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7 March 2018 National Elk Refuge Biological Update 2018 Late Winter Status Report: No Supplemental Feeding Necessary to Date

Prepared by Eric Cole, National Elk Refuge Biologist

Summary of Current Conditions:

National Elk Refuge and Wyoming Game and Fish Department staff have been monitoring snow conditions, forage availability, and elk and bison distribution, and we have determined that supplemental feeding on the Refuge is not necessary at this time. For historical perspective, the latest that the Refuge has initiated feeding is February 28, and there have been 9 winters in the history of the Refuge where no feeding has occurred at all.

3,523 elk and 350 bison were observed on the southern half of NER during recent counts, and elk GPS collar data suggests that large numbers of elk are using the northern portion of the Refuge (Figure 1). Although elk use of northern NER is not typical this time of year, it is a natural consequence of mild winter conditions, and is consistent with general Refuge goals to encourage elk use of native winter range and to reduce reliance on supplemental feeding. More details are provided below:

Forage Availability and Feeding Start Date:

WGFD biologist Aly Courtemanch and I cooperatively monitor snow and forage conditions to determine when supplemental feeding is necessary. The recommendation to begin supplemental feeding is based on criteria that are mutually agreed upon between the Refuge and Wyoming Game and Fish Department. These criteria state that when average available forage declines to 300 lbs. per acre at key index sites, supplemental feeding is typically warranted, but feeding start date can also be influenced by elk behavior or other factors.

This season we have monitored available forage on 12/28/2017 (2,282 lbs/acre); 1/9/2018 (1,645 lbs./acre); 1/22/2018 (1,228 lbs./acre); 1/31/2018 (928 lbs./acre); 2/6/2018 (890 lbs/acre); 2/20/2018 (768 lbs./acre); 2/27/2018 (488 lbs./acre) and 3/6/2018 (430 lbs./acre). Because elk and bison numbers have been relatively low on southern NER (January to current average 4,375 elk and 125 bison), the rate of decline in available forage has been relatively slow compared to previous years. Recent storms have temporarily returned us to winter conditions with 8" average snow depth on the south end of NER. This is close to the long term average for snow depth on the Refuge at this time of year, but unlike typical conditions in early March, current snow pack is powdery and not limiting elk and bison access to forage. Forecasts call for warming temperatures through the middle of next week. WGFD and NER staff will continue to monitor conditions closely, but feeding is not warranted at this time.

For historical comparison, the 10-year average feeding start date is 24 January. The earliest feeding start date in recent decades was 31 December 2003 and latest feeding start date was 28 February 2005. There have been 9 winters that NER has not fed at

all (the last of which was in 1981). Years where no feeding occurred were generally associated with shallow valley snow-pack and/or low elk numbers on the Refuge.

Elk Winter Mortality to Date

Winter elk mortality has been well below average to date: Through 4 March 2018, we have documented only 50 total winter elk mortalities on the Refuge this season. 43 of these were mature bulls with 39 out of 43 of the bulls succumbing to hypothermia and weakened condition associated with hair loss caused by scabies. 6 cows, 1 spike bull and zero calf mortalities have been documented to date. This level of elk mortality is remarkably low for wintering ungulates, and is indicative of mild winter conditions this year.

Signs of Spring

The first horned larks of the season were observed north of Miller Butte on 6 March 2018.

Eric Cole

Refuge Biologist
U.S. Fish & Wildlife Service, National Elk Refuge
Jackson, WY
307.201.5432

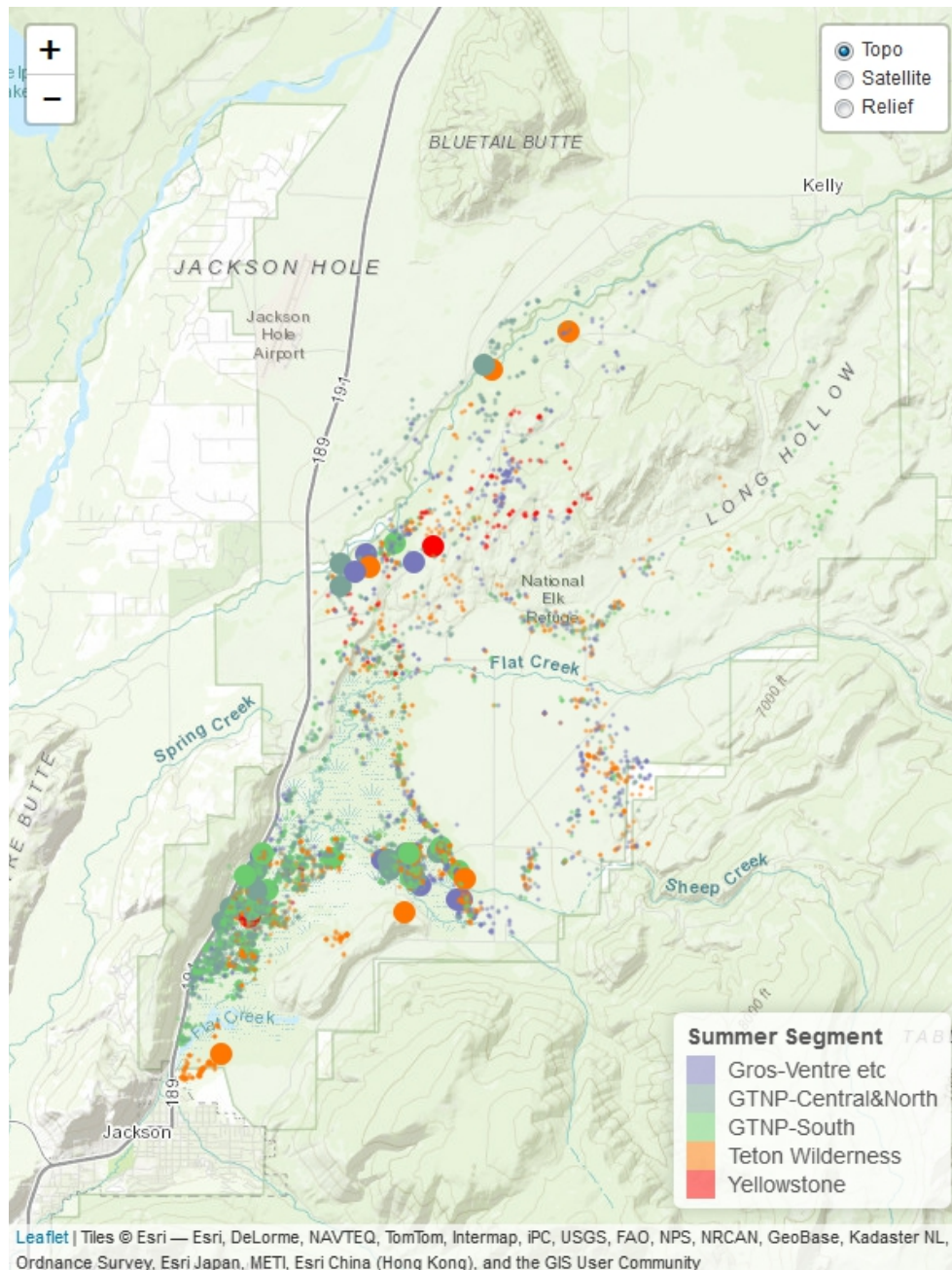


Figure 1. Locations for GPS collared elk as of 4 March 2018 (n=45 elk collared on NER in 2016 and 2017). Large dots show the location on 4 March 2018, and small dots indicate locations in the 10 days prior to the most recent location. This shows that ~25% of GPS collared elk were using the North end of NER on 4 March 2018. Concurrently on 4 March 2018 we counted ~3,500 elk on the south end of NER. Map courtesy of US Fish and Wildlife Service National Elk Refuge and National Park Service Grand Teton National Park.