



Birdwatchers peer across the central pond (above) and at a field of reeds (below) during a recent outing for members of Sonoran Audubon and Birders' Anonymous at the Tres Rios Project.



Riparian Wasteland?

It's hard to imagine, but as more and more residents flush more and more waste, Tres Rios – a rich riparian habitat – grows bigger and more beautiful.

If you live in one of the Valley's five central cities, more than likely every flush of your toilet feeds one of the state's largest and most-prized wetland projects.

Sounds criminal, doesn't it? But biologists say that's exactly what makes the Tres Rios habitat – and the 143 species of birds that live there – thrive in the arid Arizona desert.

The 25-acre project was created by local, state and federal agencies to add Mother Nature's touch to treated wastewater discharged by the 91st Avenue wastewater plant.

The facility chokes down up to 180 million gallons of wastewater per day from Phoenix, Mesa, Glendale, Scottsdale and Tempe. A trickle of that – about 2 million gallons – is let loose through Tres Rios daily.

Since its creation in 2000, the project has drawn the attention of ASU biologists, regional birdwatching enthusiasts, West Valley grade-school kids, and scientists and engineers from China, Chile, Australia and the Ukraine, among other countries. Its cotton-

woods – once a fixture of riparian habitats across Arizona – are now 35 feet tall and obscure many views of the so-called "poop plant" nearby.

And Tres Rios' stature is growing as quickly as its vegetation. In January, the Phoenix City Council agreed to buy about 195 additional acres for the project – almost all of the land needed to complete the project's blueprint.

But the latest land purchase may be Tres Rios' last big push toward expansion. Commercial and residential development is gobbling up open land in the West Valley, ensuring Phoenix will pay much more than the \$8.4 million spent on the existing site.

The treatment plant is expanding, too. The murmurs of heavy trucks, cranes and tractors surround the project area.

"A beautiful scene of nature is not what you'd normally associate with a wastewater treatment plant," says Evie Jaskoski, a West Valley grade-school teacher who has led field

trips to Tres Rios. "But it's absolutely gorgeous out there."

Over time, Arizona's wetlands have disappeared as manmade projects channeled water to farms and growing urban areas. Though several exist along the Colorado River basin, Tres Rios is unique because it is a wetland that exists in the arid desert.

It was created to offset some of the treatment plant's environmental impacts, act as a cheap alternative to billion-dollar filtration systems and spur community and scientific interest in restoration, two plant officials say.

On a chilly January morning, visitors to Tres Rios were greeted by a flock of great blue herons guarding their nests while perched atop a leafless tree. Mallards – ducks, in street parlance – blanketed ponds wrapped in 6-foot-tall reeds.

They represent two of Tres Rios' "big five," along with white egrets, ibis and mud ducks (or coots). Hawks, bald eagles, pelicans and scores of other bird species have also called the project home – including the elf owl, a bird the size of a double shot-glass whose screeches pierce the night.

Tributaries of treated wastewater meander along groomed gravel walking paths and feed into the ponds. The water is only slightly murky and much less green than the water in regional lakes. What's more, it is three times cleaner than the water in the Salt or Verde rivers, according to the project's chief caretaker.

Tres Rios has been a boon on many levels, say caretaker Ron Elkins and Mary Reker, a chemical engineer for the project. It can break down chemicals from scores of diet pills, fitness supplements and prescription drugs that pass through humans – chemicals that even the mighty wastewater plant can't handle, despite the latest technology.

"Sometimes Mother Nature has a little bit better plan than we do," Elkins says.

And its grounds have been the subject of more than 100 research papers on water quality, vegetation maintenance, beaver control and mosquito eradication, Elkins adds.

Up to 4,000 people visit Tres Rios every March for a free nature festival. Last month's event featured 75 exhibitors, nature walks, canoeing and other activities.

"All throughout the Southwest, these natural wetlands have been really damaged or eliminated altogether," says Pierre Deviche, an ASU environmental physiology professor and avid birdwatcher. "If we can come up with new ways of restoring them or maintaining them, then this is good for wildlife."

— Adam Klawonn