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Low Cost Ecological Restoration

Effects of Summer Drought

Species of the Month- Coralberry

Saturn/UT Land Use

100 Saturn Parkway

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Spring Hill, TN 37174

Ground Facts

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Low Cost Ecological Restoration

Stage 2

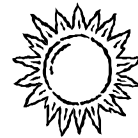
1997 inventories of wild plants on the Saturn site revealed that, other than in the new sanctuary, tree diversity was low and dominated by hackberry. Other common species were those usually associated with fields reverting back to forests. This included exotic pest plants. This condition existed well before Saturn's arrival. The inventory team was most surprised by the nearly total lack of oak and hickory species that should have been abundantly present.

This fall is the second season that nuts of various species of oaks and hickories are being collected from native stock and planted in the various no-mow islands, landscaped areas, and stream-side corridors around the site. The mulched landscape beds were planted in the past with good initial success. Unfortunately, many of these seedlings have not survived due to accidental spraying with herbicides or being pulled up by summer help that thought they were weeds. It was expected that germination and growth has been much slower and uncertain in the other areas. The goal is to increase the diversity of oaks and hickories in the forests around the Saturn plant. These species provide large quantities of mast (wildlife food) as well as cover and shade. This will help improve the diversity of plants and animals well beyond those that are planted.

Another aspect of this effort is to enable the natural development of tree-shaded areas. Doing so reduces maintenance and ecological problems associated with exotic pest plant invasions. The approach is slow but purposeful. In the process, we can accomplish landscape goals at minimum cost, evaluate the germination of native nuts/seeds for native landscaping, accelerate the formation of natural habitat/biodiversity, and work toward a long term solution to the control of exotic pest plants.

The species receiving attention are shingle oak, post oak, chestnut oak, southern red oak, black oak, scarlet oak, northern red oak, white oak, chinkapin oak, bitternut hickory, shagbark hickory, and pignut hickory. Seeds of a few other species are also being collected and planted.

We can use all of the seeds and nuts that we can get, and we would appreciate any help. So, take advantage of this cool weather and gather some nuts for us to plant. Please send them to Karen Lorino at Mail Drop 371-998-M20 or drop them off at the Saturn Resource Building. If you have any questions, feel free to call x5029.



Hot, Dry Summer Takes its Toll

The severely hot, dry weather this summer has taken its toll on native species plantings around site (as well as species found in the wild). From casual observation, the species that were hit the hardest were the eastern red cedar and coralberry (See "Species of the Month," page 2). However, most of the cedars that were affected were those planted this past fall. The successfully surviving species include hackberry and smooth sumac—both of which are very tolerant of dry sites and conditions. With the exception of the Welcome Center plantings, the landscaped areas were not watered. Had these been conventionally landscaped areas, most of the plantings would now be dead. The plan was to keep maintenance costs to a minimum. The summer drought showed that the native approach is working.

Fire hazard has also been high in extremely dry mulch beds and grasses. A few smoldering fires had to be extinguished. One benefit of the drought, however, has been the slow growth of weeds in the mulch beds. This has led to cheaper, easier maintenance.

Saturn/UT Land Use Project Approaches Three Years

The following is a brief summary of implemented actions and possible future actions of the Saturn/UT Land Use Team.

Implemented Actions

- Converted 50 acres mowed turf to no-mow
- Managing 80 acres as sanctuary
- Solved three grounds maintenance issues
- Managed areas at Excel for habitat
- Applied native species landscaping (planted over 1,650 trees, 2, 510 seedlings, and 1,575 nuts/seeds)
- Established 50' buffer around Farm Pond
- Experimented with exotic pest plant control
- Surveyed native vegetation and exotic pest plants along 1,100 ft streamside corridor
- Surveyed birds and small mammals for biodiversity
- Developed numerous contacts, signs, brochures, newsletter, articles, and displays for public relations

Possible Future Actions

- Environmental Education: designing interpretive brochures/booklets, writing newsletters, and delivering presentations
- Oversight: monitoring established no-mow and native landscaped areas for maintenance needs and exotic pest plant control
- Recommendations: offering solutions to problem maintenance areas, such as eroded gullies, steep slopes, poor drainage areas, and rocky areas
- Expansion: improving or expanding native landscaped areas with volunteer help
- Cost reduction: tree shading of building to help reduce air conditioning costs
- Assessment: control of pest plant problems and chemical use



Species of the month: Coralberry *Symphoricarpos orbiculatus*

Coralberry, sometimes know as Indian currant, is a low-growing native shrub (3-5 ft. high). It grows quite readily in the wild, often in areas of shade in fencerows and infrequently mowed fields. The fruit of the coralberry are tiny pink coral-colored berries and are very prominent in the fall. Because of its hardness to poor soils and dry conditions, seedlings were planted at the team member entrances; however, establishment has been difficult. Possible causes of this are the extreme dry weather conditions and herbicide drift.

New Developments

Numerous photographs have been taken around site that highlight the actions of the Land Use Team. These photos will be used in future presentations, slideshows, and displays for environmental education purposes. Some of the pictures will also be used for an interpretive native landscaping/exotic pest plant guidebook that the Land Use Team is designing for grounds maintenance crews and interested homeowners.

A proposal for a cooperative agreement with the US Fish and Wildlife Service is underway. The USFWS would assist the UT Land Use Team in converting turf grasses in “no-mow areas” (presently defined by the orange flags) to warm season prairie grasses. This Partners for Fish and Wildlife Program benefits small wildlife and songbirds by providing them food and cover. This prairie habitat is also cheaper to maintain because it only calls for mowing every three years.

A few other items on our plate for this year include writing a journal article, writing the annual report, and installing more interpretive signs at team member entrances. We are also aware that the slope at the SSPO entrances give the grounds maintenance crew a difficult time, so we will offer recommendations to a solution that will make this area safer, yet easier to maintain. And finally, since our focus is now on public relations, we hope to involve the Saturn team members in more volunteer activities. Please let us know if you would like to participate by calling x5029.

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 Dr. Jack Ranney at (423)974-3938; e-mail at jwranney@utk.edu.