

Woodland Health Assessment Checklist & Management Actions



The checklist is available for free download at
www.extension.umd.edu/woodland

How to use this assessment:

The Woodland Health Assessment consists of two parts:

1. Checklist
2. Management Actions

The checklist will assist you in assessing a variety of conditions on your property. Each condition includes a statement of “higher concern” or “lower concern.” These statements will assist you in identifying potential areas for management, based on your objectives.

The Management Actions identify potential management projects for the property.

Provider company: _____

Employee performing assessment: _____

Date of property visit: _____

Client name & address: _____

Client phone & email: _____

Property location (if different from above): _____

I) WOODLAND DIVERSITY AND COMPOSITION

Every property is different. Each contains a unique mix of tree and plant species due to the site conditions relevant to that particular place and to the past history of the land. In general, a woodland that contains a diversity of native tree species with few (or no) exotic invasive plant species is more beneficial to a diversity of wildlife.

I a) Checklist

	Higher Concern	← →	Lower Concern	
<p>Plant diversity & desirability: The woodland has low tree species diversity, in the canopy and/or throughout the forest. One or a few tree species dominate the site. Few desirable species (in relation to the client's objectives) are present.</p>	■	■	■	Many tree species are present (10 or more), without a single species being overly abundant. Desirable species (in relation to the client's objectives) are abundant.
<p>General tree health: Trees have poor growth form (crooked, rotten, small crowns), low vigor, or damage from prior logging or storms.</p>	■	■	■	Trees appear healthy with large, well-formed crowns. Trees generally appear to have good growth, form, and vigor.
<p>Insects and Diseases: The woodland is currently affected by insects or diseases capable of causing mortality or significant injury, or it contains tree species that could be affected by insect and/or disease threats nearby capable of causing mortality or significant injury.</p>	■	■	■	There are no current or looming forest insect or disease issues capable of causing mortality or significant injury, and there is a diversity of tree species unlikely to be impacted.

Notes:

I b) Management Actions

To address:	Consider:
<p>Plant diversity & desirability: The woodland has low tree species diversity, either in the canopy or throughout the woods. One or a few tree species are dominant. Few desirable species are present.</p>	<ul style="list-style-type: none"> ⇒ Use land care practices, such as planting or chosen tree management, to promote a greater diversity of tree species. Multispecies woods are generally more resilient to disturbances than single species woods. ⇒ Promote regeneration by harvesting canopy trees or planting a variety of native tree species that do well under current site conditions. ⇒ Remove abundant less desirable species through mechanical or chemical means to make room for desirable tree regeneration. ⇒ Reduce deer impact on tree seedling natural regeneration by using tree shelters, fencing, and/or harvesting deer.
<p>General tree health: Trees have poor growth form, low vigor, or prior damage.</p>	<ul style="list-style-type: none"> ⇒ Thin trees or release chosen trees. Remove crowded, damaged, or stressed trees to reduce competition for light, nutrients, and water. ⇒ In mature woodlands, identify trees with significant rot or damage that hinder future survival. Consider removing by felling, harvesting, or creation of wildlife trees (“snag”) by girdling or herbicide treatment.
<p>Insects and Diseases: The forest is currently affected by insects or diseases. There are looming threats, such as nearby outbreaks.</p>	<ul style="list-style-type: none"> ⇒ Retain survivors of pest or disease outbreaks, droughts, wind events, or other disturbances during salvage or sanitation operations. These trees may have a natural resistance to the pest. ⇒ Create a diverse mix of forest or community types, age classes, and stand structures to reduce the availability of host species for pests and pathogens. Thin to reduce the density of a pest’s host species to discourage infestation. When thinning, leave a diversity of tree species so the woodland is more resilient to pests and diseases.

Notes:

II) WOODLAND STRUCTURE

When it comes to woodland structure, more complexity is often better. Woodland structure includes having a diversity of canopy layers (from the forest floor to the upper canopy), tree sizes, ages, and species. It also means varying the number of trees per acre and ensuring the presence of dead wood, both standing and down. These conditions make the woodland more likely to attract a diversity of wildlife species and recover quickly following a disturbance.

II a) Checklist

	Higher Concern	← →	Lower Concern	
<p>Structural diversity: The woodland contains trees that are primarily a single age and relatively uniform in size, creating a single canopy layer.</p>				The woodland includes trees of different sizes and ages. The woodland contains multiple vertical layers (overstory, understory, etc.) and horizontal layers (different ages and sizes of trees).
<p>Standing dead (snags) and cavity trees: No or few large standing dead trees are present. No or few trees with cavities for wildlife are present.</p>				There are a sufficient number of trees with cavities in them and standing dead trees (several per acre) and some are large—over 18 inches in diameter. (They are not likely to be a hazard to life or property.)
<p>Downed & dead wood: Down woody material, especially large logs greater than 6" in diameter, is rare or absent.</p>				There are noticeable amounts of dead wood, especially large logs greater than 6" in diameter, on the forest floor.
<p>Tree crowns and spacing: Trees have small crowns, and are overcrowded, competing for growing space. Not enough light is reaching the forest floor to encourage desired understory growth.</p>				Trees have adequate growing space with large, well-formed, healthy crowns. Understory vegetation is present and developing.

Notes:

II b) Management Actions

To address:	Consider:
<p>Structural diversity: The woodland contains trees that are primarily a single age or size, creating a single canopy layer.</p>	<p>⇒ Work with a professional forester to create canopy openings that mimic natural disturbances to encourage the establishment of new tree seedlings and different age classes.</p>
<p>Standing dead (snags) and cavity trees: No or few large standing dead trees are present.</p>	<p>⇒ Leave or create standing dead trees during land care practices directed by a professional forester where they do not create a hazard, on average 2 per acre.</p> <p>⇒ Allow some trees to grow to larger sizes so that they can provide value to wildlife and serve as future large snags.</p> <p>⇒ Create snags by applying herbicides (hack and squirt application method) to existing less desirable trees.</p>
<p>Downed and dead wood: Woody material, especially large pieces, is rare or absent.</p>	<p>⇒ Leave large woody material greater than 6" in diameter on the ground after disturbances and forest management activities.</p> <p>⇒ Fell less desirable or poor quality trees and leave them lay on the forest floor.</p>
<p>Tree crowns and spacing: Trees are too crowded and competing for growing space. Not enough light available to encourage desired understory growth.</p>	<p>⇒ Thin trees by identifying specific chosen trees and releasing around the crowns on at least 3 sides using chosen tree management.</p>

Notes:

III) HABITAT ASSESSMENT

A habitat assessment will enable you to better determine which types of habitats are present on the property. It is important to identify the successional stages (early, mid, or late) of the woodland, which wildlife species they attract, and whether there are challenges such as over browsing by deer and competition from less desirable and/or exotic invasive plants.

III a) Checklist

	Higher Concern	← →	Lower Concern	
<p>Successional stages: The woodland displays little or no variation in successional stages.</p>				Numerous successional stages are represented on the property, providing important habitats for a diversity of wildlife species.
<p>Edge habitat: The woodland has little or no edge habitat. Or existing edge habitat is abrupt with no transition, a "hard" edge.</p>				The woodland has adequate edge habitat that provides a variety of food and cover. Existing edge habitat provides a good transition to different habitat types, a "soft" edge.
<p>Undesirable plants: Less desirable competing and/or exotic invasive plants (herbaceous, woody, or vines) are common in the woodland.</p>				Less desirable competing and exotic invasive plants are absent or are not widespread.
<p>Deer browsing: The presence of moderate to severe deer browsing creates substantial challenges for tree seedling regeneration. There is a clear browse line and few or no tree seedlings present.</p>				Deer browsing is not posing a substantial challenge to tree seedling regeneration. Little or no deer browsing is evident as supported by numerous native tree seedlings and a variety of herbaceous plants in the understory.
<p>Tree seedling regeneration: Desirable tree seedlings and saplings are absent in the understory and/or understory is dominated by undesirable plant species.</p>				Desirable tree seedlings and saplings are present in the understory in good numbers; the species mix is conducive to achieving future management objectives.

Notes:

III b) Management Actions

To address:	Consider:
<p>Successional stages: The woodland has little or no variation in successional stages.</p>	<ul style="list-style-type: none"> ⇒ Stop mowing some lawn areas and/or agricultural fields and allow them to revert to natural areas. Control invasive species and favor native trees and shrubs. ⇒ Maintain old field areas in early successional habitat by removing invading trees to provide needed wildlife habitat. ⇒ Work with a forester to harvest mature woodland areas to establish young woodland habitat. ⇒ Create and maintain wide travel paths to reduce exposure to ticks.
<p>Edge habitat: Trees have poor growth form, low vigor, or prior damage.</p>	<ul style="list-style-type: none"> ⇒ Cut sections of woodland edge border periodically and allow to revert naturally to create a diversity of successional habitats. ⇒ Establish edge habitat by planting desirable trees and shrubs around the border of the lawn or ag field.
<p>Undesirable plants: Exotic invasive plants (herbaceous, woody, or vines) are common in the woodland.</p>	<ul style="list-style-type: none"> ⇒ Prevent new invasive plant species from establishing and control existing populations and/or seed sources of exotic invasive plants through mechanical (pulling or cutting) or herbicide treatments. ⇒ Treat or remove less desirable native plants to reduce competition for resources and enhance regeneration of desired tree species.
<p>Deer browsing: The occurrence of moderate to severe deer browse may create substantial challenges for tree regeneration.</p>	<ul style="list-style-type: none"> ⇒ Harvest sufficient antlerless deer during regular hunting seasons or through special deer management programs. ⇒ Install fences, tree shelters, and other physical barriers to protect seedlings and prevent deer browse. ⇒ Leave tops from harvesting operations to help protect tree seedling regeneration. ⇒ Maintain or create areas of early successional/young forest habitat to provide sufficient forage.
<p>Tree seedling regeneration: Tree seedlings and saplings are absent in the understory or understory is dominated by undesirable species.</p>	<ul style="list-style-type: none"> ⇒ Retain trees of desirable or less common species in the overstory so they may provide a future seed source. ⇒ Control (through mechanical means or herbicides) competition from undesirable tree or shrub species in the understory to enhance regeneration of desired tree species. ⇒ Restrict recreation or management activities that have potential to damage desirable regeneration. For example, prevent off-trail ATV use and concentrate skid trails during harvesting operations to protect existing regeneration.

Notes:

IV) SITE-LEVEL CONSIDERATIONS

Properties may have special site considerations. For example, some properties may have springs, streams, seasonally wet areas called vernal pools, or wetlands on them. Wet areas in a lawn may be a mowing frustration, but an opportunity for wildlife. Other areas may be too steep for practices such as trail and road building, harvesting, etc. Consider the unique ways that a site may be affected to develop actions tailored to that particular location.

IV a) Checklist

	Higher Concern	← →	Lower Concern	
<p>Site access: Woodland is difficult to access for recreational use and management work.</p>				Adequate access is available through one or more roads or trails.
<p>Streamside quality: The property's streamside corridors are showing signs of erosion and/or they lack natural vegetation. Lawn is kept mowed to stream bank. Stream crossings, if present, are contributing to a water quality problem from erosion/sedimentation.</p>		 <input type="checkbox"/> Does not apply		Streamside corridors have suitable native vegetation; trees that enhance wildlife habitat, water quality, and reduce runoff. Vegetated areas are at least 25–50 feet wide. All stream crossings are installed properly and not causing an erosion/ sedimentation problem.
<p>Wetland areas: Property has wetland areas and/or vernal pools with no vegetated buffer around them or they are completely mowed once area dries out in summer.</p>		 <input type="checkbox"/> Does not apply		Wetland areas and vernal pools have healthy vegetated buffers surrounding them that are at least 25–50 feet wide and composed of native trees and shrubs.
<p>Topography: Very steep and inaccessible areas that will limit options for land care practices.</p>				Few areas with large changes in topography or steep slopes that limit options for land care practices.

Notes:

IV b) Management Actions

To address:	Consider:
<p>Site access: Woodland is difficult to access for recreation and management.</p>	<ul style="list-style-type: none"> ⇒ Establish roads and trails to improve access. ⇒ Ensure that new and existing trails are sited properly and stabilized to minimize erosion and sedimentation by following “best management practices.” ⇒ Seed and plant disturbed areas with native vegetation to minimize erosion and sedimentation. ⇒ Install water diversions where necessary and/or culverts to ensure proper drainage and stream crossings.
<p>Streamside quality: The property’s riparian area(s) is showing signs of streambank erosion or lacks natural vegetation. Lawn is mowed to stream bank. Stream crossings, if present, are contributing to a water quality problem.</p>	<ul style="list-style-type: none"> ⇒ Eliminate mowing to stream banks. Allow area to revegetate naturally at least 25 feet from stream bank. ⇒ Seed or plant appropriate native shrubs, trees, and forbs in stream buffer areas.
<p>Wetland areas: Property has wetland areas and/or vernal pools with no vegetated buffer around them or they are completely mowed once area dries out in summer.</p>	<ul style="list-style-type: none"> ⇒ Plant or enhance existing vegetated buffer around wetlands and vernal pools. Plant species that can cope with periodic flooding. ⇒ Don’t mow wet areas even if they dry out. Leave leaf litter, vegetation, and woody debris as habitat for amphibians.
<p>Topography: Very steep and inaccessible areas that will limit options for land care practices.</p>	<ul style="list-style-type: none"> ⇒ Limit roads and trails to areas least susceptible to risk for erosion. ⇒ Limit harvesting of trees to reduce risk for erosion.

Once the checklist is complete, organize the outcomes by level of concern, and address the higher concern issues first. Refer to chapter 5 in the *Woodland Care Practices Manual* for information on assembling goals and prioritizing management actions into a Land Care Plan that includes a timetable for completion.

NOTES

NOTES

Woodland Health Assessment: Checklist & Management Actions

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<https://forestadaptation.org/NY-checklist>

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