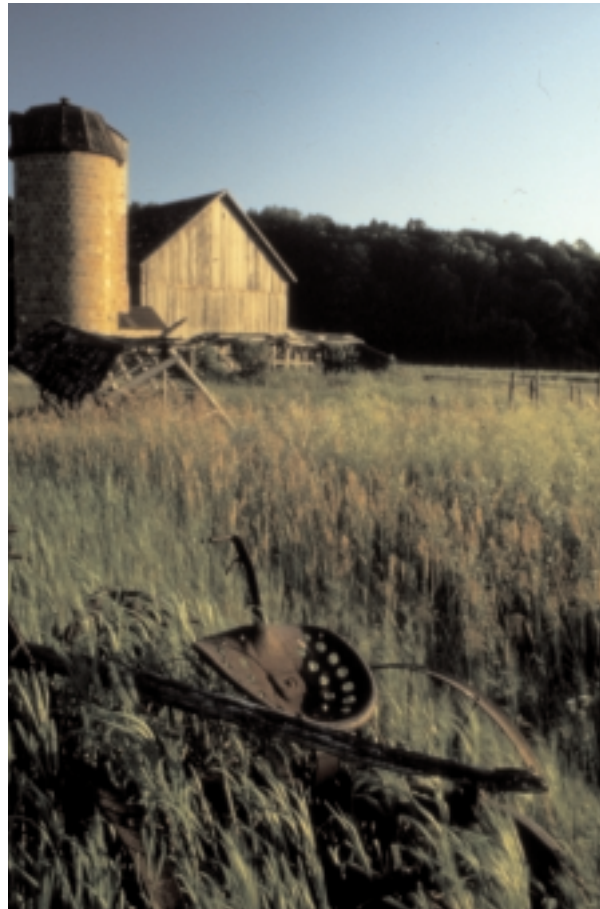


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# Country Acres

A Guide to Buying and  
Managing Rural Property



Lowell Klessig  
Mike Kroenke

*The purpose of this publication is to inform,  
not to advise. Your decisions or legal actions  
should be based on advice from an attorney  
or expert familiar with the specific facts  
relating to your property.*

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# Preface

This publication is written for you if you own or plan to buy:

- a few acres for a country residence,
- a farmette,
- a back-forty of woods,
- a hunting tract, or
- a lot on a lake.

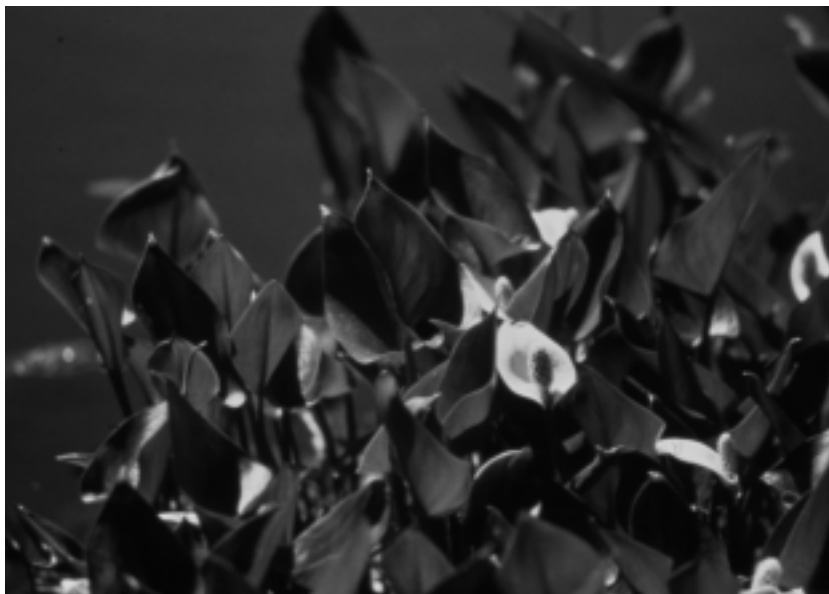
It is not intended to encourage or discourage people from buying rural land or moving to the country. Today's rural communities—which had been declining along with the number of farms—are being reinvigorated by new “settlers.” Rural communities need new people to support local businesses and new leaders to serve on town boards and school boards.

On the other hand, non-farm rural residents sometimes take valuable agricultural soils out of food or fiber production, demand hard-to-provide government services or object to the farming or forestry practices of their neighbors.

The authors believe the United States legal framework should never have allowed rural land to be subdivided below quarter quarter sections (40 acres) or government lots. We believe that our communities would be more sustainable if we maintained the countryside for agriculture, forestry, natural beauty, wildlife and recreation. However, Americans long ago rejected that model of land use—the model that most of the rest of the world follows. As a society, we assumed that we would never run out of land. We know better now, but the pattern is set and will be very difficult to change.

We hope this publication will help you decide if you want the responsibilities and rewards of owning country property. And we hope it will help those who already own such property to understand more fully the options they have for managing their land.

*Lowell Klessig and Mike Kroenke, 1999*



# Chapter 1



## Rural life and customs

Some folks feel that rural life is part of our history but not part of our present—that we now live in an urban society. Certain distinctions between rural and urban life have faded with modern communication and transportation systems. However, other distinctions remain to provide a rich choice of lifestyles.

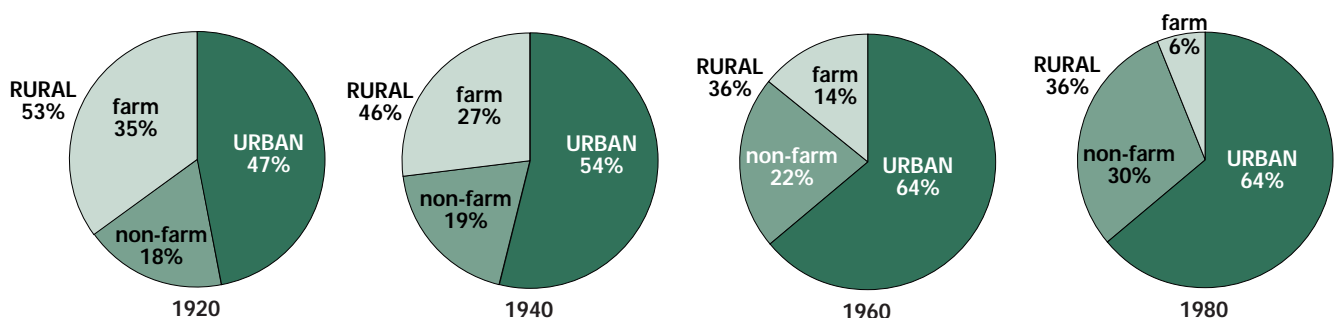
In the past 30 years, population movements have defied the long-standing trend of people moving from the country to cities. During the 1970s, the United States reversed the trend of urbanization as more people moved out of urban areas than moved into them. The 1980s witnessed a modest return to population movements that favored large metropolitan areas. But, overall, the experience of the 1970s–1990s suggests that the United States may well have reached equilibrium in the balance of rural and urban populations movements. In recent decades the constant has been a declining farm population and a marked increase in urban sprawl—urbanites moving into the rural areas around cities.

In Wisconsin, the pace of development was sluggish in the 1980s but in the 1990s has been so brisk that many citizens and officials are concerned about the suburbanization of the rural landscape. The new rural settlers tend to be retirees or families with young children. Younger adults continue to move to urban centers for education and jobs, while people late in their careers are least likely to move.

At the same time that the rural areas increased their growth rates, the number of farms and the size of farm families continued to decline. About two-thirds of Wisconsinites live in cities and one-third live in small towns and the countryside. Families living on farms are a minority of rural families and becoming more so (figure 1). In 1990, only 4 percent lived on farms. The rural non-farm population is growing dramatically.

However, the distinctive characteristics of rural life that attract the new settlers remain largely agrarian, defined by open spaces and traditional values.

Figure 1. Wisconsin population shifts, 1920–1980.





## Residential preferences

People think big cities offer higher wages, better jobs, contact with a wider variety of people and more opportunity for culture and recreation than rural areas. Many people believe that rural areas have a lower cost of living, are better for children, have cleaner air and water and less crime than cities.

In 1948, two-thirds of Americans indicated a residential preference for a small city, town or rural area over a big city. A generation later, the same preference was evident. However, the preference was contingent on being within easy driving distance of a city. Not surprisingly, many people would like to have both the benefits of rural living and the amenities of a nearby urban center.

## Privacy

Urban dwellers often take measures to protect themselves from a daily flood of potential contacts such as solicitors or people promoting particular causes. Rural residents traditionally have welcomed social contact because they had so little. That tradition continues, even though most rural residents have ample opportunity for socializing.

Although the physical distance is greater, social distance is often less in rural areas. People know their neighbors for miles around and often know a great deal about each other's lives.

## Reciprocity

Part of knowing a lot about your neighbors is knowing when they need help. It may mean giving them a ride when their car won't start, pulling them out of the ditch, or cooking a meal for them when they are ill. In return, you can feel comfortable asking to borrow equipment, or use the phone late at night.

If you are uneasy with someone knowing about your personal life, please remember that your neighbors will be better able to watch your property while you are gone if they know your routines and recognize visitors.

## Civic involvement

With smaller populations, rural communities must apply more social pressure to get "volunteers" to run for local government offices and lead community organizations.

Major community events—volunteer firemen's picnic, July 4th parade, county fair—require involvement by most area families. Such involvement helps maintain and build a sense of community. It feels good to belong and participate in local democracy. It does, however, mean sacrificing more personal time for commitment to the community.

## Absentee landownership

While many families have migrated to the country, others have taken only the first step. They have purchased rural property and perhaps maintain a second home. Absentee landowners are common throughout the state. In parts of northern Wisconsin, they constitute the majority of rural landowners. For instance, in Vilas County, 66% of the rural parcels are owned by people who live elsewhere. Non-resident recreational homeowners in Burnett County report using their property an average of eight days per month.

Communities with many seasonal residents often experience social divisions. The locals, who survive the winter on marginal incomes, may resent the influx of "summer people" who relax while local folks work long hours. Non-residents may resent the high property taxes they pay for schools their children do not attend and the lack of response from local officials whom they cannot vote out of office. Local residents need to appreciate the economic and cultural benefits tourists and second-home owners provide. Visitors and summer people need to appreciate that local residents support the community throughout the year.





## Land: Understanding the physical resource

City subdivisions are cleared, drained, leveled and provided with streets and utilities. The natural characteristics of the site usually do not constrain landowner options. In contrast, topography, soils, drainage patterns and the type of vegetation do constrain the use of rural property. Understanding the physical capability of land is the basis for all subsequent decisions regarding country property.

### Soils

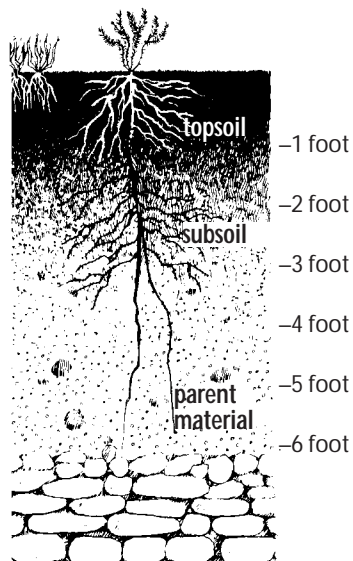
Soil is more than dirt. It teems with organisms, germinating seeds and plant roots. It provides the nutrients for plant growth, holds moisture plants need and provides an anchor from which plants can reach for the sun's energy. And after a plant or animal has completed its life cycle, soil organisms recycle the nutrients, which then feed future generations of plants. Most soil organisms live and work near the ground surface. Over many years, organic matter from decaying vegetation mixes with soil minerals and rock particles to form rich topsoil (figure 2). However, this thin layer can be easily eroded away.

The subsoil contains organic matter, aluminum and iron that have leached down from the soil surface to mix with weathered rock or glacial deposits. Some subsoils have little capability to hold moisture; plants growing on these soils suffer from lack of water during extended dry periods. Other subsoils are poorly drained and may be too wet for certain agricultural crops or for residential development.

The parent material underlying the subsoil contains relatively few soil organisms and is generally not involved in plant growth, but is important for construction of highways and buildings.

The ability of soil to hold moisture depends on the amount of organic matter and the size of the soil particles. The smallest particles are called clays; they hold water well, but also promote runoff because water does not soak into clay soils

Figure 2. Most soils are made up of contrasting layers soil scientists call horizons.





rapidly. Silts are not as fine as clays and do not hold water as well, but they allow water to soak in more easily than clays. Sands are the coarsest soils. Water filters through sand particles very rapidly.

Soil scientists use the percentage of clay, silt, sand and humus (organic matter) and other information to classify soils.

Scientists recognize more than 500 kinds of soils in Wisconsin. Figure 3 shows the major soil regions in Wisconsin. There are many soil types within each region, depending on glacial activity, the past history of vegetation, slope and drainage. A single 40-acre parcel may contain several different soil types. In general, loams—with equal amounts of sand, silt and clay—are the most fertile and sands are the easiest on which to build.

A soil survey provides detailed information on the soil's type, expected productivity and limitations for various uses. For example, about half the soils in Wisconsin are not suitable for conventional septic systems. Others are very prone to erosion. Soil surveys are available from the U.S. Natural Resource Conservation Service or county land conservation department in

your local courthouse or county office building. You can also find copies in schools or public libraries. Every prospective landowner should consult someone familiar with soil surveys before buying a piece of land.

## Geology

In some areas of Wisconsin, the bedrock is covered by little, if any, soil. In other places, the glaciers left hundreds of feet of glacial till (mixtures of rocks, gravel and sand) covering the bedrock.

The type of bedrock depends on its age. The older igneous (Precambrian) rocks, such as granite, are crystalline rocks often deformed by heat and pressure. You can see outcroppings of these erosion-resistant rocks in many northern counties. Younger, flat sedimentary rocks—such as sandstone, limestone and dolomite—underlie southern, eastern and northwestern Wisconsin. You can occasionally see them at the surface or in road cuts.

Bedrock conditions may affect the way you can use land. Bedrock close to the surface may preclude agriculture and conventional septic systems. In addition, old

crystalline rocks yield little water for rural wells. Porous sedimentary rocks and glacial deposits generally provide an abundant groundwater supply.

The glaciers are primarily responsible for the beauty of Wisconsin's hills and lakes. As the glaciers melted, they left hills (eskers, drumlins, moraines) and lakes (kettles). The most recent glaciers missed southwestern Wisconsin; geologists call it a "driftless area" because it lacks glacial deposits known as drift. Because glaciers didn't level that area, erosion has produced a steep topography of hills and valleys.

A topographic map is useful to appreciate the slope of your land and to explore the surrounding area. A few dollars spent for a compass and a topographic map can lead to many hours of enjoyment as you build confidence in finding your way across the landscape. Topographic maps are available from the Wisconsin Geological and Natural History Survey in Madison and at some sporting goods stores.

Figure 3. Major soil regions of Wisconsin.

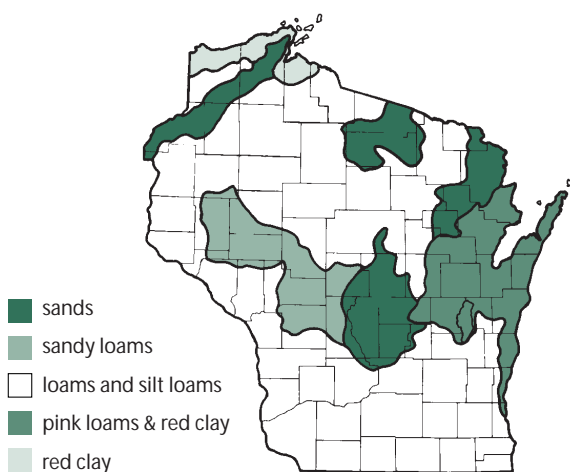
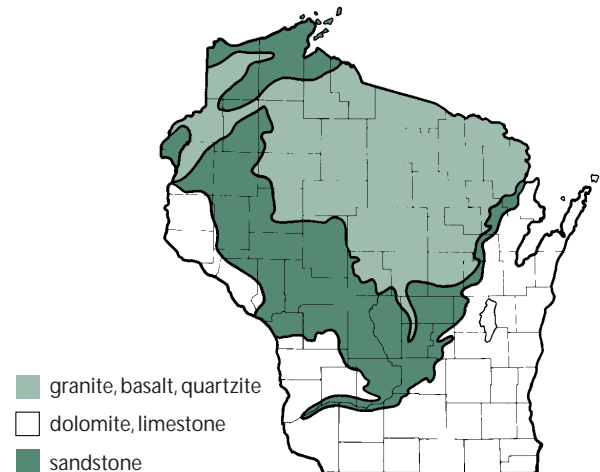


Figure 4. Major geologic provinces of Wisconsin.



## Vegetation

Anyone who seriously observes a parcel of land and the creatures that inhabit it will reach the same conclusion: "Everything is related to everything else." This interdependence is the first law of ecology. Thus, an expert can predict the type of plants that will grow on a parcel by knowing the soils and climate. If you don't have a soil survey handy, you can predict the type of soil by looking at the plants that grow there naturally.

Jack pine and scrub oak grow on sandy soils. These poor, droughty soils cannot support other trees and very few shrubs grow in the understory beneath the trees. Dense stands of hardwood trees with a thick understory indicate rich soils with some clay or silt. White cedar or tamarack indicate wet soils. Tamarack and black spruce often indicate sour or acidic soil.

Logging and farming have substantially altered the original vegetation. Of the 36 million acres in the state, about half are currently farmed. The percentage farmed has been declining for several generations. The remainder is primarily second and third growth woodlands which replaced many of the original pine and hardwood forests. Aspen, which became very common after logging and farms were abandoned, is declining as forest succession proceeds to other species.

## Wetlands

When settlers arrived in Wisconsin, much of the state was wetland because glaciers left many undrained or poorly drained depressions. A rich variety of vegetation and wildlife flourished in these areas. Most wetlands in southern Wisconsin were drained for agriculture or urban development. The Wisconsin Department of Natural Resources (DNR) in cooperation with county and town officials has mapped and classified wetlands larger than 5 acres. You can order the maps from the Wisconsin Geological and Natural History Survey in Madison, or review copies at the county planning and zoning office.

Historically, many people have viewed wetlands as wastelands or swamps; in recent years, people increasingly appreciate these areas for their natural beauty, wildlife habitat and other ecological functions.



## Surface and groundwater

Lake frontage attracts more rural property buyers than any other type of land. River frontage is also gaining in popularity.

People who own frontage on a navigable lake or stream are called riparians. They have special rights to use the water, but they also have special responsibilities not to pollute the water, which belongs to the public.

Landowners can experience problems when excess rainfall causes flooding or a rise in the groundwater level. Precipitation rates in Wisconsin vary dramatically from season to season and year to year, averaging about 30 inches per year.



A landowner or land buyer should understand the normal fluctuations of both surface water and groundwater. Floodplain maps are available for some streams. A lake property owner who builds a cottage or home during a wet year may require an extra 100 feet of pier to reach the water in a dry year. A homeowner who builds in a dry year may discover that the basement has become a big well when the groundwater table rises in response to heavy rains.

Some lakes are notorious for wide fluctuations in water levels. Homes built during dry periods have literally had fish swimming on the patio when the rains returned. Certain trees give an indication of how high the water rises. Usually it is safe to build a lakeside home under a mature red oak. The presence of fast-growing trees, like aspen or white birch, means only that the water has not been high recently. The presence of willow or other wetland trees is a definite warning that high water levels are likely to return.

Shorelands and floodplains are mapped and zoned. Consult your county code administrator and county conservationist before buying or building in areas near water, wetlands or drainage ways.





## Land: Understanding legal descriptions

Government survey teams preceded most settlers into the North American wilderness. Sometimes on horseback, sometimes on foot, the survey teams followed the explorers, traders, and trappers, leading the loggers and settlers into the wilderness. The surveyors used the English system of land description—still the basis for land description today.

### Township and range

The original survey divided the state into a grid at six-mile intervals. Each cell in the grid is identified by a township (T) number which signifies the distance north of the Illinois border. The 6-by-6-mile township cell is also identified by a range (R) number, indicating how far east or west it is of the Fourth Principal Meridian (a north-south line from about Dubuque to Hurley). A township identified as T20N, R10E is located 120 (20 x 6) miles north of the Illinois border and 60 (10 x 6) miles east of the Fourth Principal Meridian line.

Not all townships are perfect squares with six miles on a side. Periodically, the surveyors had to correct for the earth's curvature. Human error also modified the grid's symmetry. Regardless of initial errors, all subsequent surveying is based on the original government survey.

Note that township refers to a geographic piece of land. The political unit that generally corresponds to the same territory is called a town. The elected governing body is called the town board as described in Chapter 6.

### Section

Each township is divided into 36 squares called sections. Each section contains 640 acres and measures 1 mile by 1 mile. The sections are numbered from 1 to 36 starting in the northeast corner and following across and down as shown in figure 5.

### Subsection

Westerners typically measure land in terms of sections. In Wisconsin, rural land is bought and sold in smaller blocks, in partial sections. The most common unit of measurement is 40 acres or one-quarter of one-quarter of a section. Larger blocks can be described such as a half section (320 acres), a quarter section (160 acres) or half of a quarter section (80 acres).

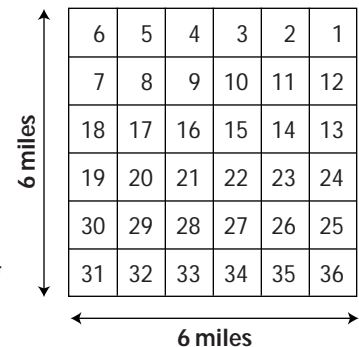


Figure 5. Numbering sequence of sections in a township.



A quarter quarter section can be divided into smaller subsections such as half of a quarter quarter (20 acres), a quarter of a quarter quarter (10 acres), half of a quarter quarter quarter (5 acres), or even a quarter of a quarter quarter quarter (2½ acres).

The 10 acres in Parcel A in the sample section of figure 6 would be described as the southwest one-quarter of the north-east one-quarter of the northwest one-quarter, or abbreviated as SW ¼, NE ¼, NW ¼. The full legal description for Parcel B is "South one-half of southeast one-quarter of northeast one-quarter of north-west one-quarter, Section 31, T20N, R10E; Waushara County, Wisconsin, five acres more or less."

Parcels along a lake or large river could not be described as square blocks and were originally designated as government lots and identified by number. Odd parcels created by surveying errors along a township boundary were also sometimes called government lots. Because of the irregular nature of shorelines, government lots may come in any shape. As a result, lakeshore property owners usually do not have square-cornered property, while farmers usually do have the potential for square or rectangular fields.

## Metes and bounds

Parcels that do not conform to easy subsectioning are described from a known point. That reference point is typically a section corner or quarter corner. A metes and bounds description establishes a beginning point in reference to such a known point and then proceeds around the boundaries of the parcel by giving direction and distance until the description returns to the beginning point.

A simple description for Parcel C, the square piece of land outlined in dots in figure 6, reads:

"A parcel of land in Section 31, T20N, R10E, Waushara County, Wisconsin, more particularly described as follows: Commencing 1000 feet north of the southwest corner along the west section line of said section, thence east 640 feet, thence north 640 feet, thence west 640 feet, thence south 640 feet along the west section line to the point of the beginning."

Descriptions become more complicated if the boundaries run at angles or curve. A professional surveyor should be hired to measure and describe such boundaries. Many counties require that creation of any small lot and all irregular parcels be done professionally with a certified survey.

Modern surveyors use feet as the standard measure of distance. However, earlier surveyors used links (0.66 feet), rods (16.5 feet), chains (66 feet) and furlongs (660 feet) instead of feet. Many property histories will contain a mix of old and new units of measurement.

## Plats

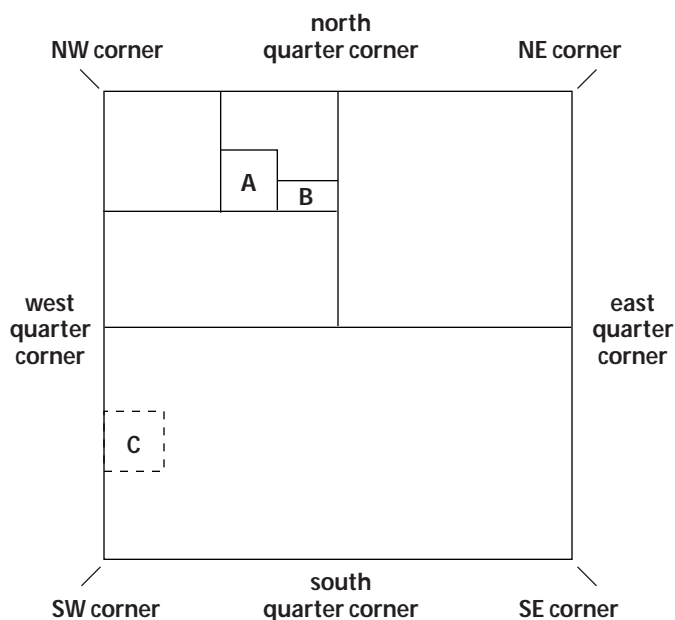
The creation of several small lots requires a formal platting process. The process involves detailed surveying, numbering of each lot and approval by state and local authorities. After a plat is approved and recorded with the county register of deeds, it becomes the reference for future land transactions.

## Abstract

An abstract is the legal history of a piece of property. The history usually begins with a patent conveying title from the United States government to a railroad, lumber company, land broker or homesteader. The chronology indicates all subsequent transfers of legal rights and subdivisions of the property.

The county register of deeds or land description office is responsible for maintaining a duplicate set of documents in the courthouse for official reference.

Figure 6. Sample Section 31, Township 20 North, Range 10 East.





## Purchasing property rights

Property ownership can be thought of as owning a bundle of rights. It is possible to buy only part of the bundle. It is also possible to sell part of the bundle while retaining the other rights.

### Mineral rights

The right to extract minerals from under the land surface has often been severed from the right to use the land surface. Therefore, many owners of surface rights do not own the mineral rights to their property.

The issue of mineral rights has become important in northern Wisconsin where geologists have discovered copper and zinc deposits, and continue to explore for other metals as well as oil and natural gas. In other cases, the issue could arise over gravel deposits.

In the past, the owner of mineral rights did not need to record ownership and did not pay property taxes. Thus, the property abstract provided no guarantee that the mineral rights had not been severed from the surface rights. A 1983 law requires that owners of mineral rights who do not own surface rights must have used their mineral rights within the last 20 years by:

- mining activity,
- recording of a conveyance of mineral rights,
- recording any other transaction regarding mineral rights,
- paying property taxes on the minerals, or
- recording a special statement of claim under the 1983 law.

If the owner of mineral rights has not “used” those rights by any of the actions listed above, the surface owner may claim the “lapsed” interest and reunite the surface rights and mineral rights.

### Restrictive covenants

A landowner may choose to restrict the future use of the property. Restrictions can limit residential development or specific uses, such as tree clearing, but cannot restrict the sale or property use based on an individual's race, creed, sex or color. Restrictions generally apply for no more than 30 years unless renewal provisions are made.

Restrictions can be enforced only by someone with an interest in the property, such as a seller who retains nearby property, neighboring landowners with similar restrictions on their deeds, or an association of such landowners. Local governments do not typically enforce private covenants.



## Easements

An easement permits a very specific limited use of a property such as constructing a power line, burying a natural gas pipeline or constructing a driveway to other property.

In other cases, the buyer of an easement wants the property owner to agree not to exercise certain rights. An example of a negative easement is a solar easement, which prevents a property owner from constructing a tall building that would block the sun. Highway departments have purchased scenic easements to prevent landowners from erecting billboards or unsightly structures. Units of government have also purchased development rights from farmers and woodlot owners to keep them from converting open space into commercial or residential uses. Cropping rights can be purchased to prevent cultivation of highly erodible land.

Easements are usually irrevocable and are transferred to subsequent buyers. They typically relate to the neighboring (appurtenant) land and “run with the land” of the easement purchaser. Whoever owns the property automatically has the easement rights relative to the neighboring property. In contrast, a license or lease is a short-term, contractual purchase of the right to use a parcel for a specific purpose.

## Access

A common type of easement is an appurtenant easement to provide access to a landlocked parcel. Owners of landlocked property are not guaranteed access to their property unless the seller of the property subdivided the parcel from a larger parcel which had road access.

Access to landlocked parcels is generally negotiated with the neighboring property owner whose land borders the public road. Landlocked owners may purchase a strip of land to the road or may purchase an easement to cross a strip of the neighbor's property. Such an easement is typically negotiated to run with the land and guarantee access for all future owners.

If a neighbor does not voluntarily agree to such a purchase, the owner of the landlocked parcel may petition the town board to condemn access across the property. After a hearing, the town board may condemn an access 33 to 50 feet wide. The town board may build a road to the property, but is not obligated to condemn the land for either a private driveway or a public road.

## Plat book

A land buyer needs three essential documents when searching for rural property: a soil survey, a topographic map, and a plat book. The plat book shows who owns the land in each township in a county. Plat books are available in the county courthouse from the county Extension office, register of deeds, land description office or county clerk. The plat book shows the shape and size of each ownership over about five acres. Roads, streams and lakes are also shown, but location may not be exact.

At home, you can investigate a parcel available for purchase with a plat book, soil survey and topographic map. You can eliminate most properties from consideration without investing the time and travel necessary for a site visit. Once you decide to consider a given parcel seriously, a site visit is essential. An aerial photo is especially helpful in studying property that contains a mix of open and wooded land. Aerial photos are available in the courthouse from the Farm Services Agency or Natural Resources Conservation Service. Both are local offices of the U.S. Department of Agriculture.



## Option-to-purchase

Under an option-to-purchase contract, a seller agrees not to sell the property to anyone else during the term of the option, and agrees to sell the property to the option holder at a set price if the option holder exercises the option-to-purchase. The buyer of the option pays the seller a cash price for the privilege of waiting to decide if he or she wants to buy the property. Cautious buyers use the option device to hold property until they are certain they want to purchase it.

The typical term for an option-to-purchase is six months to a year. If a buyer exercises the option, the price of the option is usually credited to the property's purchase price. If the buyer doesn't exercise the option, the seller can keep the option payment and put the parcel back on the market.

## Offer-to-purchase

While parties to a land transfer can legally draw up their own purchase agreements, most attorneys and real estate brokers use standard forms approved by the Wisconsin Department of Regulation and Licensing (Real Estate Bureau).

A seller who does not accept an offer might modify the price or other conditions of the offer and return a counter-offer to the prospective buyer. This negotiation process can continue by mail or in person until agreement is reached or one party stops responding. The final agreement should always be made in writing with all details clearly spelled out.

## Standard items in an offer-to-purchase

- Name of buyer(s) and seller(s)
- Detailed legal description of the property
- Total price offered (not necessarily asking price)
- Earnest money provided with the offer
- Additional down payment, if any, to be provided on acceptance of offer
- Conditions that must be met before buyer is obligated to fulfill purchase contract (sale of buyer's property, ability of buyer to obtain financing, positive soil test for septic system, etc.)
- Special items included in sale
- Special items not included in sale
- Division of property taxes for current year
- Agreement on special assessments, if any, against property
- Nature of the property conveyance (warranty deed, land contract)
- Restrictive covenants or easements, if any
- Provision for an abstract or title insurance
- Date by which the seller must accept the offer or return the earnest money
- Date and place of closing
- Date of occupancy
- Handling of earnest money and down payment
- Sellers' guarantees regarding zoning, suitability for septic system, etc.

## The closing statement

Closing is the formal transfer of property rights in exchange for money. It usually takes place at the office of an attorney, a real estate broker or a financial institution.

A closing statement documents the payments made to date and adjustments for property taxes due, insurance premiums paid, fuel in storage and recording and transfer fees. An attorney or broker usually prepares the closing statement, which the seller and buyer must sign.

## Tenancy

Before the closing can be completed, the buyer or buyers must decide how the property will be held. One or several individuals, a partnership or a corporation can own a property. The question of tenancy arises when several individuals will own a property.

Property owned by two or more people as **joint tenants** is automatically transferred to the surviving tenants if one tenant dies. Married couples are typically joint tenants of their homes, although either of them can own property in their own names.

**Tenants-in-common** own undivided shares of a parcel as do joint tenants. However, the other tenants have no right of survivorship. When a tenant dies, his or her interest in the property is conveyed to the heirs.

When buying property from joint tenants or tenants-in-common, it is essential to obtain the signature of all tenants. When buying property that an owner uses for residential purposes, both the husband and wife must sign even if only one of them owns the property. The other spouse has “homestead rights” and must agree to terminate those rights with the sale.

## Warranty deed/ mortgage

A warranty deed is used to convey property if a deal is closed with cash and no further relationship exists between buyer and seller. A warranty deed is also used if the buyer finances the purchase through a bank or other financial institution. The financial institution then holds a **mortgage** on the property. Finally, a warranty deed can be granted by a seller who agrees to personally accept a mortgage note from the buyer for the unpaid balance.

The mortgage entitles the holder to claim the property (foreclose) if the repayment conditions of the mortgage are not met. However, the mortgage holder must follow statutory procedures and allow a grace period of at least six months for the buyer to catch up on mortgage payments.

## Land contract

A land contract provides that a warranty deed will be granted at a future date when all payments have been made under the contract's terms. The buyer has possession and use of the property, but does not have the same protection under the laws regarding foreclosure.

Land contracts have become a popular method of transferring rights to larger parcels of rural land, especially property without improvements. Since 1980, land contracts and short-term mortgages have become popular even for residential property.

## Quit claim deed

When sellers are unsure of their property rights, they may issue a quit claim deed transferring their rights in the property—whatever they may be. Such deeds are sometimes used between heirs in an estate settlement, other transfers between relatives or divorce settlements.

The primary purpose is to clear title for the new owner of the land by clarifying that other relatives acknowledge they retain no interest in the property. Quit claim deeds are also issued by local units of government, usually counties, when they resell land they have acquired because a private owner failed to pay property taxes.

## Recording property rights/real estate transfer fee

You should immediately record the purchase of any property right in the county where the land is located. The county register of deeds will charge a small fee to record easements, options-to-purchase, land contracts, restrictive covenants and deeds. Using standard forms facilitates recording and reduces the chance of legal flaws.

The seller of land is required to pay the State of Wisconsin \$3 for each \$1000 received for the property. The buyer typically pays the register of deeds when recording the warranty deed. The buyer should have received credit for this payment on the closing statement, because the payment is the seller's obligation.

## Land buyer's checklist

If you are considering purchasing rural property, you can use the checklist on pages 51 and 52 to evaluate properties that you are considering.





# Zoning and other public control of land use

**G**overnment bodies have the authority to control the use of land for the purpose of promoting the public health, safety and welfare. A governmental body can purchase some or all property rights from a landowner; moreover it can enact regulations to control land use without any compensation to affected property owners. If the regulations do not allow the owner reasonable use of the property, courts may declare the regulations to be unconstitutional because, in effect, they “take” property without compensation.

## Subdivision regulations

If a landowner creates five or more parcels in a period of five years and the parcels are 1.5 acres or less in size, Wisconsin law requires a formal platting process. A registered surveyor must prepare a plat. A certified soil tester must conduct percolation tests. Proper access must be provided to public roads. Under the provisions of Chapter 236 of the Wisconsin Statutes, several state agencies then review the plat.

Towns and counties also review plats and may adopt regulations requiring subdivisions to meet certain local criteria, even if the subdivision contains fewer than five lots or contains lots larger than 1.5 acres. In some counties, certified survey maps may be needed to create even a single lot.

## Sanitary codes

The regulatory framework for installing septic systems, holding tanks, mounds and other systems designed to handle liquid wastes is provided by the state Uniform Plumbing Code.

In Wisconsin, you need a permit to install a system. If the site is suitable for a septic system, the county code administrator or sanitarian issues the permit and also inspects the site while the system is being installed.

To determine if the site is suitable for a conventional septic system, a certified soil tester makes three soil borings to check for permeability (percolation rates), soil texture, evidence of high groundwater and depth to bedrock. The tester also determines slope and the potential for flooding and takes borings on a second site, which you can use when the original system fails. Before you buy a property, even one with a septic system, include a positive test result as a condition of sale and have a soil tester conduct the test prior to the closing.



## General zoning

Zoning determines how land may be used, the minimum size of lots, the height of structures, the setbacks required from the road and from property lines, and other features. The purpose of zoning is to provide for an area's orderly development and to minimize conflicts between incompatible land uses. For example, a rendering plant, an asphalt plant, certain entertainment establishments and large-scale commercial facilities are generally considered incompatible with residential uses.

Some towns adopt and administer their own zoning ordinances. More commonly, town boards vote to be included under a county ordinance which the county code administrator enforces. However, town boards may decide not to have their towns included in any general zoning.

Zoning should be based on a land-use plan, usually prepared by a local committee of citizens appointed by the town board. The plan defines several zoning districts. Typical zoning ordinances include one or more residential districts with varying minimum lot sizes, one or more agricultural districts, a forestry district, a commercial district, an industrial district and a conservancy district.

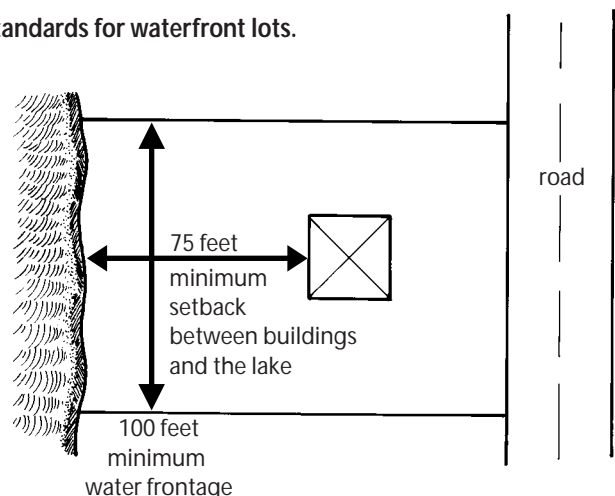


A zoning ordinance permits certain land uses in each district. Additional uses, called **special exceptions** or **conditional uses**, are permitted if specific proposals are approved. Zoning agencies may put special conditions on such uses.

Uses in existence when a county or local board adopts an ordinance are "grandfathered" even if they are not permitted in that zoning district. Such **non-conforming** uses are allowed to continue, but generally cannot be expanded and, if discontinued for a year, cannot resume.

Most rural zoning ordinances have an **exclusive agriculture** district. The purpose of this district is to preserve good agricultural soils for farming and to minimize conflict with other uses. Residential development is not permitted in this zone unless the residence is a farm-related residence, a farm family member uses the farm residence, or the lot was created before the property was rezoned into an exclusive agriculture district. To compensate for restrictions on residential development, farmers are eligible for a tax credit applied against their state income tax.

Figure 7. Minimum standards for waterfront lots.



## Shoreland zoning

Shoreland zoning is designed to protect the public interest in water quality. It applies to all land within 1000 feet of a lake, 300 feet of a navigable stream and to the landward side of a floodplain. By law, each county must adopt and enforce an ordinance that meets state standards. The ordinance applies to all rural land.

Typical provisions require a minimum of 100 feet of water frontage per lot, a building setback of 75 feet from the water's edge (figure 7), and a septic system drain field setback of 50 feet from the water. The state standards also regulate clear cutting trees, land grading and filling and dredging at the water's edge.

## Floodplain zoning

State standards require counties to preserve open space within the **flood way**—the area needed to discharge moving flood waters. Counties may permit building in areas of standing backwater (**flood way fringe**), but such buildings require an elevated base or other protection. Such an ordinance is required for eligibility for federal flood insurance.

## Shoreland alteration permit

Wisconsin has strong laws to protect water quality because the state has a constitutional responsibility (as laid out in the **Public Trust Doctrine**) to protect the public interest in navigable waterways. Any stream that has a defined bed and banks and can float a canoe sometime during the year is considered navigable.

A state permit is required to fill, dredge or otherwise alter the shoreline or the bottom of a lake or stream. Permits are also required to:

- construct ponds connected to natural waterways or within 500 feet of navigable water (except for agricultural uses);
- change the depth or straighten a channel;
- build a bridge over a stream;
- place sand blankets on beaches;
- build dams, riprap shoreline; or
- grade more than 10,000 square feet of the bank.

To alter a wetland, you need state and federal permits. If you are thinking about altering a waterway or wetland, contact a DNR office and ask how you can reach the nearest DNR water management specialist.

## Building permits

To construct or substantially renovate permanent structures, you must get a local permit, pay a fee and post the permit at the building site.

## Eminent domain

To construct highways, obtain utility easements, obtain access to waterways and carry out other public projects, some government bodies have the authority to condemn private property. The agency must pay fair market value for the property. The process is subject to judicial review.







# Town government

In Wisconsin and most other Eastern states, a **town** is the political subdivision that states create to provide government services in rural areas. The Wisconsin Constitution, patterned after New York's, directed the state legislature to establish one system of town government, as nearly uniform as possible. (A **township** is a geographic unit used to describe the location of property—see Chapter 3).

## Structure

The legislature carried out its mandate to establish a system of town government through Chapter 60 of the Wisconsin Statutes. Town government retains much of the direct participatory democracy symbolized by the New England town meeting. It also contains elements of representative government typical of larger government units.

**Annual meeting:** Each spring, the residents of a town can directly influence the budget and policy of their town government by voting on issues raised at the annual meeting. Special meetings can be called at other times of the year.

**Town board:** The town board must carry out the decisions of annual or special meetings. The board also has substantial discretion to deal with certain issues in the absence of budgetary policy voted on by the residents.

The town board is composed of a chairperson and two to four side-board members. All town board members are elected for two-year terms at the spring general election of odd-numbered years. Each town elects a town treasurer and a town clerk. Some towns also elect an assessor and a constable.

## Services

**Roads:** In the 1850s, the principal role assigned to towns was developing and maintaining a transportation network to move farm products to market. Town governments still spend more money on roads than on all other services combined. The revenue needed for town roads comes from the state gasoline tax and local taxes. Although snow plowing and road maintenance are the biggest budget items for town government, town road maintenance and snow plowing schedules may not meet urban standards because of the distances involved.

**Elections:** Town clerks are responsible for all government elections and the town hall is usually the polling place.

**Tax collection:** Town assessors or a private firm hired by the town determine the equalized market value for each property in a town. Town treasurers can collect property taxes, not only for operating town governments, but also for school districts, county governments, vocational schools and any special purpose units, such as sanitary or lake districts. The school district tax is usually the largest tax. In other jurisdictions, the county treasurer collects all property taxes.

**Police, fire and ambulance:** Towns may provide protection and emergency services. The small populations of most towns, however, make it inefficient to maintain facilities or personnel for these purposes. The county sheriff's department usually provides police protection. Towns typically cooperate with nearby villages or cities to provide fire protection. Ambulance service may be provided privately, by the county, or by a nearby city.

**Miscellaneous powers:** Towns are authorized to provide other public works and public safety services such as sanitary landfills and highway lighting. In general, towns close to urban areas provide more services than remote towns. Towns near cities have, historically, been the most active in land use planning because urban sprawl has caused major conflicts and major new demands for government services.



## Why manage rural property?

If land is part of a business operation, profitability is the most obvious reason to manage rural property. Poor management means less profits, an operating loss or even economic disaster.

However, management is crucial even if the property is not part of a business operation. Achieving non-economic goals, such as enhancing natural beauty, ecological diversity and wildlife also requires management. Management is essential to meeting long-term goals where economic and non-economic considerations tend to blend, such as in soil conservation.

Business consultants recommend **management by objectives**, a fancy term to describe a simple principle. Management by objectives simply means that you clearly define what you want to achieve, then devise a strategy to meet the objectives and later evaluate how well you have succeeded.

For many rural property owners, family income doesn't depend on the products produced on the property and the results of management are not immediately obvious. Such owners often don't define their objectives and outline a strategy to meet them. The following discussion is designed to encourage just such a process and explain why it is valuable.

### Stewardship and more

Whether or not you are interested in an economic return from the land, you may feel a strong obligation to care for the property you have the privilege of owning. Your land-use decisions may be motivated, or at least constrained, by a sense of respect for the land and for the rights of future generations. History provides many examples of the fate of civilizations that failed to manage their natural resources, especially their soil. Preventing soil erosion ought to be the first obligation of every landowner.

Recorded history provides countless examples of the bond that develops between a tribe, a community or a nation and the land on which it lives. Rural property owners know that such a bond also develops between an individual and the little tract of personal land that nourishes hopes and cushions failures in other areas of their lives. Land can be an important part of the emotional security of individuals, communities and nations.

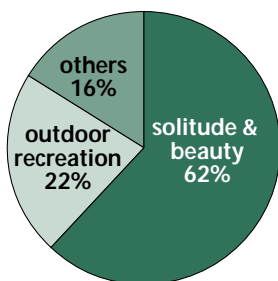
Wisconsin author Aldo Leopold, in his classic *A Sand County Almanac* went beyond the values of good, long-term responsible management. He believed that the land would have to be included in our concept of community before we would treat it ethically. His "land ethic" is summarized in this quote:

*"We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."*

## Natural beauty

Repeated studies since 1970 have revealed that the primary motivation for owning lakeshore property in northern Wisconsin was the property's natural beauty. Enjoyment of the visual environment out-ranked outdoor recreation, the second place motivation, by a wide margin (figure 8).

**Figure 8. Reason for purchase of lakefront property.**



However, careless actions by the very people who build homes near the water to enjoy the natural beauty can degrade lakes and streams. The following actions tend to preserve both water quality and natural beauty for riparian homeowners:

- Set buildings and septic drain fields back from the water.
- Minimize the area cleared of natural vegetation, especially at the water's edge.
- Lay out curved paths to the water along the contour to reduce erosion and visual impact.
- Minimize use of fertilizers and pesticides
- Use earth-tone colors for buildings, boathouses and docks.

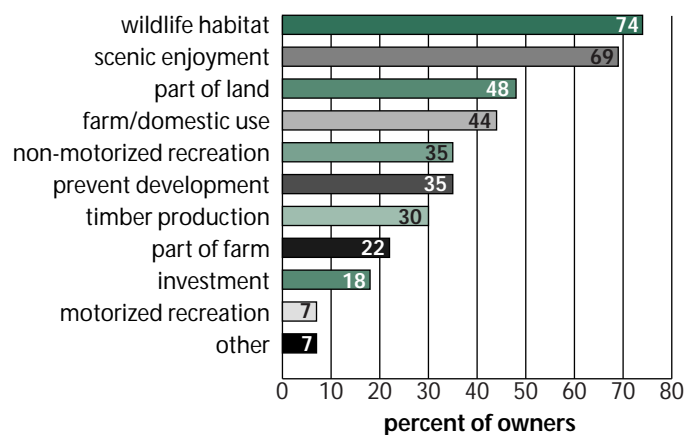
Other rural property owners also value natural beauty. In a 1984 study, Wisconsin forest landowners indicated that scenic enjoyment and wildlife habitat were the most common reasons for owning rural land (figure 9). Numerous smaller and more recent surveys have confirmed the dominant value that rural property owners place on landscape aesthetics.

If you share such objectives, you may want to participate in local land-use planning in order to protect the general visual qualities of an area. You may also want to plant trees or shrubs to screen less attractive areas of your own or a neighbor's property. Vegetative barriers also reduce noise pollution from highways or other intensely used areas.

You can site your new home to use existing vegetation, vistas and natural land formations to best aesthetic advantage. Building a house or other building on the crest of a hill destroys natural beauty; it interrupts the landscape's natural flow. A house nestled into the landscape just below the crest provides the same view on the front side, is aesthetically more pleasing and also requires less energy to heat.

You can also enhance natural beauty by selectively harvesting trees. Leave a diversity of tree sizes, shapes and species, mixed with scattered open areas. If you know the timing and coloration of each species during spring flowering, leafout and autumn foliage, you can literally paint the landscape you see from your living room window by careful thinning and planting of native species.

**Figure 9. Important reasons for owning woodland.**



## Outdoor recreation

Rural property owners have many opportunities for outdoor recreation. Waterfront owners can swim, water ski, boat and fish. Many property owners hunt mushrooms or game, pick berries, photograph wild scenes, enjoy birds and wildlife, cross-country ski or simply hike across their property. Whatever outdoor activities interest you and your family, you can manage your property to enhance those recreational opportunities.

For example, people who like native mushrooms can keep some old and dying trees so they can collect mushrooms that grow on rotting roots. Those culturing oyster mushrooms should manage for a continuous supply of mature aspen or birch. If you want to produce shiitake mushrooms for home use or sale, you need a supply of pole-size oak logs. Be sure you are familiar with mushroom identity and safety before eating wild mushrooms.



Even berry pickers will eventually give up their fun and food unless they manage part of the property for this purpose. The type of plants growing on a site naturally changes over time. Berries tend to grow in disturbed areas that have been cultivated, logged or burned within the last 20 years. They grow at the forest edge, but seldom in the forest itself. Blueberries like acidic and infertile, sandy soils without trees. Raspberries and blackberries grow in open areas that were disturbed some years ago. Pioneer trees, such as oak, red pine, aspen, and birch, usually invade open areas. However, these trees can't reproduce in their own shade; shade tolerant trees such as white pine and maple eventually replace them. The process is called plant succession. Unless natural disasters or planned management interrupts the process, the berry picker will face slim pickings in the future.

## Wildlife enhancement

For most people, wildlife is an integral part of natural beauty and outdoor recreation. Observing wildlife is often the most memorable part of an outdoor experience. Seventy-four percent of Wisconsin woodland owners report wildlife habitat as an important reason for owning their property.

All land-use decisions affect wildlife. Large, consolidated agricultural fields, pesticides, wetland drainage and large pine plantations diminish wildlife habitat. But you can minimize changes in wildlife habitat when you build a home, raise crops or harvest trees. You can also take positive steps to increase wildlife numbers and diversity. Of course, you may want to discourage certain wild animals that damage buildings, crops or trees. Excessive deer are a problem in many parts of the country; beyond eating crops and gardens they are eliminating some tree species and many forbs from the native plant communities. They are also costly in terms of auto accidents, insurance rates and the anxiety they cause nighttime drivers.

Wildlife need cover, food and water for suitable habitat. By protecting or providing these essentials, you can enhance wildlife numbers. Conversely, you may be able to reduce nuisance populations of certain wildlife species by removing one or more of their habitat requirements.

Some landowners want **species richness**—as many kinds of wildlife as possible. They manage their property to provide a wide variety of habitats such as different ages and species of trees, open grassland, shrubs, hedgerows, wetlands and shoreland. Tree spacing may even be important. For instance, oaks do not produce acorns unless they have enough space to develop a large crown.

Other landowners want a particular kind of wildlife. They manage for **featured species**. Such owners learn the needs of that species and manage their property to favor a particular animal.



Property can be managed to favor game species such as grouse, deer, or squirrel, endangered species or other personal favorite wildlife.

In general, wildlife benefit when several habitat types occur near each other. Habitat patches in the landscape create a beneficial **edge effect** where animals can quickly move between areas providing cover, food and water. Other species need large uninterrupted tracts of forest or wetlands or connecting corridors linking pieces of habitat that can only be provided on large acreages of public land.

The box on page 22 provides a guide to the needs of several wild animals. You can find specific habitat requirements for other species in publications available through DNR or University Extension. You can get personal advice from

University Extension wildlife specialists or DNR wildlife managers.

Some landowners manage part of their property for a featured species and encourage species richness on the rest of their property. Other landowners want exotic species such as pheasants that are not native to Wisconsin. Several exotic species, such as starlings, have taken over the habitats of desirable native species. In most cases, exotic species require an unnatural amount of care, almost like domestic animals. Wildlife managers consistently recommend that landowners encourage species that are native and therefore adapted to Wisconsin's environment.

Before deciding on the type of wildlife to encourage, you need to understand the species' needs and the ability of your property to meet them. For example, woodcock need rich wet soils for earthworms and brush for cover. A dry, sandy woodlot will not attract woodcock. However, if that dry, sandy woodlot has aspen of various ages, it should attract ruffed grouse. Every property can be managed to enhance its natural capabilities, but each has limits to the species it can produce.



## Energy efficiency

Buildings protected from the north and west winter winds are easier to heat. Locate new buildings so that hills or trees provide natural windbreaks. The energy efficiency of existing buildings can be enhanced with plantings of spruce, pine or other conifers.

Trees also can keep a building cool in

summer. Not only do they shield houses from the sun, but trees actually cool air near them through the process of evapotranspiration. Deciduous trees on the southeast and southwest corners of a house shade it during summer but let the sun shine in south windows during winter when leaves are down.

## Ten Commandments of wildlife protectors

- I. Understand the land and the capabilities thereof.
- II. Understand the habits of the wild ones and their needs through the seasons.
- III. Sing the praises of species large and small, edible or not.
- IV. Sew a landscape quilt with patches of different types of vegetation.
- V. Favor the food producers: the old good oak, the wild apple, the budding aspen.
- VI. Add a little water if the journey is too far.
- VII. Save the hedgerow.
- VIII. Restrain thine domestic animals from trespassing in the homes of the wild and free ones.
- IX. Protect the wolf tree, for from its den rich furbearers emerge.
- X. Honor the old snag, for in its dead hulk live many of God's creations.

Many rural residents burn wood to heat homes. After declining during the 1950s and 1960s the use of wood for residential heating increased dramatically during the 1970s as oil prices soared. In 1981, homeowners burned six times more wood for heating than in 1967. Unfortunately, the improper installation of woodburners has contributed to an increase in house fires and insurance costs. Woodburning diminished in the 1990s but would likely rebound if fuel prices rose.



## General habitat needs of select Wisconsin wildlife

**Bald eagle:** large acreage, large snag trees (nesting sites), open water

**Barred owl:** den trees, meadow mice

**Cliff swallow:** open water, steep banks

**Gray squirrels:** den trees, oak woods

**Mourning dove:** mix of fields and woods

**Pileated woodpecker:** snag trees with rotting wood

**Raccoon:** large den trees

**Red squirrel:** pine nuts, den trees

**Redwinged blackbird:** wetlands

**Ruffed grouse:** aspen (of various ages), meadow insects

**Whitetail deer:** young forests or farmland

**Wild turkey:** extensive oak forests, open land

**Woodduck:** den trees, open water

A well-managed 10- to 15-acre deciduous woodlot, especially young oak stands, can keep a family in fuel wood indefinitely. Landowners with larger woodlots can combine fuelwood production with pulp and timber production. Poor quality hardwoods and treetops make excellent firewood.

Landowners without hardwood stands but with unused open land might plant some fast-growing hybrid poplar, a special aspen variety that can be cut for fuel in 15 to 20 years.

## Economic return

Rural property usually does not return as much income as other investment options. Thus, economic return is usually not the primary reason for owning rural land. However, many landowners could enhance their long-term economic return from the property through proper management. A forest managed using sustainable practices can increase the net return from the sale of forest products and provide a perpetual income at periodic intervals.

A few landowners with large wooded tracts can support their families on the income from the forest products or by producing specialty products or offering unique rural services. But for most landowners, the income from their forest is only supplementary.

### Real estate investment:

Contrary to popular belief, land values have not always gone up. Rural land values were high in 1916 and then dropped for almost 20 years. They slowly recovered from 1936 to 1962 when the real value of U.S. farmland returned to 1916 levels. Rural land appreciated rapidly in the 1960s, very rapidly in the 1970s, declined dramatically in the 1980s and rebounded in the 1990s.

In addition to unpredictable resale value, owning land has tax implications, especially for the annual property tax bill. Forest landowners might pay taxes for 40 years before any of their trees are ready to harvest. In the 1920s and 1930s many landowners could not afford to pay the

taxes, and the land eventually became public forests through tax delinquency.

To encourage good management on private lands, Wisconsin has provided tax deferral systems. The Forest Crop Law, the original law for parcels of 40 acres or larger, and the Woodland Tax Law for parcels between 10 and 39 acres, were combined in 1985 legislation called the Managed Forest Law. Under a Managed Forest Law contract, the state pays most of the local property tax until owners harvest timber. Then landowners repay the state 5 percent of the stumpage value.

The other tax implications relate to capital gains treatment of timber harvested, expense deductions and time of sale. Income from a harvest of timber can qualify for capital gains tax treatment.

Generally you cannot deduct capital costs in full in the year in which they are incurred. How much may be deducted in any one year and what the deduction is called depends on the nature of the asset.

For example, equipment is usually depreciated according to fixed schedules, but outstanding investments in some capital assets are

recovered through amortization or depletion. Losses that result from fire, floods, storms or vandalism may be at least partially deductible; consult a tax advisor if you've had a substantial loss. The sale of real estate can be timed to take advantage of lower tax rates when the property owner has less income from other sources. Any tax on the appreciated property value is deferred until that time.



Remember that federal and state tax laws may have changed since this publication was written. Consult a tax advisor for up-to-date interpretations of current tax law.

**Cost-sharing and assistance programs:**

In addition to tax deferral programs, other public policies are designed to encourage landowners to practice good forestry and wildlife management. The Wisconsin DNR supplies low-cost

seedlings and shrubs and provides certain types of assistance to landowners.

When funds are available to the U.S. Department of Agriculture, local offices of the Farm Services Agency provide cost sharing for management plans, tree planting and timber stand improvement. Trees are also available to landowners who enroll in the Conservation Reserve Program—a

federal effort to take highly erodible land out of agricultural production.

**Sale of wood products:** In Wisconsin, the largest use of wood is for pulp to make paper products. Residential and commercial heating used almost as much wood as the pulp and paper industry in the 1980s but declined in the 1990s. In recent years, the value per cord of firewood and pulpwood has been similar. Saw logs and veneer logs are significantly more valuable, with some species such as walnut bringing as much as several thousand dollars per tree.

In contrast, firewood or pulpwood may bring less than \$1 per tree if sold to a logger as it stands on the stump. When selling standing timber it is best to first develop a management or stewardship plan for your woodland. The DNR can assist you in finding a consulting forester to help develop your plan. You can get a sample

contract from the Wisconsin Woodland Owners' Association at the address listed at the end of this publication. Private consultants also have model contracts and can be essential in representing your interests if you live far from the property or have little experience with timber harvests. It is not advisable to allow a logger to "high grade" a woods; that is, cut all trees above a certain diameter.



Some landowners are getting a premium for their wood products by selling through a cooperative or by having their management practices certified by the forest Stewardship Council.

Landowners are entitled to recover their outstanding investment in capital

assets such as timber without tax liability when they sell or otherwise dispose of the asset. Although many landowners will not be familiar with the details of the procedure, in principle it is similar to the deductions of the original cost and cost of improvements (basis) of a house from the sale price to determine what the taxable profit from the sale would be.

To take full advantage of this opportunity to reduce your tax liability, you must keep good records of your past investments in timber and any costs you may have already recovered. If you are unfamiliar with these requirements and procedures, consult your tax advisor or a forestry consultant who is knowledgeable about tax matters.

Landowners may be able to increase their return by harvesting through a process known as TSI (Timber Stand Improvement). In times of high prices for oil and

## Major features of the Managed Forest Law

**Eligibility:** Ten or more contiguous acres, of which 80 percent is capable of producing 20 cubic feet of timber per acre annually.

**Property tax:** Landowners pay \$74 per acre if their land is open to public recreation and \$1.74 per acre if land is not open to public recreation. Rates are adjusted every five years. The next recalculation will occur in 2002.

**Public access:** Landowners may close up to 80 acres and restrict access within 300 feet of any building.

**Yield tax:** Landowner pays state 5 percent of stumpage value of timber when sold. (State pays \$20 per acre per year and one half of the yield tax to local town government).

**Management plan:** Owner may submit a plan or ask the state to draw up a plan consistent with landowner's objectives. Grazing is prohibited.

**Firewood:** Firewood cut for use as fuel in owner's dwelling is not subject to yield tax.

**Contract length:** For 25 or 50 years.

**Early withdrawal:** Penalty is imposed and it can be substantial in some cases.

gas, firewood markets are readily available in southern and central Wisconsin. The value of timber products decreases with the distance from pulp mills, saw mills and veneer mills. Regional purchase centers for wood chips may develop. The chips can be cleaned and sold to pulp mills or sold as fuel for commercial boilers.

Chipping allows a landowner to “low-grade” harvest—remove the low quality trees and thin to promote the growth of high quality trees. Chipping also lets landowners use small, owner-operated equipment and not subject woodlots to heavy equipment. Finally, if naturally produced “low” quality trees can be used, there may be less need to incur the costs of site preparation, plantation planting and herbicides.

Forest landowners are encouraged to keep good records, consult a tax advisor and refer to the UW–Extension publications *Income Tax Considerations for Forest Landowners* (G3298) and *Marketing Timber* (G3297). Also consider the following tax guides:

*Timber Tree Management for Tree Farmers*  
W. L. Hoover, 1998, (\$25 from the American Forest Foundation, Suite 780, 1111 19th St., N.W., Washington, D.C. 20036)

*Forest Owners' Guide to Federal Income Tax*  
Agricultural Handbbok 708,  
(\$10 from U.S. Government Bookstore, Suite 120, 999 Peachtree St., N.E., Atlanta, GA 30309)

*Estate Planning for Forest Landowners*  
#PB-94-121316  
(\$27 plus shipping from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161)

**Selling the rural experience:** Another way to reduce the financial burden of owning rural property is to share the rural experience—for a price. Many urbanites relish the opportunity to spend time in a natural environment with the nostalgic, cultural trimmings of our rural heritage. The following lists may contain an entrepreneurial option for you.

Small-scale recreation enterprises that require little landowner involvement include land leases for:

- hunting,
- primitive camping,
- hiking, skiing, nature study,
- dog or falcon training,
- gardening,
- birdwatching,
- nature photography,
- wildflower appreciation.

Tourism-hospitality enterprises that require substantial landowner involvement include:

- a country bed and breakfast inn,
- a week on the farm for city slickers,
- a guided nature study,
- a specialty museum,
- a cross-country ski weekend with lodging and meals
- a petting farm,
- a milking safari led by dairy farmers willing to share the joy of milking.

Check local zoning requirements and obtain appropriate liability insurance before starting these or similar enterprises.

#### **Other products of the land or the landowner:**

Small rural properties are conducive to many cottage industries. The following list is designed to stimulate ideas from entrepreneurial landowners:

- Provide lambs for adoption.
- Raise shiitake mushrooms.
- Make wreaths from pine cones or natural boughs.
- Teach creative workshops on topics such as log cabin building, fly tying, photography, arranging native plant bouquets or collecting maple syrup.
- Provide tours and products from wineries, wool spinning rooms and other local business or points of interest.
- Raise bees to pollinate crops and sell the honey.
- Develop a cut-your-own Christmas tree business.
- Deliver cut, split and packaged firewood to stores and campgrounds.
- Collect, boil, can and market maple syrup.

Developing such enterprises requires a modest amount of risk capital, personal creativity in developing products and markets and a sense of economic adventure. For additional ideas see Chapter 11, *Small Farm Management*.





# Private woodland management

Wisconsin's 10 million acres of private forests are under tremendous harvesting pressures for short-term profit without regard for long-term stewardship practices. Absentee land ownership and increased fragmentation of forestland has increased the need for landowner education.

All forest owners need help in making wise decisions for long term management. Each year nearly 80 percent of the private non-industrial forest landowners that harvest their timber do so without professional forestry assistance. Many of these owners lose potential income and other benefits because they do not manage their forest resources.

Woodlots are common to most rural Wisconsin property. Farmers often ignore their woodlots because they focus their attention on agricultural crops and livestock. In some woodlots, farmers graze livestock, a practice that provides little food for livestock, while severely decreasing forest and wildlife productivity. Landowners who don't farm also tend to neglect their woodlots, which require management just to retain the current forest cover.

This chapter focuses on several common forest types and how to establish and enhance productivity of those types. These suggestions are not a substitute for professional, on-site advice. DNR foresters and wildlife managers are stationed locally; university specialists and private consulting foresters and landscape architects are also available. Once you have clarified your objectives for your woodlands, seek the assistance of professionals in developing and implementing a management plan.

To make decisions about which trees to plant, which to encourage in natural reproduction, which to thin and which to harvest, you must be able to identify the species. Learning to know your trees can be one of the most rewarding aspects of owning a woodlot. Sharing that knowledge with children, grandchildren and visitors provides a continuing source of satisfaction.

Attendance at university workshops and participation in organizations such as the Wisconsin Woodland Owners Association can enhance your enjoyment of your land and increase your management skills.



## Aspen and white birch

Aspen and birch are pioneer species; that is, they grow well in full sunlight but not in the shade of older trees. Thus, they are often the first trees to return after a major logging or a fire. When big fires followed the initial logging of Wisconsin, aspen and white birch acreage expanded dramatically. And aspen are widely distributed throughout Wisconsin.

**Quaking aspen:** Also known as trembling aspen or popple, this species has fine-toothed leaves that quiver in the breeze. The bark is greenish-white to creamy-white. Quaking aspen grows on a wide variety of soils. These fast growing and short lived trees can be harvested at 40–60 years of age.

**Big tooth aspen:** Also known as large-tooth or yellow popple, this tree's leaves have coarse teeth. The bark, which is darker than quaking aspen, ranges from greenish-yellow to tan. Big tooth aspen grows on better soils and attains greater size than quaking aspen. It also lives longer and can be appreciated for 80 years or more.

Figure 10. Irregular pattern, staged aspen clear cut.



**Aspen reproduction:** Aspen regenerates from root sprouts (suckers) when the soil above the roots is exposed to sunlight. For this reason, aspen must be **clear cut** for good regeneration. When you cut an area of aspen and want it to regenerate, you can leave dead trees (snags) for wildlife, but cut most other trees and all aspen. Aspen will regenerate under a thin canopy of pine or oak—often left standing because of their value for timber and wildlife food. Cutting aspen in the fall and winter encourages suckering more than cutting in spring or summer.

In Wisconsin, loggers cut most aspen for pulp. An economical cut for pulp usually requires 20 acres or more. However, the cut need not be in square blocks. You might cut half of a 40-acre parcel in an irregular pattern and cut the other half 15 years later (figure 10). If you harvest your own aspen, small clearcuts of 1 to 5 acres provide good wildlife habitat, especially for grouse. Such small cuts are not economical for commercial loggers.

**Aspen and hardwoods:** Aspen often grow with other species. Because hardwoods are more valuable than aspen, many landowners harvest aspen and leave the hardwoods—oak, maple, yellow birch—for future saw log production.

Clearcuts of about one acre in areas with a high percentage of aspen will regenerate aspen for wildlife while the rest of the forest matures to higher-grade hardwood timber.

**Aspen and evergreens:** Foresters often recommend leaving pine, spruce, balsam fir and cedar when aspen are clearcut. Scattered evergreens do not significantly interfere with aspen regeneration. Managing woodlots this way produces a sustained yield of both aspen and evergreens. The evergreens also provide natural beauty, cover during inclement weather and diverse habitat for most wildlife. Grouse, however, seem to prefer pure aspen stands about 10-15 years old.

**White birch:** White or paper birch, another pioneer species, grows in pure stands, mixed with aspen or other species. Like aspen, white birch is fast growing and short lived. It does well at the edge of fields and roads where seedlings have partial shade.

If not harvested, it usually dies at the age of about 80 years. To regenerate white birch, foresters recommend clear cutting at least small areas while leaving some seed trees. White birch regeneration occurs from stump sprouts as well as seed.

White birch is valued as firewood for aesthetic reasons. Landowners appreciate standing white birch, especially the clumps grown from sprouts of a stump, for their visual character.



## Oak and hickory

Oak trees grow throughout Wisconsin. Less important in northern Wisconsin, oaks dominate many southern Wisconsin woodlots. Veneer quality oak logs are prized for furniture and are in great demand overseas. Lower quality sawlog oaks are used

for flooring, railroad ties and other products. A new demand for large sapling and small pole-size oaks has developed for shiitake mushroom production. Oaks also make excellent firewood and hardwood pulp. Mature oak trees provide dens and acorns for wildlife. Young oaks tend to retain their leaves through the winter, adding interest and color to the winter landscapes.

Unfortunately, oaks don't tolerate shade and don't reproduce under a dense overstory. When clearcut, oaks do not readily sprout from roots although they do sprout from stumps. Oaks seem to reproduce best at the edges of existing woodlots and along hedgerows. The **shelterwood** harvesting system, described later, provides enough sunlight to regenerate oak from stumps or acorns.



Oaks are susceptible to a disease called oak wilt, which spreads by root grafts and beetles. You can reduce the potential for infection from wind-blown spores and beetles by not harvesting or cutting oaks from April through September. Cutting in spring in southern and central Wisconsin is especially risky.

Because of their multiple uses, because oaks are generally considered attractive trees and because reproduction is uncertain, many landowners favor oak and cull other species when thinning hardwood stands. For wildlife, try to maintain a mix of red and white oak to assure consistent acorn production.

**Northern red oak:** Although oaks rarely dom-

inate a woodlot in northern Wisconsin, northern red oak are present in many mixed stands. It is often a minor species in a forest with pine, aspen and other hardwoods. It adds aesthetic variety, especially in fall and winter and produces acorns that wildlife eat. When abundant, northern red oak is very valuable for its lumber.

In central and southern Wisconsin, northern red oak produces valuable firewood and logs up to 3 feet in diameter. As the fastest growing oak, it is the most important commercial hardwood. Scientists are studying ways to improve reproduction and are evaluating the potential for mixed plantations of pine and red oak.

**White oak:** White oak grows more slowly than northern red oak, which tends to overtop it. In open areas, white oak trees grow large crowns with massive lateral branches. Such open-growth trees have little value for saw logs, but punctuate the landscape's natural beauty. They are highly valued as homestead trees and may live to be 600 years old. White oak is less valuable than red oak for sawlog production, but the acorns are a preferred wildlife food.

**Bur oak:** On good soils, bur oak responds much like white oak. Bur and white oaks are more resistant to oak wilt than red oak or black oak. High-quality white and bur oak were once selectively harvested for shipbuilding, furniture, flooring and tools. Because of oak's slow growth, high quality logs are relatively scarce.

**Scrub oaks:** The northern pin oak and black oak, also known as scrub oaks, frequently grow with jack pine on infertile, sandy soils. The productivity of such soils is low and the trees rarely produce sawlogs.

**Hickory and walnut:** Both bitternut and shagbark hickory prefer the rich soils of southern Wisconsin. Bitternut hickory extends further north, but its wood is not as prized for tool handles as shagbark hickory. Shagbark hickory is also valued for making skis and for edible nuts. Southern Wisconsin produces a limited number of black walnut logs for high-class furniture.

Like oaks, hickory and walnut trees have long taproots that are easily injured when the trees are transplanted. Plant nuts instead.



# Maple and other northern hardwoods

When logging began, the northern hardwood forest of ash, basswood, elm, maple and yellow birch dominated the state. Following the initial logging, the area such forests occupied declined dramatically. They have now rebounded to 5.4 million acres.

The northern hardwood forests, especially those dominated by sugar maple, are climax forests. Maple seedlings tolerate shade and can grow under a canopy of their parents. Forests undisturbed by fire, harvesting or pests eventually evolve from aspen, birch and pine to northern hardwoods. Thus the acreage is increasing again.

**Sugar maple:** A popular tree for its fall color, valuable wood and maple syrup, sugar maple is the most common member of the northern hardwood group. It regenerates well both from stumps and seeds. Sugar maple is prized for veneer for furniture and for flooring. Sugar maple lumber with specks, called "bird's eye" is rare and very valuable.

As shown in table 1, trees destined to be part of a sugar bush for maple syrup production should be thinned heavily to produce tapping trees with a broad crown.

**Other maples:** Red maple, silver maple and box elder grow rapidly but are not as valuable for maple syrup production or sawlogs. They are used primarily for firewood or hardwood pulp.

**Yellow birch:** Yellow birch, although not nearly as common as sugar maple, is highly valuable for veneer. Like hemlock, yellow birch needs exposed humus for successful seed germination. Deer graze young hemlock and yellow birch heavily, virtually eliminating reproduction of these trees in areas with high-density deer herds.

**Elm, ash and basswood:** The commercial significance of most of these species is limited by disease (American elm), slow growth (black ash) and small size (green ash). White ash and basswood logs are valuable for specialty products.



**Thinning northern hardwoods:** Young trees undergo natural pruning and selection. You may thin trees at the sapling stage (1 to 4 inches in diameter), but only to provide a foot or two of room between crowns. When trees reach polesize (4 to 10 inches in diameter) thin the trees and identify the final crop trees—large trees of desirable species with long, straight stems and no other defects. Remove less desirable trees that crowd crop trees. The gaps between crowns should not exceed 5 feet. However, unless your family can do the thinning or this timber stand improvement is cost-shared by a government program, this management is not cost effective.

Table 2 shows the number of trees that should be left standing after each harvest thinning, beginning when the average diameter of the canopy trees is 6 inches at breast height.

Table 1. Maples left in sugarbush after thinning.

Average diameter of canopy trees (inches)	Number of trees left per acre	Average distance between trunks of canopy trees (feet)
6	210	14
8	145	17
10	110	20
12	85	23
14	70	25

Table 2. Hardwoods left after harvest thinning.

Average diameter of canopy trees (inches)	Number of trees left per acre	Average distance between trunks of canopy trees (feet)
6	350	11
8	225	14
10	170	16
12	125	19
14	100	21

### Harvesting northern hardwoods:

Foresters usually harvest hardwoods with a selective cut that removes many, but not all, large trees for sawlogs and removes poor-quality polesized trees for pulp or fuelwood. The harvest is repeated at about 15-year intervals. Table 3 shows the range of trees that should remain after a selective cut.

A hardwood forest is most productive when it contains 65 pole trees (5 to 11 inches in diameter) and 55 timber sized trees (12 inches and up in diameter) per acre. If all sawlogs are removed by "high-grading," growth is reduced from 150 to 250 board feet per acre per year to 50 to 75 board feet per acre per year. A basal area of approximately 80 is a normal prescription by professional foresters when marking timber for a selective cut.

If maples are present, selective cutting favors maple reproduction to the exclusion of other species because maples are more shade tolerant than other species. A **shelterwood cut** promotes more species diversity, but sacrifices age diversity. With a shelterwood cut, you cut up to half the trees, allowing young trees to become established in a partially shaded cut environment. After the seedlings are established, in about 10 years, the rest of the older trees are cut. After the second cut, the stand will have just sapling and pole-sized trees for many years. Variety and interest can be maintained or introduced by creative mixing of the traditional forestry practices of clear cutting, selective cutting and shelterwood cutting.

**Table 3. Hardwoods left after a selective cut.**

Diameter (inches)	Number of trees left per acre	Percent of total number of trees
2–4	202	63
5–9	65	20
10–14	28	9
15–19	17	5
20–24	8	3
Total 320		100%

## Pine and other evergreens

Traditionally, conifers have supplied construction lumber, pulpwood and Christmas trees. New technology has decreased the dependence on conifers and increased the relative value of aspen and low-grade hardwoods. However, evergreens are still prized for wood products (except fuelwood) and for natural beauty, especially in winter.

**White pine:** The eastern white pine is probably Wisconsin's most romantic tree. It figured prominently in the initial logging, bearing the brunt of Paul Bunyan's ax. It is the tallest native tree in Wisconsin, reaching a height of 220 feet. A fast grower after a very slow start, white pine lives both above and below the hardwood canopy in the second-growth forest. Large white pines adorn the shorelines of many central and northern Wisconsin lakes where citizens and tourists escape for relaxation. White pine is also valuable for saw timber.



However, white pine is vulnerable. Tip weevils tend to kill terminal buds, causing death or deformation of young pines. This problem is more severe in open areas than in partial shade. White pine blister rust attacks sapling and polesized trees. For these reasons, white pine has not been extensively planted in plantations.

Natural reproduction is good in limited areas of sandy, acidic and poorly drained soils where maple competition is not severe. Shelterwood harvesting with a relatively long period between the first and second cut promotes regeneration of white pine from seeds. On rich soils, however, hardwood competition is likely to overpower young white pine.

White pine is sensitive to road salt and air pollution and is not often planted in urban areas.

**Red pine:** Red pine or Norway pine has bark that is more scaly and lighter (reddish-brown) than white pine; red pine needles are coarser and grouped in bundles of two rather than five for white pine.

In Wisconsin, landowners have established extensive plantations of red pine. The trees produce valuable sawlogs, are less easily damaged than white pine and have a more classical shape than jack pine. Foresters have encouraged landowners to grow red pine on many acres of abandoned farmland, because red pine needs open sunlight and does well in sandy, well-drained soils that fail to sustain agricultural crops. Plantations need systematic thinning to produce straight sawlogs and keep the stand in vigorous growing condition. Periodic pruning will produce knot-free lumber.

In recent years, plantation planting has become controversial. Wildlife biologists generally object to large plantation plantings because, in their opinion, such plantations, when fully established, offer little food or cover for wildlife and virtually no habitat diversity. Where landowners convert an existing woodland to red pine, they need herbicides to control the regrowth of other species that compete with pine seedlings. Finally, some landowners consider plantations to be visual landmarks depicting good land management, while others think they look artificial and alien.

Foresters are beginning to question the wisdom of relying on a single species for reforestation efforts. Planting large acreages of any one species creates a monoculture that increases the probability of disease or pest problems. When the costs of preparing the site, controlling competing plants, pruning lower branches and making other stand improvements are compounded over the long rotation time, the return on investments from plantations is not high.

Nevertheless, the economic return from pine plantations compares favorably with other woodland management options for open land being converted back to forest. Larger spaced initial planting and more aggressive thinning will allow white pine and ash to seed under the canopy and provide the option for a diverse second generation. In more open areas, red oak reproduction may also take place.

**Jack pine:** Jack pine is considered the ugly duckling of the pine family. Like red pine, it needs open sunlight and can grow in the poorest soils and virtually on bare rock. Forest fires favor its regeneration, because extreme heat opens its cones and releases seeds. However, jack pine tends to produce many branches and an irregularly shaped trunk. Therefore, landowners haven't planted it as extensively as red pine. However, it is valuable as pulp because the fiber produces high quality paper.

In recent years, forestry researchers have discovered that this fast-growing pine has greater potential for genetic improvement than red pine. Scientists are now selecting for superior strains and developing seed orchards.

**White spruce:** Commonly used in reforestation efforts and wind breaks, this fast-growing species prefers more moisture than red or jack pine. It is native to northern Wisconsin and useful for pulp and sawlogs.

**Hemlock:** Hemlock lives up to 700 years, is a preferred browse species for deer and provides cover for deer and grouse. It has been heavily browsed by deer in recent years and has not regenerated well. Often considered the weak cousin of the white pine, hemlock is native to northern Wisconsin. Its wood splinters more easily than pine, but homesteaders used much of it because lumber companies left hemlock when they cut the pine.

**Swamp conifers:** Tamarack, black spruce, balsam fir and white cedar inhabit poorly drained areas. Like hemlock and yellow birch, Eastern white cedar is a favorite food for deer and is becoming less abundant due to overbrowsing. While it has specialty uses—tamarack poles, cedar fence posts—commercial significance is limited. Spruce and fir are cut for Christmas trees and pulp.

**Red cedar:** In contrast to the swamp conifers, red cedar needs limestone soils and seems to do best on open hillsides and road cuts. It is found in southern Wisconsin where other conifers are not common.

**Christmas tree production:** About 40,000 acres, mostly in central Wisconsin, are managed to produce Christmas trees. Scotch, red and white pines can be harvested in 6 to 10 years. Several varieties of native and exotic short-needled balsam and spruce are planted for commercial harvest 12 to 15 years later. Between planting and cutting, landowners need to follow professional guidelines in shearing the trees several times.

## Other species

Wisconsin supports well over 50 species of native trees, which add variety to the landscape. Many of these, while not commercially valuable, are useful to wildlife and wild food enthusiasts. These include beech, butternut, serviceberry, cherries, hawthorne, mountain ash, mulberry and ironwood. Other species—coffee tree, honey locust, blue beech, river birch—have leaves, bark, or seeds that make them interesting.





## Wetlands and ponds

**W**etlands are characterized by a water table at or near the soil surface, and particular soil and vegetation types. Some landowners define wetlands as those places where they can't walk in April without getting wet feet, or areas too wet to till for crops.

Before settlement, wetlands occupied about one-fourth of the Wisconsin landscape. Many of those wetlands, especially in central and southern Wisconsin, were filled or drained for crops and buildings.

The question of public regulation of wetland conversion has been debated for many years. Public agencies have mapped wetlands and some federal and state regulations apply, but the fate of wetlands remains largely in the hands of private landowners.

### Value of wetlands

In the environment, wetlands act as sponges; they store flood waters and filter water before it enters lakes and streams. Sometimes wetlands are recharge sites for groundwater aquifers, although more commonly they are discharge sites for groundwater. By slowing water movement, wetlands reduce the likelihood that heavy rainfall or rapid spring snowmelt will cause erosion and downstream flooding.

Wetlands retain eroded soil that enters them and holds nutrients that would otherwise promote excessive weeds and algae in lakes and streams. Instead, the nutrients produce a heavy growth of wetland vegetation, which provides

nesting sites, food and cover for waterfowl, furbearers and many other types of wildlife. Wetlands also shelter wildlife during droughts, fires or severe winter weather.

Increasingly, landowners appreciate wetlands for their natural beauty—an open vista that provides visual contrast with surrounding fields or forests. Learning the various wetland types listed below and the species that grow in each can also provide personal satisfaction.

### Types of wetlands

**Seasonally flooded flat:** These areas are periodically flooded, but well-drained during the growing season. Flats are usually located in floodplains along water courses. Vegetation includes smartweeds, fall panicum, teal grass, wild millet and hardwood forest.

**Fresh meadow:** Although the water table is near the surface, there is no standing water. Vegetation is primarily herbaceous, including grasses, sedges, rushes and broad-leaved, flowering plants.

**Shallow marsh:** The site is often covered with several inches of water, and soil is waterlogged throughout the growing season. Emergent aquatic plants such as cattails, arrowheads, reeds and rushes dominate the vegetation.





**Deep marsh:** The depth of water ranges from 6 inches to 3 feet and supports emergent plants, floating plants (water lilies, duckweeds) and submergents (pondweeds, coontail, milfoil).

**Shrub swamp:** The water table is near the surface and occasionally floods the site. Shrub swamps usually occur in upland depressions and along sluggish streams. Vegetation includes alders, dogwoods and viburnums.

**Wooded swamps:** The water table is at or near the surface and occasionally floods the site. Hardwood swamps, dominated by silver maple, red maple or black ash, usually occur along shallow river basins or on deltas. Swamp conifers include white cedar and balsam fir. If the soil is acidic, black spruce and tamarack (larch) tend to dominate.

**Bog:** In Wisconsin, bogs are usually associated with lakes that receive most of their water directly from precipitation. Vegetation includes black spruce, tamarack, cranberries, bog laurel, Labrador tea, leatherleaf and sometimes rare plants such as moccasin flower, pitcher plant and other orchids. Mats of “floating” sphagnum moss are most characteristic of bog vegetation and are largely responsible for making bog water acidic.



## Wetland management

Wetlands are delicate. Be careful and apply management techniques cautiously.

Wooded wetlands can provide forest products, but use heavy logging equipment only when the land is frozen.

Farmers sometimes graze grass and sedge wetlands. However, large animals tend to change the soil structure and plant community, thus damaging the wetland.

Cutting marsh hay after the bird nesting season is less damaging, particularly if you leave some areas for winter wildlife cover.

If not cut periodically, woody plants will begin growing in some wetlands. Before settlement, fire maintained open wetlands by killing the woody vegetation.

Prescribed burning can be used to maintain an open wetland. If you can control water levels, you can use that method to manage the vegetation.

Rehabilitating wetlands damaged by grazing or draining is difficult. Cattails, canary grass, willows and tag alder often replace the natural mix of sedges and grasses. However, when drainage ways are plugged, some wetlands return quickly from native seeds in the soil.



## Wetland preservation

Many wetland values benefit society but generate little income to pay property taxes. A variety of local, state and federal programs provide some financial incentives to help landowners maintain wetlands. Government agencies sometimes purchase easements or property titles to compensate landowners. Government agencies or conservation organizations also accept charitable gifts of wetland property. However, the primary motivation for wetland preservation is individual landowners' commitment to natural beauty, ecological diversity and personal recreation.

## Purple loosestrife

In recent years, an exotic plant called purple loosestrife has invaded wetlands. It is an attractive plant that blooms profusely. One plant may produce as many as 300,000 seeds. Purple loosestrife crowds out native vegetation. Although it adds color to the summer wetlands, species variety and wildlife needs are eventually sacrificed. Physical removal is recommended before seeds are set. A teaching packet entitled *Stop the Spread of Exotics* is available from University of Wisconsin-Extension.

## Ponds

Many landowners have constructed ponds. Motivations vary from fishing to promoting wildlife to watering cattle to swimming to ice skating to aesthetics. A blue pond is part of the nostalgic image of rural living that takes its place along with a white farmhouse, a red barn and a yellow collie.

Since some objectives are incompatible, ponds rarely meet all of the landowner's objectives. Ponds dug in rich soil or those used for watering cattle or domestic waterfowl are likely to suffer from unsightly algae or become choked with cattails. Panfish in ponds often overproduce and become stunted.

Nevertheless, a pond can provide family recreation and other benefits if the landowner is realistic and obtains professional advice regarding construction and management. Construction advice is available from the county land conservation department or federal Natural Resource Conservation Service.

In general, dug ponds filled with groundwater have better quality water than ponds formed by diking off a surface drainageway. Trout do well in deep, cool ponds while large mouth bass are recommended for shallower ponds that warm up in summer. Panfish are usually not recommended. Many ponds cannot support fish because the oxygen levels in winter are too low.

Small or shallow ponds developed for wildlife may be more practical than fish ponds. However, if you destroy wetlands in the process of creating the pond, there may be no net gain for wildlife.





## Prairie, grasslands and hedgerows

**P**ermanent grasslands are the rarest habitat type in Wisconsin. Brushy fencerows that developed after the initial farming settlement are also becoming rare. They are disappearing for the same reasons. Good agricultural land is now farmed intensely with large equipment that requires large fields. Poor agricultural land is reverting to woodland through natural succession or being planted to pine plantations. Both processes reduce the variety of plant and animal life and change the visual character of rural Wisconsin.

### Prairie

Prairie is the French word for meadow. At one time, the prairie stretched from the Rocky Mountains across to Indiana (figure 11). The prairie developed in the rain shadow of the Rocky Mountains. Pacific air masses deposit their moisture in the mountains as the air masses rise and cool. Coming down the east slope of the mountains, the air warms and holds what little moisture remains. Thus, prairie grasses and forbs grow in areas with insufficient rainfall to support trees.

Historically, fires on the eastern edge of the prairie kept the forest from spreading westward. Wisconsin stands at the north-eastern border of what was the great prairie. In 1850, areas of prairie existed south and west of a line roughly from Minneapolis to Milwaukee. Because prairies formed the best agricultural soils, nearly all prairies were farmed. You can still find a few prairie remnants in old cemeteries, railroad rights-of-way and odd corners of some farms.

Prairie restoration has become popular across Wisconsin. Prairie establishment is most successful on dry, infertile soils where competition from weeds is less rigorous than on rich soils. Once established, a prairie needs little management. A periodic spring burn may be sufficient to maintain it. Prairie plants are perennials with large root systems that respond well after burning.

Figure 11. Native Prairies of North America.



People establish prairies primarily for beauty and nature study. From April through September, a series of prairie plants provides visual delight as they come into bloom and then make way for the next set of flowers. Tall prairie grasses are also attractive in winter.

## Permanent grasslands

Permanent grasslands develop some of the same aesthetic qualities as prairies without the intensive effort required to establish prairies. Therefore, they are more practical for larger tracts. The only long-term concern with permanent grasslands is control of shrubs and pioneer trees. Clipping or burning is usually required, especially for areas bordering woodlands. The principal motivation for maintaining permanent grasslands is landscape diversity. With more habitat diversity, a richer mix of plants and lower organisms can thrive. These in turn lead to more variety of large wildlife. Most landowners also find a diverse landscape visually attractive.

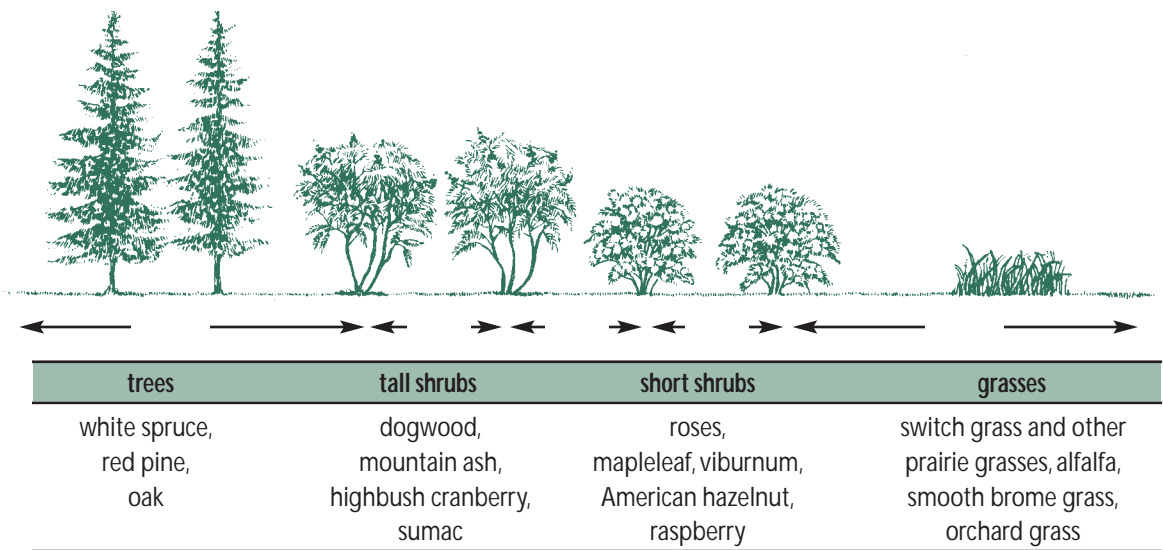
## Hedgerows

Farmers no longer build wide fencerows of field stone, split rails and briars. Barbed wire fences have come out as fewer farmers pasture cattle and more farmers combine fields. Fencerows and brushy roadsides have long been favorite places for wildlife. Landowners should maintain them whenever possible.

Where space is available, you can build a hedgerow to provide habitat variety and a corridor for wildlife movement. Figure 12 illustrates the design for a hedgerow along a field or property border. If you own the property on both sides of a hedgerow, you can plant shrubs and grasses on both sides of it.



Figure 12. Recommended species for design of a 50-foot hedgerow.





## Small farmmanagement

The primary long-term trend in agriculture has been a reduction in the number of farms. Since 1960 Wisconsin has lost almost half of its farms. The number of small farms has fluctuated from 10,000–15,000. With farm consolidation, the number of these small farms declined until 1969, increased until 1982 and has dropped back since then. The number of farms larger than 500 acres has generally been increasing while the number of farms between 50 and 499 acres has declined dramatically, as shown in table 4. When farmers sell medium-sized farms, they often sell the bulk of the tillable land to a neighboring commercial farmer and a farmette (the buildings and a few acres) to a hobby farmer.

### Types of small farmers

People purchase tillable land for as many different reasons as they buy woodland. Some purchasers merely want to use a former farmhouse for a residence or build a new home on open land. They may maintain the remaining acreage as grassland or return it to woodland. If a landowner sells no agricultural products, the parcel is not considered a farm.

**Hobby farmers:** Half of all farmers and most small farmers work off the farm. Although owners of medium-sized farms often work off the farm, farming is typically their main occupation and most often they have lived on their farms most of their lives.

Farmers whose main occupation is not farming are called hobby farmers. While they may invest a good deal of money and a great amount of time in farming, they earn most of their family income from other sources. A typical hobby farmer purchased and moved to the country after spending at least some time living in an urban area to attend college or establish a career. Many move to the country to raise their families in a more “wholesome” natural and social environment.

**Table 4. Number of Wisconsin farms by size 1964–1992.**

	1964	1969	1974	1978	1982	1987	1992
Small farms (1 to 49 acres)	12,717	10,429	10,568	12,564	14,510	12,790	12,260
Medium farms (50 to 499 acres)	103,180	85,289	74,722	68,698	62,057	56,326	49,691
Large farms (500 or more acres)	2919	3254	4139	5243	5632	6015	6008
Total farms	118,816	98,973	89,479	86,505	82,199	75,131	67,959

Source: *Census of Agriculture*. (The definition of a farm changed during this period, affecting the numbers to some degree).



**Homesteaders:** Historically, this term referred to the brave families who settled on 80 acres of government land and were given title for their efforts. Beginning in the 1970s a group of people have moved back to the land to become more self-reliant, to be closer to nature and to grow their own food organically. They have described themselves as homesteaders based on a simple lifestyle and a philosophy of self-sufficiency. They often produce some products for sale, but tend to emphasize saving money by producing for their own families rather than producing for cash income.

**Retirees:** Many people who want to live in the country cannot because they work in cities. Some retire early and buy small farms for second careers. Others return to their childhood homes to take over small family farms. In most cases, their pensions and investments provide their principal income.

**Intensity farmers:** Small farms tend to have a greater variety of crops and livestock than large specialized farms. Building on that diversity, experts at Tuskegee Institute have developed a small farm model that is premised on intensely producing and marketing specialty crops on small acreages. They leave pork and beef, corn and soybeans—and the narrow margin of return on those crops—to the large farmers.



## Limited acreage crops

The standard crops for small farmers in Wisconsin are alfalfa and corn in a rotation. The market value of each varies considerably depending on weather and resultant supply. A landowner without equipment can plant and harvest corn through custom arrangements. Hay making requires less equipment, but harvesting is difficult for someone with a regular city job. Neither crop is profitable on a small scale.

An alternative to growing standard crops, which are usually in oversupply anyway, is to grow several specialty crops that meet the following criteria:

- They are appropriate for climate in your area.
- They are appropriate for soils on your land.
- A market is available or can be established.
- Competition from large-scale farmers is unlikely.
- Labor is available when needed.
- The demands of producing and marketing are compatible with your life style.
- Crops are compatible in terms of peak labor requirements.

People who grow specialty crops should pay attention to soil pH (acidity level) and the crop's fertilization needs. You can evaluate these qualities with a soil test through your county Extension office. The test is strongly recommended.

## Alternative specialty crops for limited acreages

**Baby plants:** cabbage, flowers, nursery stock

**Berries:** blueberry, raspberry, strawberry

**Flowers:** bulbs, cut flowers, dried flowers or weeds, seed

**Forage and feed for special populations:** birdseed, horse hay, mink bedding

**Fruits:** apple, cherry, grapes (fresh, dried fruit, juice, cider, wine)

**Hay:** for horses and exotic animals

**Herbs and spices:** catnip, ginseng, mint

**Vegetables:** asparagus, broccoli, cauliflower, cucumber, salad greens, garnishes, popcorn, tomatoes, pumpkins



Specialty crops often require unique marketing strategies. Pick-your-own systems are popular for berries and fruits. Near urban centers, you might rent garden plots or develop clientele with an annual membership fee; members could also be offered a series of rural experiences such as nature study, fishing and horseback riding in addition to opportunities for picking fresh produce or having produce regularly delivered to their homes (subscription farming).



## Livestock

Hobby farmers love their beef and homesteaders love their goats. A few hogs and a flock of chickens also populate many small-farm barnyards. Less common are dairy cows, sheep, rabbits, ducks, geese and guinea fowl.

Though cattle raising is popular throughout the world, the economics of raising feeder calves or fattening steers is marginal. Beef or sheep can use permanent pasture, and beef require minimal care.

For a small but steady supply of milk, people usually prefer goats to dairy cows because goats are easier to handle and several goats provide a better year-round milk supply than one cow.

The principal advantage of pigs and chickens is rapid turnover. Therefore, you can adjust the size of your operation to changes in off-farm work schedules, feed availability and market prices.

All of these animals provide quality food for home use. However, it is unrealistic to expect that traditional livestock sales will yield a significant return for the labor invested. Most small farmers do well if they meet their ownership and operating costs.

Specialty animals provide an alternative for an entrepreneur willing to learn how to manage a relatively unique operation and commit major efforts to marketing. Some examples are listed in the sidebar.

## General management

A wealth of Extension bulletins and other publications are available to help small and large farmers raise traditional crops and livestock. Information on alternative crops and critters is more limited, and you need to experiment in many areas of management. Breed associations, growers associations, 4-H clubs and county fairs provide enjoyment and opportunities to share information. They are also valuable in developing leadership skills for rural youth.

For experimental enterprises, good records are especially important. Good records help farmers remember how they managed different crops or livestock and the yield resulting from that management.

Good records are also important at tax time. For example, if you buy a small farm, you must determine the value of the farm buildings because you can depreciate them. For tax purposes, the annual depreciation, along with operating costs, taxes, insurance and interest are offset against farm and non-farm income. If the Internal Revenue Service challenges farm expenses, however, the farmer must be able to establish that the farm is operated with a profit motive.

## Alternative animal enterprises for small farmers

- **Aquaculture:** bass, perch, trout
- **Bait:** larvae, minnows, worms, leeches
- **Breeding stock:** purebred and inbred strains
- **Dogs:** hounds, kennelling, show breeds, grooming
- **Game:** pheasants, quail, deer
- **Rare and exotic breeds:** cats, cattle, chickens, doves, rabbits
- **Miniatures:** horses, pigs, dogs
- **Specialty meats:** free-ranging (barnyard) chicken, buffalo, organic beef, lamb and goat
- **Seed stock:** dairy heifer replacements, horse stud, buffalo, elk, deer, llama
- **Boarding:** horses, dogs, cats





## Private wells

Rural residents must get their own water supply. In Wisconsin, you can almost always find water, but drilling a well is an additional expense of rural living. In 1998, private wells cost about \$2500 for equipment and installation, and approximately \$20 per foot for drilling and casings.

As shown in figure 13, water evaporates from the ocean, moves in air masses to land, is deposited as precipitation, and heads back to the ocean flowing downhill under the soil surface and ultimately on the surface in large rivers. A portion evaporates back to the atmosphere from vegetation and the land surface.

### Hydrologic cycle

The water obtained from wells comes from crevices within the bedrock or pores within the subsoil. An area of soil and rock that holds groundwater is called an aquifer and the top of the saturated zone is called the water table. Groundwater does not move in underground rivers. Your drinking water probably entered the ground within a few miles of your well.

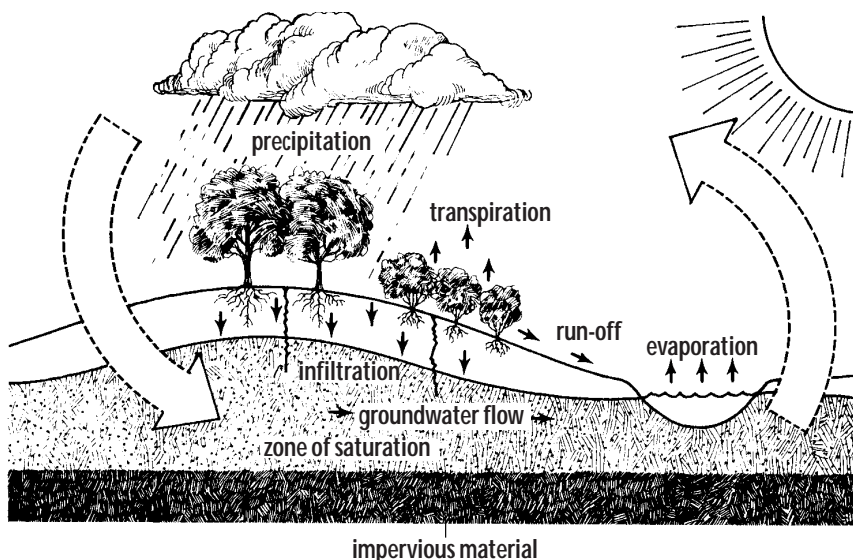
### Groundwater quantity

In Wisconsin, roughly 30 inches of precipitation falls each year. In hilly or rocky areas, only a small portion infiltrates to the ground water. In flat, sandy areas, as much as 10 inches of that precipitation may percolate to the water table. The tremendous growth of irrigated agriculture in central Wisconsin is based on a readily available and renewable supply of groundwater.

While many parts of Wisconsin do not have aquifers suitable for high-capacity irrigation wells, you can drill wells for houses most places. Houses on ridges tend to need deeper wells.

Occasionally, a well in an area of rock outcropping produces a "dry hole." In general, though, Wisconsin is richly blessed with groundwater—a buried treasure.

Figure 13. Hydrologic cycle.



## Groundwater quality

For generations, people assumed that well water was safe. Rural landowners should no longer make that assumption.

Groundwater has been contaminated in many ways. Contaminants range from natural minerals to exotic toxic chemicals.

**Hardness:** The most common problem with well water in areas where the aquifer contains limestone or dolomite is hardness—calcium and magnesium carbonate minerals. These naturally occurring minerals clog pipes and reduce the efficiency of soap and detergent. Rural homes, especially in southern Wisconsin, typically install water softeners to remove these minerals from water used for bathing and washing.

**Iron:** This naturally occurring mineral stains fixtures and clothes if the groundwater is acidic or low in dissolved oxygen. You can remove iron with special water softeners.

**Odor:** Water that is drawn from aquifers associated with wetlands may contain hydrogen sulfide, which imparts a rotten-egg odor to drinking water. Leakage from underground tanks used to store gasoline, or barnyard pollution can result in water that both smells bad and is unhealthy.

**Nitrates:** Nitrates are very soluble chemicals that originate from manure, chemical fertilizer and septic tanks. At concentrations above 10 parts per million, they are considered dangerous for infants under six months of age. Very high levels of nitrate may affect adults and livestock.

**Bacteria:** If human or animal waste contaminates an aquifer, well water can transmit various diseases. Contamination can occur if the wastes enter the groundwater without adequate filtration through soil. Coarse soils, such as gravel and sand, do not filter out impurities as effectively as silts and clays. Wells in fractured bedrock or shallow limestone are especially susceptible to contamination.

**Pesticides:** Since 1980, when scientists discovered the pesticide aldicarb in well water, rural homeowners have been very concerned about pesticide contamination. Atrazine and several other pesticides also have been found in Wisconsin groundwater.

**Other hazardous material:** A great many chemical contaminants have been found in well water. Solid waste sites have generated special concerns. In 1984, Wisconsin embarked on a major campaign to monitor groundwater and regulate land-use activities that threaten groundwater quality. Homeowners with contaminated wells can apply for state financial assistance through the DNR to replace their wells. State cost sharing is limited to 75 percent of the first \$12,000 in costs.

## Testing

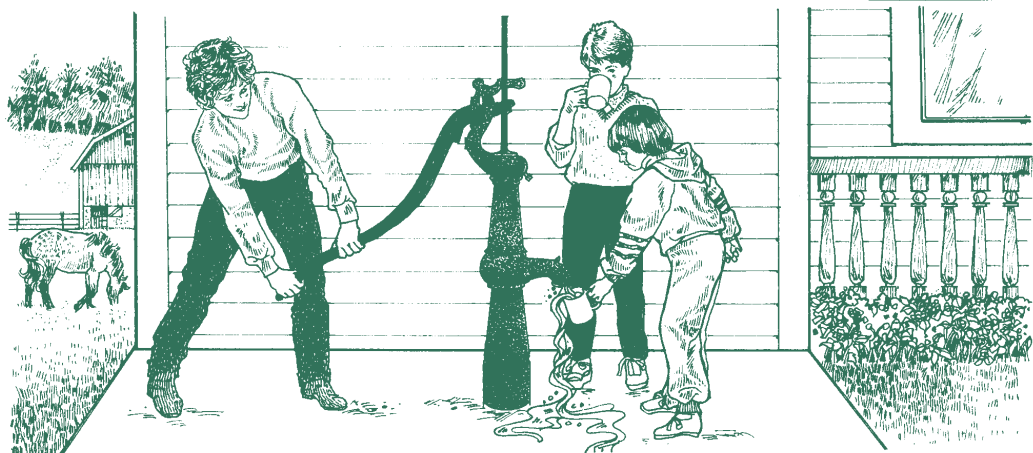
Test your drinking water after anyone works on your plumbing system or well. Test annually for bacteria. Test drinking water for nitrates, especially if there is an infant in the household. Hardness and iron are also easy and inexpensive to test. Pesticides, gasoline and other chemicals are much more expensive to analyze. Water can be tested at the State Lab of Hygiene in Madison, the Environmental Task Force Lab at the University of Wisconsin–Stevens Point or private labs. To monitor trends in your drinking water quality, keep good records of tests results.

## Well location and depth

Locate wells as far as practical and upgradient from potential sources of contamination such as septic systems, barnyards, fuel storage tanks and fertilizer storage areas. The bottom of the well should penetrate at least 20 feet into the water table to minimize contamination by local sources.

Shallow wells draw water from nearby areas while water from deeper wells originates further away. Thus, if a contamination source is close to the well, a deeper well generally yields better water. However, if you suspect the source of contamination is a field, feedlot or subdivision some distance upgradient, you might get better water with a shallow well.

Homeowners with shallow wells should be especially careful when disposing of cleaners, solvents, paint, waste oil, antifreeze and other chemicals around the house. Deposit these materials at recycling centers or community “clean sweep” collections for hazardous household wastes.





## Private waste disposal

Rural residents must assume greater responsibility for waste disposal than city dwellers. Rural homeowners must install and maintain a private wastewater disposal system at an annual cost of at least \$200. To dispose of their solid waste, rural residents pay a private hauler or haul their solid waste to a landfill themselves and pay a “tipping” fee.

### Sewage

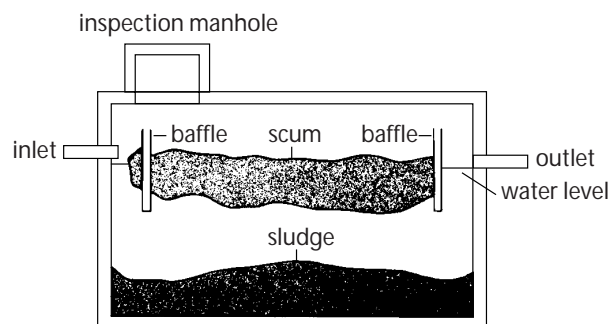
Disposal of liquid domestic waste is regulated under the state Uniform Plumbing Code and administered by the county zoning administrator or sanitarian. You need a permit to build a waste-water disposal system; an on-site inspection is standard practice before or during installation of a private sewage system.

The initial step in planning a sewage disposal installation is to determine what limitations the site may have for sewage disposal by checking the use limitations associated with your soil as shown on the soil survey. About half of Wisconsin's soils are not suited to conventional systems. The second step is to hire a certified soil tester to conduct the soil borings and percolation tests needed for a permit. Depending on the test results, you may be able to build a conventional system, an alternative system or be unable to build a system on your site.

#### Conventional septic tank and soil

**absorption system:** The conventional system is the simplest and most common type. It consists of a septic tank and a soil absorption field. In the septic tank, some wastes are digested to soluble form, other wastes settle to form a sludge on the bottom, and oils, greases and other floating materials are trapped in a scum layer at the top (figure 14). Baffles in the septic tank protect the soil absorption field by keeping the scum and sludge from flowing into the absorption field where they could clog the field.

Figure 14. Schematic of a typical household septic tank.





Pump the scum and sludge out of your septic tank at least every three years to protect your investment in the soil absorption field. Tanks serving large families or houses with garbage grinders should be pumped more often. A septic tank should be pumped whenever the sludge is deeper than one-third the distance from the tank bottom to the outlet drain. A regularly pumped system should function for 20 years or more without any other treatment. Adding chemicals to aid digestion is not a substitute for pumping, and is not recommended. Some septic tank additives may seriously pollute groundwater.

The soil absorption field is a bed, a trench or pit. The septic tank effluent flows by gravity to the absorption field which distributes it through perforated pipe, allowing the effluent to leak into the soil. You can extend the lifetime of the field by using a dosing pump to apply the effluent in doses rather than a continuous trickle by gravity. In either case, the effluent is filtered as it seeps down through the soil.

You can get a permit for a conventional system if you have at least 36 inches of suitable soil below the bottom of the absorption field. If groundwater or bedrock is too close to the surface, the filtering action will be incomplete and the sewage may contaminate the groundwater. If the soil is not permeable enough, as is the case with some clay soils, the septic tank effluent may seep up to the surface where it presents health problems and may contaminate surface waters. In both of these situations, a conventional system will not work. Under specified circumstances, the county may permit an alternative called a mound system, which costs about \$10,000 (two times the cost of a conventional system) or a holding tank which has a high annual maintenance cost.

**Mound system:** To construct a mound, sand is hauled in and deposited above the existing soil surface to serve as a soil absorption field. The effluent from a standard septic tank is then periodically pumped up to the top of the mound to dose the mound. Maintenance requirements include a routine septic tank pumping schedule and maintenance of the equipment used to pump the effluent up to the mound (figure 15).

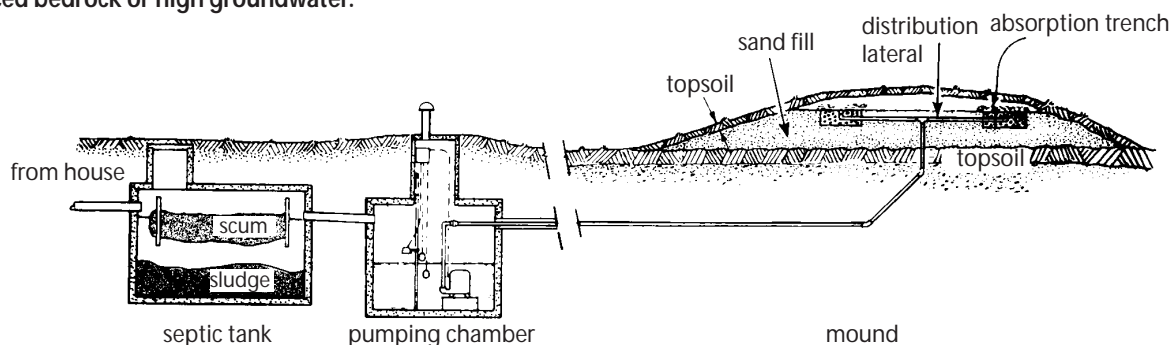
**Holding tank:** The most expensive alternative to a conventional system is a holding tank, which retains waste in a large sealed tank. Periodically, these wastes are pumped out and hauled away for treatment. Holding tanks cost less than a conventional system to install, but annual pumping and hauling costs amount to about \$500 per family member.

**More options:** Additional options are being considered and may become available.

## Solid waste

Proper disposal of garbage and trash is important for human and animal health, and it promotes an attractive rural atmosphere. Property values and community pride decline if people dispose of trash on roadsides and in ravines and leave old buildings and vehicles to litter the landscape. Many rural communities provide a recycling service for newspapers, plastic, aluminum cans and glass. In areas without garbage collection service, landowners must transport solid wastes to a landfill on specified days and hours.

Figure 15. Mound system for use over slowly permeable soil or shallow, creviced bedrock or high groundwater.





# Ten Commandments for users of hazardous chemicals

- I. Read the label and follow the directions on using and storing the product.
- II. Do not overuse a product. More is not better.
- III. Do not mix chemicals.
- IV. Prepare only the amount you need and use it all.
- V. Wear protective equipment. Avoid breathing dust or fumes.
- VI. Work only in well-lighted and well-ventilated areas.
- VII. Do not burn leftover chemicals or materials treated with chemicals, including wood treated with preservatives.
- VIII. Do not bury containers or contaminated material, or flush them down the sink or toilet. Hazardous materials should be safely stored until a community "clean sweep" program is organized to collect them.
- IX. Do not reuse chemical containers. Triple rinse and dispose of the container in a landfill. Treat the rinse water cautiously.
- X. Recycle waste oil and batteries.

## Hazardous wastes

Rural homes, and especially farms, harbor many hazardous materials that endanger children, pets, livestock, water quality, wildlife or vegetation. Never flush hazardous liquids, such as paint thinners or varnish removers, down sinks or toilets. These wastes will move with water and contaminate the groundwater. If you choose to use hazardous chemicals in small quantities, follow the "Ten Commandments for Users of Hazardous Chemicals" in the sidebar. A certified pesticide applicator license is required for larger applications. The UW-Extension has a list of certified pesticide applicators of field vegetables and orchards.





## Legal relationships with neighbors

**M**ost landowners try to be good neighbors. However, misunderstandings can occur, especially if neighbors do not understand their legal rights and obligations relative to each other. The purpose of this publication is to inform, not to advise. Your decisions or legal actions should be based on advice from an attorney familiar with the specific facts relating to your property.

The following discussion is based on laws current in 1998. These may be revised by the legislature or reinterpreted by the courts. References are from the Wisconsin Statutes 1995-96.

### Access

Getting to your property may seem to be a basic right of ownership. But if a public road doesn't serve your property, your right may conflict with your neighbors' right to keep you from crossing their property. If you purchased the parcel from a larger property that had road access, the seller must provide access. In all other cases, your ability to obtain either a public road or a private access to your property depends on the goodwill of a neighbor or the willingness of the town board to condemn a right-of-way (Sec. 80.13).

### Fence law

Historically, disputes over line fences have caused more ill will between neighbors than any other single issue. To reduce these conflicts, the legislature developed Chapter 90—an entire chapter of the Statutes on fences. While the amount of fencing has declined with less pasturing of livestock, the statutory provisions continue to govern. In some areas fencing is returning as part of rotational grazing schemes.

The central provision of the law provides that if one neighbor uses and occupies land for farming or grazing, the other neighbor must maintain a line fence. Each neighbor is responsible for one-half of the line fence unless they agree to some other arrangement.

Discussions "over-the-fence" were not always pleasant. Sometimes, one neighbor refused to build any fence since he or she owned no livestock. Sometimes the type of fence was debated. Sometimes a landowner was unhappy because his or her half was harder to build (rocky ledge) or harder to maintain (floodplain).

The legislature spells out ten different types of legal fences. Finally the legislature establishes a set of judges, called "fence viewers," to resolve conflicts. The fence viewers are any two or more members of the town board. For purposes of implementing the fence law, they may administer oaths and will file their decision with the town clerk.

“Good fences  
make good  
neighbors.”

*Old rural adage*

## Noxious weeds

Before the advent of herbicides, many farmers carefully controlled certain weeds by hand picking or tilling. Farmers, who conscientiously controlled their weeds, were understandably upset if a neighbor did not control their weeds and seeds blew across the property line.

Again, the legislature responded. Each unit of local government is empowered to declare a list of noxious weeds. Whoever is responsible for any parcel of land is required to control weeds on that property.

Each local unit of government may appoint a weed commissioner. If, after getting notice from the weed commissioner, a property owner fails to control noxious weeds, the commissioner carries out the control. On the next tax statement, that landowner finds a bill "For the Destruction of Weeds." (Sec. 66.96-98).

This law is occasionally enforced when an urban homeowner defies the "Kentucky bluegrass norm" and plants prairie species. In rural areas, it is rarely an issue anymore.

## Straying animals

The Wisconsin Statutes contain three chapters (172-I 74) on owners' responsibility for their animals and the rights of neighbors to protect their property from unrestrained animals. While problems with rams and bulls have diminished, dogs continue to cause damage.

The owner of a dog is liable for the dog's actions. If the owner is given notice that the dog is "wounding, worrying or killing" livestock and fails to confine the dog, the owner may be liable for double or triple damages. Persons who suffer losses to domestic animals from dogs may file a claim on the county dog license fund—into which all dog owners pay an annual license fee. The law also specifies the conditions under which the dog may be legally destroyed.

## Noxious noises, odors or chemicals

The statutes are less explicit about more recent issues of dispute between neighbors. Attempts have been made to protect farmers from people who move to the country and then object to farm noises or odors (Sec. 823.08). In other situations, long-time rural residents, including farmers, object to new, high-intensity or high technology agricultural practices such as concentrated feedlot (factory farm) operations or aerial spraying of pesticides. People also have concerns about sewage lagoons, rural industries and entertainment establishments. The legislature and the courts continue to struggle to balance the rights of the respective landowners in these situations.

## Adverse possession

In contrast to modern concerns such as pesticide drift, adverse possession is a very old concept. It developed under English common law in feudal times. Feudal landowners who owned so much land that they were unable to keep track of it, could lose remote parts to poor peasants who were living on the property. This concept of "squatter's rights" contained two essential elements: the squatters had used (possessed) the property as if it were theirs for a significant length of time, and the landowner had not given them permission; thus their use was defiant or adverse.

Adverse possession still occurs. Usually, it involves a landowner who knowingly uses adjoining property as part of his or her own property. However, the adverse possessor need not be a neighboring landowner.

Possession is defined by actions such as cultivation, improvement, enclosure (fencing) or use for fuel (firewood). The mere crossing of property by foot or by vehicle on a trail or along utility lines does not constitute possession.

To claim adverse possession, a claimant must maintain possession for only seven years if the claim is based on a recorded written document and the claimant has paid property taxes on the property. If the claim is based on an inaccurate written document but taxes were not paid, the time period is ten years. If no documents are involved and the adverse possessor has not paid property taxes on the property, then the time period is 20 years (Sec. 983.25-32).

Take the following precautions to eliminate a potential adverse possession claim against your property:

- Thoroughly investigate how the property is used before you buy it.
- After the purchase, check boundaries and ask neighbors if anyone is using the property.
- Periodically establish physical possession by keeping other users off the property. Use the land yourself.
- Rent the land and record the signed lease. Give written permission to a potential adverse possessor.





## Trespass and liability

**P**ublic use of private land is a source of considerable irritation on both sides. Citizens would like the right that Europeans enjoy to hike on private land. Landowners would like protection from cut fences, damaged trees, trampled crops, litter and liability.

In trying to deal with these irritations the legislature has frequently amended the Wisconsin Trespass to Land Statute. The most recent change in 1995 shifted the burden from landowners, who previously had to erect "No Trespassing" signs. Now the person intending to enter the land must gain permission from the landowner before entering and must know property boundaries.

### Trespass to land

#### (Sec. 943.13)

**Cultivated or fenced land:** Anyone who enters enclosed or cultivated land to hunt, fish or gather products of the soil (berries, firewood, etc.) without permission is trespassing. Anyone who enters enclosed or cultivated land with a vehicle without permission is also trespassing. These actions constitute trespass even if the land is not posted.

**Undeveloped land:** Prior to 1995, the landowner was required to give notice with signs at least 11 inches square in two conspicuous places on each 40 acres of land, or in writing or verbally in person. While this notice is no longer necessary, small rustic signs may still be useful for defining property boundaries. This change

in the law should eventually lead to a reduction in the number of "No Trespassing" signs that have detracted from the natural beauty of Wisconsin roadsides.

#### **Forest Crop Law Land and Managed**

**Forest Law Land:** Land enrolled under the earlier Forest Crop Law is open for public hunting and fishing. Land enrolled under the more recent Managed Forest Law may be closed (up to 80 acres) or open to various non-motorized recreational activities. Closed land may not be used to prohibit access to open land.

#### **Snowmobiles and other off-road vehicles:**

Wisconsin law specifically states that snowmobiles and other motor-driven craft manufactured for off-road use cannot be operated on private land without the owner's consent (Sec. 350.10[6]). The lack of a fence or the lack of posting does not imply consent.

**Public water:** Citizens may use lakes and navigable streams because the water is publicly owned. However, they cannot cross private property to reach the water or use the land along the shore of a stream or lake. People who walk on the stream bed and along the lakeshore are not trespassing as long as they are in the water. They may climb over a private pier or bridge but cannot use the structure without permission.

**Law enforcement officials:** Conservation wardens, fire rangers and other law enforcement personnel have authority to enter private lands in the course of carrying out their duties.



**Enforcement:** Since 1984 law enforcement officers (usually sheriff's deputies) have been authorized to issue a trespass citation similar to a traffic citation. After receiving a ticket from a law enforcement officer, defendants may pay a fine up to \$1000, or appear in court to contest the ticket. Landowners can also go to court with a civil suit to collect damages from trespassers.

## Liability (Sec. 895.52)

The 1984 revision of the Wisconsin Liability Law is designed to encourage landowners to open their land for public recreation without fear of lawsuits resulting from injuries to such recreationists. Under the law, landowners do not have a duty to keep the property safe for recreational activities, to inspect the property, or to warn recreationists of unsafe conditions.

This special limitation on liability does not apply to commercial enterprises or to landowners who annually receive more than \$500 worth of compensation for recreational use of their land. Nor does it apply to guests expressly and individually invited for a specific occasion. Because of these exclusions, liability insurance is still recommended especially if you occasionally invite guests to use your property.



## Timber trespass and theft (Sec. 24.04-.09)

The intentional cutting of trees on someone else's property without permission may incur a fine of \$100–\$10,000 or may be punished as a criminal offense for theft. The offender is also responsible for reasonable costs involved in establishing the volume and value of the forest products removed. In addition, the landowner may pursue a civil action for double the damage suffered.

## Forest fire and forest pest control (Sec. 26.11-.99)

Chapter 26 of the Wisconsin Statutes authorizes the DNR to establish fire protection procedures. During parts of the year, a landowner must obtain a burning permit before igniting an open fire. Local fire wardens issue permits.

Anyone who starts a fire is responsible for the cost of suppressing the fire, for damages the fire causes and for a fine. Fines range from \$100 for the first offense of merely leaving a scene without totally extinguishing a fire, to \$1000 for allowing a fire to escape or for using fire to drive game, to \$10,000 plus imprisonment for intentionally setting a fire on someone else's land.

The statute also authorizes DNR personnel to enter private lands to survey pest problems, such as an oak wilt or insect infestation, and to control such problems.





## Selling and leasing property

**Y**our final property management decision transfers control to another person or entity. Depending on your objectives for the property, that decision may be the most important part of your management strategy.

If you feel that land is more than a commodity—that it is the most basic physical inheritance we collectively give our children—then you may feel obligated to consider the management philosophy and capabilities of future owners in your decision to sell. Creative use of the techniques discussed below tends to automatically select buyers sympathetic to your management objectives.

### Mineral leases

You can sell the right to extract mineral, oil or gas from under your property to another party while you retain the surface rights. An oil company may offer to lease the property while it looks for oil and gas. It will pay a specified royalty if oil or gas is discovered. Although no one has found oil in Wisconsin, companies have been exploring for petroleum in northwestern Wisconsin, and significant mineral deposits have been discovered in the northeastern part of the state. Mineral companies may buy mineral rights, a mineral lease for a period of time or your entire property.

Don't sign a lease until your attorney examines it and you receive an unbiased estimate of the resource's value.

### Surface-use leases

Always clarify and document rental agreements in writing. The lease may be for hunting privileges, for farming cropland, for grazing pastureland, or for any other short-term transfer of property rights. If the lessee will plant crops or cut trees, clearly spell out acceptable and prohibited activities in the lease. Misunderstandings can easily develop over pesticide use, maintenance of soil conservation practices and timber harvesting.

### Life estates

Life estates are usually designed for landowners who no longer want to manage the land, who don't want to split the ownership of the residence from the rest of the property and who want to continue to live in the residence until they die.

Life estates are also developed for landowners who donate or sell property to public agencies. You can also retain a life estate when you sell or transfer property to a private party. While the retained property right is usually the right to live on the property until death, it might be the right to hunt or hike, or to use the property in some other way.

## Easements

Another method of transferring some property rights without subdividing the property is to sell or donate an easement. For instance, you might donate a scenic easement to the unit of government that owns the roadway and sell the rest of the property rights to a private party.

In another case, a landowner may donate a conservation easement, which prohibits a subsequent owner from developing the property. Such a transaction might have attractive tax implications as a charitable deduction and also reduce property taxes under recent changes in state law (Sec. 70.32[1g]). However, such an easement will probably depress the sale price. Donating or selling development rights on your property to a local land trust or a public agency is an easy way to protect the rural nature of the property while still allowing heirs to use or sell the land.

Whenever an easement is sold or donated, an attorney should carefully draft it because it is a partial, but permanent, transfer of one or more property rights. For instance, if you sell an access easement to a landlocked neighbor, you should spell out the exact place and width of the roadway and the degree to which the easement holder can excavate or fill the easement strip.



## Restrictive covenants

It may seem a shame to allow a new owner to immediately wipe out a lifetime of management. The legislature and the courts have attempted to balance the rights of landowners to influence what happens to their property after they sell it with the rights of future generations, who clearly need flexibility in using land.

You can control the use of property, including its subdivision, for 30 years (Sec. 893.33) through deed restrictions. Such “private zoning” can be used for individual parcels, but is more enforceable when several adjacent or nearby properties are subject to the same restrictions. A landowner restricted by the covenants has a reciprocal right to require that his or her neighbors abide by the same restrictions on their property deed. For instance, the deed to your property, and all other property in the subdivision, may prohibit the use of neon signs outdoors. If your neighbor installed a

neon sign, you would have the right to sue to remove it. Typically, these are entirely private matters that do not involve government.

## Gifts and bequests

People who own land with special historical or natural values can give it to a public agency or private, non-profit organization. Such gifts or bequests have important tax advantages. However, unless the land is unique or is close to other property an agency owns, management will be difficult and such groups may refuse the land. If a private, non-profit land trust operates in your community, you can transfer the land to the trust. In some cases, you may wish to help start a local land trust. Guidance is available from Gathering Waters—a Madison-based nongovernmental organization.

## Leaving your mark

Owning rural property can be an intensely personal experience; planning for its transfer may be emotionally difficult. Whenever and however you transfer the property, your stewardship will be evident to your successor. That successor and the generations that follow will evaluate how well you managed the land you borrowed from them. In the end you may discover that you were more than a good steward—that you loved and respected the land as a community rather than owned it as a commodity.





# For more information

## Wisconsin Department of Natural Resources

**County and area offices:** Foresters and wildlife managers are available locally to advise private landowners and assist in preparing land management plans.

**Publications:** DNR publications are typically provided at no cost and are available from district offices or the Bureau of Communication and Education, PO Box 7921, Madison, WI 53707, (608) 267-5238; fax (608) 264-6293.



## County Cooperative Extension

**Computer programs:** The WISPLAN system links county Extension offices with a computer in Madison. A variety of computer programs relating to farm and forest management are available through WISPLAN. Extension staff are trained to run the programs for you in their offices.

**Consultation and referral:** Educators with expertise in agriculture, family living, 4-H/youth and community resource development provide personal consultation. They have access to faculty specialists throughout the University of Wisconsin System. They are knowledgeable about the responsibilities and expertise of other county agencies such as the

- planning and zoning department,
- environmental health (sanitarian) department,
- land conservation department, and
- register of deeds/land description office.

Educators also can refer you to appropriate offices and publications of local governments, regional planning commissions, state and federal agencies such as the Natural Resource Conservation Service and Farm Services Agency.

**Meetings and newsletters:** County Extension offices provide seminars, other educational meetings and newsletters on a broad variety of topics.

**Publications:** Hundreds of inexpensive publications are available from your county Extension office or by contacting Cooperation Extension Publications, Room 170, 630 West Mifflin Street, Madison WI 53703. Call toll free 1-877-WIS-PUBS (947-7827) for a free catalog or visit the web site at <http://www.uwex.edu/ces/pubs> for a listing of titles.

## Private non-profit organizations

Wisconsin Honey Producers Association, Inc.  
Lee Heine, President  
PO Box 331  
Watertown, WI 53094

Wisconsin Christmas Tree Producers Association, Inc.  
Virginia Mountford, Executive Secretary  
PO Box 105  
Arlington, WI 53911

National Christmas Tree Association, Inc.  
611 E. Wells Street  
Milwaukee, WI 53202-3891

Wisconsin Maple Syrup Producers Association,  
Gretchen Grape, Executive Director  
33186 County Hwy W  
Holcombe, WI 54745

Shiitake Growers Association of Wisconsin, Inc.  
John Cook, President  
PO Box 99  
Birchwood, WI 54817-0099

Wisconsin Association of Campground Owners, Inc.  
Esther Walling, Executive Administrator  
PO Box 251  
Neenah, WI 54957-0251

Wisconsin Woodland Owners Association, Inc.  
Nancy Bozek, Executive Director  
PO Box 285  
Stevens Point, WI 54481-0285

Groups too numerous to list here have formed for other specialized interests regarding individual animal breeds, hospitality services and community development. A complete list of Wisconsin statewide associations can be obtained from the 1997-98 *State of Wisconsin Blue Book*, pp. 597-609.



# Land buyer's checklist

## 1. Do I know why I want to own rural property?

- ☐ Residential home site
- ☐ Vacation home site
- ☐ Retirement home site
- ☐ Timber or agricultural production
- ☐ Hunting
- ☐ Snowmobiling, all-terrain vehicles
- ☐ Nature appreciation
- ☐ Cross-country skiing
- ☐ Land stewardship
- ☐ Real estate investment

**Note:** If you checked several of the above responses but none of them clearly dominates your motivation, perhaps you should wait until your goals are clearer.

## 2. Do I have a copy of the necessary documents?

- ☐ Soil survey
- ☐ Soil topographic map
- ☐ Plat book
- ☐ Offer-to-purchase form
- ☐ Local zoning map

**Note:** You should obtain your own copy of these references even if you are purchasing land through a real estate broker.

## 3. Have I seen the property during all seasons?

- ☐ Spring
- ☐ Summer
- ☐ Fall
- ☐ Winter

**Note:** The property may look quite different when the leaves are down. The view may be enhanced into a broader vista, or unattractive structures may become visible. High groundwater and surface flooding will be most evident in early spring.

## 4. Is there access to a public road?

- ☐ Yes
- ☐ No
- ☐ Uncertain

## 5. Are the driveway and the public road passable during all weather conditions?

- ☐ Flooding
- ☐ Mud
- ☐ Snow

## 6. Are utilities available? If not, how much will it cost to bring them to the building site?

Electricity \$ \_\_\_\_\_  
 Telephone \$ \_\_\_\_\_  
 Natural gas \$ \_\_\_\_\_  
 Fuel oil \$ \_\_\_\_\_

## 7. How far (in miles) are the nearest services?

	5	10	20	40
Fire protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ambulance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foodstores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medical care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dental care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Entertainment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Automotive repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware supplies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clothing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 8. (Property with home) Can the owner tell me:

- Where the septic tank is located?  
☐ Yes ☐ No
- How old the system is?  
☐ Yes ☐ No
- When it was last pumped?  
☐ Yes ☐ No
- By whom?  
☐ Yes ☐ No

**Note:** If a septic tank has not been pumped for the past three years, the system is more likely to fail.

## 9. Are there any suspicious uses of the property by other parties without owner's permission?

- ☐ Unrecorded rights-of-way
- ☐ Timber cutting or farming
- ☐ Camping or cabin site
- ☐ Unsurveyed line fences

**Note:** Someone may have a common law right to continue to use the property by claiming title under adverse possession (see Chapter 13).

## 10. Are land use patterns stable or likely to change?

- ☐ Stable
- ☐ Changing
- ☐ Don't know

## 11. Has a local land use plan and zoning map been adopted to separate incompatible land uses?

- ☐ Yes
- ☐ No
- ☐ Don't know

## 12. Is my intended use of the property consistent with the plan and permitted in the zoning district?

- ☐ Yes
- ☐ No
- ☐ Don't know

## 13. Will I be able to install a conventional septic system?

- ☐ Yes
- ☐ No
- ☐ Don't know

**Note:** Only a test by a certified soil tester can provide this assurance. On many sites, the only private system that will work is a holding tank, which is expensive to maintain.

**14. Is the site suitable for a replacement conventional system or a mound system?**

- ☐ Yes
- ☐ No
- ☐ Don't know

**Note:** If you later remodel or add on to an existing home, your septic system must be inspected.

**15. Have there been any problems with private wells in the area?**

- ☐ Low yield
- ☐ Nitrate
- ☐ Pesticides
- ☐ Bacteria
- ☐ Iron
- ☐ Sulfide

**Note:** Pose this question to several neighbors and the county sanitarian or health official.

**16. Is an underground fuel storage tank buried on the property?**

- ☐ Yes
- ☐ No
- ☐ Don't know

**17. Is the property enrolled in any special government program that provides tax relief but restricts use?**

- ☐ Farmland Preservation Law
- ☐ Forest Crop Law
- ☐ Managed Forest Law
- ☐ Other

**18. Are there any liens on the property?**

- ☐ Unpaid real estate taxes
- ☐ Unpaid construction bills (mechanic's liens)
- ☐ Court judgments

**19. Are there any easements on the property?**

- ☐ None
- ☐ Yes and acceptable
- ☐ Unacceptable

**20. Are there any restrictive covenants on the deed?**

- ☐ None
- ☐ Yes and acceptable
- ☐ Unacceptable

**21. Are there any plans to build a governmental facility or public utility in the area?**

- ☐ None
- ☐ Yes and acceptable
- ☐ Unacceptable
- ☐ Don't know

**22. Can I afford...?**

- ☐ The land
- ☐ Planned improvements
- ☐ Maintenance of improvements
- ☐ Utilities
- ☐ Property taxes
- ☐ Well system
- ☐ Septic
- ☐ Travel to property

**23. How will my family be affected if we move to the country?**

- ☐ More time together
- ☐ More wholesome outdoor recreation
- ☐ Healthy environment
- ☐ More time commuting
- ☐ Fewer cultural opportunities
- ☐ Less opportunity for after-school activities

**24. Will we want to live in the country after the children are grown?**

- ☐ Yes
- ☐ No
- ☐ Uncertain

**25. Am I comfortable with local social customs?**

- ☐ Comfortable
- ☐ Not comfortable
- ☐ Don't know local customs



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Production of this publication was supported in part by the Renewable Resources Extension Act (United States Department of Agriculture), which provided funding for graduate assistance from David Behm and John Leatherman.

The authors gratefully acknowledge the assistance of the following reviewers: S. Brazzale, S. Craven, C. Hauge, R. Hennings, G. Jackson, D. Klessig, D. Last, J. Martin, L. Mauman, J. Peterson, R. Schmidt, B. Shaw, J. Stier, J. Tyler, P. Voss and D. Yanggen.

Photos by Doug Moore, University of Wisconsin-Stevens Point

Illustrations by Carol Watkins

Editor: Meg Gores

Designer: Susan Anderson



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