



Florida Department of Transportation Research

Undesirable Roadside Vegetation

BDK75 977-54

A roadway is a complex structure than extends beyond travel lanes. Barriers, signals, signage and many other components are critical to roadway function. Less obvious, though in plain sight, is roadside vegetation, which enhances roadway aesthetics, but also has a crucial engineering role in maintaining the profiles that carry water away from roadways into culverts while preventing erosion. Roadside vegetation maintains shoulder integrity, making it safer to pull over or return to the road during an inadvertent runoff. Vegetation also improves air quality, acts as a buffer between the road and adjacent structures, and helps alleviate driver fatigue and stress.

Roadside vegetation requires regular maintenance evaluations, conducted according to the Florida Department of Transportation (FDOT) Maintenance Rating Program Handbook (MRP). The MRP was developed in the 1980s to provide uniform guidance to evaluators, to achieve more uniform roadway maintenance and improve prioritization of maintenance tasks. The MRP includes guidance for evaluating vegetation height and health, as well as litter, overhanging limbs, and encroachment onto roadways or sidewalks.

The MRP contains a list of 14 plants to be limited or prevented on roadsides. This was the focus for the University of Florida researchers in this project. The list had not been updated in at least ten years, and in the meantime, several landscape issues had arisen. Primarily, the MRP list needed revision regarding species that are no longer of concern and new ones which should be listed.

Researchers inventoried vegetation species present on rights-of-way at field sites in each of the seven FDOT districts and the Florida Turnpike. Turf quality and erosion were noted. Sites were visited twice or more yearly to determine species seasonality. District-by-district inventories were intended to help determine if the MRP list should be regionalized.



Cogongrass, widely acknowledged as one of the Southeast's most damaging invasive species, is shown here on a Florida roadside.

Researchers identified 37 species, many more than currently listed, but only a subset of these was found in all districts. Cogongrass, maidencane, and tropical soda apple were not observed in any test area. Of these, the researchers recommended delisting maidencane and tropical soda apple, which do not tolerate repeated mowing. They recommended removal of dogfennel and castor bean for the same reason. Species observed in over half the districts and candidates for the list were giant smutgrass, matchweed, teaweeds and white head broom. Bull paspalum and largeflower pusley did not meet the 50% threshold but were of concern. Though some species were more regionalized, the researchers felt that regionalizing the list was not appropriate, as species are easily dispersed throughout the state.

A second project task arose from reports of the steady deterioration of bahiagrass, the predominant roadside ground cover in Florida, leading to increased invasion by other species. Researchers found that soil pH at all tested sites was alkaline in the range 7.6 to 7.9, far above the optimum pH for bahiagrass growth, indicating that continued decline of bahiagrass and intrusion of other species could be expected.