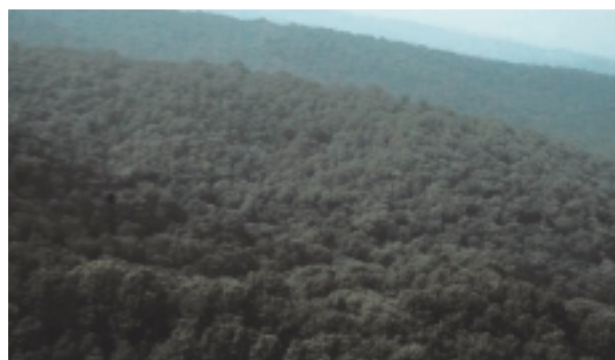


Forests

Brief Description



Z. Walker

Expanses of continuous forest were once common in the Midwest landscape.

Extensive forests once dominated much of the Midwest. Except for the gaps provided by wetlands, forest formed a continuous blanket from east to west until diffusing out into the savanna in states like Illinois, Indiana, and Michigan. During the 1800s, vast amounts of timber were harvested from these forests, especially during the reconstruction of Chicago after the city burned to the ground in 1871. In the southern portions of the Midwest, upland forests are dominated by oaks and hickories. Lowland forest, including those areas subject to occasional flooding, are often dominated by maple, beech, and hickory. To the north, hardwood forests are often replaced by coniferous forest, both in the uplands and lowlands. White and red pines are prominent in uplands, though jack pines are common in recently burned areas. In the swamps, cedars, hemlocks, and maples prevail.

Species Associated with Forests

Woodland amphibians include a diverse array of frogs and salamanders. Loud choruses of Wood Frogs can be heard early in the spring around forest wetlands, followed later by the calls of species such as Spring Peepers and Chorus Frogs. Salamanders like the Spotted and Smallmouth Salamanders make yearly migrations to woodland ponds. Others, such as the often abundant Redbacked Salamander, lay their eggs under debris in the forest.

Reptiles are often more prominent along the edges of forests or in treefall breaks. Five-lined Skinks may be seen searching through the leaf litter for insect prey. Black Rat Snakes, excellent climbers, may be observed up in trees. In low areas with a little more soil moisture, Eastern Box Turtles may be observed as they look for worms and insects. Given the potentially extensive nature of forests, many other types of habitat, notably streams, ponds and other wetlands, are often imbedded in them.



J. Roe

Spotted Salamanders make yearly migrations to forest ponds.

CRITICAL CONSIDERATIONS FOR FORESTS

- Avoid fragmenting the forest through careful placement of roads, crop fields, and other barriers.
- Do not clear cut, and limit the use of monocultures such as pine plantations. Maintain habitat diversity by allowing the forest understory to remain complex.
- Protect unique habitat features such as wetlands within the forest.
- Leave logs, snags and other woody debris on site, and replace if removed.
- Minimize disturbances to soil and vegetation during forest activities such as logging. Working during the winter months will facilitate this goal.

Forests

Managing Forests to Benefit Amphibians and Reptiles

It is very important to protect the patches of woods that remain in a relatively natural state. In most areas, the forest that remains is highly fragmented, like islands in a sea of agriculture and urbanization. Protection does not mean not using forests, but often does go beyond just leaving the woods alone. By taking proactive steps when developing your forest management plan, you may be able to help amphibians and reptiles, as well as other wildlife, without hindering other activities you have in mind.

Avoid splitting woods into smaller fragments whenever possible. Can new roads go around the woods rather than through them? Can cultivated areas be outside of the forest rather than inside? These sorts of adjustments reduce the amount of edge in the forest, which improves its value for many species. **Where possible, woodlots should also be left connected to other woodlots by fencerows or other noncultivated areas.** Their overall value will be enhanced by these connections.



B. Kingsbury

Avoid isolating forest patches and restore connectivity where possible.

Part of the value of many forested areas is due to the wetlands that are in them. **Forest wetlands need to be protected.** See the Wetlands modules of this guide for details on how to do that, but for now just keep in mind that many animals use both the forest and the wetlands in them for different parts of their lives. If you have any other special microhabitats in your woods, protect them as well. This might include features such as cliffs, caves, and springs.



B. Kingsbury

Forests often contain wetlands and other special habitats.

Areas near forest streams are especially important to wildlife. These “riparian” areas are particularly sensitive to human impacts, typically related to erosion, either on site or upstream. Steep sides are sensitive to the movement of cattle, road drainage, and other activities disturbing the soil or encouraging surface runoff. **If water is needed for cattle, perhaps alternate sources outside of riparian areas could be used.** Perhaps it is possible to limit access to the riparian corridors altogether, or at least areas that look the most sensitive, with fencing. The same is true for any other wetlands.

Mimic the historic natural disturbance processes for your region. Fire may have been an important part of the natural mechanisms determining the structure of the woods. Is this true in your area? If you decide to use fire as a management tool, be sure to consider some of the details we provide for your consideration in the Toolkit and always work with local persons trained in prescribed fire use, for example staff at your local Soil and Water Conservation District (SWCD) office. It is also very important to burn at appropriate times to minimize animal losses.

Forests



A. Reseitar

In early spring, Wood Frogs can be heard calling in loud choruses around forest wetlands.

If you are harvesting timber out of your woodlots, use selective cutting, as opposed to clear-cutting, to maintain many natural forest attributes. Leave some of the bigger, older trees to contribute seeds for future generations. Also, consider harvesting in such a way as to maintain a diversity of tree heights.

When using pesticides, avoid broadcast spraying in favor of methods such as banding or spot treatments. When managing your forest, if chemical treatments are unavoidable, use them sparingly, and only use them outside of buffer areas around wetlands and riparian areas.

Non-native plants may invade an area and make it less valuable to reptiles and amphibians and as such they should be removed. Garlic mustard, for example, may overtake the forest floor, eliminating the diversity of native

herbaceous plant cover. Glossy buckthorn may present a threat in some areas. Contact your local SWCD office for the problem species in your area and the latest techniques for management.

Forest value is enhanced to wildlife when leaves, branches, and other fallen woody debris are left in place rather than “cleaned up.” Woody debris provides shelter, humid retreats, and foraging opportunities. Consider leaving all or some fallen trees right where they are. If an area was previously cleared, debris can even be reintroduced.

Fortunately, forest is a habitat that can be restored and recreated. You may not see full recovery in your lifetime, but in many areas it will only be 10 or 20 years before you can clearly see that the woods are making a comeback. **To enhance existing forest, consider letting it mature and become more complex.** By doing so, you are allowing natural succession to occur. Many firms specialize in small to large-scale tree plantings, and programs may help you offset your expenses in many areas. Speak to your local SWCD office to find out what your options might be. If you do replant areas, emphasize diversity and use only native species (species that are naturally found in your area).

In many areas, you may also be able to restore forest wetlands. Restoring wetlands is often a simple business that amounts to filling in ditches or breaking farm tiles. When conducting such restorations, make sure you know the full extent of potential resultant flooding so that you get the result you want and don't flood a neighbor's property.



Z. Walker

Woody debris (fallen logs and branches) enhances forest value to wildlife.

Forests

Integrative Management Ideas

Forests often carry economic value because of the timber, and this may be why you own or manage a particular parcel. **Fortunately, it is possible to harvest some of the timber in a forest yet retain much of its value to the wildlife living there.** This is typically achieved by avoiding the most intensive management practices, such as clear-cutting, whole tree harvest, plantation establishment, and slash piling. Instead, **leave some large cull/legacy trees and residual patches, and vary stand sizes and tree ages.** Practices that minimize soil compaction and reduce erosion are also very beneficial. The literature on best management practices is growing and evolving.

Use of herbicides should be limited or avoided, especially in riparian areas or around water. Banding or spot applications may be appropriate. Fire may have been an important environmental modifier in the past. It may be possible to incorporate its use into management designs and plans. Be sure to work with individuals trained to conduct prescribed fire when planning and conducting burns.

As much of the value of forests to wildlife revolves around special microhabitats within the forest, these areas should be given enhanced protection. Seeps, springs, rocky outcrops, ponds, and streams should all be avoided during logging. In fact, a buffer of natural forest should be left around all such areas whenever possible. Research suggests that buffer value noticeably increases with width to 100 or more feet. Even a buffer the width of local tree heights would be very beneficial, but consider doing more.



A. Reseair

Eastern Box Turtles may live for more than 50 years in the same forest patch.



S. Gibson

Forest streams should be protected with a surrounding buffer of unharvested forest.

Substrate manipulations should be limited. During site preparation, consider minimizing bed and mound heights. Debris from logging activities should be left behind at a density appropriate for local tree species. Manicured, park-like substrates are to be avoided, as they do not provide necessary cover for herps. **Working in the winter often reduces impacts to soil, vegetation, and wildlife.**

If the project involves residential development, consider approaches which cluster homes together and that maximize forest patch size, minimize fragmentation, and maximize connectivity. Proper road and utility corridor placement will also reduce fragmentation. Where practical, landscape with native vegetation.

The impacts of humans on forest habitat and the wildlife in it can be minimized with proper planning. A hiker may have little if any

impact to most woods, but off road vehicles (ORVs) can certainly damage fragile parts of the forest. **Consideration of what roads and trails are intended for and careful decision-making about where to place them can avoid many types of problems.** Along with these ideas, consider placing roads or trails in strategic locations so that they serve a multiple purpose. For example, as well as providing access between locations, roads could also serve as firebreaks between burn units. The Prescribed Fire section of the Toolkit offers more information on this subject.



This is the Forests module of the PARC publication, "**Habitat Management Guidelines for Amphibians and Reptiles of the Midwest**," ISBN # 0-9667402-1-1. Please visit www.parcplace.org for further information or copies of the complete document, or visit <http://herpcenter.ipfw.edu> for a Web-based version of these materials.