STATE OF MINNESOTA RIM CONSERVATION EASEMENT
ENHANCEMENT CAPACITY SURVEY INSTRUCTION GUIDE

Reference the below explanations and insights while completing the Enhancement Capacity Survey.

Scope
This questionnaire aims to determine the enhancement capacity of Reinvest in Minnesota (RIM) easements by identifying historical management, the current state of the land, and possible complications. To accomplish this, there are 12 questions aimed at providing enough detail to create a Work Plan. The entire easement can be considered for enhancement, or an Enhancement Unit can be defined for sites were only certain areas need enhancement.

Audience
This survey is designed for intermediate to highly skilled surveyors. Previous plant identification is required, as is the ability to follow provided guides.

Layout
This survey includes a mix of binary, multiple choice, multiple selections, and open-ended questions. Not all question parts are mandatory and should only be filled in if applicable.
All questions, apart from open-ended ones, include squares that represent a response. Please mark the square(s) most aligned with the Enhancement Unit.

Enhancement Unit
Describe the Enhancement Unit based on landscapes, ecological categorizations, needs for enhancement, and/or management strategies. Acceptable Enhancement Unit Descriptions include the Practice Area Number, Practice Area Type, specific acreage, or geographic area. Pursuing enhancement on the entire easement is also acceptable.
Example Enhancement Unit descriptions:

- *All RR-2 acres*
- *Practice Areas 3, 4, and 7*
- *Southern 25 acres*
- *West half of Practice Area 1*
- *All acres infested by brome*
- *Entire easement*

Acres
List the number of acres to be enhanced.

Goal Cover Type
To select an appropriate management action, knowing the end state for which to aim is essential. Select the cover type that best applies to the enhancement unit. Only select “Other” if there is a unique system that none of the previously stated cover types would encapsulate.

Rationale
Below are brief descriptions of each question and reasoning for their inclusion in this assessment.

1. *Is the Enhancement Unit accessible to large equipment?*
   Some management may require large machinery such as a forestry mower or skid steer.
2. *Check the response that most accurately represents approximately how many native species are on the Enhancement Unit (aligning with the goal cover type).*

Plants do not need to be identified to species but must be recognized enough to decipher from non-native species and recognize their origin. This can be an estimate. 21-30+ species likely indicate that the system does not require further diversity enhancement.

3. *Are there any signs of erosion on the Enhancement Unit?*

   Bare ground may call for intense seeding to prevent erosion. If there is a high amount of exposed soil and a steep slope, there is a potential need for preventative erosion control.

4. *Check all invasive species found within the Enhancement Unit from the list below.*

   Identify and record problematic vegetation. Restricted noxious weeds means the transport, selling, or planting of this species is forbidden. Controlled noxious weeds means there is a necessity to manage the populations to ensure they do not spread. Eradicated noxious weeds refer to species that legally (Noxious Weed Law, MINN. STAT. 18.75-18.91) must be removed from the system entirely and addressed in the Work Plan.
   The Minnesota Noxious Weed List provides guidance on Minnesota noxious weeds that the Commissioner of Agriculture designates as having the potential or are known to be detrimental to human or animal health, the environment, public roads, crops, livestock, or other property.
   If there is a species present that is not included on the list and poses a threat to the site, write in the provided "Other" line under the appropriate category.
   Species denoted with an asterisk (*) indicate special consideration of areal cover. If ≥50% areal cover, the site is not be feasible for enhancement as control, removal, and elimination of the invasive species are not likely to succeed, and efforts should be placed elsewhere.

5. *Select the areal cover (%) of the Enhancement Unit that best represents each of the following functional groups.*
   This gives an understanding on the composition of the plant community by summarizing the abundance of different functional groups.

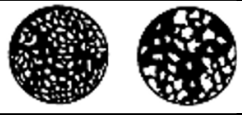
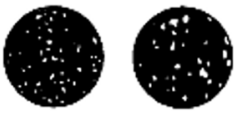
   Trees/Shrubs: Persistent, woody structure with either multiple stems or a single, dominant trunk and branches

   Forbs: Herbaceous, flowering plants; broader leaves and non-jointed stems

   Sedges/Rushes: Grass-like plants, but differ with either triangular, solid stems with three-ranked leaves (sedge) or round, solid stem with cylindrical, flat leaves (rush)

   Cool-Season Grasses: Cool-season graminoids

   Warm-Season Grasses: Warm-season graminoids

Estimated % Cover	Example
0 – 25%	
25 – 50%	
50 – 75%	
75 – 100%	

6. *Has there ever been managed haying or grazing within the Enhancement Unit?*

   Haying and grazing have an impact on the vegetation. Knowing the last time the unit has been hayed and/or grazed can give insight into future management options.

7. *Has there ever been prescribed fire within the Enhancement Unit?*

   Fire impacts vegetation and can have a lasting influence on the soil. Understanding when the Unit was last burned can give insight into future management options.

8. *Has the Enhancement Unit ever been used for row crop agriculture?*

   Row crop agriculture alters land and soil properties and may change management options.

9. *Has the Enhancement Unit ever been seeded outside of the initial restoration activities at time of acquisition?*

   Previously used seed mixes may have an impact on current vegetation communities. Knowing if there have been previous failed attempts to establish appropriate cover can allow a better understanding of the chance of success for future enhancement.
   Make copies of relevant documents and attach to the Enhancement Capacity Survey.

10. *Does the Enhancement Unit display signs of an affected buffer zone?*

    There are certain increased risks for land adjacent to active cropland, such as chemical drift, runoff, invasive species invasion, and/or seed spread. Examples of an affected buffer zone include wilting/distressed vegetation within 30 feet of the edge of agricultural fields.

11. *Are hydric and/or floodplain soils present within the Enhancement Unit?*

    Hydric soil refers to soils saturated with water for extended periods of time, resulting in anaerobic conditions. Floodplains are unique systems that may require separate management options. Understanding the layout and composition of the Enhancement Unit is critical when identifying enhancement opportunities. Together, this information allows for more informed management decisions.
    Staff can use the FEMA layer in ArcGIS, Web Soil Survey to identify floodplain soils, or county-level documentation.

12. *Check all proposed management actions for enhancement.*

    Select all common management approaches for the given Enhancement Unit that will be considered for the Enhancement Plan. This section provides the opportunity for the surveyor to present their suggestion(s). Please specify what target species if “Woody Removal” or “Invasive Species Management” are selected.
    If there are any concerns that apply to the Work Plan, list things to consider.