Mule Deer Research
Progress Report 4/10/2013
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Capture/Data Collection

We have collected nearly 20,000 GPS locations on 88 female mule deer (60 adults, 28 fawns). Although I am not analyzing movements yet, many of the collared deer have remained within a small area (<2 mi^2) since capture. Only 4 deer have moved more than 5 miles (max = 12 miles).

Survival

Of the 90 deer we captured, 1 adult doe (mountain lion predation) and 4 fawns died in the first 30 days post-capture. We will remove at least 2 fawns from our study because they died too near the capture date to rule out capture-related mortality. We will do necropsies on the two additional fawns and will only include those if we can determine that capture-related stress did not cause the mortalities.

We have had 3 fawns die more than 30 days post-capture (not capture-related). I arrived in the field to locate these within 12 hours of the mortalities, but only one was intact enough to collect for a necropsy. Insufficient remains were found on the other two due to predation &/or scavenging by coyotes.

ALL of the fawn mortalities up to present were north of the McKenzie county line, closer to the Bakken oil activity (see attached map). Likely due to more prolonged, deeper snow cover in the northern badlands.

Pregnancy Tests

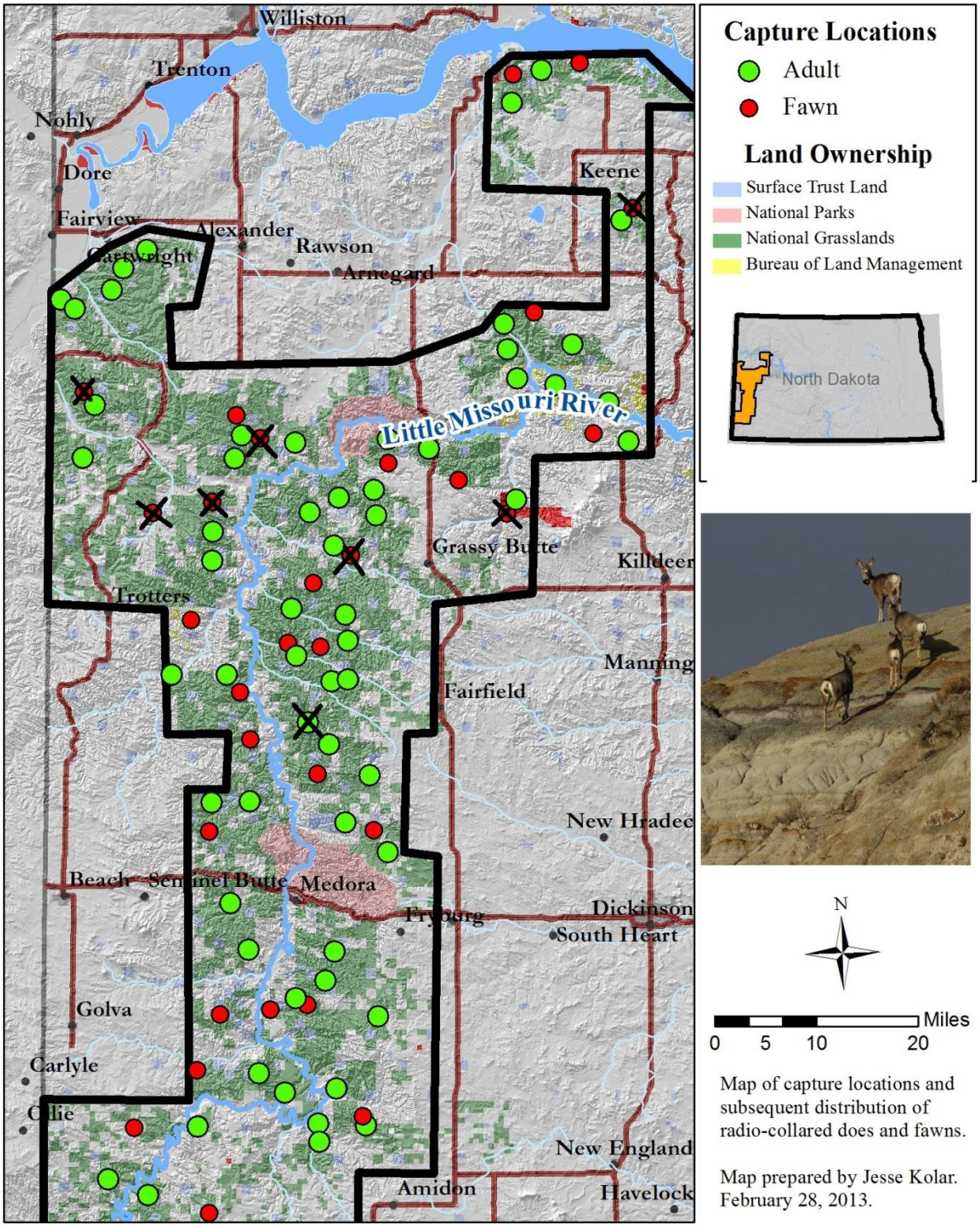
Of the 60 adult does captured, blood tests revealed that at least 59 were pregnant. One test had lower levels of protein B (only present in pregnant animals) which likely indicates an aborted fetus or a poor sample. Note: the blood test does not detect presence of twins, but merely gives a categorical (+/-) pregnancy result. We collected this data to assure does were getting bred, and to determine that low recruitment is not a result of low buck numbers.

Mule Deer Surveys

I have developed three additional mule deer survey units to be flown for this year's aerial surveys. The areas are located 1) along Lake Sakakawea near Tobacco Gardens, 2) in the Mondak Oil Field SW of Sathers Dam, and 3) between Porcupine and Prairie Dog Creeks NE of Trotters. We will use these units along with the established survey units to estimate deer abundance across our entire study area.

In addition, we will be digitizing our mule deer surveys this year by saving GPS waypoints for each observed deer group. This geographic data will help to analyze deer abundance relative to varying levels of development within survey units. We will also analyze detectability by determining whether or not each radio-collared deer was observed during the survey.

Mule Deer Capture Locations 2013



Map of capture locations and subsequent distribution of radio-collared does and fawns.

Map prepared by Jesse Kolar. February 28, 2013.

The X's show the distribution of mortalities for radio-collared deer through 4/10/2013.