

Landowning - Missouri Style

Special Interest Articles:

- Soils and Buildings.
- Controlling Noxious Weeds.
- Tips for a Healthy Forest

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*For more information,
please contact the
Greene County Soil and
Water Conservation
District.*

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Introduction

Missouri has some of the most beautiful countryside anywhere – spectacular views...rolling prairies, Ozark mountains, and cropland.

And more and more people are making their homes here –on 2 acres, or 35, or 100. The choices new residents make about building a home, using water, grazing livestock – even about taking care of their pets –have impacts far beyond their own land.



They affect Missouri's water resources, its forests, its wildlife habitat, its traditional farming and ranching communities. They can also affect long-term property values – and even personal safety and well-being.

This booklet offers information about the natural and manmade laws of the Missouri countryside –so that we all can enjoy the good life and preserve the land and natural resources that make that good life possible.

Respect Your Neighbors

When you move into the country, you're moving into a social and economic system that's been evolving for 150 years – and a natural environment hundreds of thousands of years older than that.

Respect for property and people and willingness to lend a helping hand are the values that knit rural communities together. Get to know your neighbors; they're valuable sources of information on what it takes to live in the country.

Neighboring farmers and ranchers will especially appreciate your learning about their operations and understanding how you can co-exist with them.

If your property adjoins public land, contact the responsible agency and ask about their management goals and ways you can cooperate.

Each agency has its own rules about access to and use of its lands. All of them want to work with neighboring landowners to promote good stewardship

on issues that cross ownership boundaries like protecting riparian areas along streams and lakes, maintaining wildlife habitat and migration routes, controlling weeds, keeping forests healthy and reducing wildfire hazards and trash dumping.

A Few Things You Need to Know

- Take the natural environment, from rocks, soils, and water to flooding danger – into account when you build on and manage your property.
- Know and respect private property boundaries. Ask first before entering private land –even for a casual stroll –and before driving on private roads. And leave gates the way you find them –open or closed.
- Keep your pets under control and build fences that contain your livestock but allow wildlife to pass through easily.
- Practice good land stewardship: Control weeds and avoid overgrazing, which can damage your land and local water quality.

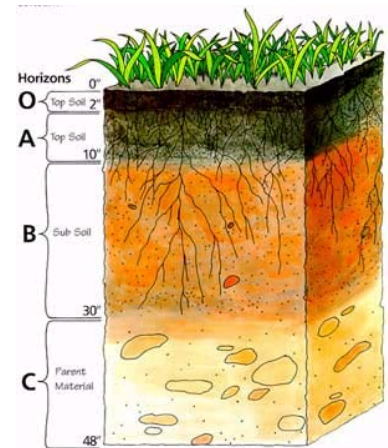
Soil: More Than Just Dirt

How fertile is your soil?

You'll need a soil test to find out. Contact your local NRCS on University Extension office to find out how to take a soil sample and where to send the sample for testing.

The kind of soils your land has will greatly affect what you can build and grow on it. Soils can vary widely, even over a distance of just a few feet. They differ in chemical make-up and physical properties based on

- **parent material**
(the kinds of rocks your soil has been formed from)
- **climate**
- **temperature**
- **biological factors**
(native vegetation)
- **topography**



Soils and Buildings

Wherever you live, you need to work with the geology and soils of the land –not against them. A few questions to ask:

1. Are soils around a building or on a building site prone to the “shrink-swell” syndrome – expanding when they’re wet and contracting when they’re dry?

2. Is your building site on a slope of more than 10%?

3. Are the soils adequate to filter human wastes before they reach groundwater?

4. How quickly does the water move through the soil?

What's So Bad About Noxious Weeds?

Because these weeds are not native to the U.S., they grow unchecked by natural enemies such as insects or diseases. All noxious weeds are aggressive and competitive, stealing moisture, nutrients and sunlight from other plants.

Noxious weeds get started in soil disturbed by construction, recreation and other human activities. They are spread by wildlife, livestock, machinery and vehicles, people, wind and water. Their biology allows them to spread rapidly and invade neighboring land covered by native plant communities.

Under state law, landowners are responsible for controlling noxious weeds on their property. Weeds can spread fast, so regularly look for new weed patches and act

immediately to eradicate them. Team up with neighbors to keep weeds from spreading.

Remember: Weed control by itself is not enough. You'll also need to modify the land management practices that caused weeds to become established in the first place.

Good management will help keep desirable vegetation healthy and weeds under control. Buy only weed-seed-free hay, plant only certified seed, wash your vehicle and equipment after being in a weed-infested area, monitor your property and respond quickly to new weed infestations. Reseed soil that has been disturbed with a seed mix that will work at your site and provide desirable grasses to guard against weed invasion.



Control Weeds Before They

- choke out desirable forage for livestock and wildlife
- reduce the productivity of your land
- cause water pollution and soil erosion because they're less effective at holding the soil
- spread rapidly

Control Methods

Biological: Biological control attempts to find something in nature that can weaken or eventually kill weeds. Successful bioagents include certain fungi and insects from a weed's country of origin.

Mechanical: Techniques like mowing, tilling, hand-pulling or burning can physically disrupt plant growth. *(Use caution with tilling, which can help spread some weeds.)*

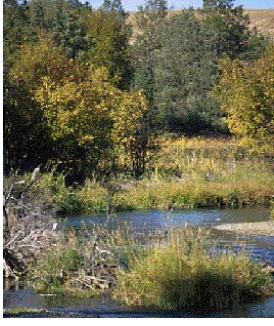
Livestock Grazing: Grazing with sheep, goats or cattle can be a practical form of control for **non-poisonous** weeds. Livestock and wildlife can carry and spread weed seeds on their coat or in their feces; avoid moving livestock from weedy areas to weed-free areas when weeds are producing viable seed.

Chemical Herbicides: Herbicides can be safe and effective when applied properly. Get advice from a specialist to make sure you aren't wasting money or endangering shrubs, trees and native plants.

If applying a chemical yourself, follow label instructions carefully. Keep chemicals away from water to safe-guard humans and animals and prevent pollution of streams and groundwater. Properly dispose of leftover chemicals.

Only certified pesticide applicators can apply restricted herbicides. Your local University Extension office can help you find custom chemical applicators to spray your weeds.

Contact your local University Extension office for a list of noxious weeds in your area and tips on how to identify and control them.



Good stewardship maintains or improves important riparian vegetation and prevents streambank erosion, loss of water quality and loss of wildlife habitat.

Water Quality & Riparian Areas

Riparian areas along streams and lakes make up less than 5 percent of the Missouri landscape – but contain about 75 percent of our plant and animal diversity. Just about everything you like about living near a stream or lake depends on humans leaving them in their natural state.

A healthy riparian system will:

- Slow flood flows and reduce soil erosion and property loss.
- Provide food and cover, as well as nesting and breeding habitat, for wildlife
- Keep water cooler in the summer
- Reduce water pollution by filtering sediments, chemicals and nutrients from runoff
- Hold more water in the soil, slowly releasing it to keep streams flowing longer and to replenish groundwater

Does Your Property Have a Wetland?

Whether an area is a wetland or not is determined by specific soil, vegetation, and hydrological conditions. Before you drain or fill an area, contact your local office of the Natural Resources Conservation Service to find out if you have a wetland on your property.

Wetlands are legally protected under Section 404 of the federal Clean Water Act from land management practices that would destroy them or change their function. The U.S. Army Corps of Engineers and the Environmental Protection Agency jointly administer the permitting process for

excavating, dredging or filling.

The “Swampbuster” provision of the federal farm bill requires all agricultural producers who receive federal farm benefits to protect wetlands on land they own or operate.

Tips to Prevent Water Pollution

Avoid over-irrigation. It wastes valuable water, leaches soil nutrients and also causes erosion and fertilizer and pesticide runoff.

- Plant shrubs and grasses along streams and around corrals and pens to trap and absorb pollution-laden runoff before it reaches streams or groundwater.
 - Locate corrals and pens away from streams and domestic wells. Use off-stream stockwater tanks to keep livestock from trampling banks.
 - Locate your corrals and septic system down-slope of your drinking-water well.
 - Properly dispose of manure, feed and bedding wastes by composting or spreading on cropland.
 - Dispose of weed-control chemicals, used motor oil or other toxic substances properly. Contact your county health department about proper disposal methods.
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Grazing and Livestock Management



The plant communities that make up pasture and rangeland are living ecosystems. Land managers need to have a basic understanding of plant growth, soils and nutrient cycling in order to

keep their grazing land productive and healthy.

Proper treatment and use is critical in prolonging the life of desirable forage species and in maintaining or improving the quality and quantity of forage produced. Pasture and haylands are often planted with both native and non-native grass species or legumes to increase production, forage quality and/or the length of the growing season.

Land managers must recognize that producing high-quality grazing for their animals requires an understanding of:

- Forage –how much forage food for your animals can your pasture produce and at what times of the year?
- Supplemental water requirements
- Soil fertility and nutrient availability.

QUIZ

Do you have so little grass in your pasture that your animals consume dirt while trying to graze?

Are your animals browsing on trees, shrubs, fences or barns?

Are your animals losing weight or are they overweight?

Do your animals have scruffy coats?

Are your animals prone to colic or respiratory problems?

If you answered “yes” to any of these questions , you need a new grazing program that will provide more grass and healthier animals.

Components of a Forage Management System

- Develop a grazing plan with help from your local Natural Resources Conservation Service office or Soil and Water Conservation District.
- Eliminate continuous, season-long grazing by subdividing larger pastures into smaller ones and developing a rotation system.
- Allow long rest periods or use a high intensity, short-duration grazing system to rejuvenate poor pasture.
- Limit animals to one area and feed them hay until forage plants have time to grow in the spring. Move animals when 50% of the forage plant has been eaten (min. 3”)
- Provide a water source for each pasture.
- Fertilize according to soil test recommendations.
- When feeding hay, vary the locations for better distribution of nutrient rich livestock manure.
- Control weeds.
- Reseed, when necessary, following recommendations from the Natural Resources Conservation Service.



Many landowners find it too expensive to own their own farm equipment. Ask your neighbors if they know any custom farmers in the area who can handle the farming practices necessary to improve your pasture.

QUIZ

Is your forest healthy and safe?

Are your trees free from insects, disease and animal damage?

Are your trees spaced far enough apart to allow some sunlight to reach plants on the ground?

Is there more than one age, size and species of tree?

Have you modified forest vegetation around your home in the last five years?

Is firewood stored away from your home, deck and fuel tanks?

If you answered “no” to any question, take steps now to make your forest safe and healthy.

Trees and Forests

When properly designed and maintained, plantings that use species suited for the site reach maturity and provide many benefits.

Windbreaks reduce wind speed and lower heating costs by as much as 25 percent. Shade trees can lower cooling costs up to 50 percent.

Screens of trees can mask unsightly areas and reduce noise levels by 25 percent.

Plantings for wildlife habitat can provide food and/or shelter for a variety of wildlife species.

On land suitable for growing trees, reforestation can create a

forest and all the benefits associated with forest land –from aesthetics to windbreaks and habitat.

Seek professional help when planning reforestation –or any forest management activity by contacting the Soil and Water Conservation District.

Tips for a Healthy Forest

- Maintain a variety of tree species and ages suited to your site.
- Remove infected trees and debris as soon as possible to reduce loss of trees to insects and disease.
- Thin trees to improve growth, health and vigor; increase forage; and reduce fire danger. Remove damaged or poorly formed trees; leave healthy growing trees.
- Avoid concentrated use of the forest by livestock, which compact soils, damage trees by browsing or rubbing, and keeps manure from your pastures.
- Use only properly registered chemicals to control weeds – and keep chemicals away from water and live trees.
- Avoid any activities that damage the roots or lower trunks of trees.

Remember: What you do in “your forest” affects your neighbors, other forest residents and those downstream from your land.

Tree Health Issues

The most important factor in the health management of trees is the early detection of problems. Simply looking at the bark, structure and foliage of your trees on a regular basis can help you notice even subtle changes in the health of your trees. Symptoms and signs that can alert

you to potential health problems in your trees include sudden discoloration of leaves (other than normal seasonal change), sudden leaf drop out of season, defoliation, leaf skeletonization, dieback in areas of the tree, peeling bark, abnormal growths on twigs and leaves, the presence of a

noticeable population of insects or caterpillars, holes in the trunk or branches, or any significant unexplained change in the appearance, color or leaf size of your tree. While some (or even most) signs and symptoms do not represent a serious challenge to the health of your tree, all should

be investigated until the possibility of a serious problem is eliminated. The Department of Conservation, the University Extension office, or a local tree care company that employs a Certified Arborist can all provide diagnostic assistance.

Preserving Wildlife Habitat

Your property may already include high-quality habitat such as native grasses, shrubs, trees, wetlands or stream corridors. To preserve them:

- Minimize mowing. Ground cover in the form of native grasses provides habitat for many birds and mammals.
- When locating a house, road or other improvement, avoid higher-quality habitats.
- Control noxious weeds that can destroy habitat value.
- Avoid overgrazing by livestock; consider fencing livestock out of sensitive areas like stream banks and forests.

Your Pets & Wildlife

Uncontrolled pets are one of the biggest threats to wildlife. Domestic cats kill many thousands of birds every year. Dogs on the loose can harass and kill wildlife and livestock. Law enforcement officers are authorized to destroy dogs seen chasing livestock or wildlife –and fine the pet owner.

Free roaming pets are also easy sources of food for predators. Pets should be under control at all times –leashed, kenneled or kept indoors.



Creating Wildlife Habitat

Work with the Missouri Department of Conservation to determine what wildlife live in your area and what species you want to attract. Then plan to provide:

FOOD for specific species –by planting a wide range of native vegetation.

WATER from a pond, stream or wetland.

COVER. Wildlife need tall grasses, stands of trees and shrubs and fallen trees and branches for cover from predators, migration corridors, nesting and shelter.

Remember: The way cover is arranged in relationship to food and water determines whether or not your land offers usable habitat for wildlife. Consider creating “islands” of habitat by connecting stands of trees and shrubs with meadows of native grass.

Fencing For Wildlife

The fencing you choose can make a big difference to wildlife, and fencing that accommodates both livestock and wildlife doesn't have to cost more. Spacing smooth or barbed wires at 16, 22, 28 and 40 inches from the ground will allow deer to get through with reduced fence damage. Leaving that 12-inch gap between the highest wires will also help keep animals from getting tangled in the wires.

Homesite Planning

Many public and private agencies can help you plan for your land. See the *Contacts list on the next pages*.

Whether you buy undeveloped land or property with a house and improvements you need a comprehensive plan. Some suggested steps:

Answer these questions:

- Why do you own your property?
- What do you want your property to do for you or look like in the future?

Make a sketch of your property and take notes on:

- your property boundaries and if they are clearly marked
- lay of the land (direction and steepness of sloping ground, rock outcrops, etc.)
- soils (get a soil map from NRCS) and fertility (get a soil test done)
- water features like streams, ponds, wet areas
- ground cover (grass, trees, shrubs, cropland) and its condition
- types of wildlife that use the area and wildlife habitat present
- unique features such as views, historical significance, rare plants or animals
- manmade features (buildings, fences, corrals, roads,

underground storage tanks, mine tailings, etc.)

- utilities (wells, septic systems, power and telephone lines etc) – above and below ground
- any natural hazards (sinkholes, swelling soils, etc.)

Check for land-use constraints such as high water tables, flooding potential and wetlands, which may not be obvious in dry seasons.

Determine adequacy of access to your property.

Check zoning, building codes and other regulations that govern land use in your area

Visit with neighbors about their land uses and concerns.

Prioritize action steps and develop a time line to move from what you have to what you want.



Tips for

- ❖ Site homes and roads away from streams, on stable soils.
- ❖ Use rock outcroppings creatively; removing them can be difficult and expensive.
- ❖ Locate your home to maximize the benefits of sunshine and shade.
- ❖ Avoid disturbing wildlife migration corridors, wetlands and riparian areas.
- ❖ Maintain or plant native vegetation. It requires less water, keeps soils from eroding, and has fewer pest problems.
- ❖ Consider a conservation easement on your land to protect natural resources.
- ❖ Be alert for unintended consequences. For example: Building and maintaining an access road may spread weeds, and increase erosion. Planting a garden may attract wildlife.