

# 'Treatment wetlands' clean up some cities' sewage

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Tres Rios Wetlands in Phoenix has been part of the city's sewage treatment since 1995. Microbes help break down waste.

**By Traci Watson, USA TODAY**

Cleaning up America's dirty water usually requires loads of chemicals, vast concrete tanks and huge pipes. Now some communities are turning to a more pleasant method of coping with sewage and polluted runoff: wetlands, complete with greenery and birdsong.

Cities are installing systems that send partially cleaned sewage to wetlands, which suck up even more pollution from the water. Local authorities are also turning to wetlands to store and cleanse the filthy water that runs off highways and pavement after a rainstorm.

Such "treatment wetlands" not only soak up pollution but also provide habitat for birds and other wildlife. And they require less energy and manpower than traditional sewage treatment systems, so they're often cheaper to operate.

"Wetlands are nature's amazing cleaning machines," says Benjamin Grumbles, chief of water issues for the Environmental Protection Agency. "Whether natural or manmade, they can do a lot of work, and we're encouraging their use increasingly."

Some places where treatment wetlands are under consideration or construction:

•**West Palm Beach, Fla.** The city's new sewage treatment system and treatment wetland will be officially dedicated on Thursday. Treated sewage will flow through 1,600 acres of wetlands that will remove chemicals that act as fertilizers. Such chemicals are harmful to the ocean and the Everglades, where native vegetation can be killed by low levels of fertilizer.

The city is restoring a wetland that was overgrown by foreign plants that crowd out native species. The city also built boardwalks and trails through it to encourage residents to visit.

•**Chicago and its suburbs.** The regional sewage agency is investigating whether to build a treatment wetland next to an expanding sewage plant. The plant will be required for the first time to cleanse the sewage of a chemical that acts as a fertilizer, and a wetland could do so naturally, says Dick Lanyon, head of the Metropolitan Water

A wetland would be cheaper, too, "because you won't have any pumps or piping involved. You don't have any expenditures for chemicals," Lanyon says. "We'd be letting the wetlands do their work."

•**Phoenix.** A small wetland built as a test project has been helping scrub the city's sewage for more than a decade. The cattails, bulrushes and other plants in it host microbes that help break down waste products. Sunlight and exposure to the air also help.

The city now hopes to build a 1,500-acre wetland to help scrub away fertilizing chemicals from the water. The wetland would also cleanse the treated sewage of medications, which sewage plants do a poor job of removing.

The city wanted "more than just more concrete-and-steel treatment plant out of this," says Alice Brawley-Chesworth of the city's Water Services Department. The new wetland, which will be built when Congress allocates the funds, will also provide wildlife habitat, flood control and recreation.

Despite the high hopes, the EPA's Grumbles warns that wetlands are not a panacea for America's water pollution. No wetland can handle large volumes of raw sewage, he says, or water contaminated with industrial chemicals. Wetlands excel at wiping the last traces of pollution from sewage but aren't suited to tackling water direct from the nation's toilets and sinks.

Even with those limits, wetlands are drawing interest from environmental officials in small towns and large cities alike. In Louisiana, local agencies are even hoping to use wetlands to avoid costly repairs to a sewage treatment plant damaged by Hurricane Katrina. The remaining fertilizers in the treated sewage would also help rebuild the devastated marshes on the coast.

Environmental officials are also enthusiastic about wetlands' ability to deal with water that runs off paved surfaces after a storm. Such runoff carries huge loads of pollution to rivers and streams and even changes the shape of riverbeds.

If runoff is channeled to wetlands, the water can be stripped of motor oil, road salt and other contaminants before it washes into natural waterways. And a stop in a wetland slows runoff, making it less prone to cause erosion.

Officials in Independence, Mo., are looking into transforming an abandoned sewage lagoon into a wetland, to trap the water that rolls off a nearby highway. They'd do some excavation for better water flow and add native plants.

"If we can use nature to help us, that's what we want to do," says Dick Champion, the city's director of water pollution control and president of the association for sewage agencies.