Upper Willamette
Soil & Water
Conservation District

A Resource Guide
for Rural &
Suburban Living

RURAL & SUBURBAN LIVING HANDBOOK

Prepared and Published by the Upper Willamette SWCD

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Introduction

The Upper Willamette Soil & Water Conservation District welcomes you to our *Rural and Suburban Living Handbook*. This guide is intended to introduce new and existing residents to conservation practices and available resources for landowners. It contains information on purchasing rural property, soil testing, forestry, suburban living, and wildlife concerns, as well as tips on how to live lightly on the land through conservation.

The handbook also provides contact information and basic guidance for citizens of our district who may have questions about dealing with local rules and regulations regarding land usage. Whether you live in a city and are looking for advice on what garden crops your backyard soil will best support, or you reside in a rural area and need suggestions on how to keep animal manure out of a waterway, this handbook can provide you with some basic information to help you accomplish your project.

We hope you find the contents of this handbook useful, informative and beneficial. Should you require further information or assistance, please contact us between the hours of 8:30 am and 4:30 pm at the **Upper Willamette Soil & Water Conservation District** Office, 780 Bailey Hill Road, Suite 5, Eugene, OR 97402; by phone 541-465-6443 ext. 5, e-mail office@uwswcd.org, or visit our website at www.uwswcd.org.

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Is Rural Living for You?

Purchasing Rural Property

Purchasing rural property and living in the country can be very satisfying, but comes with some challenges and responsibilities. Whether you raise crops and livestock or just enjoy the open space and solitude, this section offers some tips to help first-time rural property buyers or those new to our district.

Choosing to live "rural" may come with some challenges to consider. For example;

- You discover your access road is not publicly maintained and maintenance is your responsibility.
- You discover you don't have irrigation access to the water that runs through your property.
- You lose a pet or livestock to a predator.
- There is no garbage service where you live.
- Your neighbor applies pesticides or herbicides that drift onto your land.
- Can you get reception on your cell phone; how about Internet service?

Oregon Department of Agriculture (ODA), Definition of "Agricultural Use"

Oregon defines "Agricultural Use" as the "use of land for the raising or production of livestock or livestock products, poultry or poultry products, milk or milk products, fur-bearing animals; or for the growing of crops such as, but not limited to, grains, small grains, fruit, vegetables, forage grains, nursery stock, Christmas trees; or any other agricultural or horticultural use or animal husbandry, or any combination thereof. Wetlands, pasture and woodlands accompanying land in agricultural use are also defined as in Agricultural Use."

This definition is found in the Oregon Administrative Rules, Oregon Department of Agriculture, Chapter 603, Division 95, Statute 603-095-0010.

Programs and Grants for Landowners

There are a variety of federal, state and local programs that support soil and water conservation, habitat conservation, organic agriculture, energy efficiency, and renewable energy systems for rural landowners in Oregon. The Upper Willamette SWCD staff is available to assist you explore these programs and find one (or more) that best suits your land management needs.

Grant programs and opportunities vary throughout the year and from year to year. Please check with the **Upper Willamette SWCD staff at 541-465-6443 x 5** for current grant programs. Additionally, there are programs available through USDA's Natural Resources Conservation Service (NRCS) and Farm Services Agency (FSA) to support landowners in improving land and water quality issues. Please visit USDA's website, www.usda.gov for more information.

Building on the Land

To maintain the quality of life that initially attracted you to the area, certain rules, regulations and best management practices are in place. As you plan to make changes to your property, there are many resources available to assure the improvements are safe and legal.

Planning

All proposed building on your property must be reviewed and approved by the Planning Department. When you are ready to present your proposal to the Planning Department, you will first need to submit an accurate-to-scale plan. The plan should include all existing structures, septic drain field and tank, well location, and any proposed new structures or additions with distances shown to the property line.

Overlays

Overlays are areas of special concern such as wetlands, vernal pools, flood plains, airport approach, wildlife habitat, city Urban Growth boundaries, etc. Additional time may be required to acquire permits through the Planning or other departments if you propose to develop in or near these overlays. Streams move over time and are prone to flooding, and can threaten homes and other structures if built too close to a waterway.

Access

For development purposes, parcels must have legal access in accordance with requirements in effect at the time the parcel was created. Practical, physical access to the development site must be possible.

Public Service and Utilities

Public services and utilities are not always available in rural areas. Water may have to be pumped from a well or a nearby stream (if a permit allows), and a septic tank and drainage field may have to be built. The ditch between your property and the main road may also be your responsibility to maintain, as the road department does not mow or spray for weeds in all parts of the county.

Electric lines are usually run to a home's connection box, but if not, an alternative may be required. For example, solar panels, generators, or woodstoves can be used to generate electricity and heat. Some city services may be available, but depending how far out of the city limits you live, services such as garbage, recycling, yard debris, natural gas, mail, cable TV, internet and newspaper services may not be available. Check the phone book for local sanitation services, mail, and cable provider companies.

811 Know what's below. Call before you dig.

www.digsafelyoregon.com

Living on Rural Roads

There are many types of roads in our area; paved, gravel, and dirt. Gravel roads are usually not paved because they have fewer than 100 people driving on them per day, or they are private driveways. Living on some type of rural paved or gravel road means routine maintenance activities are less frequent. Road crews will be out during inclement times and quickly act on calls of hazardous situations. Please respect flaggers, temporary caution signage, and flashing warning beacons. If the road is not maintained by the county, it is the landowners responsibility to maintain the road. Contact Lane County Planning to determine the classification of your road at www.lanecounty.org.

The use of rural roads is increasing as rural populations increase and the dependence on roads increases in rural areas. Travel on rural roads increased by approximately 27% between 1990 and 2002 nationwide.

Landowners accept the presence of roads which border their property as part of a community transportation system. The design of private roads must consider emergency vehicle access, water management practices (erosion control), and connections to existing roads. Counties require a permit for a new, private road and driveway access that will connect to a county road. The application outlines the requirements for access and culvert designs.

Gravel roads can be hazardous. They usually do not have posted speed limit signs and are designed for slower speeds. Driving gravel roads requires a high degree of attention and respect for others traveling and living along the road. Gravel roads do not have marked centerlines, though most will have enough width for two vehicles to travel safely. Drivers tend to crowd the center of the road resulting in loose rock along the sides of the road which can be hazardous. Please slow down when you approach pedestrians, equestrians, homes, cars and road crews.

When building or planning your road, you will need:

- Approved permits
- Culverts and drainage designs that allow runoff
- A plan that allows the location of the road to follow the natural contours of the landscape to minimize erosion and runoff; and
- To have the banks stabilized and reseeded frequently to discourage the spread of noxious weeds.

Being Neighborly

Be a Good Neighbor

It All Begins with "Hello!"

Being a good neighbor is a two-way street; being respectful and considerate of neighbors makes it more likely that you will receive the same. Most conflicts can be prevented by a little cooperation and communication. Remember that most people who live in rural areas value their privacy and space; by knowing where your property lines are and keeping pets and belongings within your own boundaries, will avoid creating a problem with your neighbors.

One way to delineate property boundaries is by creating a fence, but rather than using it as a way to keep people away, a cooperative fence building effort can be a way to bring neighbors together. Communication is essential to such a project; an agreement on building, maintenance, and replacement responsibilities prior to beginning the project will help to prevent misunderstandings in the future. When building the fence, it will be important to consider issues like vegetation management and the choice of the correct type of fence to avoid harm to wildlife, pets, or livestock as well as aesthetic appeal and practicality.

Keep in Mind

- Moving livestock and farm machinery on country roads is necessary. Be cautious and prepare for delays.
- Some practices, such as burning along irrigation ditches and running machinery after dark are common farming practices, and are necessary at certain times of the year.
- Prevent noxious weeds from moving from your property to your neighbors' land via wind, water, animals, or other means.
- **Always** know where you are and whose land you are on. Ask permission to be on someone's property; do not trespass; and
- Remember that it is unlawful to use county roadways as parking areas during yard sales or family gatherings.

"Do what you can, where you are, with what you have."
— Theodore Roosevelt

Soil Basics

Soil Quality Basics

The entire earth – every ecosystem, and every living organism – is dependent upon soil. Soil makes our lives possible. We build, play, and drive on soil. We eat the food grown on or raised in soil. Soil grows the plants and trees necessary for the oxygen we breathe, the medicines we take, the clothes we wear, and the clean water we drink!

Soil provides all of these necessities by performing the following essential functions:

- Regulates Water; Soil helps control where water goes.
- Sustains Plant & Animals; The diversity & productivity of all living things depend upon soil; and
- Filters Pollutants; The minerals and microbes in soil are responsible for filtering, buffering, degrading, immobilizing and detoxifying organic and disease causing organisms.

Why Test Your Soil?

Soil is defined as the mineral or organic matter on the surface of the earth. Soil is divided into various categories, such as clay, sand, silt and loam. Soil testing can provide important information to make decisions concerning:

- How much lime to use in lawns, vegetable or flower beds.
- How much fertilizer to use on lawns, vegetables, flowers and shrubs; and
- Disclose nutrients that may be lacking, or in excess in the soil.

To determine your soil type, get a handful of moist soil and squeeze it.

- ***Clay soil*** feels sticky, holds together well and forms an imprint of your fingers.
- ***Sandy soil*** slips through your fingers, feels gritty and will not hold together well; and
- ***Loamy soil*** feels spongy and will be brown or black in color. It is a mix of sand, silt, clay and organic matter, and is the best soil for plants.

Management Effects on Soil Properties

Soil quality is the ability of a soil to perform functions that are essential to people and the environment.

Soil quality assessments focus on the *dynamic*, or management-affected properties of soil, such as nutrient status, salinity, and water-holding capacity. These properties are assessed in the context of the inherent capability of a particular soil.

We Provide Soil Testing!

Bring us the soil to be tested in a one quart container. We will help you determine if you need a standard test ($40.00) or a diagnostic test ($50.00). Tell us what you would like the soil to support, for example; fruit trees, backyard vegetable garden, etc. Test results will be provided to you within two weeks. **Please note: Cash or Check only, we do not accept credit cards.**

Contact the staff at **Upper Willamette SWCD at 541-465-6443 x 5** for more information.

Soil Management

Practicing good soil management can help limit the amount of soil that leaves your property and increase the soil's biology. Property owners can reduce the amount of sediment that leaves their property through consistent land monitoring and implementing conservation practices.

Improve Your Soil Performance:

Have your Soil Tested

Have your soil tested to determine the conditions of your soils' current nutrient level. Contact the staff at **Upper Willamette SWCD at 541-465-6443 x 5** for more information.

Add Organic Material

Regularly adding organic material helps enhance soil quality, soil structure, water and nutrient holding capacity, and helps protect the soil from erosion and compaction.

Cover the Soil

Bare soil is much more susceptible to erosion than land that has crop or residue cover. Many farmers leave the residue on their land between growing seasons for the purpose of reducing erosion. In addition, cover crops, once decomposed, can add important nutrients and organic material to the soil. Ground cover needs to be managed for diseases, pests, and phosphorus build-up.

Reduce Chemical Use

The use of fertilizers and chemicals for pest management can greatly impair a soil's healthy biology. Chemicals can harm naturally-occurring organisms crucial to its fertility and structure. Utilizing primarily non-chemical approaches to land management and only applying chemicals as a last resort can help increase the natural biology of the soil.

Increase Crop Diversity

Different crops provide unique beneficial factors to the soil. These factors help control pests and weeds naturally due to the diversity of organisms in the soil. By rotating vegetation or crops and increasing the diversity, you can increase the types of beneficial insects, microorganisms, and wildlife that are present on your land.

Soil Monitoring

Periodic monitoring, and the development of a soil management plan will assist property owners in identifying changes to their soil and its productivity.

Small Farms

"*What can I do with my small farm*?" Often, when people buy a small farm they simply want someone to tell them what they can 'do' with it. As strange as it might seem, this isn't an easy question to answer. When landowners begin to make important decisions related to the use of their property, they might not recognize the complicated web of details involved. This section will cover some of those details.

Small Farms

Lane County has seen a shift during the last decade from large production farms to more small and organic farms. The owners of small farms vary in both resources and aspirations. Many people are interested in having a few animals, growing some fruits and vegetables, and providing a high-quality rural lifestyle for their family; others seek to manage a small farm intensively to produce supplemental or total family income.

Rural areas are attractive places for families to live. A great deal of satisfaction can come from experiencing farm life without the pressure to make a profit. Many small farm families wish to replace some of their purchased food with home-raised foods. This can be extremely satisfying and surprisingly easy.

Before you Purchase a Small Farm

Things to consider prior to purchase include: the soil type and capabilities, what is the availability of water, what are the water rights, is there an existing irrigation system, what are the energy costs associated with seasonal start up…We are here to help; the Upper Willamette SWCD staff can provide you with technical information and assistance with these questions and more.

Water Quality

Oregon and the federal government have implemented policies and plans that address water quality related to agricultural production and that work to protect the public and natural environment from unnecessary pollution. These policies guide the regulatory process of the Oregon Department of Environmental Quality (DEQ) and the Oregon Department of Agriculture (ODA). Knowledge of these laws and what they regulate will help property owners minimize their risk of committing infractions which could result in penalties. Please go to page 22 for more information on agricultural water quality.

Organic Farming

Organic farming has been the precursor for the more modern approaches to farming as technology has progressed and new methods to cut time, costs, and improve yields have become available.

Since the 1940's organic production has been practiced in the United States and has expanded from small to large scale farms with surplus products sold under an organic label. This growth stimulated a need for verification that products are indeed produced according to certain standards. Today, more than 40 private organizations and state agencies (certifiers) currently certify organic food. Food manufacturers have developed organically processed products and many retail marketing chains specialize in the sale of "organic" products.

The definition of "organic" is governed by the OFPA and is a set standard that allows identified synthetic substances and the exclusion of specific non-synthetic substances as defined by Title XXI of the Food, Agriculture, Conservation and Tract Act of 1990.

Organic farming, which includes organic gardening, is a system of crop cultivation that strongly supports biological methods of fertilization and pest control. Although substitutes for commercial fertilizers and pesticides are preferred, certain commercial fertilizers and pesticides are allowed in an organic cropping system. Organic farming strives to achieve an ecologically balanced farming system, which is the conservation of natural resources through many techniques to achieve good crop yields that build good soil structure, fertility, controls pests, diseases and weeds.

Some examples include, but are not limited to: the use of recycled and composted crop waste and animal manure, the right soil cultivation at the right time, crop rotation, green manures and legumes, mulching on the soil surface, careful planning and crop choices, the use of resistant crops, encouraging useful predator insects that eat pests, increasing genetic diversity, using natural pesticides, and incorporating a higher level of management through tillage, physical labor and crop rotation.

Crop Nutrient or Animal Waste

You must prevent manure and fertilizers from leaving your property. Small acreage landowners are especially vulnerable to this rule. Stored waste from barn cleanings or feeding areas could leave the property if water gets into it from rain, runoff, or if it stored in a flood plain. Paying attention to where you put your manure pile, covering it, and diverting water away from it are all easy ways to stay in compliance with this rule. The best ways, however, are to use it right on your property or share some with your neighbors; just don't send it to them by way of the stream!

Please contact the **Upper Willamette SWCD** for more information on agricultural water quality at 541-465-6443 ext. 5 or email us at office@uwswcd.org.

Courtesy of OSU Small Farms,
www.smallfarms.oregonstate.edu

For more information visit, www.tilth.org

Invasive Plant Species

Invasive species are one of the greatest threats facing our lands and waterways. Their impact is not just ecological, but social and economic. The U.S. Forest Service estimates the economic impact of these invaders is as much as $138 billion annually. The ecological damage and secondary influences these species have on everything from recreation to agriculture make the cost jump even higher.

Looking specifically at plants, the incursion of a noxious weed is far reaching. Once established, they continue to spread: displacing native plants, and weakening the natural erosion and water filtration control within a watershed. Established weeds can also change the fire ecology of an area and, in arid areas, lead to desertification or the death of natural springs. Their presence negatively influences wildlife diversity and the general health of an ecosystem.

Many invasive weeds have been introduced intentionally as ornamentals, but over time, they have been found to be serious pests that are characteristically difficult to eradicate once established.

Recently, government organizations and other land managers have been emphasizing "**Early Detection and Rapid Response**" (EDDR). This *mantra* aims to utilize limited resources in order to prevent establishment of new invasive weeds locally. It focuses on education and outreach about new invaders and encourages public participation in reporting sightings of new invaders so that authorities can nip the problem in the bud (so to speak).

Weeds have likely plagued agricultural practices since the beginning of cultivation. Essentially defined as unwanted guests, weeds can be native to an area but not suitable in a particular setting – crop field, pasture, garden or lawn, for example. More often, weeds are human-introduced and not of local origin (non-native).

(Examples of invasive plant species)

English Ivy

Yellow Flag Iris

Japanese Knotweed

Once they are established invasive weeds are virtually impossible to remove or control. What is the best defense? A good offense – by proactively attacking the problem from all angles. Well managed and ecologically healthy lands and waters are the first step, but you can help too. It is essential to follow a few simple guidelines when visiting public lands to prevent invasions:

• Stay on designated trails and roads especially when traveling by vehicle, as they easily transport seeds and disturb the soil. Wash your vehicle and gear after your trip to remove seeds.

• When traveling with animals, check them before and after the trip and remove any possible "hitchhikers" you may find.

• Notify land managers when you see an outbreak of weeds. Do not pull weeds, as you may inadvertently spread their seeds.

• Wash your watercraft, gear and trailers. Make sure to remove all plant material from the watercraft, motor, trailer, and other gear and dispose of the material on dry land in a garbage container.

• Drain live wells, bilge water and transom wells at the boat launch prior to leaving; and

• When fishing, use only artificial lures, as live bait has the potential to accidently introduce exotics into the water.

Guard your property from the threat of new invaders, and remember to report them. The following resources are available for additional information on what to look for, how to effectively control them, or to see if there is a current grant-funded program which might assist in controlling invasive weeds on your property:

Oregon State Weed Board –

Department of Agriculture profiles all state listed noxious weeds on their website: www.oregon.gov/ODA/Plant/Weeds

Please contact the staff at **Upper Willamette SWCD** for more information at 541-465-6443 ext. 5.

Report an Invader

If you spot a potential invasive species, call the toll-free number at 1-866-INVADER. Or better yet, become a volunteer on the front line combating these invaders that threaten the beauty and health of your favorite recreation spots. Visit the National Invasive Species Information Center website to learn more about prevention and management of invasive species at www.invasivespeciesinfo.gov.

Himalayan Blackberry

Pollinators and Native Plants

It's estimated that pollinators are needed for the reproduction of 90% of flowering plants and one third of human food crops. Each of us depends on these industrious pollinators to provide us with the wide range of foods we eat. In addition, pollinators are part of the intricate web that supports the biological diversity in natural ecosystems that help sustain our quality of life.

Abundant and healthy populations of pollinators can improve fruit set and quality, and increase fruit size. In farming situations this increases production per acre. In the wild, biodiversity increases and wildlife food sources increase.

Meet the Pollinators

Bees are well documented pollinators in the natural and agricultural systems of our environment. A wide range of crops including pumpkins, squash, broccoli, and cabbage are just a few plants that benefit from pollinators. Most of us are familiar with the colonies of honey bees that have been the "workhorses" of agricultural pollination for years in the United States. They were imported from Europe over 400 years ago. There are nearly 4,000 species of native and twig nesting bees in the U.S. Some form colonies while others live and work a solitary life. Native bees currently pollinate many crops and can be encouraged to do more to support agricultural endeavors if their needs for nesting habitat are met, and if suitable sources of nectar, pollen, and water are provided.

Additional Resource Information:
www.pollinator.org/guides.htm

Butterflies tend to be eye-catching, as are the flowers that attract them. Position flowering plants where they have full sun and are protected from the wind. Also, you need to provide open areas (i.e., bare earth, large stones) where butterflies can bask, and moist soil from which they may get needed minerals. By providing a safe place to eat and nest, backyard gardeners can also support the pollination role that butterflies play in the landscape.

Hummingbirds are the primary birds which play a role in pollination. Their long beaks and tongues draw nectar from tubular flowers. Pollen is carried on both the beaks and feathers of different hummingbirds. Brightly colored flowers attract hummingbirds throughout the United States. Many hardy tropical flowers, along with native woodland edge plants, attract hummingbirds.

Native Plants

Native plants are an important part of the local natural ecosystem. They provide a critical link for insects, birds, and other species that have evolved together. Native plants can also provide a variety of benefits such as streambank stabilization, easy care and water conservation, beautiful landscaping, food and cover for wildlife and pollution filtration.

Consider using native plants that will attract or are critical host plants for pollinators. When choosing which species to plant on your property, consider the site conditions, plant preferences and desired habitat value. OSU Extensions' Master Gardeners may be able to provide planting information.

Site Planning and Maintenance

Map your proposed planting site and observe your site over time (note seasonal patterns of sun and shade, drainage and wind). Consider methods of irrigation for newly established plants, protection from animals and weed control. Note the location of power lines and avoid planting trees near them or plant only low-growing (under 25 feet at maturity) trees adjacent to the power lines. Be aware of underground power line safety and always **Call 8-1-1** before you dig. Contact local agencies that provide technical assistance for guidance, advice, and permits.

Even though your plants are native, they will still need some attention until they are successfully established. You will most likely need to water them during the first summer after they are planted (water deeply, rather than frequently) to help the plants form strong root systems.

Try these pollinator trees native to Lane County:

- Big Leaf Maple
- Black Cottonwood
- Bleeding Heart
- Currant
- Dogwood
- Douglas Spirea
- Oceanspray
- Oregon Ash
- Oregon Crabapple
- Oregon Grape
- Oregon Iris
- Oregon White Oak
- Pacific Ninebark
- Red Elderberry
- Serviceberry
- Thimbleberry
- Vine Maple
- Western Red Cedar
- Wild Rose
- Willow

Oregon Crabapple

Grazing & Pasture Management

Grazing is one of the best tools available for improvement and maintenance of healthy, productive pastures. Increased infiltration of rainwater, water quality, organic matter, rooting structure, plant health, and animal production, as well as decreased weed invasion, soil erosion, and pesticide use are all benefits of proper grazing management.

Pasture Layouts

Timing, intensity, and duration of livestock grazing can have a dramatic impact on individual plant vigor and overall pasture production. Here are a few options to choose for your pasture layout:

Exercise Lot

The exercise lot is used for exactly that, "exercising" the animals; it is not meant for all day use. These lots will not provide enough food for the animals, so the bulk of the feed will come from hay and grains. Also, with close quarters, manure will build up and will need to be hauled away or utilized in your operations. Poor manure management can be costly to the health of your animals and farm.

Full-time Pasture

Increased forage occurs when large pastures are broken into multiple smaller pastures, or paddocks (1 – 5 acres). Rotating livestock every few days or weeks gives each paddock a chance for regrowth and helps stabilize manure nutrients to the soil, causing less work and lower feeding costs. Forage grasses should be maintained between 3" and 8" length for optimum growth and animal nutrition.

Content courtesy of OSU Extensions: Livestock Production

Hay & Pasture Field

On five or more acres, you can manage pastures or grow hay. Make sure to check into all of the costs of haying production.

Determine Your Animal Stocking Rate

To determine how many animals your land will support (stocking rate), you need to know two things: how much forage the particular animal or group of animals you have on your property will consume, how much forage you have available.

Animal Unit Month (AUM)

The AUM concept is the most widely used way to determine capacity of grazing animals. The AUM provides us with the approximate amount of forage a 1,000 lb cow with calf will eat in one month. It was standardized to the 1,000 lb cow with calf when they were most prevalent on rangeland. This AUM was established to be 800 lbs of forage on a dry weight basis (not green weight). All other animals were then converted to an "Animal Unit Equivalent" (AUE) of this cow. For example, a mature sheep has an AUE of 0.20. This means a sheep eats about 20% of the forage a cow will eat in one month.

A general rule of thumb for horses is 'one horse per 2 acres.' Monitoring should be conducted to ensure that the pasture conditions do not become degraded. If that happens then an increase to 3-4 acres per horse may be required.

Pasture Plants that Protect Soil

The following pasture plant species are commonly used in Western Oregon for a healthy field, consisting of a well-balanced mixture of :

Grasses:

- Orchard Grass is a productive grass good for hay or pasture on well-drained soils.
- Tall Fescue is a grass that grows well in a wide variety of soil conditions; and
- Perennial Ryegrass is a "cool season grass" used in pasture or hay production. It also grows well in a wide variety of soil conditions.

Legumes:

- White Clover is a long-lived, highly palatable perennial, well adapted to pastures.
- Red Clover is a cool-season perennial legume that is also very adaptable and complements tall fescue and other grasses; and
- Legumes are "good soil nitrogen fixers."

Ryegrass

Orchard Grass

Red Clover

White Clover

Legume

Fencing

Fencing

A majority of the grazing in Lane County is managed within a closed range area. A closed range area is defined as an area where livestock does not roam freely. Closed range fencing becomes the owner's responsibility to keep livestock within property lines. There are many different types of fencing options for managing your livestock. Picking the right options depends on the types of animals you have.

Wildlife Friendly Fences

Barbed-wire, woven-wire, electric and other fences define and divide ranches and farms, outline property boundaries, enclose pastures, and run for miles along highway and road corridors. Yet fences can be barriers and traps for wildlife, from big-game animals to birds, causing injury and unnecessary fatalities. Animal damage to fences is also costly and frustrating to landowners.

Not all fences are problem fences. Tailor your fence design and placement to minimize injury to wild animals and lessen wildlife damage to your fence. Most wildlife are capable of jumping fences, but barbed-wire can snag animals and tangle legs, especially if wires are loose or spaced too closely together. If the animal can't pull free, they die a slow and desperate death. Even when animals do clear fences, or crawl through or under strands, they often bear countless scars from the wire barbs.

Some fences, especially woven-wire, can be a complete barrier to fawns and calves, even if adults can still jump over. Separated from their mothers, the youngsters are stranded, unable to follow the herd and can die of starvation.

When you design your fence, consider the purpose, the topography (hills, gullies, streams and wetlands), the species of wildlife present, daily or seasonal wildlife movements in the area, presence of water, food and cover for wildlife, and the presence of young animals.

Make your Fence Wildlife Friendly:

- Lower the top strand of barbed wire and raise the bottom wire
- Replace the top barbed wire with a smooth wire or rail
- Modify sections of a fence so that a top rail or wire can be temporarily lowered at wildlife trails during seasonal migrations, and a bottom wire that can be raised so calves and fawns can slip underneath
- Temporarily lay down sections of fencing during seasonal elk and deer migration when livestock aren't present; and
- Replace the top strand with highly visible white poly-wire or attach short pieces of white vinyl "under sill" siding strips (available at most home improvement centers) to fence wires in areas where wildlife collisions or entanglements are common.

Mud & Manure Management

Mud Management

Mud and manure can make chores unpleasant; as well as increasing fly breeding areas, transmitting diseases, creating unsafe footing and increasing polluted runoff.

Mud & manure management is important for animal health, keeping water quality high, and making a property look attractive. Good management plays the biggest role in keeping mud and manure under control. Depending on the scale of the issue, manure can reduce a property's value while putting the health of the property owner, farm and animals at risk.

Mud can be caused by a number of activities and conditions, including increased surface water, high traffic areas, highly organic soil, and the lack of ground cover. If mud is not managed properly, it can be hazardous to animal health, causing sickness and parasites. In addition, runoff from a muddy property will have high levels of sediment that contribute to water pollution.

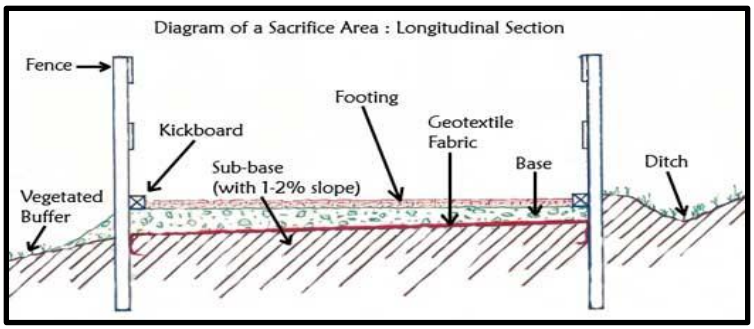
Ideally, reducing the amount of surface water that flows through pastures and sacrifice areas will greatly reduce mud. You can divert water to a wetland, stream, ditch, or other safe outlet before it passes through animal areas.

Here is a list of additional techniques for reducing mud production:

- Establish a sacrifice area for animals.
- Dispose of manure regularly and store properly.
- Use appropriate footing for paddocks, sacrifice areas and high traffic areas.
- Use vegetation as a mud manager.
- Install gutters and downspouts to roofs.
- Rotate water trough placement areas to avoid mud and manure buildup; and
- Direct the rainwater from barn roof to water troughs, where possible.

Sacrifice Areas

A sacrifice area is an alternative animal resting area used to keep animals off the pasture during wet months. Locate the sacrifice area away from water sources and plant a vegetative buffer around the area to reduce the chance of contaminating the water. The appropriate size depends on the type and quantity of animals that will be held in the sacrifice area. For assistance in determining the size of your sacrifice area, please contact the **Upper Willamette SWCD** staff at 541-465-6443 x 5.



Graphic courtesy of Fairfax County, Virginia

Manure Management

Manure is the "New Black Gold."

Clean, safe water for consumption, recreation, irrigation, manufacturing and fish and wildlife habitat is important to Oregonians. Non-point source pollution is one of the major causes of water quality degradation in Oregon. Non-point (defined as, "not generated by a specific and definable source") pollution is an accumulation of small water pollution sources and single pollution events that, as a whole, cause significant degradation to our water quality. For example, runoff water may carry small amounts of soil particles, pesticides, nutrients, or bacteria from several land areas. When combined in a water source, these small amounts of pollution add up to a large problem. Proper management of these potential pollution sources is needed to maintain clean and usable water resources.

Many Oregonians own small acreage farms and raise cattle, horses, pigs, sheep, goats, llamas, and chickens. These owners can enhance their farm's productivity by managing manure as a soil amendment. Manure is a source of nitrogen, phosphorus, potassium, and many micronutrients that can increase soil fertility.

When starting or taking over a small farm operation, manure management is often overlooked. *What to do with that ever increasing stockpile of waste?* If not stored properly, manure can cause potential water quality concerns through runoff of surface waters or by leaching through the soil and into groundwater.

Manure Storage

Animals produce a lot of manure and without regular management, it can quickly become overwhelming. Manure should be collected every one to three days to reduce polluted runoff, fly breeding site, and muddy areas. Whatever the method of manure storage, the pile should be covered during wet months and stored on an impervious surface to limit leaching and runoff.

Contact the staff at **Upper Willamette SWCD** for possible grant programs to assist with your manure storage solutions at 541-465-6443 x 5.

Examples of Manure Storage Facilities

Resource: OSU Small Farms: Mud and Manure Management

Agriculture Water Quality Management

As a landowner, you are responsible for water quality issues on your property. Be pro-active in managing your land, and remember that voluntary compliance with regulations is best.

Don't judge your waterway by its size or configuration. A "ditch" is just a small stream. Many local creeks, springs and wetlands were converted years ago to drainage ditches. Those that flow year-round often have fish and other aquatic life in them. Surprisingly, many intermittent and ephemeral creeks are also extremely important to fish, wildlife and aquatic insect species. Remember that even fishless ditches and seasonal creeks flow into fish-bearing streams.

The Agricultural Water Quality Management Act passed by the Oregon Legislature in 1993 directs the Oregon Department of Agriculture (ODA) to work with farmers and ranchers to develop area-wide water quality management plans for the state's watersheds. The focus of the Agricultural Water Quality Management program is on voluntary and cooperative efforts by landowners, ODA, and others to protect water quality. However, the Agricultural Water Quality Management Act also provides a regulatory backstop to ensure prevention and control of water pollution from all agricultural sources. Agricultural water quality regulations provide this while allowing landowners flexibility in how they protect water quality. Local area regulations describe characteristics to achieve rather than practices that must be implemented.

In Lane County we have two agricultural water quality management area plans and rules that are administered by the ODA;

- Southern Willamette Agriculture Water Quality Management Area Plan; and
- Upper Willamette Agriculture Water Quality Management Area Plan.

The rules state;

- Agricultural activities along streams must allow for the establishment and development of vegetation that provides the functions of streambank stability and shade; and

- Agricultural activities may not cause pollution to waters of the state or place waste in a location likely to enter into waters of the state.

Preserve Your Good Water Quality

Listed below are some actions you can take to preserve your good water quality:

- Keep a buffer strip of native trees and shrubs along the creek
- Do not install rock, rip-rap or gabions along your stream bank
- Preserve the natural features of the creek
- Keep pasture and animal pens away from streams
- Do not allow livestock to graze in riparian areas
- Do not divert a spring or creek to build a pond (even for irrigation use) without a permit
- Avoid filling ravines or slopes above creeks with dirt, grass clippings or other debris
- Remove noxious weeds with mechanical, rather than chemical means
- Remember, water flows downstream.

How you treat the section of stream on your property affects water quality on your neighbors' property downstream, just as the actions of your neighbors upstream affect you and your property.

For more information on this plan, please visit:
http://www.oregon.gov/ODA/NRD

Riparian Areas

If you have a creek, stream, wetland or ditch on your property, then you have something very special in your care! Cool, clean water in our local waterways is essential to sustain balanced ecosystems for fish and wildlife. Healthy streams benefit landowners too, in terms of erosion control, enhanced property values, and watching nature at work.

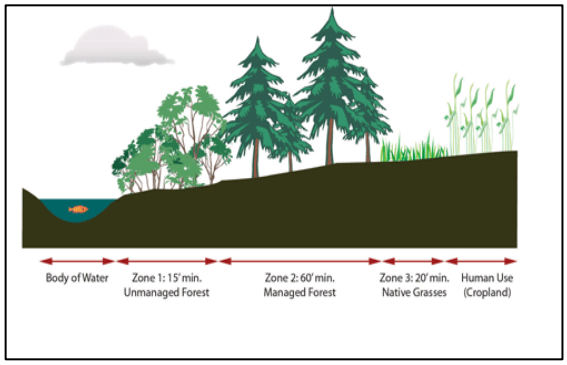
Riparian Areas

Riparian areas are defined by the USDA Natural Resources Conservation Service (NRCS) as ecosystems that occur along waterways and water bodies. They act as the transition between the wet (aquatic) lands and the dry (terrestrial) land. A healthy riparian area will be highly vegetated with ideal riparian vegetation, good shade, and an abundance of woody and organic debris. Plant roots provide the bank with increased stability while minimizing sediment runoff.

Riparian buffers should be between 25 – 100 feet wide depending on surrounding land uses. Properly managed riparian areas provide property owners and the environment with numerous benefits. Riparian areas are vital to the natural ecosystem; thus, property owners are highly discouraged from altering or removing riparian vegetation. Please contact the **Upper Willamette SWCD** staff or Lane County for more information.

Riparian Vegetation

Agricultural practices should not cause stream banks to slough off at a rate more than normal for that particular system or prevent appropriate vegetation from establishing and reproducing, and leaving the stream side area vulnerable to high flow events. A combination of deeply rooted trees, shrubs, and grasses are needed to support streamside soil systems and limit erosion. Deeply rooted plants such as willows, sedges and snowberry can help protect the stream bank from erosion. A healthy riparian area has lush and diverse native vegetation along the water's edge.



Courtesy of Virginia Outdoors Fund

Rural Wells & Septic Systems

Rural properties have more owner maintenance issues than urban or suburban properties where fee services are provided. The two most important items are water from a well for human consumption, and septic systems.

There are several important things you should consider:

- Locate your well and map it out for your records.
- Locate the Well Logs for your well. These can be found at the Oregon Water Resources Department website at www.wrd.state.or.us., or call 1-503-986-0900.
- The well logs provide information about the construction, depth and water production.
- Set a schedule to have your well tested for water quality. The well should be tested every other year for impurities. A list of state certified labs can also be found at the Oregon Water Resources Department.

Under Oregon law, all groundwater is considered a public resource. In general, a water right permit must be obtained before using water from a well. The following uses of water do not require an application for a water right permit:

- Group and single-family domestic use up to 15,000 gallons per day
- Stock watering
- Watering any lawn and/or non-commercial garden totaling one-half acre or less
- Down-hole heat exchangers; and
- Watering any lawn and/or non-commercial development up to 5,000 gallons per day

These exempted uses are on a per-property or per-development basis and cannot be increased. For example, you cannot double the amount exempted by adding a second well. If you have any questions regarding ground water use and the requirement to obtain a water right permit, please contact the Water Resources Division (WRD) customer service group at 1-503-986-0801.

If you are purchasing an undeveloped parcel of land and intend to construct a dwelling, the *Consumer's Guide to Waterwell Construction, Maintenance and Abandonment* obtained from the WRD will provide some very useful information to help with your planning process.

Listed below are several things to consider regarding the maintenance of private septic systems:

- Locate and map the location of your septic tank and drain field. Avoid driving over or parking on top of the system.
- Know the background on the system, the size of the tank, when it was installed, has it been replaced, how long since system maintenance (pumping) was completed.
- Develop a tank maintenance schedule. Most tanks are designed for a 3-4 year pumping cycle.

Proper management of inputs can lengthen the life of the system. These include:

- Flush only easily digested organics.
- Minimize use of household soaps and chemicals. Inorganic chemicals deposited into a septic system will not be neutralized and end up in groundwater and/or streams causing water pollution, and harm fish and other wildlife.

Wetlands

To provide for the best possible use of water resources in our state, we must strike a balance between protection and human use. This is the purpose of Oregon's regulations governing activities in waterways, wetlands and their riparian areas.

What are Wetlands?

Wetlands form in the presence of two key factors: a source of water and hydric soils (i.e. soils that drain very slowly, like clay). The sources of water supplying wetlands vary, "most are in low lying areas that collect rain and runoff. Others are in places where the groundwater is at or near the surface and so are fed from below. Others are near rivers or other bodies of water that regularly overflow their boundaries." (Windham *et al*, 1996). Beaver dams can also form wetlands by backing up streams and causing water to flood the land behind them.

The combination of a water supply and hydric soils leads to saturated (i.e. water-logged) soils during part or all of the growing season. These conditions favor the growth of wetland plants, which have special adaptations that allow them to survive in soils that are saturated during portions of the growing season.

How do they Function?

Wetlands in a watershed provide ecological functions that benefit many species, including humans. Wetlands can:

- Slow the runoff after storms
- Provide habitat for wetlands plants
- Provide winter habitat for fish, amphibians and invertebrates; and
- Enhance groundwater recharge by giving surface water more time to percolate down to aquifers.

When planning a project in wetlands or waterways, you should check first with the Lane County Planning Department or the Upper Willamette SWCD, to determine what, (if any) regulations may apply. Staff will be able to help you understand the range of permits that may be required for your water-related project. If you are unsure about the need for a permit, your regional Department of State Lands (DSL) coordinator is available to provide guidance. Types of permits can be found on the DSL website at www.oregonstatelands.us; remember, the permit process can take some time, so please allow up to 120 days for DSL to process your application for a permit.

More Questions?

Please refer to Lane County Riparian Regulations 16.253, or contact the staff at Upper Willamette SWCD.

Additional Information: EPA Wetlands, http://water.epa.gov/type/wetlands

Resource Management Plan

There is a lot to know about owning and managing land, and even more to know if you plan to raise livestock. With a little time, some knowledge, and a modest amount of money, you can have a property of which you can be proud, while protecting our natural resources.

A '*Resource Management Plan*' is the first step to successful land and natural resource management. It is easy to design; start by walking your property, taking notes on features such as property boundaries, fences, corrals, pastures, buildings, wells, septic, water sources, bare ground, roads, driveways, weeds, trees, shrubs, land use and topography.

Define your management objectives. Decide what is important, what to avoid, and what you want from the resources on your property. What do you want your property to look like in five years, or ten years? How do want to spend your time? What is your budget and how much time do you want to dedicate to improvements? A management plan will address the objectives that you outline and define.

Remember to be aware of how the plan fits in with other land uses in the neighborhood. Even if your plan does not make many alterations to the existing use of the land, you will need to plan to keep weeds from becoming invasive. Additionally, you must understand that doing nothing is also a plan and may result in severe infestations of invasive species which reduce or eliminate wildlife habitat and are problematic to neighbors. Land must be managed in some way, even if not for human use.

We Can Help You Develop Your Plan

The Upper Willamette SWCD and Natural Resources Conservation Service (NRCS) have staff that can assist you in developing farm, forestry, range, wetland and wildlife management plans. The Upper Willamette SWCD staff can also assist you in determining if there is a grant or financial aid available to fund a portion of your improvements. For more information, contact the **Upper Willamette SWCD** at 541-465-6443 x 5. You can also visit our office at 780 Bailey Hill Road, Suite 5, Eugene, Oregon 97402 or our website www.uwswcd.org.

Step 1: Identify land management goals
Step 2: Inventory the resources on your land
Step 3: Assess conditions on your land; and
Step 4: Identify the options and actions right for your land.

STEPS Courtesy of Natural Resources Conservation Service (NRCS)

Tips for Your Plan:

- Map and evaluate the path of water across your property and into downstream waterways
- Identify potential sources of water quality pollution from your land
- Reduce the source of potential pollutants from agricultural lands; and
- Assess the effectiveness of water quality management practices currently in place.

Backyard Conservation

With conservation a growing priority, landscapes must function on multiple levels. Many landowners, farmers and ranchers are making progress in natural resource protection. You can join their conservation tradition, right in your own backyard!

Composting

Composting is a great way to enhance your garden while reducing the household waste that would otherwise end up in our landfills, because composting turns that waste into a valuable soil amendment. All organic matter eventually decomposes. Composting speeds the process by providing an ideal environment for bacteria and other decomposing micro-organisms. The final product, humus or compost, looks and feels like fertilized garden soil. This dark, crumbly, earthy-smelling stuff works wonders on all kinds of soil and provides vital nutrients to help plants grow and look better.

Many materials can be added to a compost pile including leaves, grass clippings, straw, woody brush, vegetable and fruit scraps, coffee grounds, livestock manure, sawdust and shredded paper. Avoid using diseased plants, meat scraps, and dog and cat manure, which can carry diseases. Composting can be as simple or as involved as you would like and depends on how much yard waste you have, how fast you want results, and the effort you're willing to invest.

Hot Composting

Hot composting requires a few minutes each day and the right ingredients; and in a few weeks you can have a finished compost pile. Hot piles must be built all at once in a 4 to 5 foot cube and turned regularly. As decomposition occurs, the pile will shrink. A 3 foot cube is needed to maintain necessary heat. Hot piles can reach 110 to 160 degrees Fahrenheit, killing most weed seeds and plant diseases.

How To Start a Compost Pile

- There are many options for your compost container; choose the one that works best for you. Check local and online retailers for sizes and availability.
- Start on a level site, lay down bricks or prunings to promote air circulation.
- Spread several inches of carbon rich, ***brown*** material at the bottom of the compost pile (dead leaves, sawdust, and small twigs).
- Then add 1 inch of nitrogen rich ***green*** material (fresh grass cuttings, vegetable scraps, or fresh manure).
- Add another foot or so of ***brown*** material on top of the ***green*** and water lightly
- The pile will heat and then begin to cool. Start turning the compost when the pile's temperature begins to drop.

Move materials from the center to the outside and vice versa. Turn every day or two and you should get compost in less than 4 weeks. Turning every other week will give you compost in 1 to 3 months. Finished compost will smell sweet and be cool and crumbly to the touch.

Courtesy OSU Extension: Soil and Compost, www.extension.org/pages/soilsandcomposting

Landscapes

Trees add so much beauty to your yard, and can be home to many different types of wildlife. Trees can also reduce your heating and cooling costs, help clean the air, add color, provide shelter from the wind and the sun, and add value to your home!

Choosing a Tree

Choose a tree that will provide enjoyment for you, fit your landscape at maturity, and is not invasive to your geographical area. There are a variety of resources available to guide you through selecting a tree; libraries, universities, arboretums, nurseries, or contact the staff at Upper Willamette SWCD. Before you buy, you need to determine if the tree you have selected is appropriate for your area; how big it will get, how long will it live, its leaf color in the fall, and the proper planting instructions and care it will require.

Planting a Tree

A properly planted and maintained tree will grow much faster and live much longer than one that is planted incorrectly. Early spring, before bud break, is a good time to plant most trees. Trees may also be planted in the early fall if local site conditions will allow roots to begin growing. Hot summer weather is hard on newly planted trees, and planting in frozen soil during the winter is difficult and tough on tree roots.

NRCS Natural Resources Conservation Service

Content courtesy NRCS Backyard Conservation, www.nrcs.usda.gov/backyard

Early Maintenance

For the first week or two, especially after a week or so of very hot or dry weather, **watch your trees closely for signs of moisture stress**. If you see leaf wilting or hard caked soil, **water the trees well** and slowly enough so the water soaks in rather than runs off. This will encourage **deep root growth**. Keep the area under the trees mulched and free of other plants. Until the trees are deeply rooted, grasses and other plants may take up moisture before the trees can get their share.

Be sure to carefully follow the planting instructions that come with your tree. If specific instructions are not available, you can obtain additional tree planting guidelines and information on the NRCS website at www.nrcs.usda.gov/backyard.

Mulch Materials

Mulch protects soil from erosion, conserves soil moisture, prevents weed growth, stabilizes soil temperature, reduces compaction, and keeps any fruit or vegetable that touches the **ground clean and dry.** Compost also makes an excellent organic mulch material. It adds nutrients to the soil and has a natural appearance. Wood chips and bark work well around trees and shrubs and make attractive walkways through gardens.

Backyard Gardens

Most backyard conservation practices are easy to put in place. Tips are given here, but for more detailed information, or assistance in developing your backyard plan, you may consider contacting a local landscaper, garden club or the staff at **Upper Willamette SWCD**.

Your backyard can be home to many different types of birds, butterflies, beneficial insects, bats and other wildlife. Trees, shrubs, and other plants you use for food and cover will help determine the wildlife species attracted to your yard. Consider **native plant** species first, then plant a variety of species. Select plants that flower and bear fruit at different times of the year. Refer to the "*Pollinators & Native Plants*" section of this handbook for native plant species to consider adding to your backyard garden!

Birdhouses

You can construct birdhouses and provide commercial bird feed to attract birds to your yard. Birdhouses should be placed where birds will feel secure, usually away from the bustle of human activity. Make or buy a birdhouse specifically designed for the species of bird you want to attract. The size of the hole will prevent the eggs and young from being destroyed by unwanted predators.

Ponds

Backyard ponds are for birds, butterflies, frogs, fish, and you! These ponds are typically small, sometimes no larger than 3 to 4 feet in diameter. Water is very effective in drawing wildlife to your backyard. A backyard pond is also a natural, very relaxing and scenic addition that will provide interest and enjoyment. Carefully consider pond placement to ensure everyone's safety. Locate your pond where it is unlikely that unattended children and pets may be attracted to it. Check local safety ordinances to determine if a fence is required for the specific depth and size of your pond.

For more information, contact your local plant nursery, landscaper, or pond supplier for the step-by-step process of building a backyard pond, and selecting and establishing suitable bog plants in and around the pond.

Water Conservation

Water conservation can save time, money and energy, and improve the health of your plants. Listed below are some water-wise gardening tips to consider:

- Group plants with similar water, soil and sun exposure needs
- Select native species and plants
- Water in the early morning and avoid watering when the wind is blowing
- Keep irrigation water on target (off of concrete)
- Water only the plant root zone (top 12")
- Eliminate hose and sprayer leaks

Soil

Soil (or improved soil) is the basis of a healthy garden, nutritious vegetables, herbs, and flowers. A soil test (see page 8) can help you understand your soil's chemistry and what nutrients may be lacking. You can improve soil quality with reduced tillage and increasing organic matter. Compost and aged manure can be incorporated into your soil to feed microbes. Cover crops, planted in the fall and tilled into the soil in the spring, reduce erosion and add additional organic matter to your garden.

You can greatly reduce the amount of water used for shrubs, beds and lawns by the strategic placement of soaker hoses, installing a rain barrel water catch system, and installing a simple drip-irrigation system. Avoid over-watering plants and shrubs, as this can actually diminish plant health and cause yellowing of leaves.

Gardening

Growing your own vegetables and herbs, and tending to your flowerbeds can be very enjoyable. Time spent in the garden can reduce stress, save money, create an aesthetic environment, and provide a wildlife habitat. Researching the different types of vegetables or flowers you choose to plant can save you a lot of energy. Sunlight, water, and good soil are key to growing nutritious vegetables and healthy flowers. Know the frost dates on your seed packet selections, and remember the most important thing you can do to maintain healthy soil is to regularly add compost.

Storm Water Runoff

Water can't soak through pavement and concrete, such as driveways and sidewalks. The water flows off of these surfaces and usually straight into a storm drain. The grates in the road connect to pipes which carry the water directly to your local stream or river. By conserving and utilizing your storm and household water, it will reduce the amount going into the natural water system. **If you have questions, we are here to help! Contact the staff at the Upper Willamette SWCD at 541-465-6443 x 5.**

Living with Wildlife

Living with Wildlife…One of the benefits of living in the country is having an abundance of wildlife around. While most wildlife can be quite enjoyable, some species can become quite a nuisance.

Wildlife Habitats

The three basic components of wildlife habitats are food, water, and cover. Food requirements will naturally vary by wildlife species, from seeds and berries for birds, to the grasses, flowering plants and shrubs preferred by deer and elk. Water on or near your property, in the form of ponds, streams, or developed stock water, will draw and increase the variety of wildlife your yard will attract. Cover is needed for hiding from predators, traveling, nesting and shelter.

Creating Wildlife Habitats

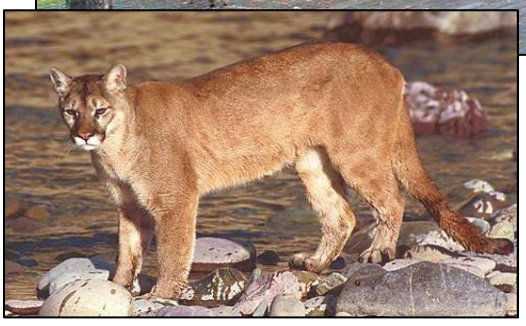
Whether you live in a small place, or on a large ranch, you can help increase the amount of wildlife habitat by making a few simple changes to your backyard environment. By growing a variety of native vegetation and maintaining a water source, you will provide the necessary elements of a good wildlife habitat.

Predators

Many predators live in our area; deer, elk, raccoons, cougars, coyotes, wild turkeys and heron. Most wild animals will avoid human contact, but will take advantage of easy prey, i.e., your family pets, pond fish and livestock. Smaller animals are more vulnerable and may need protection at night when most predators are active. Keep pet food inside or under lock and key, provide a solid barn or other enclosure with small entry spaces secured.

While beautiful to look at, deer like to forage on gardens and landscapes. Netting can be draped over roses and ornamentals to discourage their feasting. A tall fence around the garden is also useful for keeping the deer out.

Wildlife is an important component of the rural lifestyle in the Willamette Valley. You can enhance habitat and diversity of wildlife on your property with the application of a few easy techniques. Ensure you have a variety of vegetation including trees, shrubs, native plants and grasses, and include a year round water supply on your land. Control domestic animals and pets to protect them from becoming prey or being preyed upon.



Additional Resource: NRCS Wildlife Habitat,
www.nrcs.usda.gov/feature/backyard/WildHab

Recycle

Recycling

Once is not enough! When it comes to using resources, please reuse, reduce and recycle. One of the easiest ways to conserve is to cut back on what you use daily at home, work and play. Buy less, think more and be resourceful! Use your own coffee cup, a cloth lunch bag, and use a canvas tote when you go shopping. Find a second (or third) use for something. Consider what can be repaired rather than replaced. Think about reuse creatively! Can that broken clay pot be used to start groundcover? Can that old wicker chair become a planter?

Recycling is actually taking a product at the end of its' useful life and using all (or part) of it to make another product. It saves material resources after reducing and reusing. Each local sanitation service provides different recycling options. Contact your local service to determine what options are available.

Listed below are just a few of the many recycling centers in our area:

BRING - Planet Improvement Center
4446 Franklin Boulevard
Eugene, OR 97403
541-746-3023

NextStep Recycling
980 McKinley Street
Eugene, OR 97402
541-868-0904

Lane County Waste Management
Cottage Grove Disposal Site
78760 Sears Road
Cottage Grove, OR 97424
541-942-8986

Small Woodlot Management

If you recently purchased forest land, you may be faced with the daunting task of managing these resources. Luckily, unlike seasonal farming or gardening, small woodlands tend to operate over longer time frames of years rather than months.

Develop a Management Plan

To begin planning, walk your land. Legal boundaries and access to the property should be well established. Take inventory and familiarize yourself with the resources on your property (neighbors may also be able to assist in identifying resources). Afterward, begin to formulate and outline a set of objectives. The decisions you make regarding the management of the property will have short and long term ecological and economic consequences. There is less need to make immediate decisions, due to the longer time parameters of managing woodlands.

Information Sources

The Oregon Department of Forestry (ODF) offers technical advice and cost share programs for various non-commercial forest and resource management on their website. Local chapters of Oregon Small Woodland Association, your local Watershed Council, and federal agencies such as the Forest Service and Bureau of Land Management can also be great resources for landowners.

OSU Extension Service is one of the first places to look for advice on managing your small woodland. The forester focuses on education and outreach to landowners and has direct contact with faculty at OSU. Extension offers many programs and training sessions, including the Master Woodland Manager Program for small woodland owners. See information about programs at www.extension.oregonstate.edu.

The ODF is the state regulatory agency of forest management. A "Notification of Operations" from the ODF is required for all owners initiating a forest operation. As an owner of private forest, you must notify ODF of any commercial forest activity at least 15 days before beginning.

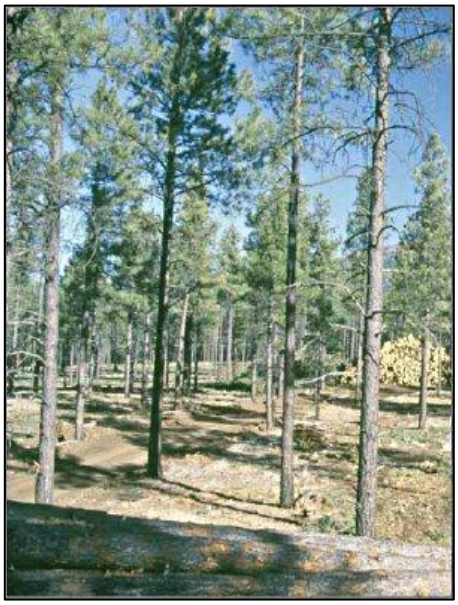
At this point, you are required to complete and submit a *Notification of Operations* form to your nearest ODF office. To obtain the forms required, please visit the ODF website at www.oregon.gov/ODF or contact the local ODF offices in Veneta at 541-935-2283, and Springfield at 541-726-3588.

The *Notification of Operations* forms serves the three following purposes as required by Oregon State Law:

- Notification to the States' Forester that a forest operation will be conducted (ORS 527.670)
- Application for permit to use fire or operate power-driven machinery (ORS 477.625)
- Notice to the States' Forester and the Department of Revenue of the intent to harvest timber (ORS 321.550)

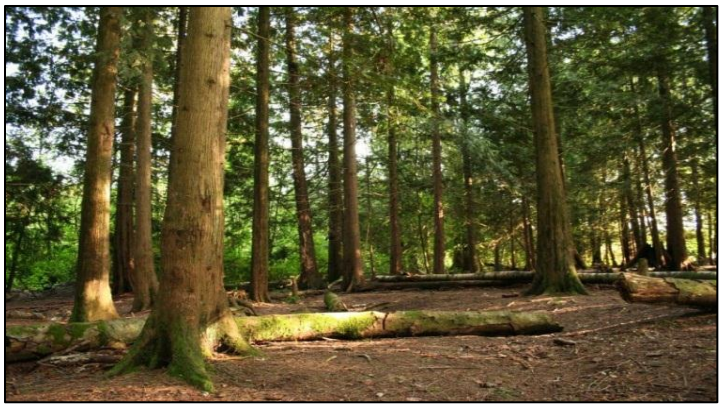
The Next Step

The natural systems and processes that operate in forestlands do not recognize property lines. Talk with your neighbors; you will need to work together to address problems such as insects, disease, water, wildlife and fire. Only through cooperative work and collaborative effort will you be able to effectively address these concerns.



Cost-share assistance through Oregon Department of Forestry and NRCS may help pay for preparation of a forest stewardship plan by a consulting forester or other trained professional. These plans should provide an initial inventory of the various forest resources on your property. For more information, go to: www.or.nrcs.usda.gov/technical/STEPS.

Based on that inventory and your objectives, a management plan should include wildlife management, soil protection and erosion control, wildfire management and fuels reduction, pertinent forest insects and diseases, reforestation, protection of riparian and aquatic biodiversity, long-term site productivity, roads and access concerns.



Wildfires & Prevention

Each year, more and more people move into previously uninhabited, forested rural areas of Lane County. Dry, hot summer weather increases wildfire dangers. In addition, these remote areas have just as high a risk of structural fires as urban areas, yet longer response times and limited water hydrants. Difficult terrain and unpaved roads all increase the risk of losing your home to fire.

Fire Ecology

Fire is a fundamental and essential component of a healthy forest ecosystem. Oregon forests have historically depended upon fire as an integral part of forest regeneration, cleansing and renewal, and the maintenance of plant and animal diversity.

Away from homes and communities, fire is needed to remove undergrowth that chokes trees and facilitates disease. Burned trees replenish nutrients in the soil; standing burned snags and downed trees in streams create habitats for wildlife.

What is a Defensible Space?

Defensible space is the area between a house and an oncoming wildfire where vegetation has been modified to reduce the wildfire threat and to provide an opportunity for firefighters to effectively defend the house.

Defensible Space Practices

- Increasing the moisture content of vegetation
- Decreasing the amount of flammable vegetation
- Shortening plant height
- Altering the arrangement of plants

Diagram of a Defensible Space
courtesy of nachi.org

One helpful resource for selecting native, fire-resistant landscaping plants is the brochure from OSU Extension; ***Fire Resistant Plants for Oregon Home Landscapes***. To get a copy, call the OSU Extension Service office nearest you, or visit their website at, www.extension.oregonstate.edu/emergency/wildfire.php.

Fuel Breaks Around Structures

Research has shown that fuel reduction around a structure can significantly increase the structure's chance of surviving a wildfire.

Fuel, to a wildfire, is anything that can burn; needles, leaves, dry grass, firewood, cedar shake roofing, wood siding, wooden decking. Fuel reduction means lessening the amount of fuel available to a fire, increasing the distance between fuels, and isolating fuels so fire can't get to them. Fuel reduction ***does not*** mean cutting down all trees and shrubs around a structure, or creating a bare-earth ring around a home. It ***does*** mean to arrange trees, shrubs and other fuel sources in a way that makes it difficult for fire to transfer from fuel source to fuel source.

The first step is to establish a 30-foot primary fuel break around structures. Fuel break distances are measured along the slope. No fuel break needs to extend beyond the property line. A correctly developed fuel break should slow the rate of spread and the intensity of an advancing wildfire, and create an area in which fire suppression operations may safely occur.

The primary fuel break begins at the outside edge of a structure's furthest extension. This may be the edge of the roof eave, or the outside edge of a deck attached to the structure. The shape of the fuel break mirrors the footprint shape of the structure and anything that is attached to it.

Burning during Fire Season,
June through September,
is strictly prohibited.

The secondary fuel break increases a structure's distance from potentially flammable natural vegetation. It also helps to create a safer zone for firefighters to operate in. The added fuel break distance will also create an emergency safety zone for residents who may have to stay at home during a wildfire emergency. The secondary fuel break begins where the primary fuel break ends and continues an additional 20-70 feet or to the property line, whichever distance is shortest.

Backyard Burning

Backyard burning is allowed in rural Lane County with certain limitations. Garbage burning is prohibited, and garbage must be properly disposed of at curbside or your local waste management location. If backyard burning is not done properly it can cause public and environmental harm and could result in fines. Residents are urged to use proper containment and control measures when conducting backyard burning.

Cities, counties and local fire districts also have their own restrictions about open burning. Always check with your local fire department before you burn. Additional information is available at the Lane Regional Air Protection Agency, www.lrapa.org/rules_and_regulations.

What You Can Burn

Lane County residents outside of the restricted burn area are allowed to burn the following items with permission from the local fire district:

- Yard debris
- Clean and untreated wood
- Paper and cardboard
- Woody debris

What is the Upper Willamette SWCD?

The Upper Willamette Soil and Water Conservation District (UWSWCD) was organized in 1953 under the Oregon Soil and Water District Law Oregon Revised Statute (ORS) 568.210-780. All Oregon soil and water conservation districts are classified as special districts under ORS 198.010 through 198.955.

This means that the UWSWCD is not a county or state agency. The UWSWCD is governed by seven locally elected volunteer directors representing five zones and two at-large positions. District operations and programs are funded by grants and services provided. Our monthly board meetings are open to the public and meet the 2nd Tuesday of each month at 3:00 pm at our District office, located at 780 Bailey Hill Rd., Suite #5, Eugene, Oregon 97402.

Mission Statement

The mission of the Upper Willamette Soil & Water Conservation District is to encourage and promote the responsible stewardship of natural resources by providing leadership, information and representation; and through local conservation education.

Upper Willamette SWCD History

In the early 1930s, along with the greatest depression this nation has ever experienced, came an equally unparalleled ecological disaster known as the *Dust Bowl*. Following a severe and sustained drought in the Great Plains, the region's soil began to erode and blow away, creating huge black dust storms that blotted out the sun and swallowed the countryside. Thousands of "dust refugees" left the black fog to seek better lives. But the storms stretched across the nation. They reached south to Texas and east to New York. Dust even sifted into the White House and onto the desk of President Franklin D. Roosevelt.

On Capitol Hill, while testifying about the erosion problem, soil scientist Hugh Hammond Bennett threw back the curtains to reveal a sky blackened by dust. Congress unanimously passed legislation declaring soil and water conservation a national policy and priority. Because nearly three-fourths of the continental United States is privately owned, Congress realized that only active, voluntary support from landowners would guarantee the success of conservation work on private land. In 1937, President Roosevelt wrote the governors of all the states recommending legislation that would allow local landowners to form soil conservation districts. Brown Creek Soil & Water Conservation District in North Carolina was the first district established. The movement caught on across the country with district-enabling legislation passed in every state. Today, the country is blanketed with nearly 3,000 conservation districts, with 45 conservation districts in Oregon.

The Upper Willamette Soil and Water Conservation District, formerly known as the "East Lane SWCD" was formed on May 3, 1988 by consolidation of the North Lane Soil Conservation District (formed in 1956), the Upper Willamette SWCD (formed in 1971) and the Mid-Lane Soil Conservation District (formed in 1953). Upper Willamette SWCD cooperates with landowners, land occupiers, other natural resource users, other local governments as defined in ORS 174.116, and with agencies of the government of Oregon and of the United States in projects, programs and activities to provide for the conservation of renewable natural resources of the state and thereby conserve and develop water resources and water quality and preserve wildlife habitat *(*paraphrased from *ORS 568.225(1)* and *(2))*.

Lane County Planning & Development

Check with your local county offices to find permit information specific to your location and desired project. Oregon has a statewide land use planning program, established by state law and implemented at the county level. Each county maintains a *Comprehensive Plan and Zoning Ordinance*. While administered at the county level through local land use plans, statewide goals are set by law, and administered by the Department of Land Conservation and Development.

For more specific information on zoning ordinances and zoning maps in Lane County, please go to www.lanecounty.org.

Your Notes:

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Resource Directory

Emergency	**9-1-1**
Sheriff (non-emergency)	541-682-4150

Lane County Departments
www.co.lane.or.us

Animal Control	541-682-3647
Parks & Recreation	541-937-1173
Building Permits	541-682-4651
Planning	541-682-3577
Call Before You Dig	**8-1-1**

State Agencies

DEQ	541-686-7838
Dept. of Agriculture (Salem)	503-986-4700
Dept. of Fish & Wildlife	541-726-3515
Dept. of Forestry (Veneta)	541-935-2283
Dept. of Forestry (Springfield)	541-726-3588
Dept. of State Lands	503-378-3805
Water Resource Dept.	503-986-0893

OSU Extension (Eugene)	541-682-3620
WaterMaster, District 2	541-682-3670

Watershed Councils

Coast Fork WC	541-767-9717
Long Tom WC	541-338-7055
McKenzie WC	541-687-9076
Middle Fork WC	541-937-9800
Siuslaw WC	541-268-3044

Utility Companies

Blachly-Lane	541-688-8711
EPUD	541-746-1583
EWEB	541-685-7000
Lane Electric Co-op	541-484-1151
Springfield Utility Board	541-746-8451

Rural Fire Protection Districts

FOR ALL EMERGENCIES	**9-1-1**
Blachly	541-935-3064
Blue River	541-822-3253
Cottage Grove (So. Lane)	541-942-4493
Creswell	541-895-4008
Dexter	541-937-2296
Eugene	541-682-7100
Goshen	541-747-3104
Junction City	541-998-2022
Lane County FD #1	541-935-2226
(Veneta, Elmira, Crow, Noti & Walton) www.lcfd1.org	
Lorane (message #)	541-942-1233
Lowell	541-937-3393
Marcola/Mohawk	541-933-2907
Oakridge	541-782-2416
Pleasant Hill	541-747-8016
Springfield	541-726-3737
Upper McKenzie	541-822-3479

Federal Agencies

USDA Farm Service Agency	541-465-6443
www.fsa.usda.gov	Ext #2
USDA – Rural Development	541-753-4080

Natural Resources Conservation Service

www.or.nrcs.usda.gov	541-465-6443 Ext #3
BLM (Eugene)	541-683-6600
www.blm.gov/or/district/eugene	
U.S. Forest Service	541-225-6300
www.fs.usda.gov	
Willamette National Forest	541-225-6300
Siuslaw National Forest	541-750-7000
Umpqua National Forest	541-957-3200

Upper Willamette Soil & Water Conservation District

780 Bailey Hill Rd., Suite #5, Eugene, OR 97402

Phone: (541) 465-6443 x 5 **Fax: (541) 465-6483**

Website: www.uwswcd.org **Email: office@uwswcd.org**