

TIMBER HARVEST PLANNING AND EXECUTION AND INVASIVE SPECIES MANAGEMENT

The spread of invasive plant species into the interior of productive woodlands is a serious and rapidly evolving problem that has the potential to significantly impact the financial productivity and ecological diversity of the native Appalachian hardwood forest.

The problems created by some invasive species such as multiflora rose and kudzu are long known and their impact on land management and productivity in general is now well documented.

As a result of their incredible ability to germinate and spread, Japanese stiltgrass and garlic mustard have combined to become the most significant threat to natural hardwood regeneration woodland owners and forester managers have been faced with since the invention of deer.

There are dozens of invasive plant species that are poised to impact our forests and the arrival and spread of emerald ash borer is going to create millions of light gaps in the forest for some of the worst of the invasive plants to become established.

Currently there are no set protocol for obtaining natural regeneration while managing hardwood timber that also includes containment and control of invasive plant species.

Dealing with the cost of invasive species of plants in our woodlands is a management expense that will never go away but controlling the arrival or spread of two of the worst species of woodland invasives found in West Virginia, Japanese stiltgrass and garlic mustard, should be a part of the timber harvest management process.

What follows is a suggested set of steps to the timber harvest planning process that can significantly impact the spread of invasive plant species during timber harvesting.

INVENTORY

During the cruise and planning process, notice and documentation for the location or presence of existing populations of Japanese stiltgrass or garlic mustard in areas that are being planned or under consideration for harvesting. At this time in some interior locations of West Virginia Japanese stiltgrass is only found along road sides and ditch lines but for much of the West Virginia a general invasion of woodland is underway and the location of spreading populations deep within woodland boundaries should be noted. Foresters and Forest Technicians

should learn how to identify Japanese stiltgrass in all seasons of the year.

Garlic mustard has only recently arrived in much of the state but the spread of the weed has been extremely rapid in all areas of the state where increased oil and gas exploitation is currently underway. Learning how to identify garlic mustard is extremely important for foresters involved with timber inventories and management planning.

HARVEST PLANNING

Whenever possible and when time allows, harvest planning should take place over the course of a year or growing season to allow the time to fully identify potential invasive threats to the planned harvest area by garlic mustard or Japanese stiltgrass.

If either species are present a contingency plan for treatment could include:

- Pretreatment of potential landing locations with herbicides (where permitted or authorized) during the growing season in advance of seed production.
- Knowledge that garlic mustard is a biennial plant that is often found spreading into undisturbed woods along public roadways, logging trails or gas and oil well service roads...that garlic mustard also stays green over the winter, flowers and goes to seed very early in the growing season while producing prodigious amounts of seed that persist in the soil as a viable seed bank for at least ten years. With its allelopathic properties now proven, identification and treatment of an infestation of garlic mustard before it becomes a general invasion is critical to maintaining natural regeneration a long term forest management option.
- If a landing location is to be used regularly or repeatedly, mechanical maintenance (weed whacker or brush hog) of the landing on an annual basis timed to be most destructive to targeted invasive plant seed production...stiltgrass in late August.
- If established logging roads or skid trails that are going to be utilized in a harvest pass through areas with stiltgrass or garlic mustard present, pretreatment of the trails and ditches in advance of use to prevent seed production is also recommended.
- When getting ready for a harvest, bulldozer work done between mid August and September 7 will kill the current years' growth of Japanese stiltgrass and prevent seed set.
- When possible, defer entry into areas heavily covered with stiltgrass

EQUIPMENT HYGIENE

Both Japanese stiltgrass and garlic mustard are easily spread by all equipment used in forest management and includes everything from logging boots to ATVs or bulldozers and skidders. Both plants produce small seeds that can number close to 500,000 per pound and their persistence .

- Boots. Mud stuck on boots can easily track seed from one property to another and muddy landings set out in bottoms with lots of stiltgrass can
- ATVs Increasingly, foresters are using ATVs during timber sale administration

and inventory work. In addition to the obvious potential for spreading weeds The skid plate on many models of ATV can hold large quantities of trail debris, including weed seeds. When multiple properties are visited