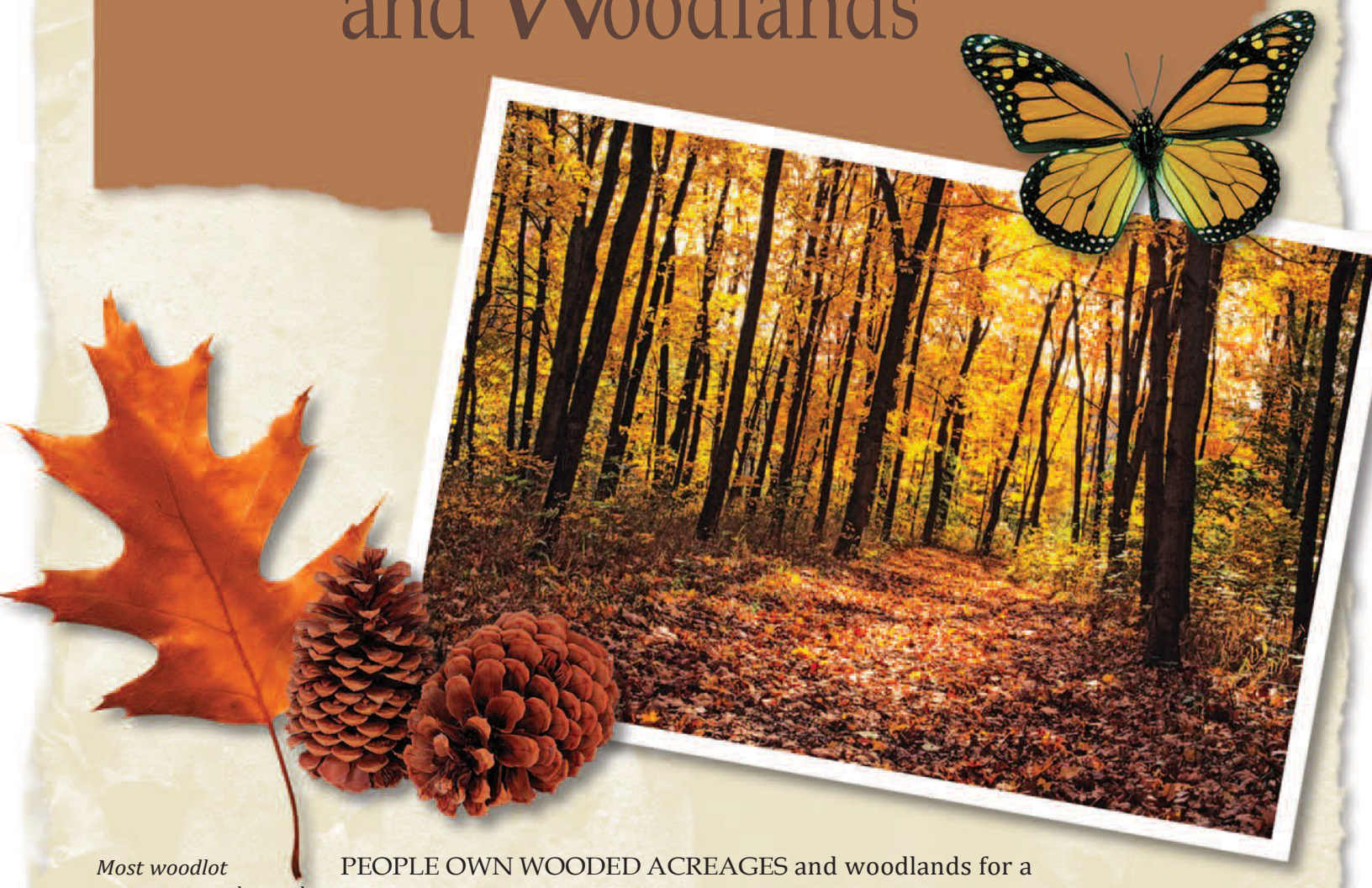
Planning for Wooded Acreages and Woodlands



Most woodlot owners want to be good stewards and protect and enhance the forest that they own.

PEOPLE OWN WOODED ACREAGES and woodlands for a variety of reasons that may include: timber production, firewood production, recreation, wildlife habitat, aesthetics, and alternative forest products. Most of Iowa's forestland is privately held, and the majority of ownership is fragmented into an average of ten acres (Forest Reserve Survey, 2004). In fact, the average size of an individual forest or woodlot ownership has been steadily declining for several years due in part to population growth, urban sprawl, and changes in land ownership.

Studies indicate that the probability of a sustainable woodlot decreases as the population increases. At the same time, most woodlot owners want to be good stewards and protect and enhance the forest that they own. To achieve this goal, careful forest planning and management is required especially when managing the land for multiple objectives.

DNR

IOWA STATE UNIVERSITY
University Extension

PM 2002B August 2005

Woodland Mapping and Management Plans

SETTING GOALS AND OBJECTIVES

Setting goals is the first step in woodland stewardship. Before the woodland can be improved clear goals and objectives need to be formulated. Goals are benefits derived from managing the forest. Objectives are specific management activities that help accomplish the goals. The goals should be clear, direct, and attainable. For example, one goal may be to manage part of the woodlot for firewood and timber production. Marking poor quality and low valued species from high valued species is an essential objective to achieve this goal. Another goal might be to manage the land near the home for aesthetics and wildlife or improve the woodland for fox squirrels. An associated objective for improved squirrel habitat is to "identify and release at least three potential den trees per acre." The goals should be compatible with the land uses, owner objectives and flexible enough to allow for changes in markets and future resources.

GETTING TO KNOW YOUR WOODS

A forest is more than a bunch of trees, it is very important to become familiar with the woodlot before managing it. Walk through the woods and consider the important benefits the woodlot provides. Write the benefits down and rank them by importance. During the walk:

- Identify the property boundaries and clearly mark them with posts, fencing, natural barriers such as bluff, rivers, and streams.
- Identify accesses and easements.
- Identify the trees and other plant species that exist in the woodlot by completing a resource inventory. Look for invasive plants such as multiflora rose, buckthorn, honeysuckle, and garlic mustard.
- Look at the land characteristics and features and think how it may influence the usability of site. Evaluate for riparian and water influences.
- Look at the historical and current land uses.

This aerial photograph clearly marks the property boundaries. The next step is to identify the types of land cover to help create management plans.

RESOURCE INVENTORY MAP

A complete resource inventory should be taken of the land. One of the best ways to accomplish this is by using an aerial photograph. Simply trace your woodlot on a separate piece of paper. Aerial photographs can be obtained from the Iowa Department of Natural Resource at **www.iowadnr.com/other/mapping.html.**

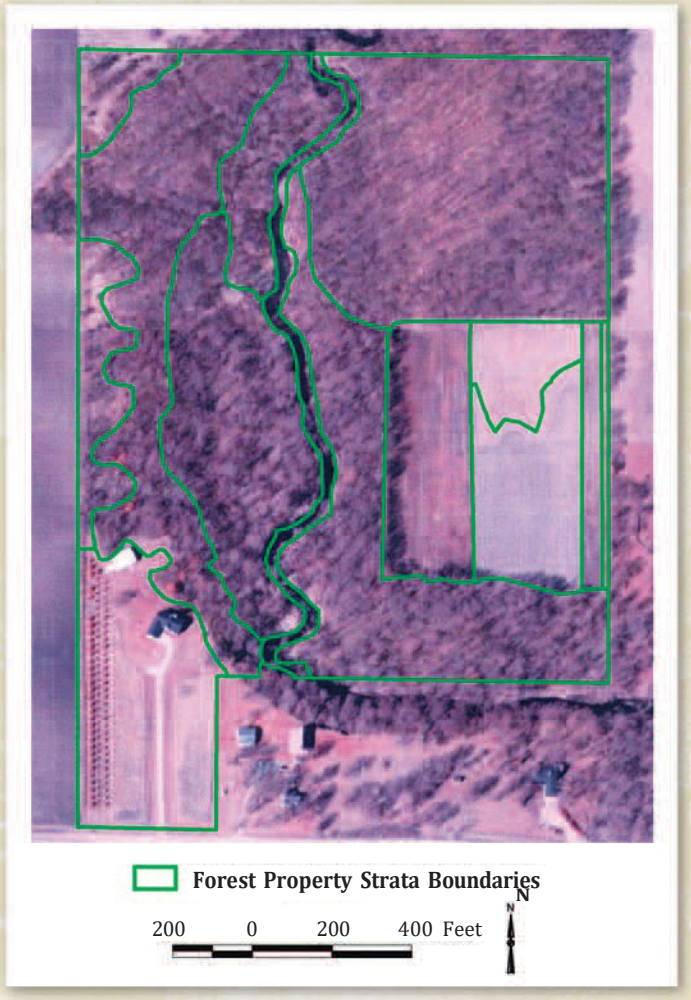
On the map, identify the upland and bottomland vegetative cover, clearings, bodies of water, adjacent land uses, crop land, windbreaks, and orchards that were identified during the inventory. Topographic maps can be useful when aerial photos are not available. District foresters and other resource management professionals

can help develop an inventory. A list of professionals can be found at **www.iowadnr.com/forestry/private.html** or **www.forestry.iastate.edu/ext/woodland.html.**

The data from the inventory can be compiled to create a resource map. A useful resource map would include details such as roads, trails, clearings, dense timber areas, high value timber areas, bodies of water, sites known for wildlife, houses, invasive species, and sources of recreation. Put the most important features that you want to manage in plain view. Keep in mind that this information is not suitable for all resources. For example if you are managing for high value timber, a detailed inventory should be done.

PLANTING

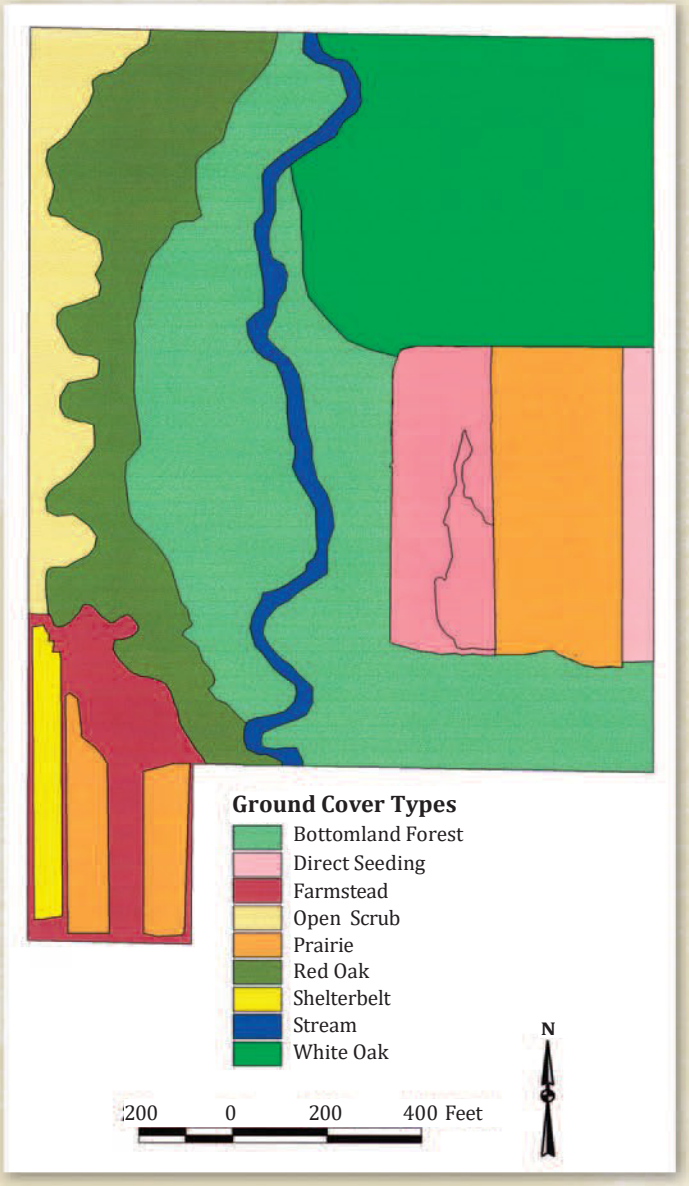
Consider planting trees and shrubs in open areas or empty fields. Purposes of planting could include timber production, wildlife habitat, riparian buffer strips, windbreaks, and beautification. Successful tree plantings require planning, site preparations, selecting planting stock (seedlings or direct seeding), and post planting maintenance. A little time spent planning the planting may mean the difference between a successful and unsuccessful planting.



The various land uses have been outlined on this map to help develop areas for planting, timber management, windbreaks, prairies, and aesthetics.

MANAGEMENT PLAN

Timber, firewood, wildlife, aesthetics, clean water, and alternate timber products can be managed on the same land. Look at the inventory map and locate areas where high valued timber can be grown and areas were trees could be planted through direct seeding or planting seedlings. Examples of high valued timber would include walnut, oaks, ashes, and maples that can be



A clearly defined map of the management goals for each parcel of land showing showing current land uses.

Invasive Plant Identification and Woodland Evaluation

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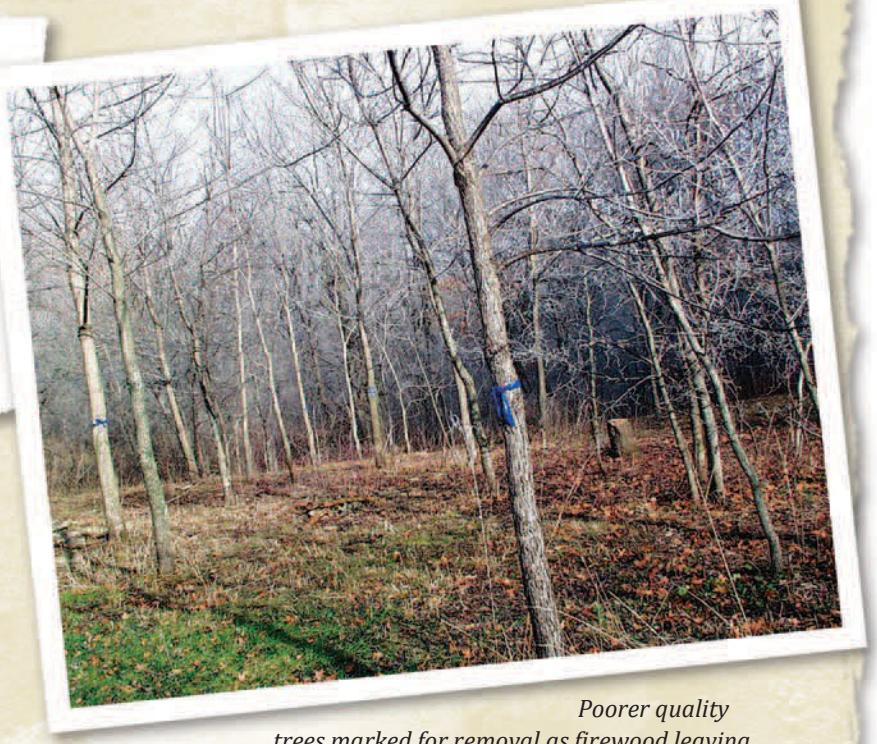


Poorer quality trees marked for removal as firewood leaving more desirable species for management options.

used as saw logs for lumber or high value veneer. Using a district forester, consulting forester, or other natural resource manager; a detailed inventory can be done to determine the available species and the stand density to prevent overcrowding. Remember, the ability of a tree to grow and reproduce is a function of the amount of available light to the tree. From there, practices such as harvesting and timber stand improvement can be done. Publications such Iowa State University Extension *Forestry Reference Handbook* (PM 1850) can be very useful in determining timber density.

Timber stand improvement utilizes techniques such as thinning to an appropriate density, removal of undesirable trees, weed control, and marking the crop trees for future seed production and harvest. More information timber stand improvement can be found at **www.iowadnr.com/forestry.index.html** or **www.forestry.iastate.edu/ext/pubs.html.**

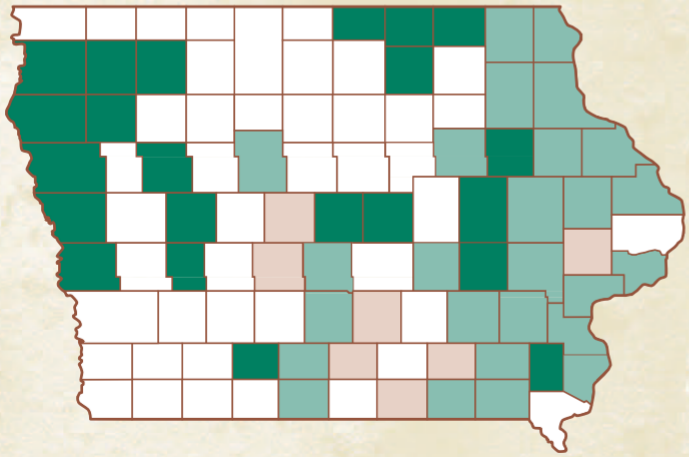
Firewood is produced from lower quality trees that are poorly formed, diseased, crooked, or hold very little timber value. These trees are identified in the inventory and are removed in thinning or crop tree operations. The lack of management and past land uses has created an abundance of firewood. Harder woods such as oak, hickory, and hard maple are more desirable for firewood than the softer faster burning species such as cottonwood, basswood, and soft maples. More information on managing the land for firewood can be found in *Firewood Production and Use* (F-370).

EXOTIC INVASIVE SPECIES

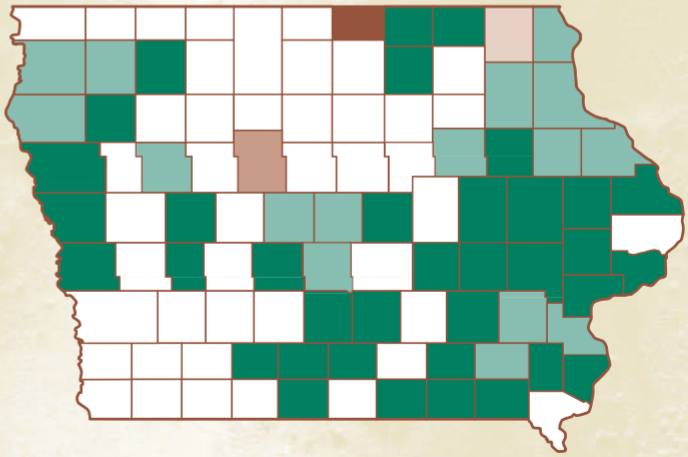
An exotic invasive species is a non-native plant that was introduced to the ecosystem. These plants were brought into the United States and cultivated as ornamental and landscape plants, livestock forage, soil conservation tool, and wildlife habitat. Most of these plants stayed where they were planted, however there are a few introduced species that have spread to the native woodlands. Invasive species tend to spread rapidly and often outgrow and displace the native vegetation.

In Iowa, most of the exotic invasive species infest the edge of a forest boundary or under the canopy of the existing forest. Over time, these plants can out compete the native trees and shrubs and completely change the forest landscape. This impact not only changes the future timber production, it also influences wildlife in addition to soil and water quality. Some examples of exotic species found within Iowa's forest land would include multiflora rose, buckthorn, honeysuckle, and garlic mustard.

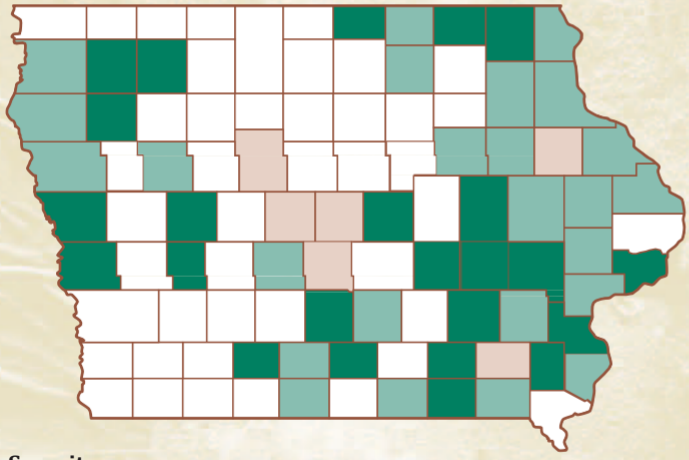
MULTIFLORA ROSE



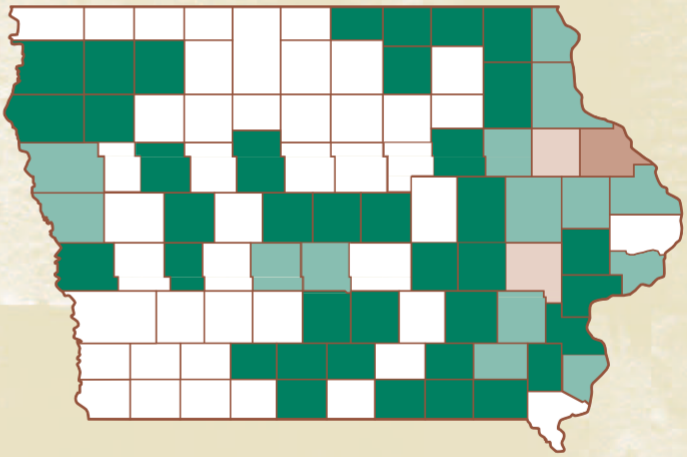
COMMON BUCKTHORN



BUSH HONEYSUCKLE



GARLIC MUSTARD



Severity

Not Found | Low | Low–Medium | Medium–Heavy | Heavy | No Data

These maps show the commonly found invasive species in Iowa's forest resources in 2004.

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Useful Internet Sites

1
www.forestry.iastate.edu/ext/pubs.hmtl

2
www.iowadnr.com/forestry/index.html

3
www.iowadnr.com/forestry/nursery.html

4
www.nrem.iastate.edu/Invasive_Species/Invasives.html

5
www.forestry.iastate.edu/res/Shelterbelt.html

6
www.buffer.forestry.iastate.edu/

Early detection and eradication is the best way to manage these woodland pests. Constantly monitor for these plants as when walking through the woodlot. Mechanical, chemical, and fire can be used to help control or eradicate an exotic species that is invading the woodland. Seek professional advice on the best way to manage these pests.

AESTHETICS AND WILDLIFE

An important goal for many small woodlot owners is to enjoy the property for its beauty, recreation activities, and wildlife. Look at the areas where recreational areas and wildlife have been noted on the resource inventory map. Consider planting a diverse selection of trees, shrubs, and wildflowers in those areas to create a colorful site in the fall and provide different food types for animals throughout the year. The Iowa DNR State Forest Nursery sells bird and wildlife packets that contain appropriate tree and shrub species. These can be purchased at State Forest Nursery. Additional harvesting can be done to create edges for certain wildlife or thinning that creates a park-like setting. Consider leaving some of the fallen and dead trees as homes for wildlife or building brush piles.

ALTERNATIVE FOREST PRODUCTS

Managing for alternative forest products may provide another way to generate income and may potentially develop into a small business. Alternative forest products require time, research, and preparation. Consider what products may be of interest in your area and produced from your woodlot. For example, the resource inventory map may have found an area that is dense with sugar maples trees, which could be used to produce maple syrup. Perhaps you have ornamental plants along the edge of the woodlot such as dogwoods or pines producing pinecones that could be harvested for floral designs. Another common alternative product in Iowa would include nut production from black walnuts, hazel nuts, hickory nuts, acorns and other seed for nurseries and direct seeding, ginseng and other medicinal plants, mushrooms, raspberries and black berries, and others.

Using the above techniques can help achieve just about any goal. As a woodlot owner, be sure to be familiar with your land and study the available options for managing the woodlot. Look at current interests and market trends in your area to help determine which management options are best. Be a smart manager,

Additional Resources

The publications listed below are also available from ISU Extension. To learn how to order copies or which publications are available contact your local ISU Extension county office, visit the ISU Extension online store on the Web at: **www.extension.iastate.edu/store/** or call **(515) 294-5247.**

PM 605	*Iowa's Forest Reserve Laws*
PM 1374B	*Growing Black Walnut in Iowa – Woodland Management*
PM 1374C	*Improving Woodlands – Woodland Management*
PM 1374D	*Harvesting and Regenerating Upland Woodlands – Woodland Management*
PM 1383	*Identification of Conifer Trees in Iowa*
PM 1384	*Identification of Hardwood Trees in Iowa*
PM 1429A	*Establishing a Community Tree Program – Community Trees*
PM 1429B	*Tree Ordinances for Iowa Communities – Community Trees*
PM 1429C	*Sample Tree Ordinances for Iowa Communities – Community Trees*
PM 1429D	*Low-Growing Trees for Urban and RuralIowa – Community Trees*
PM 1429E	*Street Trees for Iowa – Community Trees*
PM 1429F	*Power Lines and Trees – Community Trees*
PM 1429G	*Conifer Species for Iowa – Community Trees*
PM 1499	*Christmas Tree Production in Iowa – Economics and Marketing*
PM 1500	*Christmas Tree Production in Iowa – Establishment and Care*
PM 1528	*Common Diseases of Conifers in Iowa*
PM 1626	*Buffer Strip Design, Establishment and Maintenance – Stewards of Our Streams*
PM 1676	*Tree Planting: Planning*
PM 1677	*Tree Planting: Establishment and Care*
PM 1716	*Farmstead Windbreaks: Planning*
PM 1717	*Farmstead Windbreaks: Establishment, Care, and Maintenance*
PM 1812	*The Forest Where Ashley Lives*
PM 1812A	*The Forest Where Ashley Lives CD*
PM 1814	*Crabapples for Midwestern Landscapes*
PM 1850	*Forestry Reference Handbook*
PM 1943	*Deciduous Shrubs*
PM 1981	*Woodland Invasive Species In Iowa*
PM 2002A	*Woodland Improvement and Crop Trees in Iowa*
RG 0701	*Iowa's Oaks – Reiman Gardens*
SUL 0001	*Understanding the Effects of Flooding on Trees – Sustainable Urban Landscapes*
SUL 0002	*Understanding Decline in Trees – Sustainable Urban Landscapes*
SUL 0003	*Diagnosing Tree Problems – Sustainable Urban Landscapes*
SUL 0005	*Pruning Trees and Shrubs – Sustainable Urban Landscapes*
SUL 0006	*Managing Storm-Damaged Trees – Sustainable Urban Landscapes*
SUL 0007	*Topping: Tree Care or Tree Abuse? – Sustainable Urban Landscapes*
SUL 0011	*Fungal Cankers of Trees – Sustainable Urban Landscapes*
SUL 0010	*Pine Wilt Poster – Sustainable Urban Landscapes*
SUL 0015	*Oak Wilt: Identification and Management – Sustainable Urban Landscapes*

research your options and consider consulting with a professional forester on how to achieve your goals.

Additional ISU Extension forestry publications, including the F-series, are available at **www.forestry.iastate.edu/ext/pubs.html.**

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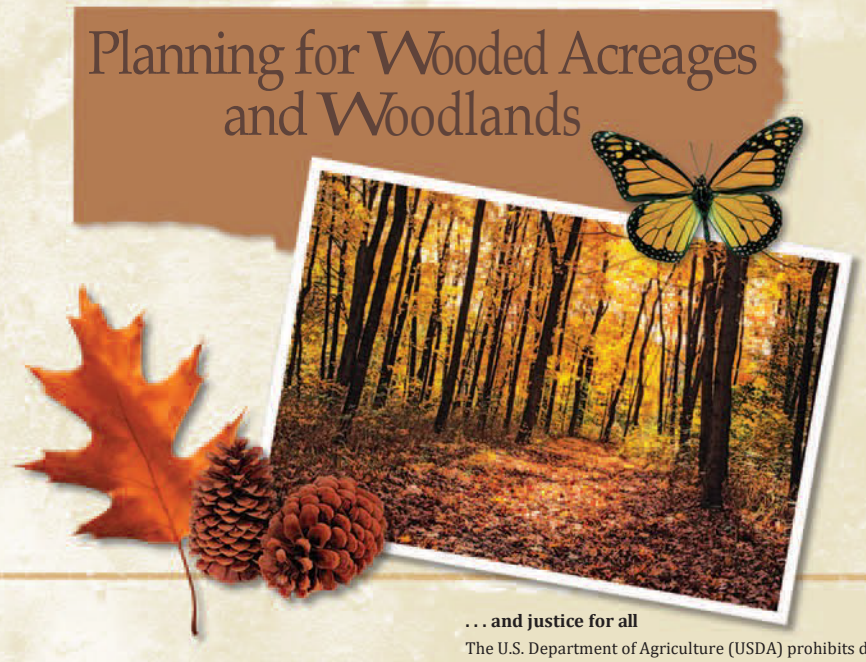

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