United States Department of the Interior

National Park Service

Midwest Region

 601 Riverfront Drive

 Omaha, Nebraska 68102-4226

**Midwest Regional Office, National Park Service**

**Request for Letters of Research Interest (LOI)**

Deadline for responding with your letter of interest is **April 3, 2018**

**Co-production of decision support models**

**for bison and grassland management in Midwest Region National Parks**

Badlands, Theodore Roosevelt, Wind Cave, and Tallgrass Prairie National Park Units are working to develop a regional strategic bison management strategy. This adaptive management approach will include ecological and cultural goals as well as those that pertain specifically to bison management, and will include considerations of visitor experience, partner relationships, and cost efficiencies. The outcome of this project will be a simulation model to support resource managers and park superintendents in decision-making for short and long-term management decisions. The model will integrate current grassland and bison resource information, and will simulate the anticipated outcomes of specific short and long-term management actions based on current system information. Model development will include identification of key uncertainties. While sensitivity analysis will assist decision-making under uncertainty, the model will help identify metrics to effectively implement an adaptive management approach and reduce future uncertainty.

This will be a coproduction process, with NPS staff and partners working together with the Principal Investigator to identify desired model outcomes. NPS staff and partners will use expert elicitation and group facilitation to develop a shared understanding of the goals and expected outcomes of the model prior to initiating model development in fall 2018. They will also work closely with the Principal Investigator to develop lists of relevant existing data, likely ranges of uncertain parameters, model assumptions, and models of shared conceptual relationships that will guide the development of the quantitative back-end code. Although the results of that effort will direct the most appropriate modeling techniques, the result is likely to include simulation modeling using a simple platform such as Microsoft Excel with VBA coding. The intention is to provide a transparent format that is understandable to managers and other model users. A detailed implementation plan will be developed in collaboration with the selected PI to identify an agreed-upon strategy, actions, and timeline given existing time and budget limitations.

**Response Timeframe**

Deadline for responding with your letter of interest is **April 3, 2018**.

**Project Principal Investigator Requirements**

Although this is a co-production process, the research will be directed and overseen by a Principal Investigator (PI). The PI should be an experienced and flexible modeler, ideally with expertise in decision analysis and/or adaptive management frameworks. The PI should be highly collaborative with a strong interest in assisting resource management decisions, as the project will require extensive communication with National Park Service staff and partners from the U.S. Geological Survey and others to develop a model that is representative of the goals, potential management actions, limitations, system understanding, and uncertainties identified by the group. Specific experience with grasslands and/or bison ecology are beneficial but not required.

**Products**

The products from this project will include the model, relevant files, and documentation.

**Funds Available**

Project funds expected to be available are approximately $73,000. The funding includes an overhead rate of 17.5 percent. The project will be funded by the National Park Service. Universities and other organizations within the CESU network are eligible to apply.

The NPS anticipates that this project will require approximately one year to complete and is expected to start in September 2018.

**Letters of Interest**

Letters of Interest (LOI) are needed by **April 3, 2018** and should be sent to the addresses located in the “contact” section. Responses to this LOI should identify the specific capabilities within the CESU-affiliated university or organization that will allow them to address the needs of the project, including identification of the relevant departments, faculty, students, and resources that will be involved in the project. Response to this LOI should also include examples of relevant past work that demonstrates capabilities in the areas of simulation modeling, development of decision support tools, decision analysis, and/or other related expertise. **Please limit your response to 2 pages**, though supporting information such as figures or publication lists will not be counted in the page limit. Please include:

1. Letter of Interest as described above (2 pages);
2. Principal Investigator’s resume or CV

After review of the LOI responses, you may receive a follow-up request for additional information.

**Contact**

Questions, and well as responses of interest, should be directed by midnight on **April 3, 2018** to Nicole Athearn (Nicole\_Athearn@nps.gov) ***and*** Greg Eckert (Greg\_Eckert@nps.gov).