

Protecting Water Quality on Your Acreage

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Protecting water quality is critical for human health and the health of our ecosystems. Clean, fresh water is needed to support human life, and to produce the food we need. Aquatic life and our ecosystems also rely on non-polluted water to function. Whether you have an acreage, a small farm, or are a homeowner in town, everyone should do their part to help protect our water quality.



Figure 1. Excess nutrients contribute to algae growth and eutrophication

Photo source: NCE, Reno, NV

Both surface waters and ground water should be protected. In almost all cases, it is much easier to prevent pollution than to clean up water once it has been contaminated. Runoff and direct discharges are some of the bigger issues for our surface waters. Nutrients from fertilizer and manure, pesticides from improper use and disposal, fuel and oil, and pathogens are all potential sources of water quality contamination from small farms and

acreages. Leaching is the primary way groundwater is contaminated. Appropriate fertilizer and manure application, protection from fuel spills, and proper pesticide use and disposal are some of the ways that we can protect our groundwater.

This factsheet covers some of the key areas that homeowners, especially those with an acreage, or small farm should address.

Wells

If you have your own well, it is important that you protect your drinking water supply. The entire area contributing water to the well is called the wellhead protection area. Contaminants introduced at the ground's surface within the wellhead protection area are likely to reach the well, and could end up in your drinking water. Because of this, it is recommended that manure not be applied within 100' of your well. It is also important that manure storage areas and corrals, pens, etc. not be placed within 100' of your well. This buffer zone helps protect your drinking water source.



Figure 2. Wellhead in corral

Photo source: NCE, Reno, NV

Pesticide Containers

Pesticides such as insecticides, herbicides, and fungicides, can easily contaminate water sources. Not only is it important that the pesticides be applied according to the directions on the label, it is also important that pesticide containers be rinsed and disposed of properly. When using pesticides it is important that you:

- Apply pesticides according to label directions. Only apply a pesticide in the amount allowed, and only for an approved use.
- After emptying a pesticide container, rinse the container. Apply rinse water according to label directions. Do not pour rinse water into any drain, or on any site not listed on the product label. It could contaminate the environment.
- If you mixed or diluted a pesticide and have too much left over, try to use it up while following the label. Consider asking a neighbor if they can use any leftover mixtures.
- If any product remains in the container you should follow the Storage and Disposal statement on the product label.
 - If you intend to store the pesticide for later use, make sure that you are storing the pesticide in a safe location, following label directions.
 - If you no longer want the pesticide, it must be disposed of as hazardous waste. Call your local landfill, or state's environmental agency for information on the disposal of hazardous waste.
- For your safety, make sure that you wear protective clothing.

Fuel/Oil

Fuel and oil spills can leach through the soil and contaminate our groundwater. Fuel

tanks should have a secondary containment method such as a concrete pad with short walls to trap any liquid. If you have 55-gallon drums, or larger tanks/containers with the potential to hold a total of 1,320 gallons of fuel, oil, greases, lubricants, mineral spirits, kerosenes, vegetable oil, etc. are subject to the Spill Prevention, Control, and Countermeasure (SPCC) regulation. Even if you aren't subject to the SPCC rules, it is a good practice to have a secondary containment method for your fuel storage areas. Secondary containment areas should be able to hold the entire contents of the largest tank in the containment area.



Figure 3. Fuel spilled around tank

Fertilizer/Manure

Applying fertilizer and manure/compost based on plant needs helps protect our water quality. Nutrients applied in excess of plant needs can either runoff and end up in our surface waters, leach past the root zone and contaminate our groundwater, or volatilize creating air quality issues. Soil tests identify the amount of nutrients needed for plant growth and help avoid

overapplication of nutrients. Manure tests show the nutrients available in your manure. This information is needed when determining manure application rates.

Grazing Animals

Grazing animals that have direct access to a stream or canal will not only drink from it, but will also likely defecate or urinate in the water source. This will add nutrients, and pathogens, to the water, which in turn degrade the water quality.



Figure 4. Direct access to water source not allowed unless adequate vegetation

Water quality regulations prohibit the discharge of manure into a water of the state (water that leaves your property). Although animals that are grazing in a pasture are allowed direct contact with a

surface water, it is still a source of potential contamination. Please note, the grazing exemption is only allowed if there adequate (e.g., plant height >4" across entire pasture) and desirable vegetation. Practices such as fencing the animals out of the water, and providing a water source away from the stream or river is recommended.

Runoff

Runoff from fields, corrals and pens, and fuel spills can contaminate surface waters. Limiting fertilizer and manure applications to what the plants can utilize is one of the best ways one can reduce runoff coming from fields. Immediate incorporation of manure after application is recommended. Manure from pens, corrals, manure storage areas, etc. should be contained. If needed, small berms or grass buffer strips can be used to help contain runoff.

Protecting our water quality is not something just for businesses or large farms. Homeowners, small farms, and those with an acreage also contribute to water pollution. With a bit of care, we can all do our part to maintain and protect our water quality.