

Tips **on Land & Water Management**

**for Farm and Livestock Owners
in Whatcom County, Washington**

Whatcom County is a Great Place to Live, and You Can Help Keep It That Way!

We are richly blessed in Whatcom County with plentiful natural resources such as fish, wildlife, soil, water, and shellfish. As a community member with agriculture on your property, it is a big responsibility to manage your land and livestock in a way that is protective of those resources.

There's a lot to know about owning and managing land. This booklet will provide information and ideas for a property you are proud to own. We're all part of a watershed and our actions can affect others. The things you and your neighbors do can greatly improve the health of the resources we all appreciate about the Pacific Northwest.

Benefits of a Management Plan

A management plan is a set of strategies and actions to help you maintain and improve the natural resources on your property

Saves money as your land becomes more productive.

Conserves natural resources and protects water quality for you and future generations.

Increases your property value.

Enhances open space and wildlife habitat.

Improves plant and animal health.

Makes your property more attractive and promotes good neighbor relations.

Promotes the health and safety of your family.

Any rural property can benefit from a management plan..

What are your Goals?

How do you want your property to look in 5 years or 20 years?

Do you want to raise livestock? If so, what kind & how many?

Do you have, or plan to have, pasture?

Do you want to produce food for your family and/or to sell?

Are you interested in landscaping with native plants?

Do you want to attract and protect wildlife such as hummingbirds, salmon or bald eagles?

How will you be a good neighbor?



FREE LIVESTOCK CONSULTING & PLANNING

- No Charge and Confidential
- Practical Solutions
- Free Soil Testing and Small Farm Grants*

Whatcom Conservation District
(360) 526-2381

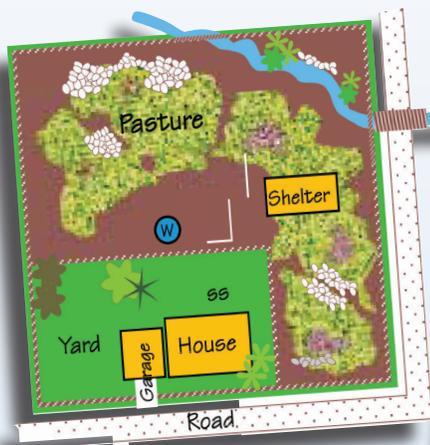
*For eligible landowners

Use this Booklet to get to know your property

Before developing your plan—look around, make a sketch, and take a few notes about your property. In your sketch, show or note:

- Soil type (see page 6)
- Neighboring land uses
- Topography and water flow

Thoughtful and careful planning can turn this...



into this...

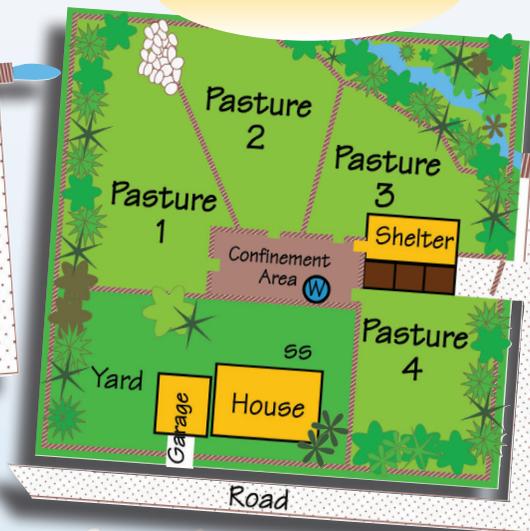


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Look at your land...make a plan

Welcome to Whatcom County



How Safe is Your Well and Septic System?

	No	Yes
Do you know how to maintain your well and septic system to protect your drinking water and avoid costly repairs?	<input type="checkbox"/>	<input type="checkbox"/>
Has a well test within the last year shown acceptable results for bacteria and nitrate?	<input type="checkbox"/>	<input type="checkbox"/>
Are you sure there are no old, unused wells on your property?	<input type="checkbox"/>	<input type="checkbox"/>
Do you keep fertilizers, pesticides, gas/chemical tanks, and animals away from your well?	<input type="checkbox"/>	<input type="checkbox"/>
Are you sure there are no openings in your well cap/casing?	<input type="checkbox"/>	<input type="checkbox"/>
Is your well at least 50 feet away from the septic tank and 100 feet from the drain field?	<input type="checkbox"/>	<input type="checkbox"/>
Have you hired a professional to inspect your septic system within the last three years?	<input type="checkbox"/>	<input type="checkbox"/>

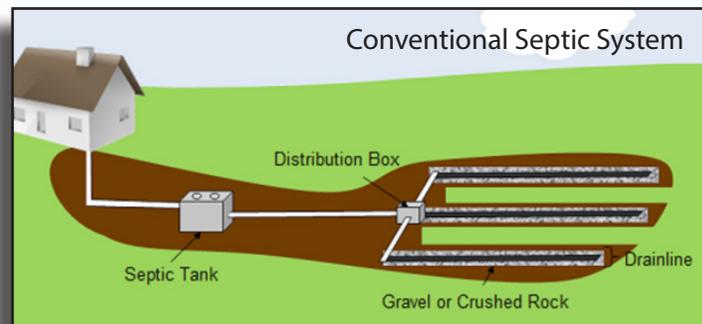
If you answered “No” to any of these questions, schedule an inspection with a certified professional, or contact Whatcom County Health Department for assistance or questions (360) 778-6000.

Did you know?

Community partners and agencies are working together to monitor bacteria in our county’s waterways.

View recent water quality results and check the health of your watershed online at

www.whatcomcounty.us/2618/Interactive-Water-Quality-Maps



Whatcom County Critical Areas Ordinance (CAO) (WCC 16.16)

A variety of laws at the federal, state and local levels establish standards for resource protection. As a Whatcom County resident with agriculture on your property, one of the most relevant local regulations is Whatcom County's Critical Areas Ordinance (CAO) (WCC 16.16), which regulates land use or development within critical areas and their buffers.

Critical areas regulated under the CAO include:

- **Geologically hazardous areas**
- **Frequently flooded areas**
- **Critical aquifer recharge areas**
- **Wetlands**
- **Fish and wildlife habitat conservation areas**



Example of a fence excluding animals from the critical area.

The CAO contains a Conservation Program on Agriculture Lands (CPAL) section (WCC 16.16.290) establishing guidelines relevant to protecting critical areas from potential negative impacts of agricultural activities. Ongoing agriculture activities are permitted within critical areas, and/or their buffers, upon implementation of an approved farm conservation plan in accordance with the Whatcom County CAO.

For details about the CAO and farm planning requirements, Whatcom County residents with livestock on their property should contact: Whatcom County Planning and Development Services at (360) 778-5900 or visit: www.whatcomcounty.us/745/Farm-Plans. The Whatcom Conservation District can also assist with developing Farm Plans, call (360) 526-2381.



Healthy Homesites

The Farmstead

What to know about impermeable surfaces?

Impermeable surfaces include buildings or surfaces on the land that create a physical barrier to the penetration of water into the ground. Rain that falls on impermeable surfaces immediately flows overland in the direction of the slope, carrying pollutants along with it. Building roofs, paved areas, and concrete slabs in manure storage and/or animal confinement areas are impermeable surfaces.

Best Management Practices = BMPs

Gutters to collect clean water and direct away

Covered manure storage

Heavy use area protective footing

Appropriately sized livestock confinement area

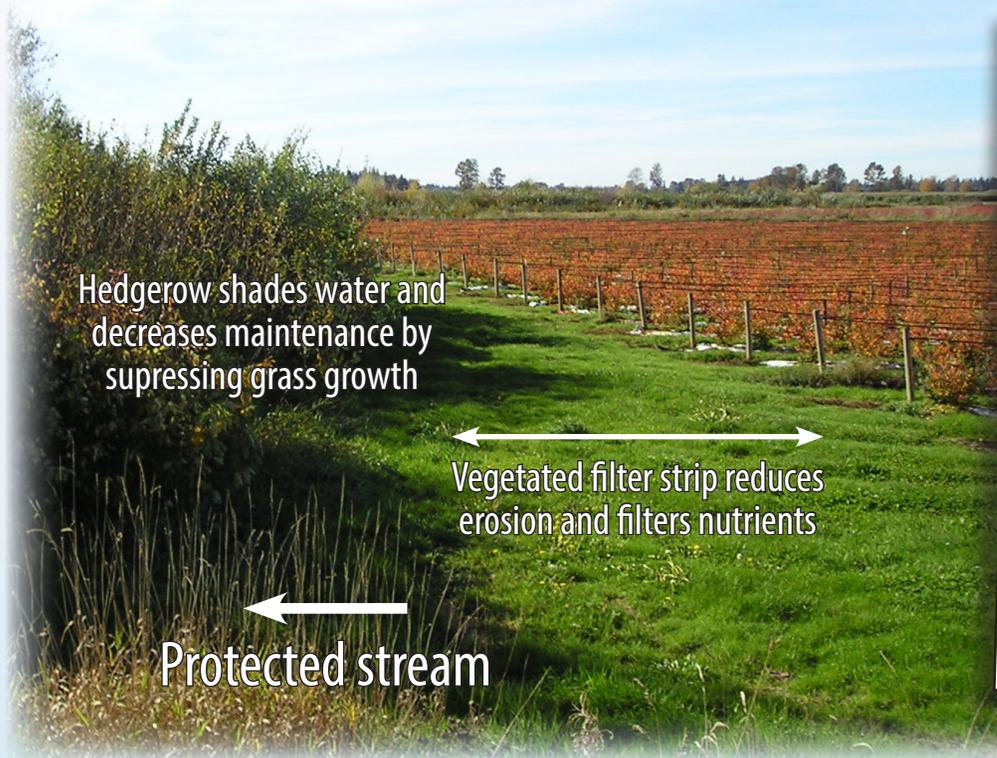
TIPS! for Protecting Water Quality

- ◆ Keep clean rain water clean by diverting roof water away from animal confinement areas to stock watering tanks, rain barrels, dry wells, or pasture areas.
- ◆ For existing barns and slabs, best management practices (BMPs) ensure environmental resource protection, while reducing mud and improving the health of your livestock. (See Mud Management for more guidance).

Control Runoff with Vegetated Filter Strips

What is a vegetated filter strip and who can use one?

A vegetated filter strip, sometimes called a buffer strip, is an area of herbaceous vegetation (e.g. grasses & clovers) situated between environmentally sensitive areas and livestock confinement areas, crop land, or grazing land. The main purpose of a filter strip is to intercept nutrients, sediment and pathogens from entering surface water.



Hedgerow shades water and decreases maintenance by suppressing grass growth

Vegetated filter strip reduces erosion and filters nutrients

Protected stream

How to maintain your filter strip function:

- **Width** - For our soils and precipitation, filter strips should be at least as wide as the contributing livestock confinement area, but typically not less than 50 feet. Filter strips adjacent to cropland and pasture will depend on crop type, soil and slope.
- **Grass Height** - Forages should be no shorter than 3 inches between Oct 1 and March 15. With a farm plan, you can manage your filterstrip with seasonal grazing.
- **Test your filter strip** - If you can throw a handful of change into your pasture and find it, you don't have adequate groundcover.

Runoff and Filter Strips

Mud Management

Controlling the space used by animals during the rainy season prevents mud and protects pastures. Confined animal areas are outdoor, nongrazing (or very minimal grazing) areas in which livestock are confined by fences or structures. Most feed is brought to the livestock, and the nutrients deposited through livestock manure exceed crop need, if a crop is grown at all. Confined livestock areas go by many different names. Cattle producers may call them feedlots, handling corrals or calving areas. For horses they may be referred to as arenas or paddocks. Confinement areas can also be called pens, yards, sacrifice areas, or heavy use areas.



Do you have the right amount of space for your livestock confinement area?

The chart at right provides general guidelines to determine your livestock space needs. It's best to minimize the size of your confinement area, where you have the highest potential for mud and manure build up. Minimizing the size of your confinement area also ensures chore efficiency for manure removal and maximizes your opportunity for healthy, usable pasture areas outside your confinement area.

Space needed per animal

Type of Animal (lbs)	Earthen Lots (sq ft)	Paved Lots (sq ft)
BEEF		
Cow-calf	500	75
Calf (600)	250	50
Grown (600-1,400)	350	60
SHEEP/GOATS		
Rams (180-300)	40	16
Ewes (150-200)	40	16
Feeder lambs (3-130)	30	10
SWINE		
Nursery pigs (30-75)	75	8
Finish Pigs (75-275)	150	15
Gestating Sow	200	20
Boar	200	40
HORSES		
Horse (1000)	300 - 400	NA

Also for horses: 20-30 ft wide by up to 100 ft long paddocks provide room for exercise and play.

TIPS!

for keeping confinement areas dry

Roof Runoff Structures

Roof runoff structures collect, control and transport clean rain water runoff from roofs away from animal confinement areas. This reduces mud and contaminated runoff from confinement areas which improves hoof health and water quality.

Did you know?

Installing gutters and downspouts on a 30 ft x 75 ft barn in a typical Whatcom County area with 45 inches of rainfall per year could divert and keep clean almost 63,000 gallons of roofwater! That amount is equal to a football field covered in 2 inches of water.



This gutter and downspout system intercepts rainwater from the barn roof before it reaches the confinement area. The clean water is redirected to a vegetated area. The downspouts are protected from livestock damage.



Slope your confinement areas toward a filter strip to reduce puddles and mud.

Heavy Use Area Protection

The stabilization of areas frequently and intensively used by people, animals or vehicles by surfacing with suitable materials (i.e. hog fuel (wood chips), gravel, etc.) in order to improve water quality, aesthetics, and animal health.



Runoff and Filter Strips

Manure Collection and Storage

Why Manure Management Is So Important

In Whatcom County we use both surface water and groundwater as sources for drinking, recreation, and agricultural uses such as livestock watering, irrigating crops and processing food. Clean water is vital for fish and wildlife and is home to many aquatic organisms.

Even on small farms with few animals, proper storage

Average waste production per day for livestock

Livestock	Manure Produced	Bedding Used	Storage Required 5 Months (Nov-Mar)
Horse	0.7 cu. ft./1000 lbs bodyweight	0.4 - 0.8 cu. ft	166 - 226 cu. ft
Beef Cattle	1.1 cu. ft./1000 lbs bodyweight	0.25 cu. ft	204 cu. ft
Sheep	0.65 cu. ft./1000 lbs bodyweight	0.35 cu. ft	151 cu. ft
Swine	0.5 cu. ft./1000 lbs bodyweight	0.20 cu. ft	106 cu. ft

and utilization of manure can add up to a big impact. Good manure management also helps retain nutrients for use on the farm. Clean water, less mud, drier paddock areas, and healthier livestock can result if you implement best management practices.



Whatcom County's Critical Areas Ordinance (WCC 16.16) states: "Manure and soiled bedding from stalls and paddocks are to be removed and are to be placed in a storage facility protected from rainfall so that runoff does not carry pollutants and bacteria to critical areas."

TIPS!

for Successful Manure Management

- ◆ Remove manure every 1-3 days in stalls, paddocks, and outdoor arenas.
- ◆ Reduce manure storage needs by reducing bedding use. Use less bedding, try rubber mats in stalls or an alternative bedding product such as wood pellets.
- ◆ Cover your manure pile in the rainy season. Choose a high, dry, level area away from flood prone areas, slopes, streams, ditches, wetlands, or other surface water to prevent runoff and to make it easier for equipment to access the pile.



What is Composting and Why Do It?

All organic matter (such as manure and bedding) eventually decomposes. Composting speeds up the process by providing an ideal environment for microorganisms to assist with decomposition. Composting reduces flies, odors, and the volume of your pile. The composting process kills worm eggs, parasites, and pathogens that can cause disease, as well as weed seeds. You also end up with a great soil amendment to use on your property!



Learn more from WSU Master Composters!
<http://whatcom.wsu.edu/ch/compost.html>

How fast your fresh manure composts depends on the following:

- * Size of your pile
- * Amount and type of bedding
- * Method of composting
- * Maintenance routine

TIPS! for Successful Composting

- ◆ Place the composting structure away from surface water flows.
- ◆ Reduce pile size and reduce composting time by using less bedding. Bedding materials break down slower.
- ◆ Build a pile on an impervious surface or compacted site.
- ◆ Cover the manure pile or area with a roof, tarp or sheet of plastic. A cover keeps it from getting too wet in the winter or dried out in the summer.
- ◆ Keep the pile as damp as a wrung out sponge - no wetter or drier!
- ◆ Add air to the pile turning it by hand, with a tractor, or passively by inserting a few PVC pipes (or similar item) into the center of the pile like chimneys.
- ◆ Add garden waste and lawn clippings to your compost. Don't let grass clippings clump together - spread clippings out so air can permeate through them.

Manure Storage and Composting

Soil is Important to Your Farming Success

Soils vary widely, even across your backyard and pastures. To begin to know how best to manage your pasture, you must know your soil type and its water carrying (or holding) capacity, texture, and productivity. Luckily, there is a *USDA Soil Survey of Whatcom County Area, Washington* that is available to you free of charge. The *Soil Survey* can provide you with good information about what soil(s) is/are mapped on your property and the capabilities and limitations of different soil types are. The Web Soil Survey is available online at websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

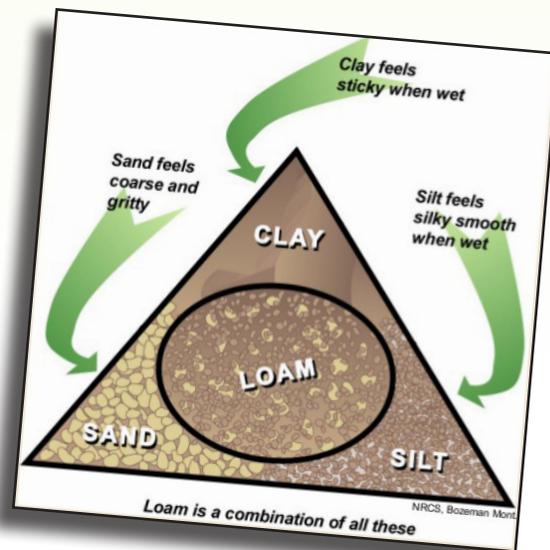
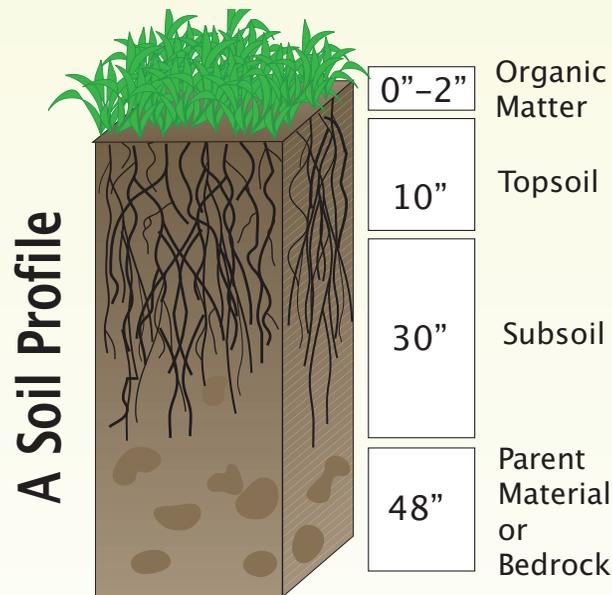
The amount of water that your soil can hold will determine when you can put your animals out in the field in the spring. Some soil types drain well; others do not. Poorly drained soils are more prone to becoming muddy during the wet season. Soil type also affects your grass/crop yields in the summer.

Soil type determines:

- Filtering rate of nutrients from animal and human wastes
- When to apply fertilizers and/or composted manure
- Placement and durability of structures
- If your land has a wetland, when considered together with vegetation and hydrology (see Wetlands Management section of this booklet)
- Plant and tree rooting depths
- Runoff and compaction potential



Taking a composite soil test.



Maintain soil fertility

Over time, the level of soil nutrients that plants require for optimum growth, such as nitrogen (N), phosphorus (P) and potassium (K), become depleted, and soil pH also tends to decline (i.e. become more acidic). Test the soils in fields every 3 to 5 years to evaluate the fertility status and pH of individual fields. Soil testing can help you discover fertility deficiencies and plan nutrient applications for your specific crops. Contact Whatcom Conservation District with soil testing questions.

You can increase both forage quality and quantity by applying manure and/or fertilizer, by including clover and/or other legumes in seeding mixes (they can also be overseeded into existing fields), by liming to raise soil pH where needed, and by frequently moving portable water troughs and feed racks to avoid compaction.



Nutrient Management

As a general rule, don't apply manure as a fertilizer if a storm is on its way - watch the weather forecast! Other general guidelines to observe when applying solid manure as a fertilizer include:

- *Apply manure when fields are dry and not saturated, frozen or snow covered.*
- *Apply manure at a rate that does not exceed crop requirements. (Talk to a WCD planner to help you determine this rate)*
- *Between March 16th and September 30th, apply manure 25 feet back from streams and ditches*
- *Between September 1st and March 15th, apply manure 100 feet back from streams and ditches*
- *Check the Manure Spreading Advisory <http://www.whatcomcd.org/msa>*

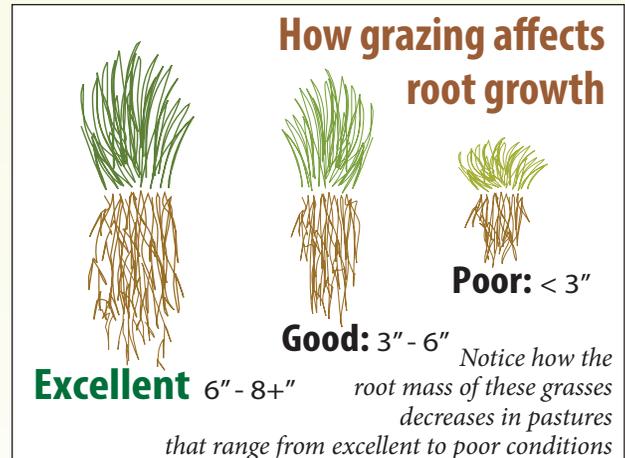
Soil and Fertility

Pasture Health

Managing pastures is an active and dynamic process. Many factors affecting pasture management vary considerably from year to year and are impossible to control, so be prepared to make changes. Try to learn about the grazing behaviors of the type of stock you raise to be sure you're meeting their specific needs. When in doubt, let your grasses be your guide: what's good for them is generally good for your stock, the profitability of your operation, and the environment.



In practice, prescribed grazing (also referred to as rotational grazing) generally means that stock access to pastures is based on carefully matching forage production with feed requirements over a relatively short period - generally no more than 7 days and ideally even less. Livestock are not reintroduced to the field until plants have had sufficient time to regrow enough to recover from the previous grazing. The amount of regrowth necessary varies by forage species (usually 4 to 6 inches) and the time required by the season (2 weeks in late spring to 30 days or more by mid-summer).



TIPS!

for Watering Facilities

Developing a stockwater system is an essential part of your grazing and animal health programs. As you divide your acreage establish separate water sources for each pasture or a single water source that is accessible from all pastures. Clean, fresh water is essential for good animal health. Options for stockwater development include:

- ◆ Pipe water to a stock tank in each pasture or a centralized location.
- ◆ Use a nose pump to draw water from a stream or pond that your livestock are fenced away from.

Prescribed Grazing

At first, establishing a prescribed grazing system can be challenging. A fair amount of trial and error learning can be expected, but it provides the following advantages:

Higher yields and improved efficiency - In continuous grazing systems, as opposed to prescribed grazing systems, animals selectively choose which plants they eat. Plants that livestock don't eat the first time around become less palatable and nutritious as they mature and so become even more likely to be avoided later in the grazing season. In prescribed grazing systems, animals are provided with smaller areas to graze and are therefore forced to be less selective and eat all forages available.

Improved plant performance - In order to thrive, plants need time to regrow after grazing. Desirable forage species are

weakened when regrowth is inadequate. This results in lower yields and an increased likelihood that desirable species will be displaced by weeds. Prescribed grazing management systems are planned to ensure that the desirable forage plants have adequate time to regrow.

Higher feed quality - Forages achieve their optimum feed value during the latter part of their vegetative growth stage (shortly before seed head emergence). The goal in prescribed grazing management systems is to keep animals moving (rotating) through fields so their arrival coincides with the late vegetative stage and their departure occurs prior to the onset of the reproductive stage.

Stock at proper rates - If you over stock fields by supplying less forage than is needed by your animals, then potential production may be lost for years to come as a result of the damage caused by over grazing.



Forage Requirements

Type of Animal	Acres of pasture required to meet need through grazing season	Acres of pasture hayland required to meet annual need
Cow (1,200 lb) and calf	1.0 - 2.0	1.5 - 3.5
Horse (1,200 lb) <i>mature, lightly worked</i>	0.75 - 1.0	1.5
Mare and foal	1.0 - 2.0	1.5 - 3.5
Sheep (175 lb)	0.2 - 0.25	0.3 - 0.5

Prescribed Grazing Management

Weeds - The Thief in the Field

Weeds reduce potential yields by out competing desirable forages for space, light, nutrients and water. Some weeds are also toxic to livestock. Applying good pasture management practices is generally the best way to prevent weed infestations from occurring.

Weed Control

Weeds spread fast, so regularly look for new weed patches on your property and act immediately to treat them by using one or more of the weed control practices listed below. Improve your weed control effectiveness by teaming up with your neighbors and remember that weed control by itself is not enough. It is also necessary to modify the practices that caused weeds to become established in the first place!

Prevention. Good land management will promote desirable vegetation and keep weeds under control. This includes purchasing weed-seed-free hay and planting certified seed. Managing grazing will also inhibit weed establishment while promoting healthy development of pasture grasses.

Livestock Transport. Because livestock and wildlife can easily carry and spread weed seed on their coats or in their feces, avoid moving livestock from a weedy area to a weed-free area. Not all weed species, if eaten, will make livestock sick.

Mechanical Control. Mow weeds annually before they go to seed and pull small weed patches and weeds near streams by hand.

Biological Control. Biological Control attempts to find something in nature than can weaken or eventually kill a weed plant. Successful bio-agents include certain fungi and insects that weaken weeds by attacking seed heads and other plant parts.

Chemical Control. Herbicides may be expensive and can harm the environment if used incorrectly, but are effective when applied in the proper amounts and at the proper time of the year. Read all label instructions carefully and follow directions. Keep herbicides away from water to prevent adverse health effects to you and your animals and to prevent pollution of streams and ground water. Be sure herbicides will not reach and kill desirable trees and shrubs.

Know Your Weeds Before They...

- Choke out desirable plants
- Reduce the productivity of your pasture and our wildlands
- Spread RAPIDLY!
- Affect the health of your livestock



Tansy Ragwort



Foxglove



Poison Hemlock



Braken Fern



Canadian Thistle Seedling

Some Toxic Weeds in Western Washington

<i>Plant Species</i>	<i>Poison Symptom</i>	<i>Livestock Affected</i>
Bracken Fern	Cattle: Hemorrhage, Death Horses: Stupified, Collapse	Cattle, Horses, Sheep
Creeping Buttercup	Mouth Blisters	All Livestock
Foxglove	Labored Breathing, Convulsions, Death	All Livestock
Poison Hemlock	Paralysis, Death, Birthdefects	All Livestock
Tansy Ragwort	Liver Lesions, Weakness, Death	All Livestock
Thistle	Brain damage, Face swelling, Unable to hold or chew food or drink	All Livestock



Creeping Buttercup

If you think your animals are exhibiting symptoms of poisoning...

- **Contact a veterinarian immediately**
- **Collect full samples - including flowers, leaves and roots - of the suspect plants**

Need Help?

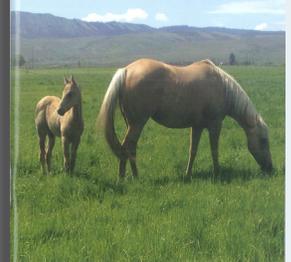
Contact the Whatcom County Noxious Weed Control Board for more information or for additional help identifying weeds on your property. WSU Extension in Bellingham and the Weed Control Board can also assist with herbicide recommendations or finding licensed chemical applicators.

Whatcom Weed Control Board: 360-778-6234
WSU Extension Bellingham: 360-778-5800

WA State Noxious Weed Control Guide

Livestock From

Toxic Plants



A guide to identifying and controlling common, toxic noxious weeds and other toxic plant species.

Contact WCD or County Weed Control Board for a FREE Copy.

Weed Control

Riparian Mangement and Protection

Riparian areas are the areas adjacent to a waterbody (such as a stream, lake, or marine water). Riparian areas contain vegetation that influences the health of the water and its living and non-living components (the aquatic ecosystem).



Why are Healthy Riparian Areas Important?

Riparian areas perform many functions that keep our aquatic resources healthy

Dense riparian vegetation along the water's edge keeps the riparian area healthy by:

- Protecting water quality by filtering sediments and polluted runoff.
- Maintaining and protecting healthy in-stream habitat for salmon and other water dependent wildlife by keeping water shaded and cool. Riparian vegetation is a major component of the aquatic food chain of the stream.
- Providing habitat for riparian dependent wildlife, including many birds and amphibians.
- Slowing and protecting against flood flows, storing floodwaters, and slowly releasing them overtime. As a result, erosion is slowed and infiltration increases. Improved infiltration recharges groundwater making it available during low flow periods.

TIPS!

to Protect Riparian Areas

- ◆ Plant or maintain native trees, shrubs, and groundcovers along streams to maintain or improve wildlife habitat. Also around animal confinement areas to trap and absorb pollution-laden runoff before it reaches streams or groundwater.
- ◆ Fence your animals out of streams and ditches. Preserve riparian vegetation to protect water quality, to protect the functions of critical areas, and to comply with local regulations.

No stream or ditch is too small to be important.

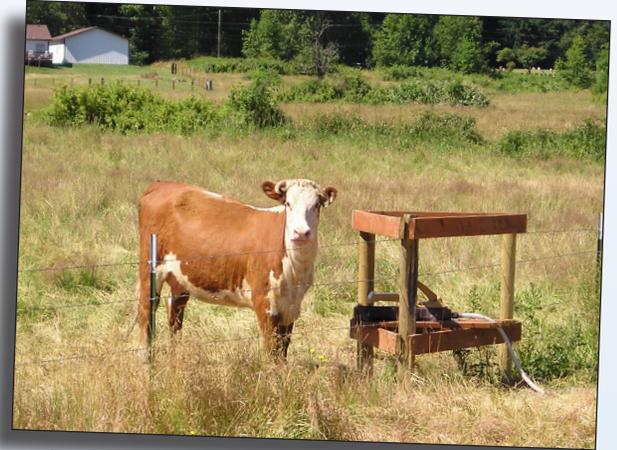
Smaller streams drain to larger streams, lakes or marine waters that provide critical spawning and rearing areas for salmon and trout, and support other important aquatic life such as shellfish.



- ◆ Use farming practices (i.e. planting and maintaining healthy riparian areas, establishing filter strips, etc.) that reduce soil erosion and increase water infiltration, and filter runoff.
- ◆ Avoid excessive fertilizer and pesticide applications adjacent to riparian areas. They can harm the native vegetation and the native pollinators.

How Can Your Livestock Harm Riparian Areas?

If animals are allowed access to a stream, ditch, or other water body, the manure can contaminate the water. Animals will eat the riparian vegetation and trample the area. The destruction of the vegetation and soil leads to erosion, habitat destruction, decreased shade, and decreased ability to filter pollutants. Keeping animals and their waste out of surface water and protecting existing riparian vegetation along waterbodies is the best way to protect our aquatic resources.



Use a nose pump to draw water from a stream or pond that your livestock are fenced away from.

Riparian Management

Wetland Management and Protection

There are many different types of wetlands, each determined by its hydrology, water chemistry, soils, and the plant species found there. It is important to note that not all wetlands have standing water throughout the year. Wetlands should be protected in order to maintain their critical functions and to comply with local regulations.

What is a wetland?

Wetlands are characterized by three factors:

- **Hydrology** - The area is inundated or saturated by surface or groundwater for all or part of the year.
- **Vegetation** - Water is present long enough, or frequently enough, to support vegetation that is adapted to saturated soil conditions.
- **Soil** - The area has soil that has been affected by the continued presence of water.



Functions performed by wetlands include:

- Managing flooding by acting as natural reservoirs providing storage for incoming storm water
- Improving water quality by filtering nutrients, sediment, and other contaminants
- Maintaining streamflows by gradually releasing stored water back into the streams after floods and after the wet season
- Recharging groundwater
- Helping to maintain lower water temperatures in nearby streams
- Providing critical habitat for fish and wildlife
- Creating places for recreation, education, scientific study, and natural beauty

Why are wetlands important?

Wetlands perform important hydrologic functions as well as provide food, habitat, and shelter for many fish and wildlife species. Wetlands are also able to reduce flood damage, control erosion, and store water.

Wetlands Need Protection

Wetlands and buffers are protected critical areas in Whatcom County.

Land management activities that would destroy or change wetlands or that reduces their functions, may require a permit. Know what you have before making changes to the ground surface or existing hydrology. You may have to hire a qualified professional to help identify, delineate, and categorize a wetland before you can make alterations or build.

Article 6 of Whatcom County's Critical Areas Ordinance (CAO) discuss wetlands and establishes guidelines for buffer widths (25-300 feet) depending on category and adjacent land use. Call Whatcom County Planning and Development Services at (360) 778-5900 to get started.

TIPS! for Protecting Wetlands

- ◆ Fence animals out of wetlands during the wet season. Livestock with access to standing water or allowed on pasture during wet conditions will lead to mud, soil compaction, and runoff and can damage riparian vegetation or your pasture.
- ◆ Restore and protect vegetated buffer areas along streams, wetlands, and ponds. See Riparian Management page that describes some of the functions provided by wetlands and riparian zones.
- ◆ Find out how to best manage wetlands to retain their existing functions and values. Consider a temporary agreement through the Conservation Reserve Enhancement Program to help restore and protect wetlands. Or consider applying a permanent solution with a conservation easement or check in to the Wetlands Reserve Program through the Natural Resources Conservation Service.

Did you know?

Not all wetlands have standing water throughout the year. Do your pastures contain grass lined swales with seasonal water or seasonally saturated areas? With an approved Farm Plan some wetlands may be managed as seasonal pasture. Contact Whatcom Planning and Development Services or Whatcom Conservation District for a site assessment or to develop a Farm Plan.



Resources for Rural Landowners

FARM PLANNING and CONSTRUCTION

Farm Consultation and Planning

Whatcom Conservation District offers free technical assistance, educational programs and financial assistance to farm operators regarding best management practices for your farm.

Phone: (360) 526-2381 www.whatcomcd.org

Building Construction

Permits to construct permanent buildings, including barns and storage buildings, or additions to existing facilities are required by counties and cities, except under certain circumstances. County residents should contact Whatcom County Planning and Development Services (360) 778-5900.

RIPARIAN and WETLAND Restoration

Riparian Planting

Whatcom Conservation District at (360) 526-2381 for information about the Conservation Reserve Enhancement Program (CREP). CREP creates and restores riparian buffers. The program is local and designed to compensate landowners for being good land stewards. Contact the Whatcom Conservation District to see if the waterway on your property qualifies.

Riparian Enhancement

The Nooksack Salmon Enhancement Association (NSEA) (360) 715-0283 www.n-sea.org- Whatcom County's regional fisheries enhancement group, may have funds and technical assistance available for projects that create, enhance, or restore wetlands and riparian corridors in your area.



ENVIRONMENTAL RULES, PERMITS and LAWS

Whatcom County's Critical Areas Ordinance

Whatcom County Planning and Development Services, 5280 Northwest Road, Bellingham, WA 98227 at (360) 778-5900; E-mail: pds@co.whatcom.wa.us for information concerning local codes and regulations addressing water quality, riparian areas and other sensitive areas.

You are responsible for preventing livestock manure, pesticides, sediment, fertilizers and other pollutants from reaching groundwater, wetlands, and surface water.

State Water Quality

The **Washington Department of Ecology (DOE)** can provide information on state and federal water quality laws, and on some of the permits required to work in or near a stream, lake or wetland.

DOE Bellingham Field Office can be reached at (360) 255-4400 The agency also publishes The Permit Handbook that lists permits which must

Fish and Wildlife

Washington Department of Fish and Wildlife

General Info (360) 902-2200; wdfw.wa.gov/about/contact

Marine Resources (360) 676-2146

COMPOSTING

Composting Assistance

WSU Master Composter Classes - Whatcom County WSU Extension

Office 1000 N. Forest St. Bellingham, WA 98225. (360) 778-5800.

<http://whatcom.wsu.edu/>

Composting Regulations

Whatcom County Public Works, Solid Waste (360) 778-6000;
recycling and composting information, solid waste disposal.

SOILS

The **USDA Natural Resources Conservation Service (NRCS)**

(360) 592-6114 can provide natural resource information related to soils, crops, and water.

AIR

Northwest Clean Air Agency is the regional agency responsible for enforcing air quality laws in Island, Skagit and Whatcom counties.

Contact for information on burn permits and burn bans.

Phone (360) 428-1617; email: info@nwcleanair.org

be obtained before initiating activity in or near a stream, lake, or wetland. Call 1 800 917-0043 or view the document at <http://apps.oria.wa.gov/permithandbook/>

Water Rights

You must have a water use permit before diverting, impounding, or withdrawing any surface water (or ground water if used to irrigate a lawn or non-commercial garden more than 1/2 acre in size or if the withdrawal equals or exceeds 5,000 gallons per day).

Contact **Washington DOE Bellingham Field Office**, (360) 255-4400.

Streambed and Banks

Any and all development and restoration activities, undertaken in, on, or near any waterbody, may require one or more permits.

Contact **Whatcom County Planning & Development Services** (360) 778-5900

Well Head and Drinking Water Protection

Whatcom County Health Department, Drinking Water Program, Environmental Health Division office at

(360) 778-6000 has information on how to test your drinking water quality. Fact sheets and further information about drinking water are available via the website www.whatcomcounty.us/856/Drinking-Water

Septic Systems

Whatcom County Health Department, Environmental Health Division (360) 778-6000. Information about Whatcom County's On-Site Sewage System (OSS) program is also available at www.co.whatcom.wa.us/891/On-Site-Sewage

Resources

Whatcom County is a Great Place to Live, and You Can Help Keep it That Way!

Adapted from *Tips on Land & Water Management For Small Farm & Livestock Owners in Western Washington* by King Conservation District

To Request Copies:

Whatcom Conservation District
6975 Hannegan Road, Lynden, WA 98264
(360) 526-2381
www.whatcomcd.org

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USDA Natural Resources Conservation Service

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Healthy Livestock, Healthy Land, Healthy Streams

