

Invasive Plant Lists of the Southeast: A Primer

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The Summer issue of *Wildland Weeds* featured the 2005 FLEPPC List of Invasive Species and a brief introduction to some other invasive plant lists and assessments. The objective of this article is to review various types of lists and assessments, illustrating them with examples applicable to the member states of SE-EPPC. These states are: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. The important contrasting characteristics of these examples are presented in Table 1.

Regulatory Lists

Most SE states have at least one list consisting of plants that are legally regulated in the state (Table 1). Like the Federal Noxious Weed List (Fed), most of these state regulations were originally enacted to protect agriculture, navigation/flood control, and human health and only recently have they included invaders of upland, natural habitats. Most such lists have a preventive intent and so include species not yet in the area (Table 1). Typical regulations prohibit the introduction, cultivation, and transportation of the listed species without a special permit. In many cases, (e.g., Fed, AL, FL DEP, MS, and SC) special rules can be implemented to require control of new infestations of particularly damaging species, but few statewide regulations in the SE require removal of listed species from all properties (other than the GA designation of tropical soda apple (*Solanum viarum*) as a public nuisance). This contrasts with states (particularly those in the west where agricultural interests dominate) that have noxious weed laws driven by County Weed Boards. Such regulations require removal of listed species from public and private lands either within the whole state or in designated counties (with negligent landowners having to pay for removal by state/contractors – for an example see the Washington State Noxious Weed List).

Some states have formally adopted all, or relevant parts, of the Federal Noxious Weed list (e.g., AL, FL DACS, GA, NC, and SC), and then added species of statewide importance. Most regulatory lists are developed by expert opinion, typically led by a designated agency or committee, and the process often includes public hearings. The latter condition may make it difficult to add species that have high economic

importance but some upland plants of ornamental value have been prohibited after a two-year phase-out period when no new plants could be propagated, such as carrotwood (*Cupaniopsis anacardioides*) by FL DACS. Some agencies are starting to include general criteria (such as predicted ecological range, potential environmental impacts, etc.) for listing in their regulations (e.g., FL DACS and DEP) while others (MS) are developing or have recently started to implement specific criteria in a scoring format (e.g., Federal Pest Risk Assessment) as a part of the listing procedure. In most cases, species are added or removed from the list only as requested (by formal application to the agency responsible) but in some cases a periodic review is required (e.g., biennially for FL DACS).

Many regulatory lists do not include species that are already widespread, either because of the preventive intent of the list or because their control would impose an unreasonable burden of expense. For example, water hyacinth (*Eichhornia crassipes*) does not appear on the Federal Noxious Weed List even though it has been, and continues to be, an enormous weed problem in the southeastern U.S. Thus, these lists should not be regarded as exhaustive inventories of all noxious/invasive species in their area of jurisdiction.

Non-regulatory lists

Many organizations develop non-regulatory lists of invasive plants (e.g., botanical gardens, conservation groups, and garden clubs) to inform their clientele, managers of natural areas and the public. Sensitive to the potential confusion of such advisory lists with those that have regulatory status, they are often accompanied by statements regarding intended use. For example, the FLEPPC “encourages use of

the Invasive Species List for prioritizing and implementing management efforts in natural areas, for educating lay audiences about environmental issues, and for supporting voluntary invasive-plant removal programs. When a non-native plant species is to be restricted in some way by law, FLEPPC encourages use of the List as a first step in identifying species worth considering for particular types of restriction. The Council does not promote regulating species solely because they appear on the List.”

The lists reviewed here (Table 1) have been developed by state Exotic Pest Plant Councils (FL, GA, KY, SC, TN and SE), an Invasive Plant Council (AL), a university extension service (MS), and a state chapter (NC) of The Nature Conservancy. While some lists focus specifically on the worst species (e.g., GA and MS Top 10 worst weeds), others are much more inclusive with greater precautionary intentions, often distinguishing between categories of most widespread or most harmful species and species that are localized or spreading but of lesser, or unknown, harm (e.g., EPPC lists for FL, KY, SC and TN). Most of these lists only include species already present in the area, and many are specific to invaders of native plant communities. These advisory lists are more likely than the regulatory ones to include very widespread species and species that have economic importance, but are less likely to include colonizing species that typically occur in highly disturbed habitats (e.g., many agricultural weeds).

The composition of most non-regulatory lists is decided by expert opinion, either by specific committees (e.g., FLEPPC) or by polling relevant professionals (e.g., GA and TN EPPC). Descriptions of listed species and qualita-

Table 1

Jurisdiction, agency, and list name ¹	Includes species for prevention ²	Includes weeds of agriculture	Incorporates other lists	Number of taxa	Number of categories	Version reviewed	Notes
Regulatory lists							
Federal Noxious Weed List (Fed)	+	+		96	1	2005	
Alabama Dept Agric. & Industries - Noxious Weed Rules	+	+	All Fed	96+28	3	2000	
Florida Dept Agric. & Consumer Services - Noxious Weed List	+	+	Some Fed	67	1	2004	
Florida Dept Environmental Protection - Prohibited Aquatic Plants	+			27	2	2005	
Georgia Plant Protection Regulations	+	+	All Fed	96	1	2000	In 2000 TSA declared a public nuisance
Kentucky Dept Highways - Noxious Weeds on Rights-of-Ways		+		8	1	2005	KY Div. Pest & Noxious Weed Control directed to control & eradicate Johnson grass
Mississippi Bureau of Plant Industry - Noxious Weed List		+		8	1	2004	Criteria being developed
N. Carolina Dept Agric. & Consumer Services - Noxious Weed List	+	+	All Fed	96+15	3	2003	
S. Carolina Dept Plant Industry - Plant Protection Regulations	+	+	All Fed	96+8	1	2002	
Tennessee Dept Agric. - Pest Plant List	+	+		3	1	1999	
Non-regulatory lists							
Alabama Invasive Plant Council - 10 Worst Invasive Weeds				10	1	2005	
Florida EPPC List of Invasive Species				134	2	2005	
Georgia EPPC - Top 10 & other important exotic pest plants in GA				44	2	1999	
Kentucky EPPC - Invasive Exotic Plant List		+		94	3	2000	
Mississippi State Univ. Extension - MS 10 Worst Invasive Weeds				10	1	2001	
N. Carolina The Nature Conservancy - Invasive Species in NC				14	1	2005	No online NC-EPPC list or brochure
S. Carolina EPPC - Non-Native Invasive Plant Species List	+	+		61	3	2004	
Tennessee EPPC - Invasive Exotic Pest Plants in TN	+	+		136	5	2004	
Invasive Plants of the 13 Southern States	+	+	All state lists	424	1	2004	
Assessment Protocols							
UF/IFAS Assessment of the Status of Non-Native Plants...				201+	5	2005	Directs UF Extension recommendations
NatureServe - An Invasive Species Assessment Protocol				382+	Ranking	2005	National ranking of effects on biodiversity

¹These examples are not intended to be an exhaustive compilation of material applicable to these states (for example, seed laws and local ordinances are not included). Most of this information has been obtained from internet sources (URLs available from the resources listed below) and the author takes responsibility for any errors or omissions. Check lists for yourself to see the most up-to-date version. General sources for Federal and state lists include: National Invasive Species Council <http://invasivespecies.gov/>; USDA – NRCS Plants Database http://plants.usda.gov/cgi_bin/topics.cgi?earl=noxious.cgi; Environmental Law Institute "Halting the Invasion" Report (2002) <http://www2.eli.org/research/invasives/index.cfm>; EPPC lists and other relevant documents found at SE-EPPC website <http://www.se-eppc.org/>; NC TNC list <http://nature.org/wherewework/northamerica/states/northcarolina/initiatives/>; IFAS Assessment <http://plants.ifas.ufl.edu/assessment.html>; NatureServe Protocol <http://www.natureserve.org/getData/plantData.jsp>

²List includes species not naturalized in area.

tive accounts of their effects on plant communities are often provided, and occasionally these are linked to a quantitative distributional database for the area (e.g., FLEPPC / DEP database). Some lists are simple compilations of other lists relevant to the area of jurisdiction (e.g., Southern 13 states). Such compilations may be extensive and widely inclusive, but can be difficult to keep up-to-date given the irregular frequency at which most of the incorporated lists are revised. Of the non-regulatory lists in Table 1, the frequency of review is only specified for FLEPPC (every two years).

Assessment protocols

In some situations involving invasive species, consistent consensus needs to be reached between groups with different perspectives (e.g., land managers and horticulturists). In these cases, tools have been developed with specific criteria and scoring systems. Although very similar in their multiple question formats, the examples in Table 1 contrast widely in

scope. The *IFAS Assessment of the Status of Non-Native Plants in Florida's Natural Areas* is intended to provide consistent planting recommendations and publications from UF-IFAS Extension faculty, while the purpose of the *NatureServe Invasive Species Assessment Protocol* is to create a national prioritized list of non-native plants based on their impacts on biodiversity. Both systems apply only to species currently present in their area of jurisdiction, are intended only for invaders of native communities, and are "works in progress" with additional species continually being assessed. Because it is important that the decision-making processes in these protocols are readily understood by all users, the criteria and the data for each species are available online and are based on cited, published data or multiple observations from qualified individuals. These measures can be labor-intensive, especially if species will be reviewed regularly (e.g., IFAS Assessment). However, it is important to provide results that are sound in the face

of challenges, especially concerning species of economic value.

Conclusion

The diversity of invasive plant lists can be confusing. Because of this, it is particularly important to review the stated purpose of a list in order to understand the scope and potential limitations of the selection process. Currently, many lists and listing procedures are being reviewed so it is vital to look for the latest versions. No one system is ideal for all situations so it is unlikely that plant lists will ever be completely standardized. But when developing or revising a system, it often helps to see how other groups approach the process. It is hoped that this primer will provide some useful resources and a little more clarity on the issue of invasive plants lists of the Southeast.

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