

# resources

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The following resources for land managers are available online or by calling the agencies and organizations listed. Listing these resources does not imply Conservancy endorsement of any agency, business, non-profit organization, or management practice.

**Advanced Composting Systems, LLC.** Manufactures three models of the Phoenix Composting Toilet for use in private residences. Internet address: [www.compostingtoilet.com/RESIDENT/res\\_home.htm](http://www.compostingtoilet.com/RESIDENT/res_home.htm). Mailing address: 195 Meadows Road, Whitefish, MT 59937. Phone: 406-862-3854.

**Clivus Multrum, Inc.** Manufactures composting toilets and greywater irrigation and fertilizer systems. Internet address: [www.clivusmultrum.com](http://www.clivusmultrum.com). Mailing address: 15 Union Street, Lawrence, MA 01840. Phone: 800-425-4887.

**Sun-Mar Composting Toilets.** Manufacturer of self-contained and central-unit composting toilets. Internet address: [www.sun-mar.com](http://www.sun-mar.com). Mailing address: 600 Main Street, Tonawanda, NY 14150-0888. Phone: 888-341-0782.

**Urban Agriculture Notes: Composting Toilets.** Web page published by City Farmer, Canada's Office of Urban Agriculture. Contains links to several web sites and reference materials about composting toilets. Internet address: [www.cityfarmer.org/comptoilet64.html](http://www.cityfarmer.org/comptoilet64.html).

**U.S. Environmental Protection Agency.** 1999. Water efficiency technology fact sheet: composting toilets. Mailing address: Municipal Technology Branch, Mail Code 4204, 401 M St., S.W., Washington, D.C. 20460

**U.S. Environmental Protection Agency.** Wastewater virtual tradeshow technologies. Internet address: [www.epa.gov/region1/assistance/ceitts/wastewater/techs.html](http://www.epa.gov/region1/assistance/ceitts/wastewater/techs.html). Updated April 8, 2008.

visit us online: [www.nature.org/wyoming](http://www.nature.org/wyoming)

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Summer 2008—Vol. 3, No. 1

# land stewardship news wyoming



Fly fishing at The Nature Conservancy's Sweetwater Preserve. © Randy Craft/TNC

## An ongoing commitment to Wyoming's lands, waters and wildlife

The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

### Dear Wyoming Land Stewards:

Water is probably the most vital natural resource we have in Wyoming. Humans depend on it for recreation, agriculture, and everyday domestic use. Wildlife rely on creeks, lakes, and rivers for their very existence. Wyoming's sport fisheries are world class. And many of us know the exhilaration of hiking along a thunderous mountain stream swollen with spring run-off. With so much biodiversity dependent on water, one of the Conservancy's missions is to conserve aquatic habitats.

Global water resources are under tremendous stress from over-consumption by an ever-growing human population. Around the world, water tables are falling, rivers are running dry, and lakes are disappearing. In many countries, including the United States, farmers are competing with cities as metropolitan areas grow and increase consumption. With all this competition, everyone will need to start using water much more efficiently.

There are many ways to improve the efficiency of our water use. While we most often think of solid waste when we hear the adage "reduce, reuse, recycle," this philosophy also applies to water usage. We can reduce water use by installing low-flow shower, sink and toilet fixtures, and by planting lawns using water-stingy species like buffalograss.

Water usage for solid domestic wastes can virtually be eliminated by installing composting toilets. Water can also be reused at a residential scale by installing "greywater" irrigation equipment that uses water from clothes and dish washing to irrigate landscape shrubs and trees. Cities are also beginning to install water treatment and recycling facilities that allow continual water reuse.

These are all very viable ideas that can help us conserve the water resources so vital to our way of life in Wyoming. These techniques not only conserve water, but can keep water from becoming contaminated with wastes and nutrients associated with drainfields that are often located in or near riparian areas. We all should think about incorporating these ideas into our lives, whether we live on a ranch in the most isolated setting, or in a small Wyoming town. We all can do our part.

Yours in Conservation,

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P.S. Please contact me if you would prefer to receive this newsletter via email.

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Wilson's phalaropes in a Wyoming wetland. © Scott Copeland

## stewardship news

### ON TREES, WATER AND OUTHOUSES

One of our most important wild resources throughout Wyoming is riparian habitat. This habitat is found along streams and rivers that characteristically support water-dependent plant communities not typically found on uplands. Cottonwood trees and willows are commonly found in riparian habitat. Much of Wyoming's wildlife depend on these areas for water, nesting sites, feeding areas, and protective cover. Bird watchers love to hike through riparian forests hoping to spy one of the more than 70 bird species that live in Wyoming's riparian areas.

Birds aren't the only Wyoming inhabitants that prefer to live in wooded areas along streams. People are attracted to riparian habitat for scenic views, cool shade and privacy. Cabins are a popular amenity in these areas. And with each cabin there usually is an outhouse or septic system needed to handle human wastes.

### No More Waste and Contamination

Even well-built conventional septic systems can have a negative impact on riparian habitat. Septic systems work by channeling human wastes into underground drainfields. After passing through a drainfield, waste product nutrients can leach down into the ground causing potential eutrophication and subjecting water tables to possible contamination (see Summer 2007 issue).

Composting toilets are an alternative to traditional septic and municipal sewer systems. First commercially available in Sweden nearly 40 years ago, composting toilets have many advantages over water-based sewage waste management. Many models function without water (or only a small amount) thereby reducing water consumption. They work in a manner similar to composters found in residential backyards. Composting is a natural process where organic materials are broken down by bacteria and fungi into an end-product called "humus." Similar in appearance to soil, humus can be used as a fertilizer for trees and non-edible plants. In a compost toilet, human and food waste can be reduced in volume by up to 90 percent.



The Conservancy's Red Canyon Ranch Learning Center has composting toilets that don't use any water. © Erick Markey

### Reducing Your Impact

Several companies manufacture and sell composting toilets. Models ranging in size from small, self-contained single units for light cabin use to large, centrally located composting units with multiple toilets suitable for continuous residential use are available. The larger units can be electric or non-electric, micro-flush (one pint of water per flush) or waterless. All units are vented to eliminate odors.

If you own a cabin situated in riparian habitat and are contemplating adding or replacing a septic drainfield, you might consider installing a composting toilet system instead. Riparian habitat conservation is a priority of the Conservancy, and we encourage innovative ideas that can reduce human impacts on the land.

Though not a glamorous approach to land conservation, installing a composting toilet system may be one of the best things you can do to conserve riparian habitat along Wyoming's streams and rivers. If you are interested in learning more, please check out the references provided at the end of this newsletter.

If an existing septic system servicing a residence on a conservation easement fails, the landowner is allowed and encouraged to repair or replace the structure.

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## conservation easement questions

### Can water, electrical, and sewage utilities be constructed on a conservation easement property?

Conservation easements held by The Nature Conservancy are often placed on properties that have existing residences used seasonally or on a year-round basis. In most cases, these structures already have electrical, water and sewer utility services established at the time the easement is donated. Our easements affirm the landowner's right to "maintain or repair such utility systems as are necessary" for allowed uses on the property. If an existing septic system servicing a residence on a conservation easement fails, the landowner is allowed and encouraged to repair or replace the structure.

Many conservation easements have retained landowner rights to establish "building envelopes," which are relatively small parcels within an easement where the landowner may construct new buildings. Building envelopes usually range in size from a few to several acres depending on the size of the easement. They are located in areas that minimize negative impacts on habitat protected by the easement. Often, the landowner is allowed to install new electrical, water, and sewer services to the new structures located within each new building envelope.

Conservancy easements often address public utilities. If a utility or municipality holds a right-of-way on a property prior to the acquisition of a conservation easement, that utility or municipality may exercise its rights as written into the right-of-way document recorded in the public record. Most right-of-way easements allow the utility to maintain, repair, and replace existing equipment. In some cases, utilities may have the authority to construct new equipment and service roads.

Sometimes the situation arises where a private company or public utility needs to establish a new right-of-way across a conservation easement property. This most often happens to accommodate a new pipeline, electrical powerline or road. Since the right-of-way is being established after securing the conservation easement, the utility must consider the consistent and inconsistent uses enumerated in the conservation easement document.

In these cases, Conservancy personnel usually enter into negotiations between the landowner and utility to ensure that terms of the conservation easement are not violated by the new right-of-way. In the event a right-of-way across a property cannot be established without violating the terms of the conservation easement, the Conservancy must deny the request. The utility would then have the option of routing around the conservation easement property or, if the utility has the authority, exercising the power of eminent domain to force the right-of-way across the property. While it is the duty of the Conservancy to defend our easements and protect the "conservation values" of an easement property, we strive to accommodate the needs of the utility and landowner alike, particularly when a right-of-way is needed to address a public safety issue.



Global water conservation is one of the Conservancy's top priorities. © Steve Thornton