**PROJECT TITLE: Shifting Savannas: Assessing Management of At-Risk Sites**

**I. PROJECT STATEMENT**

**Outside of the MN Prairie Plan the state has environments that are at risk of degradation; we propose to survey Central and Southern Minnesota savannas and prairies to develop assessments measuring the success of restorations and train practitioners on management practices that promote robust sites.** Our work will provide necessary *Methods to Protect or Restore Land and Habitat* for public and private stakeholders to identify areas of need and efficient/successful methods of site management. The work will focus on land that had received public money (e.g. Legacy funds, CRP, CREP and RIM easements) but are at risk of degrading due to expiration of funding and pressure from climate change. While the ongoing MN Prairie Conservation Plan is working on western prairies, our focus will be on unique central and southern regions not currently being addressed. This work has not been completed before – and a unified methodology for measuring conservation sites is needed to detect priorities and opportunities that can ensure higher quality natural resources and healthy environments. We aim to work closely with ongoing projects - sharing methods from established wetland restoration assessments, ecological economics *and* established LCCMR monitoring requirements to provide managers a metric of a site’s current health and specific deficiencies. To do so, we will:

* Work with private stakeholders that received public funding to identify areas of need in management assessment
* Coordinate methods and data reporting with agencies to compliment statewide efforts
* Survey savannas/prairies in Southern and Central MN (Anoka Sand Plains)
* Identify species best adapted to a changing climate and methods of how to manage them
* Archive surveys so the methods of successful land management can be identified and used elsewhere (long-term dissemination of current science to practitioners)
* Create environmental education webinars/videos and lead workdays to implement land management through community-based efforts

The restoration efforts of government and private stakeholders has help to develop over 1.3 million acres of prairies (in state and beyond). In total, more than $700 million has been invested in prairie restoration by three programs alone (CRP, CREP and RIM easements). Despite interest of stakeholders (e.g. The Prairie Enthusiasts (TPE), Pheasants Forever, MN DNR, US FWS), permanent easement holders have had limited contact with resource professionals to assess management needs such as prescribed fires & invasive species control – especially after public money has run out. This project will help to aid practitioners with best methods training and develop a convention for determining conservation success beyond biodiversity, with aim of providing continuing returns from public money investments.

**II. PROJECT ACTIVITIES AND OUTCOMES**

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| **Activity 1 Title:** *Assess site functions & link management to successful outcomes***Description:**We will measure the condition of functional services and health of twenty sites not addressed by the MN Prairie Conservation Plan, primarily three major outstate regions (Central, SW & SE). Compared to western prairies, these regions have wetter environments and host savannas/prairies with different species and have greater woody plant encroachment. Climate change will cause dramatic droughts in these systems and may alter species composition considerably. Working with restoration partner stakeholders (The Prairie Enthusiasts, local practitioners), we will develop qualities of measurable functions (health, biodiversity, resilience, market value, non-market valuations). The field intensive surveys will employ seven student assistants, including two graduate students in biology. We will also record management histories for each site and analyze patterns of the assessment surveys and management practices. The combined assessments will be used to prescribe methods for site improvement using specific management practices. We will also quantify the market and non-market value provided by these lands – providing monetary ranges in terms of water retention, carbon sequestration and soil enrichment, etc. |  |

**ENRTF BUDGET: $207,699**

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| **Outcome** | **Completion Date** |
| *1.  Coordinate data collection & reporting methods with state agencies*   | *Spring 2021* |
| *2.  Field surveys across central & southern savannas/prairies (>20 sites) years 1 & 2* at private and community-managed sites | *Fall 2022* |
| *3.****Develop evaluation tool for future sites:****Correlate field survey data of site health and functional services with management methods. Predictive tool will guide future management and help identify species at risk to a changing climate.*  | *Spring 2023* |
| *4.  Archive field collections in the MSU Herbarium & digitize for Minnesota Biodiversity Atlas*  | *Spring 2023* |

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| **Activity 2 Title:** *Education and implementation – develop workdays and training materials***Description:**We will conduct demonstrations of supported methods for managing sites in partnership with TPE - this training and implementation of community-based efforts will lead to conserving natural resources not within the DNR Prairie Plan. Using our research data, we will develop savanna and prairie restoration education resources. We would create an MSU and TPE website with a central online repository with digitized data and educational materials on *disturbance such as fire to promote savanna and prairie health for land sites* held by the community. This activity focuses on sites that may require unique disturbance restoration methods due to wetter environments (these methods are not highlighted in the University of Minnesota’s Ecological Management Certificate Program Webinars). Our publications, workshops and work/field days would focus on Southern Minnesotan landowners and practitioners. |  |

**ENRTF BUDGET: $144,055**

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| **Outcome** | **Completion Date** |
| *1. Create a Savanna/Prairie Restoration Scientific and Education Advisory Group to Target Practitioners*  | *Fall 2020* |
| *2. Digitize and centralize online video and educational materials on MSU and TPE websites focused on utilizing disturbance such as fire to promote restoration health*  | *Spring 2022* |
| *3. Disseminate publications, workshops, work / field days on prairie research & restoration focused on controlled burning / fire management and why disturbance promotes native species*  | *Summer 2023* |

**III. PROJECT PARTNERS AND COLLABORATORS:** Matthew Kaproth and Robyn Ceurvorst

**Partners NOT receiving ENRTF funding**

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| **Name**  | **Title**  | **Affiliation**  | **Role**  |
| Chris Kirkpatrick  | Executive Director  | The Prairie Enthusiasts  | Education and Insurance Partner  |
| Randy Schindle  | Forestry Specialist  | Many Rivers Chapter, TPE | Data and Activity Partner  |

**IV. LONG-TERM IMPLEMENTATION AND FUNDING:**

After years of projects investing in lands and restorations, there is a danger of savannas and prairies degrading without continued management – especially in the face of climate change shifting savannas into prairies. Our community-workdays, publications, videos and websites (see Activity 2) will identify methods of successful site restorations and build resources for practitioners. No long-term funding required.