



Sharp-tailed Grouse Production on the Grand River National Grasslands

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Grand River National Grasslands

- Approximately 155,000 acres
- Much of this land was purchased by the federal government in the 1930's following the dust bowl era



Grand River National Grasslands

- Varies in vegetation composition from east to west
 - Many of the western acres were replanted with non-native crested wheatgrass
 - Eastern portion consists of more diverse native plant species with some non-native encroachment
- Common Plant Species Present
 - Western wheatgrass
 - Side-oats grama
 - Blue grama
 - Silver sagebrush
 - Little bluestem
 - Western snowberry
 - Crested wheatgrass
 - Kentucky bluegrass

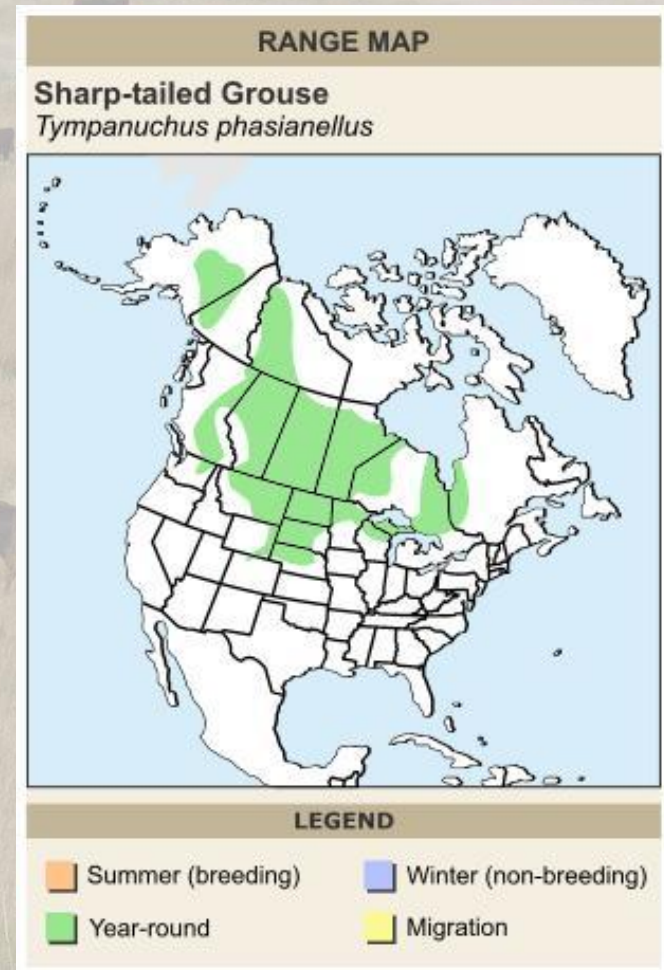
Grand River National Grasslands

- A part of the Dakota Prairie Grasslands
- Managed by the United States Forest Service
- Many management goals, but is primarily managed to sustain a natural resource base for all American Citizens
- Primary management tool is livestock grazing



Sharp-tailed Grouse

- Native Upland Gamebird
- Primarily prefer areas of expansive unfragmented grassland
- Polygamous species that gathers each spring on leks



Sharp-tailed Grouse and the Grand River Grasslands

- **GOAL: Provide ecological conditions to sustain viable populations of native and desired non-native species and to achieve objectives for Management Indicator Species** (Northern Great Plains Management Plans Revision 2002)
- **Management Indicator Species** — A plant or animal species selected because their status is believed to (1) be indicative of the status of a larger functional group of species, (2) be reflective of the status of a key habitat type, or (3) act as an early warning of an anticipated stressor to ecological integrity. The key characteristic of a MIS species is that its status and trend provide insights to the integrity of the larger ecological system to which it belongs (Sharp-tailed Grouse)

Variables Measured to Achieve Goal

- **GOAL: Provide ecological conditions to sustain viable populations of native and desired non-native species and to achieve objectives for Management Indicator Species (MIS)**
 - Objective: Within 15 years, demonstrate positive trends in population viability, habitat availability, habitat quality, and population distribution within the planning area for MIS
- Forest Service conducts annual lek counts within permanent randomly selected blocks
- Measure **STRUCTURE** using a Robel pole in the fall of each year
 - Forest service strives to maintain 20 to 30% of the grasslands in high structure which is greater than 3.5 inches
 - Based on previously available data, 3.5 inches and above is what the grouse require for nesting sites

Information for the Forest Service

- Desire information regarding the grouse to allow them to better manage the grasslands



Objective

- Determine habitat used by female sharp-tailed grouse during the nesting season
- Determine annual nest success of sharp-tailed grouse hens
- Determine annual survival of both male and female sharp-tailed grouse

Methods

- Capture male and female grouse on leks annually
- Equip all females and some males with 14 gram radios
- Band all birds



Methods

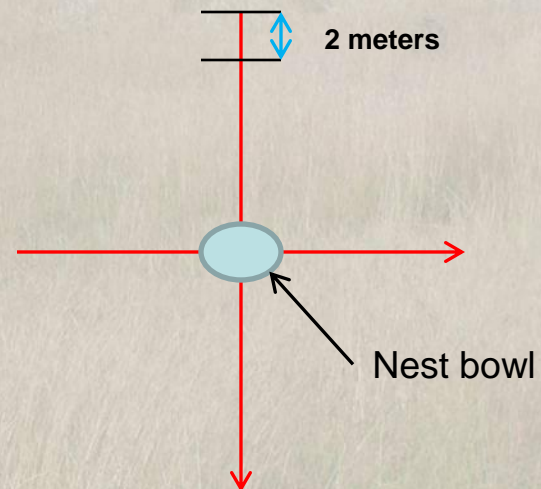
- Monitor grouse via telemetry to locate nests and determine habitat use



Methods

Quantifying Nest Site Selection

- Two perpendicular 25 meter transects
 - Nest bowl in the middle of each transect (12.5 meters)
 - Robel pole readings each 2 meters (VOR)
 - 10 pin point frame and canopy cover estimates every 2 meters
- Collect the same data at two random locations per nest
 - Used to compare nest site locations with



Thank You!



Questions?