

Minnesota Power 2018 Wildlife Impact Report **For the Bison 1, 2, 3 & 4 Wind Facilities**

Bison 1 (PU-09-151), Bison 2 (PU-11-57), Bison 3 (PU-11-162), Bison 4 (PU-13-127)



A WIND ENERGY INITIATIVE OF MINNESOTA POWER IN NORTH DAKOTA



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Minnesota Power 2018 Wildlife Impact Report

Introduction

Throughout 2018 Minnesota Power (an operating division of ALLETE, Inc.) has been operating wind energy conversion facilities (Facilities) in west central North Dakota. As part of Minnesota Power's commitment to environmental stewardship and continual evaluation of facility impacts, regular wildlife inspections are performed at its Facilities throughout the year. The following is Minnesota Power's 2018 Annual Wildlife Impact Report which reviews the wildlife inspection results for the Bison 1, 2, 3 and 4 Facilities in North Dakota.

In 2018 Minnesota Power's Bison 1 (81.8 MW), Bison 2 (105 MW), Bison 3 (105 MW) and Bison 4 (204.8 MW) Facilities were all operational. The four Facilities combine for a total of 165 turbines. A Bison 1, 2, 3 & 4 Facility (Bison) map is included as Figure 1. This annual Wildlife Impact Report covers all Bison turbines and associated infrastructure.

This report has been developed for Minnesota Power's use and is distributed to personnel or agencies outlined in this report. The Minnesota Power 2018 Wildlife Impact Report is reviewed by Minnesota Power environmental staff, Bison Facility personnel and management. It is used to analyze potential avian or bat impacts to determine if adaptive management measures are required for either the entire Facility or individual Facility structures.

Minnesota Power provides copies of this report to the North Dakota Public Service Commission under each project Docket Number to be incorporated into their records. A Wildlife Impact Report is generated by January 15th of each year for the operational life of Minnesota Power's Bison Facilities.

Inspections/Data Collection

This 2018 Wildlife Impact Report includes data collected from all 165 operational turbines at the Bison Facility, as well as data collected from the Bison Operations and Maintenance (O&M) facility, the Bison and Tri-County Substations (substations) and four permanent meteorological (met) towers. Each turbine, O&M facility and substation are inspected for avian and bat mortality, by ALLETE personnel or contractors, at a frequency of at least once per month. Some structures, such as the substations and O&M facility, were inspected at a higher frequency. When a carcass is found it is left at its location, photographed and a Bison Wildlife Impact Form is completed.

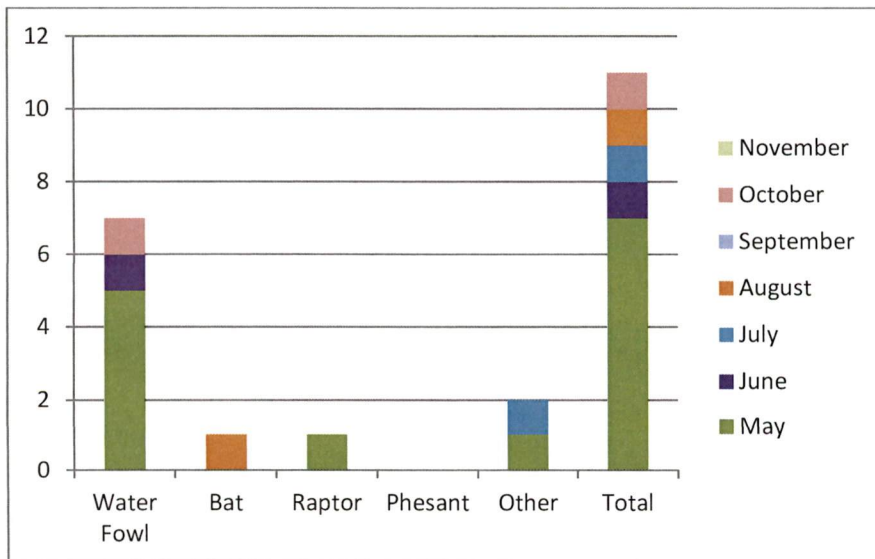
Each carcass's completed Bison Wildlife Impact Report Form and associated photos were entered into Minnesota Power's 2018 Wildlife Incident Database. Those results are summarized in this report. Individual fatality information can be found in the Bison Wildlife Impact Report Forms located in Appendix A. In addition, monthly inspection cycle results for 2018 are included in the Wildlife Inspection Table (Appendix B).

The total wildlife fatalities for 2018 were 11, one bat fatality was recorded and 10 bird fatalities were recorded. Specific data for each incident and species can be found in the Bison Wildlife Impact Reports (Appendix A).

Results

After reviewing the inspection/fatalities records, no turbine, structure or location showed an elevated risk for avian or bat mortality when compared to surrounding Bison Facility structures. Mortality appears to be dispersed throughout the Bison Facility. One bat carcasses was found in August 2018 which coincides with fall migratory activity. Duck carcasses were more prevalent during spring migration, however an increase was not observed during fall migration when avian species are typically most vulnerable to collision. The 2018 results are as shown in Table 1-1 below.

Table 1-1:
2018 Avian Carcasses Found at Minnesota Power’s Bison Facility



Based on the data available for Minnesota Power’s Bison Facilities, there is no conclusive evidence that would indicate additional adaptive management activities should occur. It appears, from the data provided, that the Bison Facility poses a low risk to surrounding and migrating avian and bat populations.

Figure 1

-Bison 1, 2, 3 & 4 Project Area

Minnesota Power Bison 1, 2, 3 & 4 Project Area

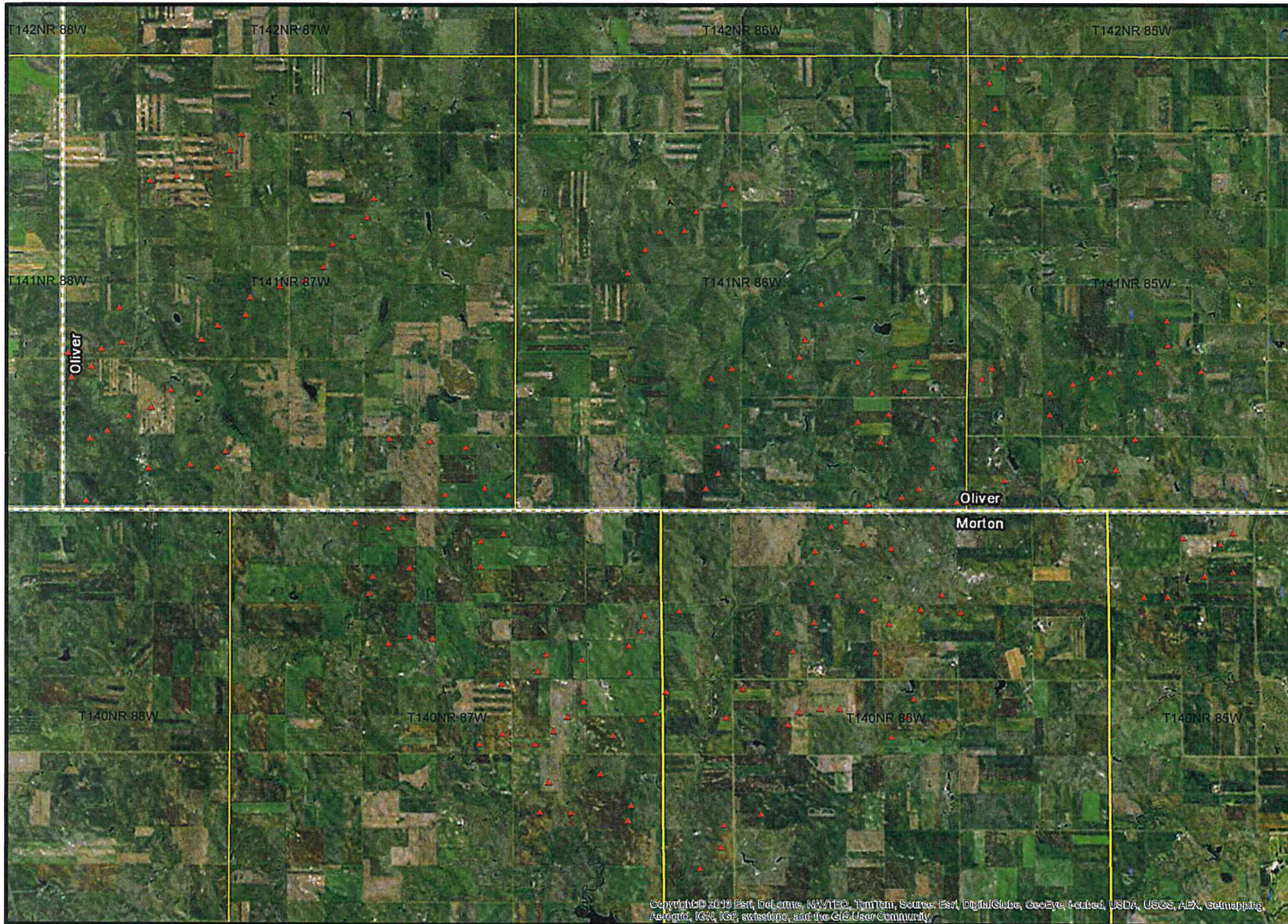


Figure 1

Legend

- ▲ MP Bison Wind Turbines
- Townships



3 Miles



Appendix A

-Wildlife Impact Reports



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 5-2018(1)	<u>Date:</u> 5-8-2018	<u>Time of Day</u> 1419	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> 3200	<u>Date Notification Was Given</u> 5-5-2018	<u>Structure #</u> 19	<u>Latitude/Longitude</u> 46.973866 -101.532074
<u>Location Remarks:</u> On Transformer pad.			
<u>Species:</u> Mallard			
<u>Physical Condition:</u> Missing head	<u>Estimated Time Since Death:</u> 2-3 days	<u>Estimated Date of Injury:</u> 5-1-2018	<u>Name of Respondent:</u> Philip Miller
<u>Other Notes:</u>			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 5-2018(2)	<u>Date:</u> 5-8-2018	<u>Time of Day</u> 1418	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> 3200	<u>Date Notification Was Given</u> 5-8-2018	<u>Structure #</u> 320	<u>Latitude/Longitude</u> 46.956797 -101.667232
<u>Location Remarks:</u> On Turbine Pad, 25' or so north of the tower.			
<u>Physical Condition:</u> In piece	<u>Estimated Time Since Death:</u> 1 week +	<u>Estimated Date of Injury:</u> 5-1-2018	<u>Name of Respondent:</u> Philip Miller
<u>Other Notes:</u> Mallard			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 5-2018(3)	<u>Date:</u> 05/08/18	<u>Time of Day</u> 2:00	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u>	<u>Date Notification Was Given</u>	<u>Structure #</u> 445	<u>Latitude/Longitude</u> 47.0007715384/-101.7396629
<u>Location Remarks:</u> The bird was located approximately 75ft. to the SW of the tower.			
<u>Physical Condition:</u> Deceased	<u>Estimated Time Since Death:</u> 5 Days	<u>Estimated Date of Injury:</u>	<u>Name of Respondent:</u> Andrew Horst
<u>Other Notes:</u> Mallard			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 5-2018(4)	<u>Date:</u> 5/7/2018	<u>Time of Day</u> 11:30 a.m.	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> 3200	<u>Date Notification Was Given</u> 5/8/2018	<u>Structure #</u> 430	<u>Latitude/Longitude</u> 47.038381 -101.586874
<u>Location Remarks:</u> Located 30-35 feet NW of tower base.			
<u>Physical Condition:</u> Starting to deteriorate	<u>Estimated Time Since Death:</u> 7 days	<u>Estimated Date of Injury:</u> 5/1/2018	<u>Name of Respondent:</u> Ryan Zachmeier
<u>Other Notes:</u> Mallard			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 5/2018 (5)	<u>Date:</u> 5-9-2018	<u>Time of Day</u> 12:00	<u>Injury/Fatality:</u> fatality
<u>Notification Given to</u> Breyden Popp (ALLETE)	<u>Date Notification Was Given</u> 5-6-2018	<u>Structure #</u> 316	<u>Latitude/Longitude</u> 46.953451 -101.628801
<u>Location Remarks:</u> Located 75 yards to the southeast of the pad mount transformer			
<u>Physical Condition:</u> Deceased	<u>Estimated Time Since Death:</u> 1 Month	<u>Estimated Date of Injury:</u> 4-6-2018	<u>Name of Respondent:</u> Breyden Popp (ALLETE)
<u>Other Notes:</u> Mallard			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 5-2018(6)	<u>Date:</u> 05-25-2018	<u>Time of Day</u> 1330	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> 3200	<u>Date Notification Was Given</u> 05-25-2018	<u>Structure #</u> 420	<u>Latitude/Longitude</u> 47.008236, -101.576786
<u>Location Remarks:</u> 150' East of tower base			
<u>Physical Condition:</u> Deceased	<u>Estimated Time Since Death:</u> <24hrs	<u>Estimated Date of Injury:</u> 05/24/2018	<u>Name of Respondent:</u> Brant Nettleton
<u>Other Notes:</u> Species - Goshawk			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 5-2018(7)	<u>Date:</u> 5/24/2018	<u>Time of Day</u> 13:50	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> Ben Reister & 3200	<u>Date Notification Was Given</u> 5/25/2018	<u>Structure #</u> 430	<u>Latitude/Longitude</u> - 47.038381 -101.586874
<u>Location Remarks:</u> - The bird was 500 feet east of tower 430 on the string road.			
<u>Physical Condition:</u> Decayed	<u>Estimated Time Since Death:</u> 3+weeks	<u>Estimated Date of Injury:</u> 5/7/2018	<u>Name of Respondent:</u> Mitchell Bettenhausen
<u>Other Notes:</u> Snipe			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 6-2018(1)	<u>Date:</u> 6/22/2018	<u>Time of Day</u> 11:00	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> 3200	<u>Date Notification Was Given</u> 6/22/2018	<u>Structure #</u> 26	<u>Latitude/Longitude</u> 47.00958 -101.54146
<u>Location Remarks:</u> Approximately 150 feet east of T26.			
<u>Physical Condition:</u> Decaying	<u>Estimated Time Since Death:</u> 1 week	<u>Estimated Date of Injury:</u> 6/15/2018	<u>Name of Respondent:</u> Ben Reister
<u>Other Notes:</u> Snow Goose			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 7-2018(1)	<u>Date:</u> 7/9/2018	<u>Time of Day</u> 9:00	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> 3200	<u>Date Notification Was Given</u> 7/9/2018	<u>Structure #</u> 324	<u>Latitude/Longitude</u> 46.970006 -101.667149
<u>Location Remarks:</u> 30ft Northeast of turbine base.			
<u>Physical Condition:</u> Deceased	<u>Estimated Time Since Death:</u> 3 days	<u>Estimated Date of Injury:</u> 3 days	<u>Name of Respondent:</u> Thomas Friesz
<u>Other Notes:</u> Killdeer			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 8-2018(1)	<u>Date:</u> 8/10/18	<u>Time of Day</u> 13:00	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> 3200	<u>Date Notification Was Given</u> 8/10/18	<u>Structure #</u> 207	<u>Latitude/Longitude</u> 46.9889499863 -101.468986982
<u>Location Remarks:</u> South East of the tower 207 about 15 feet.			
<u>Physical Condition:</u> Decaying	<u>Estimated Time Since Death:</u> 1 week	<u>Estimated Date of Injury:</u> 1 week	<u>Name of Respondent:</u> Michael Thompson
<u>Other Notes:</u> Bat			



ALLETE Wildlife Impact Report Form

<u>ALLETE Wind Facility Name</u>			
<u>Entry Number</u> 10-2018(1)	<u>Date:</u> 10/1/2018	<u>Time of Day</u> 1600	<u>Injury/Fatality</u> Fatality
<u>Notification Given to</u> 3200	<u>Date Notification Was Given</u> 10-1-2018	<u>Structure #</u> 313	<u>Latitude/Longitude</u> 46.944350/-101.618353
<u>Location Remarks:</u> Located approximately 65 feet directly north of the tower on gravel pad			
<u>Physical Condition:</u> Decaying	<u>Estimated Time Since Death:</u> 1 week to 10 days	<u>Estimated Date of Injury:</u> 1 week to 10 days ago	<u>Name of Respondent:</u> Alex Gilbert
<u>Other Notes:</u>			

ELM Follow up/Confirmation

<u>Date:</u> 10/9/2018	<u>Perillon Entry Date:</u> 10/9/2018	<u>Responding ELM staff:</u> Zach Golkowski
<u>Species Confirmation:</u> American Coot	<u>Threatened or Endangered:</u> No	<u>Agencies contacted:</u> None
<u>Action Items:</u> No further action items	<u>Carcass Preservation actions:</u> Leave the carcass as is unless there is a threat to safety or environment.	<u>Other Notes:</u>

Appendix B

-Wildlife Inspection Table

