

Watershed Ag Journal



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Water Matters on the Farm

When, and if, the sun shines in Coos County it is an especially busy time for farmers and ranchers whose passion is the land they work and, of course, the rivers they fish. Your time and labor are extremely valuable, and with some planning, you can employ common sense management practices that provide multiple benefits to your operation and to water quality. While out and about on the property this growing season, whether you're checking the fences or testing the bite, take some time to consider how management techniques everywhere on the farm effect water quality and quality of life.

Around the barn: Plan now for next winter.

Barns, gates and paddock areas, sometimes called heavy-use areas, inevitably become slogged with mud and manure in the wet season. This creates a source of sediment, nutrients and sometimes ammonia that drains to the nearest water body. There are a number of practices that reduce mud problems in heavy-use areas including: installing rock or concrete slabs; feeding in covered areas or shelters; directing drainage so that clean rain water doesn't mix with mud and manure; installing gutters and downspouts on all roofs; and covering manure piles.

In the pasture: It is important to avoid exposed soil where ever possible. The presence of vegetation / grass covering the ground can be an essential tool in protecting water quality. Vegetation improves infiltration of rainfall into the soil, stabilizes and improves soil structure, filters out sediment, utilizes nutrients, and provides forage. Pastures, if located down-slope from heavy-use areas, and managed for thick, actively growing grass, have the potential to function as a working buffer or filter strip to reduce sediment and nutrient runoff.

Reduction of noxious weeds in the pasture benefits production of grasses and native plants.

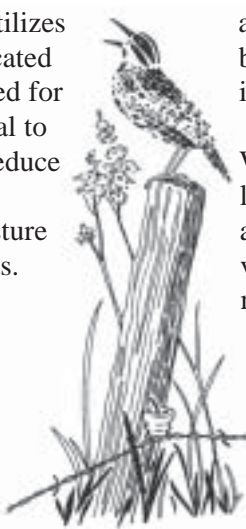
Utilizing a variety of methods, such as multi-species grazing, timed mowing, and physical removal of roots, rather than relying on a single method, can be much more effective in reducing weeds over time. Applying proper stocking rates and rotational grazing strategies is crucial to keeping pasture in top shape for animal gain as well as water quality.

Irrigation is most efficient if the soil is kept fertile and vegetation is actively growing and covering the area. Exposed, compacted, or unproductive soil increases the risk of runoff - not to mention waste of electricity and water. Knowing your soil types, infiltration rates and crop needs helps to ensure irrigation and fertilization efficiency. The Natural Resources Conservation Service and assist you with soils information.

In riparian areas: The areas directly surrounding water bodies are particularly important to controlling the introduction of pollution to surface water. Riparian areas represent the last chance for runoff carrying sediment, nutrients and chemicals to be filtered, taken up by plants, and infiltrated into the soil before leaving your property. Stream banks lacking deep root penetration are also vulnerable to erosion and undercutting.

Development of off-stream watering facilities, such as nose pumps, not only makes it easier and safer for animals to drink, it is also instrumental in riparian enhancement and stabilization. Nose pumps in particular also have the benefit of not providing mosquito breeding grounds since there is no standing water involved.

The Coos and Coquille AgWQM (Agricultural Water Quality Management) Plan asks that landowners minimize runoff of sediment, nutrients, and pesticides, and allow site-specific riparian vegetation to grow along waterways. The positive management practices referred to in this article will help landowners stay in compliance with these rules as well as provide benefits to the farm overall. For more information on the AgWQM Plan, or help with planning farm practices, call the Coos SWCD (541) 396-2841x34.



Inside This Issue

- ◆ New CAFO Rules
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New CAFO rules: How do you stack up?

The new CAFO (Confined Animal Feeding Operation) rules and permitting system, developed as a result of House Bill 2156 passed by the Oregon Legislature in 2001, direct the ODA (Oregon Department of Agriculture) to regulate all livestock operations to satisfy both state water quality laws and the federal Clean Water Act. This means that those already operating with a CAFO permit are transitioning to the new Oregon CAFO General Permit. Other livestock owners should consider whether or not their operation is an AFO (Animal Feeding Operation) or a CAFO, and apply for a permit with the ODA if necessary.

In a nutshell, CAFO status is determined by the number of animals confined, the amount of vegetation growing in the confinement area, and how their waste is treated in terms of contact with surface water. First, determine if your operation is an AFO. An AFO is a lot or facility where animals are confined and fed for a total of 45 days or more in any 12-month period in an area where little or no vegetation is sustained in the normal growing season. An AFO is classified as a CAFO that requires the Oregon CAFO General Permit when either of the following three criteria are met.

- ◆ The first criteria defines “large” operations as having 1000 or more beef cattle, 700 or more dairy cows, or 10,000 or more sheep/lambs. (Ask ODA about numbers of other livestock.)
- ◆ The second criteria defines “medium” operations as having 300 or more beef cattle, 200 or more dairy cows, or 3,000 or more sheep/lambs. (Ask ODA about numbers of other livestock.) A “medium” CAFO also has a man-made ditch or pipe that carries manure or wastewater from the facility, or the animals or waste comes into contact with surface water running through the confinement area.
- ◆ The third criteria may define your operation as a CAFO if you have more than one animal confined for more than four months on a prepared surface where there is wastewater treatment works.

“Some operations may not be clearly defined by these criteria, but may still need a CAFO permit if their liquid wastes are coming into contact with waters of the state,” says Chris Anderson, ODA Livestock Water Quality Specialist, “it is really a site-specific determination.” The ODA uses an ATR (Application to Register) form, filed by the landowner, to determine on paper whether or not a CAFO permit is necessary. “Even if ODA determines by the ATR that your operation doesn’t

require a permit, it can be beneficial to the operator to have that determination documented. Our role [as an agency] is to help you comply with regulation while maintaining the viability of your agricultural business.” adds Anderson. Some producers have received information packets in the mail from ODA about the new permit, and some producers who may now be included under the new rules will be receiving packets with an ATR enclosed. Any livestock owner who would like to know how their operation stacks up to the CAFO program

can contact Chris Anderson at the number below. He may be able to help you determine eligibility over the phone, send you an ATR to file with ODA, and/or is available for “courtesy inspections” to look at and discuss potential problems on your farm.

The CAFO permit program requires livestock owners to control pollutants, i.e., manure and waste water, and keep them from contaminating surface waters. This can be done by employing practices, such as vegetative filter strips, sensibly locating and maintaining waste storage facilities, and controlling runoff with gutters and downspouts, for example. A regional Livestock Water Quality Specialist conducts annual inspections of CAFO operations and permit holders must keep an updated waste/nutrient management plan.

“Waste management plans are extremely helpful tools for livestock owners.” says Anderson. These plans include site-specific soil information, soil infiltration and nutrient uptake rates, crop / grass nutrient needs, practices that reduce waste runoff, and address the landowner’s concerns / goals for the operation.

Some things to keep in mind when considering your operation’s CAFO status:

- ◆ Some wash racks may come under the definition of a wastewater treatment work.
- ◆ Facilities without wastewater treatment works and only a few animals may still need a permit, and should adjust management practices if their wastes are contacting surface waters.
- ◆ No domesticated animal is exempt from the AFO/CAFO definition. It may apply to dogs, horses and exotic animals. **Livestock Water Quality Specialist, Chris Anderson (541) 955-9873.**

“**Confined**”, as defined in the permit, means holding livestock in any area other than vegetated pasture or rangeland. Confinement areas include, but are not limited to, open or covered lots, stalls and barns.



“**Wastewater treatment works**”, as defined in the permit, means any part of a system used for collection, handling or storage of liquid wastes, liquid manure or contaminated water.

Well Water Wellness

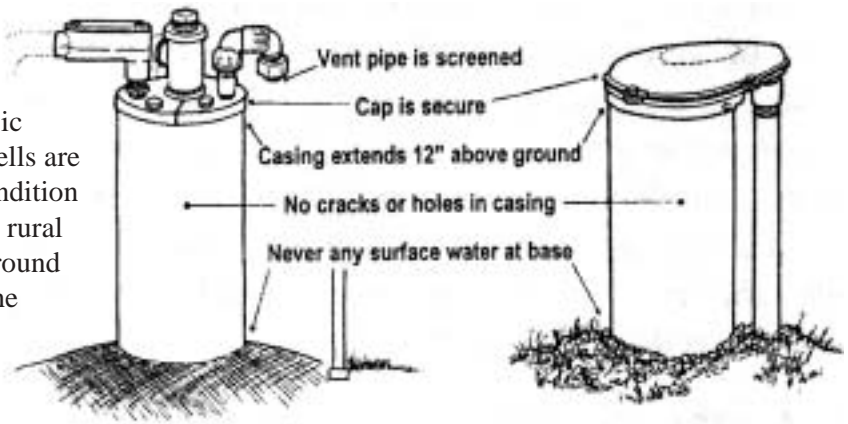
I recently attended a one-day well water training course put on by OSU Extension Well Water Educator, Gail Glick Andrews, in Klamath Falls. The class and field trip provided a good basic understanding of well water quality dynamics. Wells are particularly important to keep in good working condition since they are a source of drinking water for many rural residents. Wells are also a direct connection to ground water sources and aquifers which means there is the potential for contamination from the groundwater to your well, or from your well to the ground water system. Fortunately, nature has provided us with a water filtration system found right in the soil. According to Andrews, it takes approximately three feet of uniform 'living' soil to filter pathogens and nitrates out of surface water enough for drinking. Microorganisms in top soil break down and digest contaminants just as they do in properly functioning septic drain fields. However, there are myriad ways in which this natural filtering system is compromised, overloaded, or removed. Keeping up to date on the condition and maintenance of your well is an essential measure in ensuring the best well water quality for your family, your livestock and our ground water source. Listed below are several important points to understand while protecting well water at your home and farm. (The well head information applies to drilled wells. The same quality standards also apply to hand-dug wells.)

Casing: Casing is the tube, usually 4-14" diameter, inserted into the drilled well hole. The casing should extend at least 18 feet down and 12 inches above ground to protect well water from contamination by surface water.

Grout seal: The hole must be at least 2" wider than the casing so that a grout seal can be applied around the casing. The grout seal should extend down to the impermeable layer above the water bearing zone. It is recommended to inspect the seal at the ground surface for any cracks or loosening from the casing.

Sanitary seal: Be sure that the well head is tightly sealed at the top of the casing, at all joints, and that the vent is covered with a screen or is slotted to exclude insects, spiders and mice. If the well is located in a flood area, the vent should be extended up above the flood zone. *Caution: in some cases the sanitary seal supports the weight of the casing and pump, which are often too heavy for a person to lift manually.* Contact a pump or well professional for advise on sanitary seal maintenance.

Decommissioning wells: Improper abandonment of unused wells is a common mistake posing a serious risk of contamination and loss of artesian pressure to the ground water system. A licensed, bonded well constructor



or Watermaster must decommission a well, or at least be present to inspect the well before and during the decommissioning process. The common method of permanently decommissioning a well is to remove the casing and other apparatus and fill the hole with cement or concrete to above the water bearing zone. The rest of the hole can then be filled with clean soil, not gravel, to ground surface.

Water tests: Testing for nitrate and coliform bacteria every 1-3 years will give a good indication of the condition of your water supply. Presence of these contaminants indicate your well water is somehow in contact with surface water. For routine testing, it is best to test just after a heavy rain at the beginning of the wet season.

Prevent backflow: Water can siphon backwards through a hose and into your well. This is especially serious if a chemical sprayer is attached to the hose. Inexpensive anti-backflow valves should be installed at each outdoor faucet.

Separation distances: As a safety precaution against leakage, spills, and leaching of contaminants a well must be, by law, located the following minimum distances from the given object: septic tank 50', drainfield 100', closed sewage or storm drain 50', confined animal feeding or holding operation 50', animal waste holding lagoon or storage site 50', hazardous waste storage or disposal 500', property line 10'. Recommended distances (no legal requirement): pesticide or fertilizer storage 50', above-ground fuel tank 50', solid waste disposal site 100', underground fuel tank 100', manure pile 250'. Also consider where your well is on the slope in relation to contamination sources, and never store chemicals in your well's pump house.

For more information contact:

- Oregon Well Water Program (541) 737-6294
<http://www.wellwater.oregonstate.edu/>
- Watermaster's office (541) 396-3121 ext. 254
- Oregon Water Resources Department
(503) 378-8455 www.wrd.state.or.us
- Department of Environmental Quality
(541) 269-2721

Bite Back Mosquitoes with Natural Predators

In efforts to reduce mosquitoes and the threat of West Nile Virus, keep in mind that there is a team of natural mosquito predators ready to devour this pesky part of the food web. Certain birds, frogs, fish, bats and insects feed on mosquito adults and/ or larvae. Mosquito populations can be reduced by providing proper habitat for such predators, many of which live in and around wetlands.



Dragonfly

Natural mosquito insect predators include, dragonflies, damselflies, water striders, backswimmers, and predaceous diving beetles. Mosquitos

can be further reduced with the erection of birdhouses that will attract insectivorous birds such as purple martins, tree swallows, and prothonotary warblers. The addition of bat boxes is also a good idea. For more information about these predators' habitat including bird and bat boxes, and wetland habitat dynamics contact the Soil and Water Conservation District or the Natural Resources Conservation Service (541) 396-2841.

The following suggestions are positive actions that we all can do to help reduce mosquitos:

- Take a look around the yard. Is there anything that could collect water and therefore help to breed mosquitoes? Check for old tires, buckets, toys, open trash cans, etc. Empty and wash these items and put them away. Punch holes in open collecting bins, such as those for curbside recycling.
- Make sure that water gardens, fish ponds and

Coos / Coquille Agricultural Water Quality Management Plan

Information, rules and fact sheets available on the Coos SWCD website: www.cooswcd.oacd.org

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bird baths have an aeration system.

- Change pets' water dishes daily; change livestock water troughs and "still-water" bird baths weekly.



Damselfly

- Keep pools and hot tubs clean.
- Screen and clean roof gutters so that they don't hold water.
- Use caution in using pesticides in areas where it may harm beneficial predators of mosquitoes.

For more information on "Meeting the Challenge of West Nile Virus" see mosquito factsheets at website <<http://www.pesticide.org/factsheets.html>>, or stop by the District office.

Bat fact: A single little brown bat can consume 1,200 mosquito-sized insects in just one hour.



For free instructions on how to build your own bat house box with one 4x8 sheet of plywood see <<http://users.ms11.net/~habitat/bat/bathome.htm>> or contact the Soil and Water Conservation District.

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