

agriculture and livestock management

The United States has over 330 million acres of agricultural land that produce an abundant supply of low-cost, nutritious food and other products. American agriculture is noted worldwide for its high productivity, quality, and efficiency in delivering goods to the consumer. However, when improperly managed, agricultural activities can affect water quality.

what to do about agriculture management...

- Exercise proper pesticide application practices. See the “Herbicides and Pesticides” section of this manual for further details.
- Store and manage facility wastewater and runoff with appropriate waste management systems.
- Improve your water use efficiency. Measure actual crop needs and apply only the amount of water required.
- Implement a management plan which includes drainage systems that keep rainwater separated from contaminated water.
- Establish a Wellhead Protection Area around your local well. Avoid spilling or disposing of animal waste, fuels, pesticides, fertilizers, paints, or any similar materials within the Wellhead Protection Area.
- Site your well outside areas of potential contamination. Wells should not be located in corrals, pastures, feedlots, or near underground fuel storage tanks. Wells should also be at least 150 feet from a septic tank and its leach field.
- Maintain vegetation along stream banks and around other water bodies.

what to do about livestock management...

- Reduce the impacts of grazing on water quality – adjust grazing intensity, keep livestock out of sensitive areas, provide alternative sources of water and shade, and promote revegetation of ranges, pastures, and riparian zones.
- Reduce the potential for channel degradation by adhering to soil and water conservation principles, upgrading existing channel capacity when increased runoff volumes are anticipated, and fencing critical riparian areas.
- Confined livestock areas such as feedlots, livestock and poultry barns and outdoor animal pens sometimes require runoff collection. This runoff may be stored and applied later to agricultural land as a fertilizer or soil conditioner.
- Locate your barns, corrals, paddocks, and pasture fences appropriately to keep home, yard, and garden chemicals out of your water supply.
- Fence off or otherwise control access to stream banks, irrigation ditches, ponds, and wetlands to protect them from overgrazing and trampling.
- Locate salt licks, feeding areas, and watering troughs, where animals congregate, away from slopes and water bodies.
- Keep waste and fill materials like manure and garbage out of all water bodies.



within the community

automobiles

For most of us, automobiles are a necessary part of our daily lives. Thoughtful use can reduce polluted runoff as well as air pollution.

here's what you can do about automobiles...

- Plan errands to minimize the number of trips. Driving less reduces the amount of pollution your automobile releases into the environment.
- Regularly inspect and maintain your vehicle to help keep automotive waste, toxic metals, and petroleum byproducts from contaminating runoff.
- Clean up spilled brake fluid, oil, grease, antifreeze and other toxic chemicals, rather than hosing them into the street where they may enter the storm drain system and eventually reach local washes and lakes.
- Never pour used oil or other chemicals down storm drains, on the soil, or in the trash.
- Recycle used oil, antifreeze and batteries by taking them to recycling centers or auto parts stores. Recycling just 2 gallons of used oil can generate enough electricity to run the average household for almost 24 hours.
- Wash your car at a certified car wash. Detergents contain nutrients that can run off impervious surfaces. Certified carwashes are required to collect and dispose of wash water properly.
- If you must wash your car at home, park on a lawn area, gravel driveway or other permeable surface so the soapy water can soak into the ground.
- Use a spray nozzle or hose equipped with a shutoff valve to minimize water use. Don't let the hose run throughout the whole car washing process.
- Many schools, clubs and organizations use car washes as fundraisers. Try to plan ahead and divert the wastewater to a sanitary sewer, grassy area or catch basin instead of a storm drain. If possible, work with a local carwash to host the fundraiser. Many will donate a portion of their profits in exchange for the sweat equity of your volunteers.

pet waste

Pet waste contains nutrients and pathogens that can contaminate surface waters. If ingested, many pathogens found in animal wastes can harm humans. Organisms such as Cryptosporidium, Giardia lamblia, Salmonella, and E. coli can cause symptoms ranging from skin sores, to diarrhea and gas, to chest pain. Symptoms are more severe in the very young, the elderly and those individuals who are immunosuppressed. Some strains of E. coli can cause serious illnesses and fatalities. Cryptosporidium is also of particular concern because it is highly resistant to disinfection with chlorine.

Animal wastes can also contain parasites such as roundworms, pin worms and other parasitic nematodes. Infection by a few worms is usually not a problem, but severe infections may cause fever, bronchitis, asthma, or vision problems. Many people feel that the waste from their pet doesn't make much of a contribution to polluted runoff. When you combine all the waste from all the pets in the community, however, the impact becomes significant. The easiest way to avoid health and aesthetic problems is to clean up pet waste and dispose of it properly.

here's what you can do about pet wastes...

- When taking your pet for walks, remember to bring several plastic bags to clean up after him or her. Scoop the poop! ... And then place it in the trash.
- Many parks and other recreational areas in Clark County have dog poop stations that provide small plastic bags and garbage cans. These units allow you to clean up after your pet and then toss it in the trash, so you won't have to carry the filled bags for the remainder of the walk.

- Flush dog poop down the toilet. The water from toilets goes to a septic system or sewage treatment plant that removes pollutants before it reaches washes and Lake Mead. Avoid adding kitty litter to the toilet, however. Cat poop and used litter should be scooped out and put in a securely closed bag in the trash.
- Avoid letting your pet do their business within 200 feet of a water body.
- Never dump pet waste directly in or near a ditch, catch basin, storm drain, or water body.
- For dogs, cats, and other meat eaters, dispose of the waste in the garbage or down the toilet. Wastes from meat eaters should not be placed in compost piles. The parasites, bacteria and/or viruses present in their feces are not readily destroyed during the composting process and can be passed on to humans.

recreational activities

We all enjoy the many recreational opportunities found in Clark County. To ensure our natural resources will continue to be enjoyable, follow these suggestions:

- When possible, carpool.
- Dispose of all waste properly. Pack it in and pack it out. Learn more at Leave No Trace, www.LNT.org.
- Deposit human waste in sanitary facilities or in 6- to 8-inch deep "catholes," 200 feet or more away from a water body.
- Pick up after your pets and don't let them do their business within 200 feet of a water body.
- When camping, try to keep your campsite at least 200 feet away from the edge of a stream or lake.
- Build fires only in designated areas and only during permitted times.

What to do while boating to prevent pollution:

In Clark County, Lake Mead and the Colorado River system offers many outstanding recreational opportunities. These water bodies also provide drinking water to our communities. It is important to protect the scenic beauty and water quality of our lakes, rivers, wetlands and other water bodies so we can continue to use and enjoy them.

- Avoid producing large wakes within 500 feet of the shore. This will help reduce shoreline erosion and sediment pollution of nearby washes.
- Rinse your boat with a brush and water and avoid the use of soap whenever possible. If you must use soap, select a phosphate-free variety.
- Inspect and remove all aquatic vegetation from your boat when removing it from the water to avoid transferring undesirable weeds from one water body to another.
- Use tarps to catch any boat scrapings, especially toxic paint and antifouling chips or dust.
- Use sanders and other maintenance equipment that is equipped with vacuum attachments when working near the water.
- Don't use toxic polishes or stain removers.
- Only discharge boat sewage into pump-out stations. It is against federal law to discharge sewage into navigable U.S. waters.
- Do not dump any trash overboard. Bring all trash back to shore for dumping or recycling.
- Avoid gas tank overflows during refueling.
- Never pump oil- or fuel-contaminated water overboard.
- Properly dispose of drain oil.
- Keep engines well maintained and free of leaking fuel or lubricants.
- Keep oil- and fuel-absorbing pads on hand for accidental spills. Properly dispose of these pads.

so... what now?

After reading through this manual, you should now have a better understanding of polluted runoff in our community. Think about this manual and what you've learned next time you take your dog for a walk, wash your car, or plan a boating trip to Lake Mead. Management of polluted runoff is not difficult; it simply takes a little bit of knowledge and a few small changes to our routines.

remember...

it's your water...
protect it!



For more information on polluted runoff in Clark County, visit www.clarkcountynv.gov – keyword: water quality, or call the Clark County Water Quality Team at (702) 668-8674.

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