



Invasive Plant Mapping Protocols

The objective for all invasive mapping projects is to document where these plants are occurring and to what extent they have spread. These guidelines will assist all RD staff and volunteers in documenting invasive plants within our state parks and recreation areas. The overall goal is to incorporate all maps and data into our Stewardship GIS database to develop control strategies and then implement treatment of these areas in an effective manner.

Documentation: All information about an invasive species occurrence must be documented using the official data form. All locations must be recorded using GPS. If a GPS unit is not available or the signal is temporarily lost, the occurrence must be documented using the hand map protocols. New occurrences should be marked with flagging ONLY if necessary to help relocate the occurrence for treatment. The use of flagging or other references should be noted on the data form.

All equipment, materials and instructions will be provided by the stewardship unit and/or park unit as needed.

Hand Map Protocols: Mark each location of an invasive species occurrence with a dot on a park aerial photo, park brochure and/or topographic map. Use multiple colors/symbols if mapping multiple species. Label all occurrences on the map with a unique ID number using the numbering convention explained below. Record the unique GPS ID and required information on the data form. Include pertinent location information in the comment section on the form or on the map. Also indicate on the map solid dots/polygons to depict infested areas and larger cross-hatched polygons to depict the extent of the area surveyed. Please provide a legend. If GPS is used, maps need not be created unless desired as a backup.

GPS Protocols: For all occurrences less than one acre record a point location (waypoint 25 position average) on the center of that population. If the area is heavily infested and distinct populations can be easily seen one to the next, mark no more than ONE point per 100 ft. For areas one acre and larger record a track line around the perimeter and a point location somewhere within that tracked polygon. Both the point and corresponding line feature must have the same exact ID number. All GPS points must be labeled with a unique ID number using the numbering convention explained below. Areas surveyed with no invasives can be documented by leaving the track log on for an entire mapping session. Remember to periodically save these tracks before you map an occurrence over an acre and/or at the end of your mapping session.

Unique ID: For each GPS position collected, record a unique number in the GPS unit for each point as follows: "PKJS0001" where PK is the two letter code for the park, JS is assigned initials of the person mapping, followed by a four digit sequential number. Within each park, the number portion of the ID for each person must never repeat. Refer to the Unique ID Report from **Invasive Mapping Unique ID database** for your last mapped point.

Data Form: For each GPS position collected (or for each dot on a hand recorded map) record the following information on the designated form.

- Observer Name "Jane Smith" Park Name "Highland"
- Site Name/Description "Woods with mountain bike trail" or "Haven Hill Natural Area"
- GPS Point Number HIJS0001
- Date Mapped 04/22/2009
- Invasive Species: Use first three letters of the genus and species of the scientific name whenever possible. For example, for garlic mustard use ALLPET (common names are also acceptable)
- Status: Mark each point treated (T) if sprayed, pulled, cut, etc. when filling out form. Mark untreated (UT) if just mapped.
- Population Estimate: Estimate overall size of infestation using one of the following categories:
 - None (for none found where previously there was something there)
 - Individual, Few, or Several (if actual stems are counted record them in the comment section)
 - Up to and including 1000 square feet (about half a tennis court)
 - 1001 square feet up to half an acre (100 ft. x 217.8 ft.)
 - Half an acre up to an acre (one acre is the size of a football field without end zones)
 - One acre and larger (must GPS a polygon and a point in the center when this large)
- Density: Circle one of the following categories on the form provided:
 - **Dense:** Greater than 40% of the area mapped (one or several obvious carpets/stands)
 - **Patchy:** A mix of dense and sparse areas
 - **Sparse:** Scattered individual stems or very small patches/stands
- Comments: Note use of flagging, general quality of natural community, last year treated (if known) or other pertinent information about the location, species infestation or mapping. 100 character maximum.

NOTE: The point location is to document discrete populations or individuals that could potentially be missed during relocation, as well as to map the leading edge of the infestation. Population estimates characterize how many plants or how much area is represented by each GPS point and/or track recorded. Density estimates describe the general distribution pattern within the area that the point represents.