

By Patricia D. Grant

# More Than Just a Plant

## *Texas wild rice teems with life*



Patricia D. Grant/USFWS

*Tubers float by emergent Texas wild rice in the San Marcos River in central Texas.*

Picture this. You're in a spring-fed river, underwater. It's a hot, sunny, Texas day and the water is clear and cool—and it's oh, so quiet. The gravelly river bottom is multicolored and smooth, and sparkles as the rays of the sun capture the various minerals, reflecting back their hues and shades. You see crayfish and dragonfly nymphs crawling about, and small fish dart all around you. As you swim, suddenly see long flowing strands of brilliant green fibers. In this peaceful active aqueous world, you could almost imagine the flowing locks of a mermaid passing by.

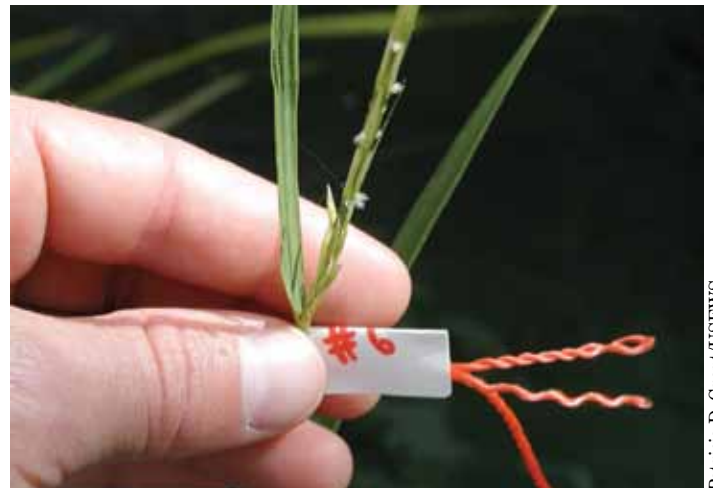
The mermaid's hair is a field of green underwater grasses that wave as the water flows. It is Texas wild rice. The green locks abound with wildlife: fountain darters hide there. Salamanders search for food around the wild rice roots. Insect larvae hide from the bigger fish looking for a snack, while young fish find

protection among the strands. The plant teems with life not its own. The cycle of life swirls about the plant, from roots to stalks to leave and seeds.

Texas wild rice, *Zizania texana*, is an aquatic grass, one of about 20 similar species. But this one is found nowhere else in the world, except in the upper two miles of the San Marcos River, emerging from the highlands between Austin and San Antonio. This wild rice forms large masses of clones that firmly root in shallow, gravelly areas in the riverbed. It is adapted to fast-flowing clean water of a fairly constant temperature the

year-round, about 68 to 72 degrees. For half of the year, the plant is completely submerged under water. It does emerge above the water surface to flower between May and November. During this time, the seeds—the rice—mature on the emergent stalks to drop into the river and root somewhere downstream.

Texas wild rice was once abundant throughout the San Marcos River and in Spring Lake. In 1978, it was the first Texas plant to be put on the federal endangered species list. The plant was considered to be a weed—and was treated like a weed. People pulled them from the river by the roots. Federal protection put an end to that. Now, a different threat looms—increased water pumping from the Edward's Aquifer. It lowers the river level, which in turn exposes the wild rice's roots, which already grows in the shallows. Dredging, damming, and riverside construction, they all change stream flows and alter the river in detrimental ways for Texas wild rice. Another factor in wild rice conservation comes from an unlikely source, recreation. The San Marcos River is a draw to swimmers,



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*The endangered Texas wild rice is raised in captivity at the San Marcos National Fish Hatchery and Technology Center.*

tubers, and canoeists. Many people are simply just unaware of the rarity of this plant and that uprooting it or tubing over emergent flowers greatly hampers its survival.

A great number of people are doing what they can to help protect this rare rice species. Here at the San Marcos National Fish Hatchery and Technology Center, we keep a large population of wild rice thriving in the raceways that once raised largemouth bass. We collect seeds to produce more plants, with an eye toward upping their numbers in the wild. We also conduct research to learn more about this plant and its importance in the river. Former U.S. Fish and Wildlife Service botanist, Paula Power, conducted extensive studies on the plant's life history requirements—information essential for future conservation work. Her research was published in several scientific journals.

Botanist Dr. Mara Alexander, continues research and restoration work at the technology center in collaboration with people like Jackie Poole, Texas Parks and Wildlife Department. She has monitored the population of wild rice for over 20 years.

Flo Oxley, Director of Plant Conservation and Education at the Lady Bird Johnson Wildflower Center, found that viable pollen of Texas wild rice can only travel a mere 30 inches. Some plant pollen travels miles and remains viable.

Dr. Robert Doyle of Baylor University has monitored rice populations, as well as numerous other native plants of the San Marcos River.

Valentin Cantu, a fish biologist from San Marcos National Fish Hatchery and Technology Center, and I dive the San Marcos River every three months to monitor and remove an invasive plant, water trumpet, known



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*Below the surface, the long green strands wave in the water like wet hair. These emerging plant parts are about to seed, and grow new plants downstream.*

in botanical circles as *Cryptocoryne beckettii*. It's native of Sri Lanka. It's a serious competitor of Texas wild rice. Water trumpet enjoys the same environmental conditions that the Texas wild rice needs, but grows much faster and out-competes Texas wild rice for space. When I first began diving with Val to eradicate "crypto" nearly four years ago, there were well over 1,000 plants, and I thought we would never be able to accomplish such an ambitious undertaking. On our most recent dive, in December 2009, we found only five plants.

Tubing or canoeing down a river is not very exciting when there is nothing to see but gravel and silt. Texas wild rice may not be glamorous or evoke strong emotion, but the long, flowing green fibers have their place, and that place is quite evident when you get underwater. The Texas wild rice teems with life. ♦

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