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## **9 January 2018 National Elk Refuge Biological Update: A Description of Mild Winter Conditions and Associated Elk Distribution**

**Eric K. Cole, Refuge Biologist National Elk Refuge, USFWS**

In summary, mild winter conditions and very low snow-pack at low to mid elevations in Jackson Hole have resulted in below average numbers of elk and bison on the refuge throughout the fall and early winter. There is still ample forage available on the National Elk Refuge, and supplemental feeding is not necessary at this time. Details are provided below:

### **Snow/Forage Measurements and Supplemental Feeding Start Date**

Current snow pack depth at the Refuge Headquarters monitoring site is 1.9 inches. This is well below the 10-year average of 8.5 inches (range 1.9 to 13.7 inches) for 9 January at this site.

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 entail 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.

Average available forage by date from measurements at key index sites:

11/26/2017: 3,060 lbs. per acre

12/28/2017: 2,283 lbs. per acre

1/9/2018: 1,645 lbs. per acre

This year the decline in available forage over time has been almost entirely related to elk foraging activity. Typically snow conditions and bison foraging activity also play a role, but both have had negligible influence on available forage to date. As of 1/9/2018 we are still well above the 300 lbs. per acre threshold for available forage, and supplemental feeding is not necessary at this time.

### **Unusual Jackson Hole Elk Distribution in early January**

The number of elk counted on NER has been below average throughout the fall and early winter period. During the first week of January, the average number of elk counted on the southern half of the Refuge was 3,325 (range 2,515-4,107 elk), which is approximately 1,000 fewer elk than typical for this time of year. Low numbers of elk on NER likely does not indicate a reduction in the Jackson Elk Herd population, but instead suggests a late elk migration to NER associated with mild winter conditions.

There are currently 48 GPS collared elk on the air that were originally captured on NER feedgrounds in 2016-2017. Elk GPS collar locations suggest a higher than typical percentage of elk that winter on NER have yet to migrate to the Refuge. As of 3 January 2018, 19 out of 48 (40%) GPS collared elk were still on summer or transitional range.

12 of the collared elk that had yet to migrate to NER were Short-Distance Migrants (**SDM** elk that summer in the Snake River corridor between Wilson, WY and Beaver Creek in southern Grand Teton National Park). These collared SDM elk were generally located in the vicinity of the airport and north of Spring Gulch as of 3 January 2018.

The remaining 7 GPS collared elk that had not migrated to NER represented a variety of summering segments; their summer range and general location as of 3 Jan 2018:

- 1) Central GTNP summer range; located southern GTNP adjacent to Refuge on 3 Jan 2018
- 2) Eastern GTNP summer range; located north of Spring Gulch on 3 Jan 2018
- 3) Eastern GTNP summer range; located on Elk Island in Jackson Lake 3 Jan 2018
- 4) Southern Gros Ventre summer range; located near Lower Slide Lake 3 Jan 2018
- 5) Teton Wilderness summer range; located Shadow Mountain 3 Jan 2018
- 6) Teton Wilderness summer range; located west of Triangle X ranch GTNP 3 Jan 2018
- 7) Thorofare summer range; located near Snake River Overlook GTNP 3 Jan 2018

Late arrival of elk that were originally collared on NER feedgrounds provides further evidence that supplemental feeding is not necessary at this time. It suggests that adequate forage is still available off the refuge.

### **Other Ungulates**

There has been no significant bison activity on NER since April 2017. As of last week most of the Jackson Bison Herd was in the Elk Ranch area in Grand Teton National Park.

We observed 61 pronghorn on southern NER on 17 December 2017, and an average of 50 pronghorn has been observed during weekly surveys from late December through the first week in January.

The number of bighorn sheep visible from the Refuge road near Miller Butte has declined in recent weeks from a high of 64 on 12 Dec 2017 to an average of 27 in early January 2018.