

2019 Cooperative Summer Field Training Program

● Project Title:	Annual Brome Adaptive Management
● Project Scientists:	Amy Symstad
● USGS Center:	Northern Prairie Wildlife Research Center
● Location:	Hot Springs, SD

Project Description:

Background Information:

Exotic annual brome grasses such as cheatgrass and field brome reduce diversity of native plant species and forage quality for wildlife in northern Great Plains mixed-grass prairies. Since 1998, the abundance of these invasive species has increased significantly, or in some cases remained high, in National Park Service (NPS) units in the northern Great Plains. The Annual Brome Adaptive Management project (ABAM) is building a model to support NPS managers in their annual and longer-term decisions regarding management actions to control annual bromes and restore native prairie vegetation. This model requires park-specific information on the severity of annual brome invasion in specific management units, as well as region-specific information on the effects of management actions including prescribed fire and application of specific herbicides.

Objectives:

- 1) Improve the information base for annual brome management in northern Great Plains parks.
- 2) Improve ecological integrity of northern mixed grass prairie at acceptable cost in northern Great Plains parks.

Intern Tasks:

- 1) Assist with surveying annual brome infestation in 5 parks in the northern Great Plains.
- 2) Assist with plant composition and structure data collection in plots established to evaluate the effects of management actions of annual brome control and native plant species restoration.
- 3) Enter field data into a database and perform quality control measures on the data entry.

Expected Outcomes:

The intern will (a) learn how to identify more than 50 species of plants in northern mixed grass prairie; (b) gain strong experience in field-based plant ecology and invasive species ecology; (c) learn how to use Arc Collector on tablet computers for invasive species survey; and (d) gain experience in data collection and quality control. All of these skills -- from identifying plants to the species level to ensuring the quality of field data-- are transferable to the science of ecology across the country and world. In addition, the intern will

work directly with a USGS research ecologist in at least 5 NPS units, thereby benefiting from both the USGS and NPS perspective.

Details for Matching:

Type of Project: Field Work, Office Work

Project Discipline: Ecology

Project Start Date: Tue May 28 2019 00:00:00 GMT-0400 (EDT)

Project Duration: 6-7 pay periods

Level of Physical Demand: Level 8-2: The work requires some physical exertion such as long periods of standing, walking over rough, uneven, or rocky surfaces; recurring bending, crouching, stooping, stretching, reaching, or similar activities; or recurring lifting of moderately heavy items. The work may require specific, but common, physical characteristics and abilities such as above-average agility and dexterity.

GIS Training: ESA

Special Skills and Interests: Interns should have some background in botany or plant taxonomy so that they are familiar with basic plant biology terms and able to visibly recognize differences among plant specimens. Ideally, they will have plant identification skills from previous experience or coursework. Interns should also be interested in plant ecology and extensive field work in a prairie setting. They should be able to work long days outside while getting along well with their teammates.