Great Lakes Slender False Brome Working Group

Field Observation Survey Protocol

(Data sheets and a Survey Summary Sheet can be accessed on the Working Group website: http://www.wnyprism.org/projects/slenderfalsebrome/resources/)

A. Initial Steps:

1) Determine survey locations:
   - Create a list of areas to be surveyed. For each area, obtain a map of all trails in the park or determine which stretches of roads will be included in the survey.
   - Locate an area to safely park your vehicle and use proper gear such as safety vests when working along roads.

2) Obtain permission:
   - Reach out to organizations to ensure surveying can be carried out at the pre-determined locations. It is important to confirm you have permission to cross onto any private property for survey purposes.

3) Survey along all roads and trails in the target area:
   - Walk along all trails and roads and observe both sides, approximately 3 meters off-trail.
   - If the area is too wide, survey one side and then the other.
   - If slender false brome is found, collect Field Observation data for each population that is observed. See Sections B and C for a detailed description of the Field Observation data.
     - Survey 30 meters off-trail where slender false brome is found. See Section D for more information about off-trail surveying.

B. Field Observation data collection- Basic

1) Location:
   - Use a GPS to record the latitude and longitude of the slender false brome occurrence along a trail or record the specific property address. If the population is greater than $5m^2$, record the coordinates and take a GPS polygon of the infestation area. If a Garmin GPS is used, a polygon can be recorded using the track feature.
     - A population includes all plants within 12 meters of one another.
     - Any plant further than 12 meters apart would be considered a separate population.
     - See Section D for more information on population definition.

2) General observation information:
   - Record the name of the observer.
   - Fill in the site/location address of the park or natural area.
   - Record the date of the observation.
   - Note the time of the observation. This can be helpful to match up photos with data.

3) Photo documentation:
    - Take clear, focused photos using your phone or personal camera. Record the number of photos taken, which will again help match up photos with data.
        - Primary photo: initial photograph that shows the entire plant(s).
        - Infestation photo: Photo that clearly shows the extent of the population and how it fits into the landscape.
        - Close-up photo(s): Focus on the characteristics of the plant that led to a positive identification.

4) Report the observation:
    - Report the information as an observation using iMapInvasives (http://www.nyimapinvasives.org/) to alert others of this species occurrence.

C. Field Observation data collection- Advanced

If the necessary equipment is available, collect the Basic GPS and photo data described above, along with data in the following categories:

1) Site code (Optional for data organization):
    - Create a site code that is specific to the area being surveyed. This will help organize data collected for multiple sites throughout the field season. For example, DREW was used in the name of all data, GPS information and photos collected at Drew's Nature Center.
    - Can use a Unique ID to distinguish between different populations found at the same site. For instance, DREW1, DREW2 etc.

2) Slender false brome information:
    - Use a tape measure to determine the distance between the trail and the plants.

    - Record plant maturity using the following categories:
        - Vegetative
        - Flowers
        - Seeds
        - Other (provide a description of the plant)

    - Determine the distribution of the plants using the following categories:
        - Single plant
        - Scattered plants
        - Dense plants
        - Dense throughout
        - Linearly scattered
        - Monoculture

3) Soil Data:
    - Qualitatively determine the soil moisture by observing and feeling the ground, using the following categories:
        - Very dry
        - Dry
        - Moist
        - Wet/ Water

    - Quantitatively measure the soil percent relative saturation, using a Kelway soil pH and moisture meter (or similar tool).
        - Results range from 0-100%
        - Use the conditioning film on the meter before inserting it into the ground. One conditioning film can be used 20 times, so keep track of use.
        - Allow the meter to stabilize in the soil for 2-3 minutes before taking a reading. During this time, it may be beneficial to complete other data collection steps to minimize overall survey duration.

    - Measure the soil pH, using a Kelway soil pH and moisture meter (or similar tool).
        - Results range from 3.5-8.0.
        - Use the conditioning film on the meter before inserting it into the ground.
        - Allow the meter to stabilize in the soil for 2-3 minutes before taking a reading.
        - If the needle does not deflect during the 2-3 minutes, moisten the soil with distilled water. Again, use the conditioning film on the meter and allow 2-3 minutes for stabilization.

4) Landscape/ Community Type:
    - Observe the area surrounding the slender false brome population, and define it using one of the following categories:
        - Agricultural system (ex: cattle pasture, row crop)
        - Forest
        - Open naturalized area (ex: old field- fallow, regeneration)
        - Human dominated area (ex: residential, industrial)
        - Along transportation corridor (ex: road, railroad)
        - Wetland
        - Grassland/ prairie opening
        - Other (Provide a description)

5) Disturbance:
    - Determine the type of disturbance present in the area, using the following categories:
        - Natural (Wind, herbivory, flooding)
        - Human (Trail traffic, mowing, fragmentation)
        - Both (Natural and Human)
        - None

    - Define the disturbance severity by observing how intact the habitat is and the ease at which human disturbance can be seen. Use the following guidelines to categorize severity:
        - None (Intact habitat, no human disturbance, low/moderate natural disturbance)
        - Light (Mostly intact habitat, minimal human disturbance)
          ex: Unpaved hiking trails.
        - Moderate (Apparent degradation of habitat, noticeable human disturbance)
          ex: Noticeable erosion, noticeable decrease in native species, increased invasive species cover, increased deer herbivory, isolated impacts such as fire pit scars or horse and ATV trails where activity is restricted to established trails.
        - Heavy (Highly degraded habitat, significant human disturbance)
          ex: Hard surface infrastructure, significant erosion, considerable off-trail use with vehicles, vegetation dominated by invasive species.

6) Invasive species:
    - Determine the other invasive species present throughout the slender false brome population using field guides to confirm species identification.
    - Determine the distribution of the invasive species as a whole, using the distribution categories listed in section C2.

7) Canopy cover:
    - Use a spherical crown densiometer (or similar tool) to measure canopy cover. The idea is to use a grid to quantitatively measure percent overstory cover above the plants.
        - When using a spherical crown densiometer, remember that the procedure involves measuring the amount of open canopy and then subtracting that from 100 to get the canopy cover value.

8) Additional Notes
    - Record any additional information in the additional notes section. This section can be used to help others locate the population in the future, and to describe what they will find when they arrive at the population.

9) Report the observation:
    - Report the information as an observation using iMapInvasives (http://www.nyimapinvasives.org/) to alert others of this species occurrence.

D. Off-Trail Surveying

In areas where slender false brome is found, continue surveying off-trail to locate additional populations.

1) Survey 30 meters off-trail in both directions, leading away from the initial slender false brome population.
    - If additional plants are found within 12 meters of the initial population, these plants are considered part of the same population. In this case, the same entry can be used on the data sheet, and information about the new plants can be added to that entry. Additional photos can be taken of the new plants, and the GPS polygon should be adjusted to include these plants as well.
    - If additional plants are found greater than 12 meters away from the initial population, these plants are considered a separate, new population. In this case, a new entry will be used on the data sheet, and all Field Observation data will be collected for this new population. Indicate in the Additional Notes section that this population was found during the 30 meter off-trail survey for another population.
    - Make a note if the 30 meter off-trail surveys cannot be completed due to barriers such as water bodies or private property. Avoid crossing onto private property if permission was not granted to survey there.

E. Spread Prevention

To prevent the further spread of this invasive species, be sure to take measures after surveying is complete to contain this plant to the area. Remove any plant material from clothes and equipment. Use a hand-held brush to remove dirt from shoes. Plant material can be left on site or contained in a sealed, landfill bound trash bag.