

Exotic Plants Pose Serious Threat to City's Parks and Greenways

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Jack Ranney was strolling along the Third Creek Greenway when a vine with round, glossy leaves caught his attention. The plant was an East Asian import called oriental bittersweet, and Ranney, a research ecologist with the University of Tennessee's Energy, Environment and Resources Center, homed in on it like a heat-seeking missile.

"I don't like this stuff," he said, yanking the vines out of the ground. "You can see it for miles and miles along the highways in Asheville, moving out in all directions. I'm really scared of what it can do."

Each year non-native, invasive plants cost the United States billions of dollars in agricultural losses and control measures. As vice president of the Tennessee Exotic Pest Plant Council, Ranney has seen firsthand how these exotics spread from cities into natural areas like the Great Smoky Mountains National Park, which employs a full-time vegetative management crew to keep species like kudzu, multiflora rose and Japanese stilt grass in check.

To prove this point, Ranney recently surveyed 13 parks and greenways in Knoxville looking for 20 of the worst invasive, exotic plants. He found an average of 10 species per park, and what bothered him most was that a few of the species occurred in large enough quantities to significantly affect the parks in coming decades.

"Some of these invasives spread in such dense layers nothing can grow under them," Ranney said. "As the trees around them age and die, what will replace them? There's nothing coming up in the understory."

The worst urban invader Ranney saw in his survey was bush honeysuckle, followed by privet, Japanese honeysuckle and multiflora rose.

Oriental bittersweet was much more prevalent than Ranney had anticipated, and along the Third Creek Greenway not far from West High School, he came across the largest patch of winter creeper he has seen in the Southern Appalachians.

Ranney said he repeatedly saw where bush honeysuckle and privet were out-competing wildflowers, native herbs, shrubs and native tree seedlings, especially along streams and in low-lying areas.

"In general, the situation was worse than I expected," he said.

According to Ranney's inventory, Sharps Ridge is teeming with invasive plants, especially bush honeysuckle and privet. Of the 20 invasive plants on his checklist, Sharps Ridge had 14.

"The birds are still coming through and that park is still pretty, but as these species take over, this won't be the case," Ranney said.

While most foreign plants introduced into the United States are not aggressive invaders, the problem species are exacting a heavy toll by displacing native plants and reducing biodiversity.

According to the U.S. Department of Agriculture, invasive plant infestations cover about 100 million acres and are spreading at a rate of 14 percent a year, an area twice the size of Delaware.

During a recent walk along Knoxville's Third Creek Greenway, Ranney stopped at a junction where the railroad tracks, the path and Third Creek converged. The list of exotics at this site included mimosa trees, privet, Japanese honeysuckle and kudzu, just to name a few.

"These plants appear to be spreading out to forests along urban corridors such as roads, rivers and utility rights of way," Ranney said. "We can't control them all, so we have to pick our battles."

Knoxville has 30 miles of greenways. Donna Young, the city's greenways coordi-



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Oriental bittersweet (*Celastrus orbiculatus*)

nator, said the city landscapes almost exclusively with native plants and that a native plant nursery, as well as plenty of volunteers, are the initial steps needed to restore native plants to their rightful place in the ecosystem.

"We're at the point where we have to start looking at plant invasions as a serious threat," Young said. "I feel strongly that over the years we can make a huge dent in the problem on our parks and greenways, but it's going to take a concentrated effort."

Ranney said the problem with invasive species is that they're often pretty, as with mimosa trees, and sometimes even useful, as with kudzu's effectiveness in erosion control. He said he wants people to realize that for every invasive they plant as an ornamental or hedge, there's a native species - or at least a noninvasive exotic - that works just as well.

"We have to stop planting these bad plants, or we'll never make any headway," Ranney said.

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