic	Long-dash skipper	1			1
Polites origenes	Crossline skipper				0
Polites peckius	Peck's skipper				0
Polites themistocles	Tawny-edged skipper		7	11	18
Ancyloxypha numitor	Least skipper		1		1
Belloria bellona	Meadow fritillary		1		1

Krych		**Site Location** T118 R58 Sec. 22	**Site Location** T118 R58 Sec. 1	**Site Location** *T119 R58 Sec. 16*	
Species Observed (Binomial)	**Common name**	**Survey 1 (6/30)**	**Survey 1 (7/10)**	**Survey 1 (7/10)**	**Total**
Cercyonis pegala	Common wood nymph		17	47	64
Colias eurytheme	Orange sulphur				0
Colias sp.	sulphur sp.	2	2	9	13
Coenonympha tullia	Common ringlet				0
Cupido comyntas	Eastern tailed-blue				0
Danaus plexippus	Monarch				0
Echinargus isola	Reakirt's blue				0
Euptoieta claudia	Variegated fritillary	4		1	5
Glaucopsyche lygdamus	Silvery blue				0
Junonia coenia	Common buckeye				0
Papilio polyxenes	Black swallowtail	1			1
Pieris rapae	Cabbage white				0
Phyciodes tharos	Pearl crescent				0
Plebejus melissa	Melissa blue	1	4		5
Pontia protodice	Checkered white		1		1
Satyrium titus	Coral hairstreak				0
Satyrodes eurydice	Eyed brown				0
Speyeria cybele	Great spangled fritillary				0
Speyeria aphrodite	Aphrodite fritillary				0
Speyeria idalia	Regal fritillary	2	17	26	45
Vanessa atalanta	Red admiral				0
Vanessa cardui	Painted lady				0
Vanessa virginiensis	American painted lady				0
Total Count		**11**	**50**	**94**	**155**
Total Species		**6**	**8**	**5**	**19**
Total Hours		**0.75**	**1.36**	**2.55**	**4.66**
Observations/Hour		**14.67**	**36.76**	**36.86**	**33.26**

Target Species Observed None

Photograph showing abundance of native grasses on slopes.

Crocker Wind

Table 4 – Details on Surveys Conducted at Site Crocker Wind T118 R58 Sec. 3, T118 R59 Sec. 2

Survey 1			
Clark County, South Dakota			
Date	June 30, 2017		
Surveyor	Jerry Selby		
Time	2:23 p.m. – 6:30 p.m.	4 hr.07 min.	4.12hrs
Weather			
2:23 p.m.	Temp. 68°F	Wind = 6-8 NW	%Clear = 25-50
6:30 p.m.	Temp. 73°F	Wind = 5-10 W	%Clear = 75-90
Survey 2			
Date	July 1, 2017		
Surveyor	Jerry Selby		
Time	10:20 a.m. – 3:18 p.m.	1 hr.17 min	1.28hrs
Weather			
10:20 a.m.	Temp. 68°F	Wind = 8-10 SW	%Clear = 50-75
3:18 p.m.	Temp. 82°F	Wind = 10-12 SW	%Clear = 90-100
Survey 3			
Date	July 6, 2017		
Surveyor	Jerry Selby		
Time	2:05 p.m. – 2:28 p.m.	0 hr 23 min	
Weather			
2:05 p.m.	Temp. 86°F	Wind = 10-12 NW	%Clear = 90-100
2:28 p.m.	Temp. 86°F	Wind = 10-12 NW	%Clear = 90-100

Primary Target Species Observed: None, No Dakota skippers or Poweshiek skipperlings

Survey Comments:

Butterfly activity was fair during the first survey and good during later surveys. Activity levels were associated with temperatures (low during cooler temps and higher with warmer temps). Skippers such as *Polites mystic, P. themistocles and P. originese* were present in small numbers on slopes with the highest quality vegetation characteristicsNo Dakota skippers or Poweshiek skipperlings were observed during any of the surveys conducted on these parcels.

T118 R58 Sec. 3, T118 R59 Section 2, - Slopes and ridges that make up the area surveyed exhibit good quality habitat with abundant native grasses and forbs. This area is part of a large complex of dissected slopes with abundant grazed prairie habitat. The quality of habitat is associated with the amount of grazing pressure placed on plant communities. The site exhibits habitat capable of supporting Dakota skippers and Poweshiek skipperlings but no observations of these species was observed after extensive searching.

Selby	**Site Location** *T118 R58 Sec. 3, T118 R59 Sec. 2*					
Species Observed (Binomial)	**Common name**	**Survey 1 (6/30)**	**Survey 2 (7/1)**	**Survey 3 (7/4)**	**Survey 4 (7/8)**	**Total**
Unknown skipper	Unknown skipper			1		2
Polites mystic	Long-dash skipper	1		1		3
Polites origenes	Crossline skipper			1		2

Selby	**Site Location** *T118 R58 Sec. 3, T118 R59 Sec. 2*					
Species Observed (Binomial)	**Common name**	**Survey 1 (6/30)**	**Survey 2 (7/1)**	**Survey 3 (7/4)**	**Survey 4 (7/8)**	**Total**
Polites peckius	Peck's skipper					0
Polites themistocles	Tawny-edged skipper			2	3	7
Ancyloxypha numitor	Least skipper					0
Belloria bellona	Meadow fritillary		1	1	4	7
Cercyonis pegala	Common wood nymph	3	6	24	99	156
Colias eurytheme	Orange sulphur	2	2	8	12	32
Colias sp.	sulphur sp.	3	5	8	6	30
Coenonympha tullia	Common ringlet					0
Cupido comyntas	Eastern tailed-blue					0
Danaus plexippus	Monarch	1		1	2	5
Echinargus isola	Reakirt's blue				1	1
Euptoieta claudia	Variegated fritillary		3	2	4	11
Glaucopsyche lygdamus	Silvery blue					0
Junonia coenia	Common buckeye				1	1
Papilio polyxenes	Black swallowtail					0
Pieris rapae	Cabbage white				5	5
Phyciodes tharos	Pearl crescent					0
Plebejus melissa	Melissa blue	2	1	1		5
Pontia protodice	Checkered white					0
Satyrium titus	Coral hairstreak	1	1	1		4
Satyrodes eurydice	Eyed brown				1	1
Speyeria cybele	Great spangled fritillary					0
Speyeria aphrodite	Aphrodite fritillary					0
Speyeria idalia	Regal fritillary	6	30	35	85	191
Vanessa atalanta	Red admiral				1	1
Vanessa cardui	Painted lady	6				6
Vanessa virginiensis	American painted lady	1				1
Total Count		**26**	**49**	**86**	**224**	**471**
Total Species		**10**	**8**	**13**	**12**	**56**
Total Hours		**4.12**	**5.33**	**4.92**	**6.94**	**26.23**
Observations/Hour		**6.31**	**9.19**	**17.48**	**32.28**	**17.96**

Target Species Observed None

Crocker Wind

Table 5 – Details on Surveys Conducted at Site Crocker Wind T118 R58 Sec. 23, T119 R59 Sec. 26, T118 R58 Sec. 2

Survey 1			
Clark County, South Dakota			
Date	July 1, 2017		
Surveyor	Jerry Selby		
Time	4:55 p.m. – 5:43 p.m.	0 hr.48 min.	0.8hrs
Weather			
4:55 p.m.	Temp. 84°F	Wind = 8-10 W	%Clear = 75-90
6:30 p.m.	Temp. 84°F	Wind = 8-10 W	%Clear = 75-90
Survey 1			
Date	July 6, 2017		
Surveyor	Jerry Selby		
Time	9:33 a.m. – 12:50 p.m.	3 hr.12 min	
Weather			
9:33 a.m.	Temp. 82°F	Wind = 1-3 S	%Clear = 90-100
12:50 p.m.	Temp. 84°F	Wind = 10-12 WNW	%Clear = 75-90
Survey 1			
Date	July 6, 2017		
Surveyor	Jerry Selby		
Time	2:05 p.m. – 2:28 p.m.	0 hr 23 min	
Weather			
2:05 p.m.	Temp. 86°F	Wind = 10-12 NW	%Clear = 90-100
2:28 p.m.	Temp. 86°F	Wind = 10-12 NW	%Clear = 90-100

Primary Target Species Observed: None, No Dakota skippers or Poweshiek skipperlings

Survey Comments:

Butterfly activity was relatively low during at the first survey but had high activity during the last survey. Non-target skippers such as *Polites mystic* were present in vegetation along the intermittent stream that cuts through this parcel. Regal fritillaries and wood nymphs were observed in good numbers during all surveys but were highest during the last survey. No Dakota skippers or Poweshiek skipperlings were observed during any of the surveys conducted on these parcels.

T118 R58 Section 23 - Slopes and ridges that make up the area surveyed exhibit abundant native grasses and forbs. There are additional habitat areas further north and west, but they appear to be degraded by current and past grazing practices. Therefore, based on the relatively small size and isolation of this area, long term support of populations of Dakota skippers and Poweshiek skipperlings is less likely than that quality of the area might suggest.

T119 R59 Section 26 - Survey conditions were generally good for most of the survey. Increasing wing was a moderate factor on hill tops and slope ridges at times towards the end of the survey. Butterfly activity was moderate. Slopes and ridges along the valley system harbor good quality prairie but this habitat is somewhat isolated from more extensive areas further west, southwest, and south.

T118 R58 Section 2 – This survey areas targeted five small habitat areas mapped during the Phase 1 Habitat Assessment. The sites exhibited good quality prairie on hill slopes and in a matrix of more disturbed rolling areas.

Selby		**Site Location** T118 R58 Sec. 23	**Site Location** T119 R59 Sec. 26	**Site Location** *T118 R58 Sec. 2*	
Species Observed (Binomial)	**Common name**	**Survey 1 (7/1)**	**Survey 1 (7/6)**	**Survey 1 (7/10)**	**Total**
Unknown skipper	Unknown skipper				0
Polites mystic	Long-dash skipper				0
Polites origenes	Crossline skipper		1		1
Polites peckius	Peck's skipper				0
Polites themistocles	Tawny-edged skipper				0
Ancyloxypha numitor	Least skipper				0
Belloria bellona	Meadow fritillary			2	2
Cercyonis pegala	Common wood nymph		7	11	18
Colias eurytheme	Orange sulphur		9	6	15
Colias sp.	sulphur sp.	2	4	1	7
Coenonympha tullia	Common ringlet				0
Cupido comyntas	Eastern tailed-blue			1	1
Danaus plexippus	Monarch				0
Echinargus isola	Reakirt's blue				0
Euptoieta claudia	Variegated fritillary	1		4	5
Glaucopsyche lygdamus	Silvery blue				0
Junonia coenia	Common buckeye				0
Papilio polyxenes	Black swallowtail				0
Pieris rapae	Cabbage white				0
Phyciodes tharos	Pearl crescent				0
Plebejus melissa	Melissa blue				0
Pontia protodice	Checkered white				0
Satyrium titus	Coral hairstreak				0
Satyrodes eurydice	Eyed brown				0
Speyeria cybele	Great spangled fritillary				0
Speyeria aphrodite	Aphrodite fritillary				0
Speyeria idalia	Regal fritillary	2	10	26	38
Vanessa atalanta	Red admiral				0
Vanessa cardui	Painted lady				0
Vanessa virginiensis	American painted lady				0
Total Count		**5**	**31**	**51**	**87**
Total Species		**3**	**4**	**7**	**7**
Total Hours		**0.8**	**3.2**	**1.17**	**5.17**
Observations/Hour		**6.25**	**9.69**	**43.59**	**16.83**

Target Species Observed None

Crocker Wind

Table 6 – Details on Surveys Conducted at Site Crocker Wind T118 R58 Sec. 5, T119 R58 Sec. 19, T119 R59 Sec. 36

Survey 1			
Clark County, South Dakota			
Date	July 6, 2017		
Surveyor	Jerry Selby		
Time	3:20 p.m. – 5:55 p.m.	2 hr.35 min.	2.58hrs
Weather			
3:20 p.m.	Temp. 88°F	Wind = 7-9 NW	%Clear = 90-100
5:55 p.m.	Temp. 85°F	Wind = 11-13 NW	%Clear = 75-90
Survey 1			
Date	July 7, 2017		
Surveyor	Jerry Selby		
Time	10:00 a.m. – 11:30 a.m.	1 hr.53 min	1.88hrs
Weather			
10:00 a.m.	Temp. 73°F	Wind = 5-7 NW	%Clear = 90-100
11:30 a.m.	Temp. 77°F	Wind = 8-10 NW	%Clear = 90-100
Survey 1			
Date	July 7, 2017		
Surveyor	Jerry Selby		
Time	12:55 p.m. – 3:55 p.m.	2 hr 55 min	
Weather			
12:55 p.m.	Temp. 77°F	Wind = 8-10 NW	%Clear = 90-100
3:55 p.m.	Temp. 84°F	Wind = 3-5 NW	%Clear = 90-100

Primary Target Species Observed: None, No Dakota skippers or Poweshiek skipperlings

Survey Comments:

Survey conditions were generally good for most surveys. Increasing wind was a factor at times when searches occurred on slope crests or hill tops. Butterfly activity was moderately good on all sites. No Dakota skippers or Poweshiek skipperlings were observed during any of the surveys conducted on these parcels.

T118 R58 Section 5 – The survey area includes a mix of quality prairie associated with slopes and ridges. Based on the size and quality of this area, there is potential for Dakota skippers and Poweshiek skipperlings. However, the isolation from other quality habitat areas reduces the prospect for long term survival and given the survey results on other larger sites within the Project with high quality habitat Dakota skippers and Poweshiek skipperlings are unlikely to occur.

T119 R58 Section 19 - The survey area includes a mix of quality prairie associated with slopes and ridges. Based on the size and quality of this area, there is potential for Dakota skippers and Poweshiek skipperlings. However, isolation from other quality habitat areas reduces the likelihood of occurrence and given the survey results on other larger sites within the Project with high quality habitat Dakota skippers and Poweshiek skipperlings are unlikely to occur.

T119 R59 Section 36 – This survey areas targeted five small habitat areas mapped during the Phase 1 Habitat Assessment. The sites exhibited good quality prairie on hill slopes and on hill tops. There is some habitat on slopes further southwest of these areas but it is unlikely that the target species occur in this general area.

Selby		**Site Location** T118 R58 Sec. 5	**Site Location** T119 R58 Sec. 19	**Site Location** *T119 R59 Sec. 36*	
Species Observed (Binomial)	**Common name**	**Survey 1 (7/6)**	**Survey 1 (7/7)**	**Survey 1 (7/7)**	**Total**
Unknown skipper	Unknown skipper		1		1
Polites mystic	Long-dash skipper				0
Polites origenes	Crossline skipper				0
Polites peckius	Peck's skipper				0
Polites themistocles	Tawny-edged skipper				0
Ancyloxypha numitor	Least skipper			1	1
Belloria bellona	Meadow fritillary	1	7	1	9
Cercyonis pegala	Common wood nymph	27	17	21	65
Colias eurytheme	Orange sulphur	4	3	12	19
Colias sp.	sulphur sp.			4	4
Coenonympha tullia	Common ringlet				0
Cupido comyntas	Eastern tailed-blue			2	2
Danaus plexippus	Monarch	1		4	5
Echinargus isola	Reakirt's blue				0
Euptoieta claudia	Variegated fritillary	2		6	8
Glaucopsyche lygdamus	Silvery blue				0
Junonia coenia	Common buckeye				0
Papilio polyxenes	Black swallowtail				0
Pieris rapae	Cabbage white				0
Phyciodes tharos	Pearl crescent				0
Plebejus melissa	Melissa blue				0
Pontia protodice	Checkered white				0
Satyrium titus	Coral hairstreak				0
Satyrodes eurydice	Eyed brown				0
Speyeria cybele	Great spangled fritillary				0
Speyeria aphrodite	Aphrodite fritillary				0
Speyeria idalia	Regal fritillary	28	19	19	66
Vanessa atalanta	Red admiral				0
Vanessa cardui	Painted lady				0
Vanessa virginiensis	American painted lady				0
Total Count		**63**	**47**	**70**	**180**
Total Species		**6**	**5**	**8**	**10**
Total Hours		**2.58**	**1.88**	**2.92**	**7.38**
Observations/Hour		**24.42**	**25.00**	**23.97**	**24.39**

Target Species Observed None

Crocker Wind

Table 7 – Details on Surveys Conducted at Site Crocker Wind T119 R58 Sec. 30, T119 R58 Sec. 16

Survey 1			
Clark County, South Dakota			
Date	July 6, 2017		
Surveyor	Jerry Selby		
Time	2:05 p.m. – 2:28 p.m.	0 hr.23 min.	0.38hrs
Weather			
2:05 p.m.	Temp. 86°F	Wind = 10-12 NW	%Clear = 90-100
2:28 p.m.	Temp. 86°F	Wind = 10-12 NW	%Clear = 90-100
Survey 1			
Date	July 10, 2017		
Surveyor	Jerry Selby		
Time	10:15 a.m. – 12:45 p.m.	2 hr.30 min	2.5hrs
Weather			
10:15 a.m.	Temp. 73°F	Wind = 6-8 N	%Clear = 75-90
12:45 p.m.	Temp. 81°F	Wind = 6-8 N	%Clear = 75-90

Primary Target Species Observed: None, No Dakota skippers or Poweshiek skipperlings

Survey Comments:

Survey conditions were generally good for these surveys. Butterfly activity was good at both sites. No Dakota skippers or Poweshiek skipperlings were observed during any of the surveys conducted on these parcels.

T119 R58 Sec. 30– Habitat quality was poor due to severe grazing impacts. The composition of the area might provide potential for improvement with proper management. However, given the current condition, there is little or no potential for Dakota skippers and Poweshiek skipperling. Habitat conditions improve further east but eh prospect of these areas harboring target species is low due to the limited extent of quality habitat in this areas and its isolation from other more extensive habitat areas.

T119 R58 Sec. 16- Habitat quality was good in the southwest, fair to good in the north, fair in the east and poor along the southern portion of the site. Adjacent areas exhibit poor quality habitat due to grazing pressure and the lack of forbs present.

Selby		**Site Location** T119 R58 Sec. 30	**Site Location** T119 R58 Sec. 16	
Species Observed (Binomial)	**Common name**	**Survey 1 (7/6)**	**Survey 2 (7/10)**	**Total**
Unknown skipper	Unknown skipper			0
Polites mystic	Long-dash skipper	1		1
Polites origenes	Crossline skipper			0
Polites peckius	Peck's skipper			0
Polites themistocles	Tawny-edged skipper			0
Ancyloxypha numitor	Least skipper			0

Selby		Site Location T119 R58 Sec. 30	Site Location T119 R58 Sec. 16	
Species Observed (Binomial)	**Common name**	**Survey 1 (7/6)**	**Survey 2 (7/10)**	**Total**
Belloria bellona	Meadow fritillary			0
Cercyonis pegala	Common wood nymph	2	57	59
Colias eurytheme	Orange sulphur	1	6	7
Colias sp.	sulphur sp.		6	6
Coenonympha tullia	Common ringlet			0
Cupido comyntas	Eastern tailed-blue			0
Danaus plexippus	Monarch			0
Echinargus isola	Reakirt's blue			0
Euptoieta claudia	Variegated fritillary	1	3	4
Glaucopsyche lygdamus	Silvery blue			0
Junonia coenia	Common buckeye			0
Papilio polyxenes	Black swallowtail			0
Pieris rapae	Cabbage white			0
Phyciodes tharos	Pearl crescent			0
Plebejus melissa	Melissa blue			0
Pontia protodice	Checkered white			0
Satyrium titus	Coral hairstreak			0
Satyrodes eurydice	Eyed brown			0
Speyeria cybele	Great spangled fritillary			0
Speyeria aphrodite	Aphrodite fritillary			0
Speyeria idalia	Regal fritillary	3	32	35
Vanessa atalanta	Red admiral			0
Vanessa cardui	Painted lady			0
Vanessa virginiensis	American painted lady			0
Total Count		**8**	**104**	**112**
Total Species		**4**	**5**	**5**
Total Hours		**0.38**	**2.5**	**2.88**
Observations/Hour		**21.05**	**41.60**	**38.89**

Target Species Observed None