

DEER IMPACT

Rhode Island forests, as with much of the northeast region, can regenerate abundantly through the natural growth of sprouts (coppice) on tree stumps. This form of natural forest regeneration has been greatly impacted by high deer populations that heavily browse the new sprouts and older tree seedlings. Fencing and other methods for discouraging deer can be costly and labor intensive. Contact RI DEM Division of Forest Environment and Fish and Wildlife for more information on deer population control.

Programs and activities are available to all persons without regard to race, color, sex, disability, religion, age, sexual orientation, or national origin.

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these factors can lead to serious and **expensive** mistakes.

Forests take decades to grow, but can be destroyed in just a few days of poorly conducted cutting. Landowners can avoid these pitfalls by retaining a professional forester who can identify which trees to be harvested, determine the volume to be removed, and how much value or income the landowner should receive. **Foresters have been proven to be well worth the money.** Research has shown the average landowner makes more money from a timber sale administered by a competent forester, than by selling the timber on his/her own.

Call your public service forester, RI DEM Division of Forest Environment at (401) 647-3367 for advice and assistance with achieving your woodland goals in a way that protects and enhances the value of your property. Your public service forester can provide you with:

- Forest cutting/harvesting regulations-assistance with the *Intent to Cut* application process.
- Best Management Practices and oversight when working in forested wetlands. Refer to factsheet *Working for Clean, Plentiful Water* for more information about wetland laws.
- A list of consulting foresters and licensed wood operators.
- Ways to manage your woodlands in an ecologically sustainable manner.

The decision to cut trees on your property is an important one; don't be rushed into a bad decision. **CALL BEFORE YOU CUT!**

Where to do I turn for more information and help?

RI DEM Division of Forest Environment
(401) 647-3367 • www.dem.ri.gov

- Talk with a state service forester
- Obtain information and assistance with forest management, forest harvesting operations and laws; a list of consulting foresters and licensed wood operators; *Best Management Practices for Rhode Island: Water Quality Protection and Forest Management Guidelines.*

Rhode Island Forest Conservators Organization (RIFCO)

(401) 568-3421 • www.rifco.org

- Educational programs and events, newsletter, Rhode Island Tree Farm Program, links to numerous publications and local, state,

and federal forestry agencies and organizations.

USDA Natural Resources Conservation Service

- (401) 828-1300 • www.ri.nrcs.usda.gov
- Obtain the *Soil Survey Map of Rhode Island* and assistance with the identification of and information about the soils on your property; technical assistance with conservation planning and practices; and local conservation district contacts.

Southern New England Logger Education Program

- Forest and Wood Products Institute*
www.mwcc.mass.edu/HTML/FWP/default.html
(978) 630-9334
- Information about logger education program, certification, and scheduled workshops.

Northeastern Loggers' Association
www.loggertraining.com • (315) 369-3078

USDA Forest Service, Northeastern Area, State and Private Forestry

- www.na.fs.fed.us
Links to Durham, NH Field Office
(603) 868-7600
www.fs.fed.us/na/durham
- Information on Forest Stewardship, Fire Management, Conservation Education and Sustainability, Economic Action Program, on-line library.

Cornell Cooperative Extension, Department of Natural Resources

- (607) 255-2115
www.dnr.cornell.edu/ext/ext/index.htm
publications:
www.dnr.cornell.edu/ext/ext/publications.htm
- *A Guide to Logging Aesthetics*, other publications on timber and firewood production on small acreage woodland plots.

A Forest Landowner's Guide to Internet Resources: States of the Northeast

- www.na.fs.fed.us/pubs/misc/ir/index.htm
- Publications and factsheets for: Economics of Forest Investments; Tree Identification/Species Info; Forest Health and Protection; Tree Planting/Regeneration; Forest Management Planning; Sustainability and Certification; Silviculture; Forest Sampling and Inventory; Forest Harvesting Operations; Timber Sales; Special Forest Products; Riparian Forest & Wetland Mgmt; Glossaries of Forestry Terms; Miscellaneous



Working for Renewable Forest Resources

Timber, firewood, wildlife, clean water...We can have our forest and cut it too! There are ways of managing forests to assure that they remain ecologically sound while also meeting the needs of our society. The way we do this is through the application of the science of forestry. Many woodland owners take pride in managing their property while at the same time allowing the forest to retain its diversity and beauty.

Forestry that incorporates the full complement of environmental benefits is known as "ecosystem management." This means managing forests to meet human needs while maintaining healthy, diverse ecological conditions. This approach reflects an understanding of how forests function, and the recognition of the growing importance landowners and society place on non-timber values. The goal of ecosystem management is to maintain complexity, mimic natural disturbance, and work at a landscape scale.

Renewable Forest Resources

Wood is a renewable resource and wood products are often environmentally superior to alternatives, such as steel and concrete, which require far more fossil-fuel energy to produce than lumber. Rhode Islanders, like all Americans, are large consumers of wood products. Americans consume 25 percent of all the wood products produced in the world! Yet, while Rhode Islanders consume more and more wood products, our own forest production declines – not because our forests are depleted – but because we choose to import all we can. Some imports come from as far away as British Columbia and the rainforests of Indonesia.

Rhode Island forests can grow superb timber. However, they are currently producing far less than their potential capacity. Furthermore, few Rhode Island woodlands are being managed to grow the best wood.

Currently, we are only harvesting 12% of our annual growth. Of this

amount, tree harvesting associated with commercial forestry operations represents less than one-fifth of the timber being removed in the state. The remaining four-fifths of timber removals are on land that is being converted to some use other than timberland, such as land cleared for development or restricted from timber harvesting. If the state were to maintain the current acreage of timberland and manage it sustainably – harvesting by best management practices and taking no greater volume of wood than grows each year – Rhode Island could increase both annual net growth of trees and production of wood products several times over.

Sustainable Harvesting

Managing the forest for forest products and managing for biodiversity are compatible goals. We can have our forest and cut it too! The reason for this is simple: both quality wood products and ecological health require a mature, diverse forest. Timber harvesting traps carbon for decades (or even centuries) in the form of boards, while back in the woods new trees go on absorbing carbon dioxide, an important step in combating global warming.

There are two parts to managing for quality timber products: intermediate thinnings and regeneration harvests

Improvement Thinning

Young trees grow in dense stands or groups, filling the gaps created in the forest after some type of disturbance (fire, harvesting, insects, storms). Most trees gradually die out of the stand through competition over time. Forestry practices known as improvement thinnings present an opportunity to periodically thin the stand, removing some trees so that others can grow better. Growth can be concentrated on those remaining

TIMBER ACCESS

*Equipment access for timber harvesting can often pose a practical, logistical problem for many small acreage forest owners. Many small acreage forest properties are fronted by homes, garages, sheds, lawns & gardens, stone walls & patios, wells, and septic systems leaving no area large enough to permit access to most standard types of large equipment. Where one nearby property owner has enough road frontage or other access roads to allow for large equipment, it may then require passage through one or more neighboring properties to ultimately reach your property. This situation presents an opportunity for several forest owners to participate jointly in a tree harvest, reducing costs and other obstacles. Refer to factsheet *Working With Your Neighbors – Reconnecting Forest Fragments for more ideas involving group projects.**

LOW IMPACT LOGGING

Next to commercial fishing, commercial logging is the most dangerous occupation in this country. Logging is a physically and financially rough and risky business, and a logging operation is a disruptive operation even under the best of conditions. Introduce adverse weather, difficult site conditions, and poor planning; and the disruptions are compounded. Most landowners think of logging as muddy and ugly. Research reveals that many woodland owners are reluctant to harvest their timber for fear of destroying the natural beauty, recreational opportunities, aesthetic values, and wildlife habitat of their forest.

The four elements of timber harvesting that cause the most impact are trucking roads, landings, skid trails and tree felling. A landing is a cleared area where logs or trees are brought from the woods, usually by a piece of heavy equipment. The wood is cut up into various products, then sorted and stored here until they are loaded onto trucks and hauled to market. A skid trail is a temporary road in the forest that provides access for a machine (not trucks or cars) to drag felled trees or logs from the stump to a central landing area. Finally, a trucking road, which is often unpaved, connects the landing with publicly maintained roads.

In most cases, these activities should be planned and supervised by a professional forester, but they are ultimately under the direct control of the logger or the landowner. It is, therefore, important that the logger as well as the landowner understand the concerns and their solutions.

Logging can be a dangerous and disruptive affair but has come a long way. Licensing and training programs for loggers, such as the Southern New England Logger Education Program have improved safety in the woods as well the quality of the work that the logger performs. Refer to the list of contacts and resources at the end of this factsheet for more information.

trees that have the best timber potential, while at the same time utilizing the products generated from the thinning. These thinnings generally take place every decade or two and result in products like firewood, pulp, posts, poles, and small sawlogs. If markets are good, the costs of improvement thinnings can more than pay for themselves.

These intermediate treatments are a slight modification of the way a forest naturally grows. They work well in young and middle-aged stands. From a timber production standpoint, many of Rhode Island's woodlands are in need of this type of management.

However, for some older tree stands that have been neglected for too long, there is little that can be accomplished through this type of treatment. Such forests may be fine from an ecological point of view, but are no longer valuable for timber products.

Regeneration Harvests

After trees have been allowed to grow and produce more valuable wood, it is time to think about harvesting the timber and regenerating the next forest. Much of Rhode Island's forest is approaching this point. Since it is not desirable, practical, nor economical to regenerate all the forest at the same time, it is better to proceed gradually, diversifying the forest into a variety of tree species and ages. Because of the abundance of natural regeneration in our region, it is not necessary to plant new trees. The new forest that emerges is determined by:

- The seedlings (the types of existing trees) that are on hand
- How vigorously the tree stumps develop sprouts (known as coppice)
- The amount of sunlight now reaching the forest floor in that area

The ability of a tree to reproduce, grow and compete (survive) is a function of the amount of light that it requires. The amount of light that is produced in the forest is determined

by the size of the gap that is opened in the overlying forest canopy—either through natural disturbance or artificially through cutting.

There is more than one way to harvest a forest

Effective natural replacement in the forest requires an orderly succession of trees growing to take the place of those that die or are harvested. The way in which trees are harvested helps determine how quickly the forest regenerates and what kinds of trees will grow in succession.

To make informed land management decisions, landowners need information about the effects of different harvesting techniques. Having a range of options available means landowners can choose a technique that meets their objectives and preserves Rhode Island's beautiful landscape.

The following are some commonly applied regeneration harvests for Rhode Island's forests: Diameter Limit Harvest; Group Selection Method; Shelterwood Harvest; Commercial Clearcut; Silvicultural Clearcut; and Coppice with Standards. Depending on the tree species you wish to encourage, the type of timber products you wish to produce, and the degree to which you also wish to incorporate other forest activities such as enhancing wildlife habitat, one of these tree harvesting methods may best suit your plans and goals. Contact a state service forester and/or a consulting forester for more information and assistance. Refer to the list of contacts and resources at the end of this factsheet.

What are some marketable wood products and tree species that I can grow?

Think Quality

While red oak and white pine are the two most commonly grown and marketable tree species for Rhode Island forestland production, it is important to remember that tree quality is just as important—if not more important—than tree species.

Timber (Sawlogs)

The production of wood products measured in board feet—also known as sawlogs. These products are usually higher in value, such as veneer and large sawlogs. For board-foot volume production, the **value per foot** differs greatly with species, tree size, and tree quality. Thus, focusing on volume production alone without considering the characteristics of individual trees is not the same as focusing on the value of the products. Board-foot volume production involves treatments that focus available resources on trees that have the greatest potential value. To determine the right number of trees per given area to grow, foresters identify the tree species and then measure the tree stand density, the basal area, the number of trees per acre, and the size of the trees. Ideally, you want enough trees growing to make use of the available space and other resources without causing "overcrowding" which reduces both quality and growth rates.

The tree species most commonly marketed as sawlogs in Rhode Island include: Red Oak, White Oak, and White Pine. Other species also sold as sawlogs but to a lesser degree include Black Oak, Scarlet Oak, Maple, Birch, Hickory, Red Pine, and Hemlock. Red Oak is the most valuable species sold.

Firewood

Fuelwood is produced from lower quality trees that are poorly formed or crooked, or it may come from the tops of trees harvested as sawlogs. Lack of management, past history of land use, and fire have resulted in an overabundance of crooked, diseased and otherwise undesirable trees. In most RI woodlots, *crop trees* or straight trees of a species that are desirable for sawlogs, are far outnumbered by undesirable *cull trees* (poorly formed or damaged trees that have no marketable timber value). Proper fuelwood production can, therefore, make use of these *cull trees* while at the same time improving your woodlot by giving desirable crop trees room to grow (improvement thinning).

Fuelwood can be of any species but species such as hickory, red oak, white oak, ash, sugar maple, yellow and black birch and American beech tend to have high heat value while species such as white pine, hemlock, red pine, pitch pine,

red cedar, aspen, poplar, black cherry, and red maple tend to have low heat value.

Pulpwood

In some areas of the country, there is the opportunity to grow trees to provide a steady supply of wood to a pulp mill, chipboard plant, or wood burning energy plant. Usually, treatments aim to grow as many trees, or as much volume, in as short a period of time as possible, rather than focusing on growing large, high quality trees. Short rotations and only a few, if any, improvement thinning treatments are recommended. Income is earned through the steady supply of pulpwood. The income from pulpwood production may be enough to pay your ownership costs, as well as earn a profit.

The pulpwood market in Rhode Island is limited and fluctuates dramatically. Species commonly sold for pulpwood include most of the hardwoods and softwoods depending on market demand. Most of the pulpwood sold in RI is shipped to mills in northern New England. Prices for pulpwood tend to be very low.

Miscellaneous Products (Poles, Custom Sawn Wood)

There are some specialty markets that may occasionally be available to the woodland owner. Poles are trees that meet certain manufacturers specifications for use as utility poles, piling, and log cabin stock. Individual trees that meet these rigorous specifications can be of more value to the landowner. Red pine is especially suited for use as poles.

There is a market for trees that can be custom sawn and used to construct such things as post and beam homes, furniture, boat building and restoration, etc. This market generally requires trees to be harvested in different lengths than is customary for the standard sawlog harvest. Again, individual trees may be of more value to the landowner if he/she can develop a relationship with the people and/or businesses looking for this material.

Be A Smart Consumer - Call Before You Cut!

For most landowners, the process of selling timber is foreign, unknown territory. Timber harvesting requires expertise such as current price information, familiarity with markets, technical jargon, and environmental regulations. Ignorance of

SILVICULTURE

Silviculture is the art, science, and practice of establishing, tending, and reproducing forest stands of desired characteristics. It is based on knowledge of species characteristics and environmental requirements. Much of silviculture is the art of manipulating the amount of light that is introduced into the forest. Silva is the Latin word for forest.

HIGH GRADING – BEWARE:

Woodland owners are often scared away from timber harvesting by visions of "clearcutting" that are often erroneously portrayed in the media. They are attracted by the idea of "selective harvesting" in which only individual trees are harvested. However, in actual practice "selective harvesting" is too often a term used for high grading.

In this practice the best and most commercially valuable trees are cut and the poorer quality trees are left behind on the woodlot. "Cut the Best and Leave the Rest" is a phrase that is commonly used to describe this practice. This is not a recommended woodland management practice—especially if your interest is growing high quality timber. In actual practice, the better way to manage your woodland is to periodically remove poorer quality trees to favor the better quality trees. Multiple intermediate harvests over the long term often generate greater revenue returns than the one time practice of high grading. CALL BEFORE YOU CUT!