

Understanding the Value of Wetlands on Equine Land

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How a Natural Wetland Works

Wetlands were historically misunderstood in America. Perhaps the most notable misuse of wetlands was the massive attempt to 'fill in' the Florida Everglades to provide more area for development, resulting in an unbalancing of that large but fragile ecosystem. This was the reasoning across the U.S. Fortunately, the value of wetlands or swamp areas has been reassessed as a vital cleansing machine for our stormwater runoff and as habitat. Efforts are now focused on protecting, restoring and creating constructed wetlands.

What Exactly Are Wetlands?

Wetlands are areas of land that are saturated with water either year-round or for a substantial portion of the year. Several other factors contribute to wetland morphology.

In a wetland, soils that have been saturated for extensive periods of time and that meet certain other criteria (indicators) are called *hydric* soils. The NTCHS (National Technical Committee for Hydric Soils) defines hydric soils as those "formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop *anaerobic* conditions in the upper layer of soil." Anaerobic (lacking oxygen) conditions can be observed, as they result from repeated saturation and microbial activity, which reduces oxygen content in the soil. Iron, manganese, sulfur or carbon compounds.

Are wetlands all the same? There are many different types of wetland, depending on the source and amount of water, the geographic location, climate, underlying bedrock and other factors, which in turn determine the types of plants and animals that form a particular wetland ecosystem.

So, What Makes a Wetland so Valuable?

- **Habitat and Soil Health:** Healthy wetlands are
 - Rich in nutrients from decaying plant and microbial materials
 - Host to innumerable animal species.
 - Plants that thrive in wetlands have evolved to survive in these highly variable environments.
- **Filtering Pollutants:** Wetlands perform several Ecosystem Services, including
 - Flood Prevention: Temporarily storage of stormwater
 - Nutrient absorption (including pollutants)
 - Sediment collection (preventing soils from entering downstream water bodies and degrading *those* environments), and
 - Carbon Sequestration (Storage): Reduce atmospheric carbon, which contributes to global warming.
- **Good for the Economy:**

- Resource Use: Direct economic returns to communities that carefully harvest the fish, animals and plants that thrive there.
- Recreation and Tourism: Potential for significant payback from uses like hunting, fishing, bird watching, etc.



Illustration 1: photo of a natural wetland, courtesy NRCS

Wetlands as a Water Quality Management Tool for Horse Properties

Horse farms and facilities need to manage stormwater runoff to prevent soil erosion, protect nearby streams and other water bodies from pollution and siltation, and help prevent flooding. Impervious (water doesn't pass through) surfaces such as roofs, roadways, parking lots and heavily compacted pasture soils can contribute heavily to runoff speed, with pollutants carried downhill to a water body.

Eventually, that unfiltered water will enter your drinking water source.

For stormwater or wastewater treatment on horse facilities, wetlands can be a less expensive alternative than some other methods. Restroom waste can be directed to wetlands which can provide an ecologically sound and economical treatment. *Wetland systems can be very effective in catching and treating runoff from manure storage areas, barns and heavily used pastures.*

In addition, wetlands provide important habitat and an appealing element to the overall landscape, adding visually and functionally to the open space that the community values.

Creating a Constructed Wetland

Constructed wetlands can perform many of the functions of a natural wetland, including treatment of wastewater and some pollutants. They require a relatively large land area, a shallow depression with an impermeable bottom (water does not pass through), substrate material (soil, sand, gravel, rock, organic materials, sediments and plant litter), appropriate vegetation, and of course, a source of water. These wetlands should be located, designed and monitored to suit the specific environment and use, and to avoid stagnation. All wetlands require monitoring and constructed wetlands especially need to be maintained as conditions change.

Any wetland area should be fenced to prevent livestock access.

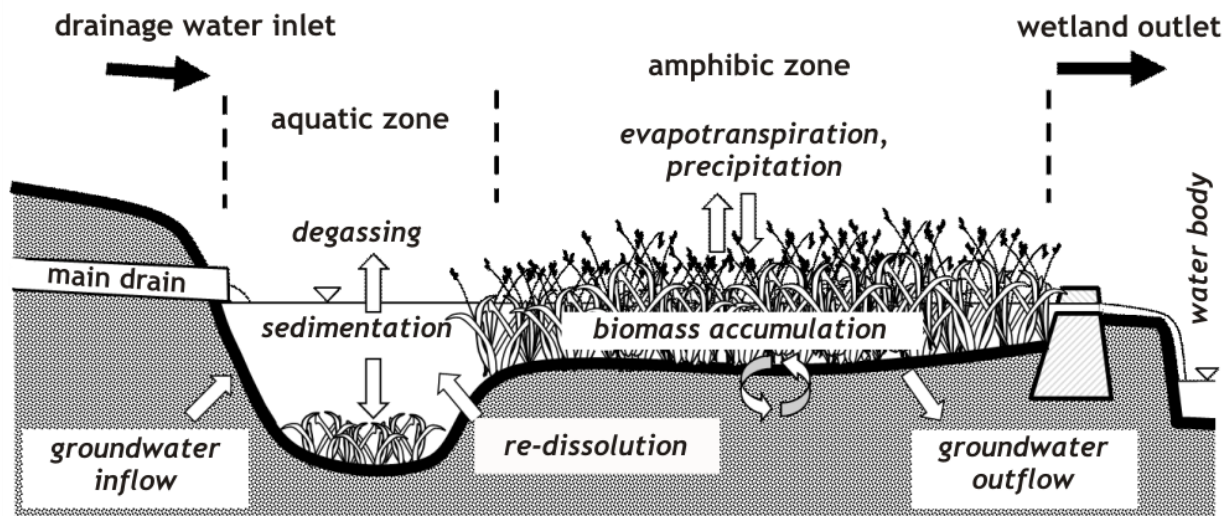


Illustration 2: illustration of an agricultural constructed wetland system, courtesy ZALF.com.

Protection and Preservation Programs Through the NRCS

Looking for information and assistance with your wetland? You don't have to go to the federal government offices directly as each state has a local office to administer these programs, but the federal NRCS (The Natural Resource Conservation Service) website has information that you'll need to know.

(NRCS) offers easement programs to landowners who want to maintain or enhance their land in a way beneficial to agriculture and/or the environment. All NRCS easement programs are voluntary. They provide technical help and financial assistance, but local landowners and organizations are needed to make NRCS easement programs successful.

Easement programs include:

The Farm and Ranchland Protection Program (FRPP) which helps purchase development rights to keep productive farm and ranchland in agricultural uses. See *NOTE below.

The Grasslands Reserve Program (GRP) which protects, restores, and enhances grassland, including rangeland, pastureland, shrubland, and certain other lands. ***NOTE:** The Farm and Ranchland Protection Program (FRPP) were combined after repeal of the GRP to form the *Agricultural Land Easements (ALE)* program, which protects the agricultural use and conservation values of eligible farm and ranch land.

The Healthy Forests Reserve Program (HFRP), assists landowners in restoring, enhancing and protecting forestland resources on private lands.

The Agricultural Conservation Easement Program - Wetlands Reserve Easements (ACEP – WRE) protects, restores, and enhances wetlands on private property. Achieving the greatest wetland functions and optimum wildlife habitat on every acre enrolled in WRP is the goal. The WRE program helps private landowners successfully enhance and protect habitat for fish and wildlife, including threatened and endangered species, improve water quality and reduce flooding, recharge groundwater, and provide opportunities for educational and recreational activities. This link provides more information and 2019's sign-up deadline. (<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/?cid=NRCSEPRD1419625>).

The EPA website <https://www.epa.gov/wetlands> also has critical information about wetland preservation and protection. Also see <http://water.epa.gov/type/wetlands/restore/upload/constructed-wetlands-handbook.pdf>.

You can also learn about the various funded programs in ELCR's document "Purchase of Development Rights Programs in the U.S.", which explains each of the Farm Bill related conservation programs and more. <https://elcr.org/purchase-of-development-rights-programs-in-the-u-s/>



About the Equine Land Conservation Resource (ELCR): The Equine Land Conservation Resource is the only national not-for-profit organization advancing the conservation of land for horse-related activity. ELCR serves as an information resource and clearinghouse for land and horse owners on issues related to equine land conservation, land use planning, land stewardship/best management practices, trails, liability and equine economic development. For more information about the ELCR visit our website at www.elcr.org or call (859)455-8383.