

Ground Facts

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Exotic pest plants in fencerows

Fencerows are a characteristic feature of the landscape that emerged from agricultural land use around Spring Hill. Their expansion was contemplated recently at Saturn Corporation during some landscape planning. Studies by the Saturn/UT Land Use Team concerning the invasion and control of exotic pest plants revealed that fencerows are host sites and staging areas for further pest plant invasions in the landscape. The solution would be to make sure fencerows are much wider than a single row of trees. The dense shade under these trees is much less favorable to exotic pest plants. With the increasing invasion pressures of non-native pest plants, the last thing needed in the landscape is more fencerows. Instead, wider stream-side corridors of trees are being developed.

Speaking of stream-side corridors...

One of the highest ecological priorities on the Saturn landscape is to improve the habitat along streams. These are especially important areas for improving water quality while benefiting wildlife and unusual plant species. Much is becoming reality due to the Saturn/UT Land Use Team's efforts over the past three years. During the first two years, efforts focused on the east side of US 31 at two locations--along Johnson Branch (the Excel course is located here) and directly across from Haynes Haven. Experimental efforts to control invasive pest plants in one of these areas have proven very successful and will soon be applied to the other. Understory habitat is also rapidly improving and more wildlife diversity is beginning to emerge. For example, more native fruit-bearing plants, such as elderberry, pokeweed, witchhazel, and silky dogwood, are providing wildlife food and cover for birds. This was accomplished through cooperative efforts with farm operations, Premier, Excel, and Facilities Maintenance.

These improvements have taken time to show up but will continually benefit the environment for years. Because of these successes, areas west of US 31 (near the Plant) are now undergoing different management techniques to help overall ecology. This includes the establishment of two large no-mow areas that will eventually grow into natural corridors of forest. One extends down a wet weather conveyance east of Ephlin Parkway (between the computer-modeled hills) and extends to the Welcome Center. The other is just north of the Saturn Resource Building and also extends to the Welcome Center joining the other new corridor. Thistle control has been the primary challenge in these areas.

Native landscaping setback at entrances

Native species landscaping efforts at four team member entrances along the east side of the Plant suffered a setback June 14. Several native species of trees and seedlings were mistakenly cleared during recent weeding. These particular entrances were emerging as premiere examples of a new approach to native landscaping in Tennessee with full success anticipated this fall. In one to two years, with experienced tending, the landscaping should repair itself, according to Karen Lorino of the Saturn/University of Tennessee Partnership. Landscaping at the west and north team member entrances remains intact but involves different approaches to native species landscaping that have not proven as successful as those entrances to the east of the Plant.

Certain native species are seen by many as being weeds regardless of where they grow. It is part of our culture and a challenge to change our understanding of how these native species can be used in landscaping to reduce costs, benefit the environment, and improve aesthetics. In response to the weeding error, a booklet for Premier grounds maintenance employees is being developed which identifies native plants to nurture and exotic pest plants to remove.

Ground Facts is a monthly update on the application of new ideas to reduce grounds maintenance costs, improve aesthetics, and increase environmental benefits at the Saturn site. Work is sponsored by Facilities Maintenance at Saturn and the University of Tennessee in a partnership agreement. For questions or comments, please contact Karen Lorino at (931) 486-5029; e-mail at KareELo@aol.com or Jack Ranney at (423) 974-3938; e-mail at jwranney@utk.edu.

In the greater scheme

Findings from native species landscaping and exotic pest plant control efforts at Saturn are fitting into a Southern Appalachian Native Plant Initiative (SANPI). Several federal resource agencies, the Tennessee Department of Environment and Conservation, and private organizations, such as The Nature Conservancy, are collaborating on this Initiative. Native species plantings at Saturn are offering a readily accessible demonstration of techniques. Work



at Saturn is also examining how to reduce the exotic invasive plant problem, a major component of the Initiative. Karen Lorino and Jack Ranney of the Saturn/UT Land Use Team are directly involved in the Initiative as a result of efforts at Saturn. For more information about native species in the Middle Tennessee region, contact Karen Lorino at (931) 486-5029.

Exotic pest plant list

This is a partial list taken from a report developed by the Tennessee Exotic Pest Plant Council (TN-EPPC). These species are noted as posing a "severe threat" to native plant communities in Tennessee. Each of these species has been spotted at the Saturn site. Chances are you'll see them near where you live, too.

- Tree of heaven
 - Musk thistle
 - Privet
 - Japanese honeysuckle
 - Multiflora rose
 - Johnson grass
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EXTRA!EXTRA! Read all about it!

The Land Use Team is trying to educate the team members and the public about the efforts we are taking towards better land management at Saturn Corporation. The May newsletter was distributed randomly through the mail, the cafeterias, and the Welcome Center. A limited number of brochures describing the project is at the printer and will be available soon. Signs will be displayed at the team member entrances that give information about the species of tree and aspects of native landscaping. Comments and suggestions are always welcome.

Study at sanctuary

Gerry Dinkins, an environmental consultant, was on-site this month performing the seasonal stream studies for Saturn. Macroinvertebrate ("water bugs"), fish, and water samples were obtained for analysis of the streams. The area soon to be signed as the Saturn Springs Sanctuary was also investigated. Two springs, a marshy wet area, and a stream are in this area. The stream was entrenched approximately 50 years ago, probably to keep the stream from flooding fields during periods of heavy rain. From inspection, there is some aquatic life in the stream. However, past stream disturbance will probably prevent reoccurrence of the redband darter. The redband darter is a fish species deemed in need of management that is presently found in the streams on Saturn's land. Dinkins did report that designation of this area as a sanctuary would be a great benefit to the stream and bird populations.

Solutions for problem maintenance areas

Problem maintenance areas are defined as areas that are difficult to mow because they are eroded, too wet, or too steep. The Land Use Team has identified a few such areas and will soon begin working towards solving the issues associated with each area after approval or modification from the Saturn Advisory Group. One such area is along Tom Hal Street which leads to the west team member entrances (PT-3, VIS, GA-3). A major gully exists on the steep slope along the road. The source of the problem will be corrected, and the gully will be filled in and landscaped back to natural vegetation. Five wet areas on Sanchez Street, along the seeping rock cliffs, will be developed as mini-constructed wetlands.



Tree of the month:

Hackberry

Celtis occidentalis

The hackberry is the most common tree found on the Saturn site, especially along fencerows. It tolerates poor soils, drought, and wind. The leaves are spear-shaped, and the bark has unusual corky protrusions. Few have been planted by the Land Use Team since mockingbirds and blackbirds actively consume and spread its small dark berries.

The Advisory Group for the Land Use Team is comprised of the following team members: Dan Samuels (Saturn, Facilities Maintenance), Bill Dolsen, (Saturn, Facilities Maintenance and UAW representative), Bill Thornton (Saturn, Northfield), Bill Miller (Saturn, Environmental Affairs), Allen Smith (Premier, Grounds Maintenance), and Andy Henderson (Premier).