

Wetland Launched

into (a new)

SPACE

Drainage problem at JSC
becomes coastal prairie habitat

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When planning a visit to the Johnson Space Center (JSC), you probably anticipate seeing the high tech machinery and science of space travel.

Recently, a more down-to-earth feature of the space center's operation has taken root. When Sandy Parker, Environmental Specialist at the JSC Environmental Office, invited me and Chris LaChance—WaterSmart Landscaping Program Coordinator—to consult on a landscape drainage problem, we created a plan to launch JSC's first wetland creation.

The JSC landscape maintenance contractor, Prodyn EPES, needed a way to deal with water that pooled in a low spot between a weather station building, parking lots and a jogging trail. It was often too wet to mow, so something had to be done—and on a tight budget. At about 2200 sq. ft., it was too large to be economically practical as a rain garden, which can sometimes require considerable excavation, an



Photos by Mary Carol Edwards

underdrain, porous soils and a selection of predominantly nursery-raised native plants. Chris thought the site had more potential as a created wetland, so she brought me along on the mission.

As we travelled across campus to Prodyn EPES, I noticed the rocket ships, of course, but I also took a mental inventory of the landscapes along the way. The north side of the campus is less developed and, except for the collection of spacecraft, resembles the J.M. West Ranch, which it once was. Prairie chickens, longhorns and rolls of hay are raised here. Because it is flat coastal prairie land, you will see “rural” roadside ditches here too. →



(Opposite page) A yellow-crowned night heron stalks the newly created JSC wetland. (Top) About 20 wetland species were already growing in the ditches at JSC. The plants were dug, divided, identified and replanted in their new habitat. (Bottom) The former landscape drainage problem area is ready for planting.

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Being a wetland specialist, it's second nature for me to check out drainage ditches. What I saw growing in the ditches at JSC were native wetland plants—nice stands of them in a variety of species. I realized they would be the answer to the project's budget constraint. If the plants could be collected at JSC and replanted onsite, there would be no additional expense for plants. Many wetland species can be dug, divided and replanted in moist soil with hardly a dent in their growth rate or survivability.



On a return trip I showed Aloisa Jones, Prodyn EPES head gardener, how to identify and plant wetland species already growing at JSC. We collected or flagged about 20 varieties.

The wetland was planted in late June and barely three weeks later, it showed signs of becoming established. No longer will this boggy area require mowing, risking muddy ruts or worse, a mired tractor. Evapotranspiration (the sum of evaporation and plant transpiration from the Earth's land surface to the atmosphere) removes a surprising amount of water through the plants as well as off the surface of the wetland. This reduces excess rainwater naturally. Instead of a waterlogged lawn, JSC has a piece of improved habitat already attracting herons, plovers and dragonflies.

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We hope that a precedent has been set for beneficial ways of managing excess rainwater with projects like this, at NASA and elsewhere on the Gulf Coast. After all, before the Space Age, much of these lands were once marshy coastal prairies. Sometimes it doesn't take much to encourage them to flourish and work on our behalf as wetlands once again. 🍀

(Top) The wetland was planted in late June, and just three weeks later it shows signs of becoming established. (Bottom) Bull Tongue, one of many wetland plant species transplanted from the ditches at JSC and replanted in the newly established wetland.

RESOURCE LINKS:

Watershed Texas Blog www.watershedtexas.org/2013/08/06/wetland-launched-into-a-new-space/

Raingardens www.youtube.com/watch?v=VpV5VSeRcZw#at=141

West Ranch www.chron.com/entertainment/article/Preservationists-hope-to-rescue-West-mansion-1535549.php

Longhorn Project www.yourhoustonnews.com/bay_area/news/where-the-longhorn-roam-at-nasa/article_f72d12fb-7b9a-5a6c-a43f-7dfbb3f2fac0.html

Evapotranspiration www.hgcia.com/water-management.html