



Clackamas County Soil & Water Conservation District

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www.cc-swcd.org

Preliminary Conservation Plan

June 25, 2005

For

NU FARMER
421 Back Road
Horseville, OR

Goal: To implement landowner objectives while conserving resources and maintaining or improving the quality of surface and ground water.

Objectives:

1. Raise Livestock
 - Pasture Management
 - Mud Management
 - Roof Water Management
 - Manure Management
 - Sacrifice Area (Heavy Use)
 - Watering Facility/Spring Development
 - Pest Management (Noxious and Invasive weeds)
 - Animal Trails and Walkways
 - Access Road (Bridge)
2. Yard
 - Naturescaping (Habitat Design)
 - Bank Stabilization
 - Tree Shrub Establishment
3. Water Management
 - Maintenance of Roof water
 - Surface Drainage
 - County Culvert

4. Riparian/Stream Habitat
 - Bank stabilization
 - Fish Habitat Enhancement
 - Riparian Forest Buffer
 - Culvert Replacement

Plan

1. Grazing Area

You may want to consider the following points as you establish your pastures and how you manage them.

The grazing area should not be grazed lower than 3 inches or allowed to grow more than 8 to 10 inches for maximum forage production (Prescribed Grazing – Code 528). It is important *not* to graze the area during the rainy months of November through February. If the grass growth starts early, try to graze only during the driest conditions.

Forage grasses that are allowed to grow more than 10 inches or to go to seed will not have the optimal nutritional values. Grasses this tall should be trimmed back, mechanically if needed, to 4 or 5 inches.

Grazing during the winter months significantly increases compaction of soils, which results in a decrease in forage production and encourages weed species. The compacted soil will also slow water absorption. You will definitely have a problem with broadleaf weeds by allowing the animals to graze pastures too short. The options for weed control available are hand pulling, proper pasture management, broadleaf chemical application or a combination of the two. The first is labor intensive and the second requires careful application planning to be sure the animals can safely graze the chemically treated pastures. This is especially true for lactating and pregnant animals. Follow all labels and instructions carefully.

Pasture conditions during the initial site visit in 2005 would fall into the poor category. It appeared there was no regular pasture rotation. The areas accessed by the livestock was one single pasture.

Grass length in the pasture was generally less than one inch in length. Optimal grazing length for pasture grasses is between 3 and 8 inches. If grass is grazed below 3 inches, root mass begins to decrease. If enough root mass is lost, grasses often will become replaced by weedy plant species.

Cross fencing would offer the creation of additional pastures. A systematic pasture rotation based on pasture grass growth could significantly improve forage and pasture condition.

Off-channel watering facilities could be developed to give livestock access to the small creek that runs by your house. Off-channel watering may also contribute to a healthier horse.

Moveable electric fence could be utilized to allow limited duration grazing in the yard area below the house.

The district is now encouraging all our clients to have a soil survey done on their property. This gives you baseline information on whether the proper conditions exist for good forage production. These surveys can be completed for around \$40, see the attached implementation guidelines for details.

2. **Pasture Design**

See publication: **Tips on Land and Water Management for Small Acreages in Oregon (on District website)**, in addition to the plan suggestions. It is important to decide if the pastures are going to be managed for an exercise area or a grazing area. The types and numbers of livestock decide design. Multiple pastures are recommended. It would be best to establish 4 to 5 separate pastures that could be grazed on a rotating basis. The easiest way is to maintain the solid perimeter fence and use electric drift fences for the 4 to 5 separate pastures. This would help in both forage production and livestock health. If all the pastures are grazed down to 3 inches in the summer, then the animals will need to be fed in the winter confinement area until the pastures recover. After the livestock are removed from each pasture, it is a good idea to mow the grass to 3", if there are tufts over 12" remaining. Grass that is kept at a height of 3 inches or more will inhibit the growth of broadleaf weeds. Control of winter grazing may help eliminate the uneven ground due to livestock sliding and hole creation on wet ground. It may also be good to run a light harrow over the area to spread the manure piles to better utilize the nutrients already present.

All perimeter and cross fences should have electric wires on top of them for optimal horse control. Electric fence should also be used to further cross-fence the permanent pastures as needed for more precise pasture management.

Moving watering facilities and supplement areas across the pasture will encourage a more even grazing pattern from the animals and reduce mud and sediment problems from animal concentration.

3. **Water Management**

The first component of mud management is roof water management. Gutters and downspouts are a must in order to help protect water quality and eliminate mud.

It is important to keep the water from the barn roofs clean. It must be kept from running through the barnyard and becoming contaminated with manure before drainage into the groundwater or nearby creeks.

Installation of gutters, downspouts and drainpipes directed to a vegetated area, not used by the livestock, is an easy correction to this problem. In your case, due to the topography of your property it would be best to "daylight" the outfalls from the roof water into the riparian buffer near the creek. A note about roof water volume; a 20 x 20 foot roof will dump 15,300 gallons of water on the ground in a year of 60 inch rainfall.

4. **Mud Management (Winter Turnout)**

In Western Oregon managing mud is often the greatest challenge. The winter paddock (code 561) or sacrifice area needs to be designed to drain well. A design that includes soil removal, drain tiles, geotex cloth on the base, then gravel and sand is one the best options. A concrete pad design may be needed. Subsurface drains for the sacrifice area are recommended to enhance drainage. The slope of the property is another important consideration. The drain outfalls of the sacrifice areas need to be discharged into vegetated areas to allow filtration of nutrient polluted water before it enters the creek.

Building a winter turn-out area that animals can be kept on and fed during the wet season is often required to allow pastures to produce good forage for livestock.

5. Manure Management

Manure management (Code 313 & 317) is an extremely important part of raising livestock in western Oregon. This is especially true for the winter when animals are confined and not grazing the pastures.

Four options for manure management are:

- hauling manure offsite
- cover the pile with a tarp during the winter
- construct a manure storage facility
- construct a composting facility

At a minimum, manure piles should be covered to prevent leaching, composted and spread on pastures in early fall or during the spring.

The number of livestock determines the size of the composting facility to be built. Please refer to *Manure Storage and Compost Facilities* for specific construction plans. These facilities can either be incorporated into existing buildings or constructed as stand-alone structures.

Manure produced should be covered during the winter months to prevent nutrients from entering creeks. A manure shed could be built that would allow the composting of a valuable nutrient source that could be spread on pastures, gardens and lawns to stimulate plant growth. Proper composting can also reduce pathogens that can threaten livestock as well as kill weed seeds.

6. Noxious Weeds

The three major options for Brush Management (code 314) are manual, mechanical and chemical. Using a combination of these is highly effective.

Hand and mechanical means can be used, but it is imperative that the brush, especially blackberries be cut repeatedly when they are 6-12 inches long. Regular cutting depletes the energy reserves. Just one time letting blackberries grow beyond that length will put you back at the beginning. The most effective and time-saving method is to cut the brush mechanically to ground level, then either use goats or herbicide.

Goats and herbicides have both pros and cons. Goats are more expensive, require intensive management, and protection from predators. Herbicides are less expensive, faster, but require accurate timing and application rates. Make sure to follow label directions if you decide to use pesticides. It is critical that pesticides not enter surface or groundwater. Be especially carefully around groundwater wellheads and surface water bodies.

The control of exotic weeds (Himalayan Blackberry, Tansy Ragwort, Thistles, Reed Canary Grass and others) is an ongoing process. Either chemical or manual means or both can do this. Proper management of manure, i.e. covering your manure piles and spreading grazing pastures at appropriate times of the year, will help grasses outgrow the weeds. It is important to control these weeds because the weeds eliminate plant diversity and therefore decrease wildlife diversity and pasture forage (code 595). A healthy pasture offers the greatest protection from weeds.

The landowner has attempted to control invasive plants in some areas. Weeds identified during the June 2005 sit visit included Japanese Knotweed, Canadian Thistle, Bull thistle, Himalayan Blackberry, English Ivy, Curly Dock, Poison Hemlock, Tansy ragwort, catchweed bedstraw and fox glove.

7. **Wildlife Habitat**

The following activities will help increase wildlife diversity in your designated wildlife areas.

- The more types of native plants, the more wildlife diversity will be likely. The addition of upland shrubs would be helpful for wildlife diversity.
- It would be beneficial to install nest boxes for cavity nesting birds. Be sure to have the openings sized to discourage use by Starlings.
- Any trees that die should be left standing if you are comfortable that it doesn't create a personal hazard, endanger the house or neighboring properties. Some landowners cut the top of the dead tree at a height that would be safe for nearby structures. Standing or downed dead trees provide food and nesting habitat for a variety of wildlife.
- The placement of a brush pile protects birds from mammalian predators such as skunks, raccoons, weasels, coyote, domestic cats and dogs.
- Leaving brush species in clumps or hedgerows would aid bird populations.
- Riparian forest over story component is intact.
- Swallow and bat houses are excellent ways of natural mosquito control in the summer. The barn is a great place to encourage swallow nesting by putting up small platforms if the birds don't already have the room on the rafters. The "mess" created can be minimized by placing a plastic tarp directly under the nest for the duration of baby bird season. Dropping can be used as fertilizer in the garden.
- The remoteness of the property and adjacent natural lands are probably the greatest asset of the site for wildlife. Planting areas adjacent to the creek could benefit riparian associated wildlife species. The removal of the blackberries from the site and the development of healthy pasture could increase use by raptors and ground feeding birds (code 645).
- Standing water sources should be drained, treated with an approved bacteria or planted with a small fish specie to control mosquito larvae. West Nile virus came to Oregon last year and is expected to arrive in Clackamas County this year.

8. **Stream/Riparian Management**

Stream habitat management provisions should be planned in relation to other land uses on the site (code 395). The Molalla River has endangered populations of steelhead. Any stream or wetland work that is done will require permits and consultation with the appropriate agencies.

Vegetative buffers on creeks have been proven to reduce nutrients entering waterways. Permanent fence exclusions facilitate the growth of plants and facilitate the vegetative buffer creation (code 391). Stream

Funding for fish habitat and stream bank enhancement may be available with an appropriate plan. The presence of beavers in your section of creek would require protection of and new plantings that are introduced.

9. **Yard Management**

The size of your yard may allow for some limited flash grazing from your animals. A

portable electric fence would allow the regular movement of animals.

The mole problem you identified can be a challenge to control. Trapping tends to be the most effective control, but this requires proper placement and checking of traps.

10. Pond de-Commissioning

You expressed a desire to remove the pond adjacent to your house, for human safety and maintenance concerns. Removing in-stream ponds, with the proper plan, is often encouraged. A contractor with extensive earthwork experience should be consulted on this matter. Permits from the County as well as the State and Federal government would be required before any work could begin. If the earthen dam is removed, bare soils need to be re-seeded and planted as soon as possible. Funding for the dam removal may be available through the Oregon Watershed Enhancement Board. A deadline of April 26 is coming up for the next grant cycle. Please contact the District if you want to pursue this funding opportunity.

11. Implementation Timeline

The implementation of this plan is the responsibility of the owner. The Clackamas SWCD will help as much as staff time and resources permit. The District will try to lend as much assistance as possible. This could include the production of specifications for improvements, inspection and monitoring. The landowner is encouraged to implement any of the preceding conservation suggestions as possible.

The District has partnerships with local retailers Wilco, Home Depot, Farm and Ranch Supply and Backyard Birshops to offer discounts on materials for use in implementing approved conservation plans.

12. Maintenance Considerations

All maintenance of conservation practices is the responsibility of the landowner. Conservation cost-share program, through the OWEB small grants program have been available on an intermittent basis. The cost-share can pay as much as 75% of the implementation cost. Some programs are first come, first serve, while other programs are on a competitive basis. In the competitive programs, the landowner that puts up a larger percentage of the cost-share will have the advantage in selection of projects.

13. Conservation Cost-share possibilities

- Manure Storage Facility (code 313 & 317)
- Heavy Use Area (Winter turnout) (code 561)
- Roof Water Management (code 558)
- Prescribed Grazing (code 528)
- Nutrient Management – (code 590)
- Invasive species removal (code 314)
- Fencing (code 382)
- Watering facilities (code 614)
- Wildlife Upland Habitat (code 645)
- Hedgerow Planting and Development (code 422)
- Subsurface Drains (Code 606)
- Stream Habitat Improvement and Management (code 395)

- Spring Development (code 574)
- Stream bank Protection (code 580)
- Pond Management (code 378)
- Pest Management (code 595)
- Animal Trails and Walkways (code 575)
- Riparian Forest Buffer (code 391)
- Surface Drainage (code 607)

*Note these codes and specifications are provided within the Field Operations Technical Guide produced by the Natural Resource Conservation Service, see <http://www.nrcs.usda.gov/technical/efotg/> see attached directions for access

- 14. Soil Types** – Clackamas County Soil Survey p --
- Woodburn silt loam – 8 to 15 % slope
 - Wapato silty clay loam – 0 to 5 % slope
 - Xerochrepts and Haploxerolls– 20 – 60 % - very steep
- 13. Watershed**–Holcomb Creek, Abernathy Cr, Willamette and Columbia Rivers
- 14. Possible Funding Sources**
- Watershed Council and Community Association Grants
 - OWEB – Oregon Watershed Enhancement Board
 - CRCC – Community Resources Conservation Consortium
 - ODFW – Oregon Department of Fish and Wildlife
 - WRI– Willamette Restoration Initiative
 - ODA – Oregon Department of Agriculture
 - NOAA-National Oceanic and Atmospheric Administration
 - TU-Trout Unlimited
 - USFWS-US Fish and Wildlife Service
 - NFWF-National Fish and Wildlife Foundation

Additional information can be found on our website at www.cc-swcd.org
Please call with questions, modifications and comments.

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Attached: Guide to obtaining specifications- NRCS efotg
Implementation guidelines and Contractor List

Customer Guidelines for Conservation Project Implementation 7/18/05

The implementation of any plan is the responsibility of the owner.

Citizens requesting assistance from the District to secure funding for conservation projects have a couple of requirements.

1) Land owners/managers must have a soil survey done. These tests can be done for under \$40.00 one company that many of our clients have utilized is

A & L Western Ag Labs
10220 SW Nimbus Ave. Bldg. K-9
Portland, OR 97223
(503) 968-9225

2) Conservation projects must meet minimum design requirements depending on the project.

The Clackamas County SWCD will help as much as staff time and resources permit. Conservation cost-share programs are available on an intermittent basis. The OWEB small grant cost-share can pay as much as 75% of the implementation cost. Some programs are first come, first serve, while other programs are evaluated on a competitive basis. In the competitive programs, the landowner that contributes a larger percentage of the cost-share may have the advantage in the selection of projects. In-kind cost share can include landowner labor at \$15 an hour and landowner equipment and material use.

If you decide to implement any of the recommended practices on your site, please contact the Conservation District. We will provide you with practices guideline to assist you in the proper construction of the project.

Customers that provide detailed project proposals that include cost of materials, contractors, equipment and design will also have a competitive advantage to have their projects submitted in a grant application. This is due to the great demand on current staff.

If the District aids in the securing of funds to implement conservation practices on the property the designs will need to be in conformance with Natural Resource Conservation Service guidelines. Many of these specifications can be accessed on the internet. Please see the attached guidelines to navigate to the specs. If you do not have access to the internet we can, and will, forward you or your contractor copies of the guidelines.

Projects that may pose a potential threat to safety and health need to be designed, approved and stamped by a professional engineer certified in the state. These kinds of projects may include but are not limited to; Composting/Manure Sheds, large storage tank placement, road design, pond and stream bank stabilization.

If you plan to do any work in or near a stream, pond or wetland please let us know and we will forward our Stream work permitting guidelines.

The following is a list of Contractors who may be familiar with designing projects that meet your needs. This list does not constitute an endorsement by the District. We recommend that you request references of contractors.

Please note that we have a partnership agreement with the Backyard Bird Shops, Oregon City Home Depot, Coastal Farm and Home Supply, as well as the WILCO stores in Oregon City and Canby to offer retail discounts to landowners that have an approved conservation plan through our office. These discounts are good for purchasing materials to implement recommended conservation practices on your land. Let us know if you would like to take advantage of this program.

Construction Contractors

Berge Construction Inc.,
Tony Berge
North Plains, Or
(503) 647-0700

Larry Skou
Carus, Or
(503) 632-3054

Conrey Construction,
Mike Conrey, PO Box 1910
Estacada, Or 97023
(503) 307-2899

Tanks for water catchment

West Coast Stainless
44820 SE Wildcat Mt Drive
Sandy, Or
97055
(503) 668-5783

Gutters

Cooleys Continuous Gutters
(503) 630-4729

Building Supplies

Home Depot
2002 Washington St.
Oregon City, Oregon
97045
(503) 723-3181

Wilco
19226 South Molalla Ave
Oregon City, Oregon
97045
(503) 656-0616

Wilco
896 South Ivy
Canby Oregon
(503) 266-2213

Coastal Farm and Home Supply
1900 McLoughlin Blvd
Oregon City, Or
97045
503- 657-5780

Irrigation (make sure you have a water right)

Sanatel Pumps
628 Molalla Ave
oregon City, Or
(503) 656-6181

Fishers Supply Inc.
659 SW 1st Ave
Canby Ore
97013
(503) 263-8557

Fencing

Evans Fence
PO Box 366
Beavercreek, Oregon
97004
(503) 632-7423

Mechanical Brush/Weed Control

Landshaper
Greg Thompson
(503) 710-0545

Molalla Brush Mowing Inc.
Kevin Beede
503-829-9665

Fair Weather Tree Experts-Jim Hendrickson
923 Summit St
Oregon City, Or
97045
(503) 656-0006

Wildlife Enhancement

Backyard Bird Shops
352 B. Ave., Lake Oswego 503-635-2044
8960 SE Sunnyside Rd, Clackamas 503-496-0908