Tool 1: Landowner Guide to Invasive Plant Assessment

A good assessment and a map can help get the job done

Invasive terrestrial plant prevention and management activities begin with an understanding of what the problem is on a particular property and the surrounding area. A good assessment will include an overview of what species are present, distribution and abundance and in the case of woody species, age class. Combine the assessment with a simple map to help you:

- Share information between land managers and landowners.
- Make decisions about what to treat first, depending upon available time and money, land management goals and upcoming activities (e.g. road building or logging operation).
- Identify likely sites for new infestations (e.g. log landings, new trails or roads).
- Determine what treatment methods are most appropriate for the site.
- Communicate with a potential contractor.
- Identify likely sites for Early Detection and Rapid Response (EDRR).
- Communicate with NRCS staff who review applications for Wildlife Habitat Incentive Program (WHIP) or Environmental Quality Incentive Program (EQIP) [see Tool 3: *"Landowner's Guide to Seeking Funding from the Natural Resource Conservation Service (NRCS)"*].
- Develop a more detailed plan for prevention and treatment [see Tool 6:*"Weed Management Plant Template"*].

If you are a landowner enrolled in Current Use, ask your forester to do an assessment while developing the Forest Management Plan. *Tool 2: Guidelines for Incorporating Invasive Plant Assessments into UVA Management Plans* may be helpful for taking that next step.

Getting started

An assessment is not a scientific survey of the site. Instead, it provides a snapshot of what the problem is with enough detail to help you make informed decisions. The amount of information collected during the assessment depends upon the size and character of the property, the species present and their degree of infestation, land management goals, available resources and intended use. The final product might be a map of the property with general location of infestations sketched in, or a more detailed map that has been created using the attached field form, a good quality orthophoto or topo map, GoogleEarth, iMapInvasives or Geographic Information Systems (GIS).

iMapInvasives is a web-based geo-referenced database that allows any Vermonter to upload invasive species information and have it depicted on a Google map. If the land manager wants to do even more sophisticated mapping, iMap can be used in conjunction with (GIS). For more information go to www.vtinvasives.org and click on the "Report It" button.

Equipment needed

- map of the property under consideration (this can be an aerial photo, a contour map, or any other property map that clearly shows trails, roads, buildings, fields, forest, water bodies, hedgerows, etc.)
- field form and clipboard, or some other way of keeping track of what you find, such as a notebook
- pen/pencil
- GPS unit and fresh batteries (optional)
- plant identification guides
- compass (optional)

Before you go out

- Know how to identify species that are likely to be in your area or are likely to be coming soon.
- If you plan to use iMap, take a free half hour on-line or in-person training. You will receive a log-in name and password.

- If you are using a GPS unit and you plan to use iMap set the datum to NAD83, and to record lat/long in decimal degrees. Know how to mark waypoints on your GPS unit, how to identify satellite reception, where to find estimated accuracy, and how to take averages. Know how to take tracks and make polygons, if possible.

What information should be collected?

The data collection associated with this protocol can be used with or without iMap. It helps you to easily gather information about occurrences on a single sheet. The information

- ***Species present: what woody and herbaceous species are on the property?*** Make a list before you go out of what you are likely to find. Bring a field guide to help you confirm anything you aren't sure of. Use abbreviations for species so that they are more easy to note on field form, in your notebook or on the map (e.g. buckthorn = BT; garlic mustard = GM, etc.)
- ***Percent cover: the percentage of an area or 'occurrence' that is covered with the invasive plant.*** This gives you important information about the severity of the infestation, which can affect management decisions. It can guide you in setting priority areas where eradication may still be possible, versus areas that may be too far gone to do anything more than containment. For example, a dense infestation of buckthorn seedlings with a 90% cover may be best treated with a foliar spray. A less dense infestation of 5% with a lot of native vegetation around is more effectively controlled by hand pulling. Cover class can be expressed by giving a range (5% - 25%) or being more specific (15%).
- ***Distribution: how the plants are distributed throughout the occurrence.*** The distribution patterns of invasive plants will also help determine management strategies. For example, a linear infestation of garlic mustard along a logging road might be treated differently than scattered patches in the forester interior.
- ***Plant age: is the plant a seedling, sapling or a seed producing adult?*** This information is important to collect for all woody stemmed species. Mature buckthorn is treated differently than seedlings.
- ***Native vegetation distribution: how much of the area still contains natives.*** Knowing the type and amount of native vegetation in the area will also be useful in developing a treatment plan. Herbicides would be applied differently, for example, if the invasive plants are mixed in with native vegetation.

Assessment methods

1. **Work in pairs.** When possible, work with a partner. One person can be responsible for recording data on the field form, while the other person can be more actively assessing occurrences. It's also more fun!
2. **Decide how you are going to effectively and efficiently walk enough of the property to complete an accurate assessmen**t.
    - Look at the map of the property **and identify likely places for infestations**. Trails, logging roads, natural or man-made disturbances in the forest, wetlands, forest edges and fields are all likely places to find invasive species.
    - If the property you are assessing is more than a few acres, divide it into more manageable units delineated by natural and man-made features, such as trails, log landings, openings in the forest, streams, property boundaries, hedgerows and forest edges. **Try to size the units so that you can assess one unit in a single outing.**
3. **Systematically look for occurrences of invasives.** Use the attached field form or a notebook to track the most important information that will help you make an effective plan for prevention and management**. At the very least, record species location and size, cover class and plant maturity.** One of the most difficult things to figure out is what to call an 'occurrence'. An occurrence is any size of an infestation. It can be one plant or it can be an entire population that covers several acres. Separate occurrences are 'separate' because they are a different species, different age class, different density, they are separated by a natural feature, in a different natural

community or forest type, or you have to walk a long distance before getting to a new occurrence. This information will influence what management techniques are used for that particular occurrence.

4. **Record the occurrences you find.** To do this you can:
    - **Hand draw occurrences on the map.** This is especially useful in areas that are easy to find on the map, such as along a trail or field edge.
    - **Use a GPS unit to take a waypoint, make a track or a polygon.** This is especially useful if you are in an area where it is difficult to determine exactly where you are on the map, such as in the interior of a forest with no easily recognizable features. **Collect point data** if you want to be able to move quickly. In some instances it may be easier to create polygons using the tracking feature of the GPS unit as you walk along or around an infestation.
5. **Remember to go off trail**. It is not enough to record what grows along roads and pathways. Go into the woods, using natural contours to help you keep track of where you have been.
6. **If you are in an area that has few invasives, new infestations, or are searching for Early Detection Rapid Response (EDRR) species** you may need to be more systematic and **follow a transect pattern in order to ensure that you have located all occurrences**. Following transects just means walking back and forth across a particular area in a systematic way. The distance between transects will vary based on visibility and terrain. Use common sense to determine the distance between transects, which might range between about 15 and 25 feet.
7. Once you are back inside, **create a clean map that accurately represents occurrences. Attach a separate piece of paper that explains the essential information about infestations on various parts of the property**. **Don't wait too long to do this, as it is easy to forget what the notations you wrote meant.** If you are using iMap, upload your data and create a map that can be attached to your summary assessment information.
8. If you plant to hire a contractor or apply for USDA NRCS funding, you may also want to use the following resources: *Tool 3 Guidelines for Seeking Funding for Invasive Plant Treatment from the Natural Resource Conservation Service (NRCS)* and fill out *Tool 8: Property Summary Form.* They can help bring the pieces of the assessment together with additional information the NRCS will need to know to make good decisions about the application.