

GREENSPACE TRUST: Invasive Plants



LEXINGTON
Greenspace Trust

Premise for Investigation into Invasive Plants within Fayette County

As we experience invasive plants within the parks we oversee, the question was brought up about how can we be more proactive about the control of invasive plantings. This question opened the door to other questions, as to:

- *What is considered an invasive plant? What is considered a noxious plant? What is considered a weed?*
- *What documents reference invasive plants?*
- *What agencies are referencing what documents?*
- *What agencies oversee invasive plants?*
- *Should native plants be considered noxious weeds?*
- *Is there enforcement of invasive plants?*
- *How are invasive plants being handled within our state and county?*

Most importantly, can the Greenspace Trust help?



Terminology

Noxious: Generally speaking these are considered “harmful” plants. They can be identified as poisonous plants, plants that are irritants, or ones that produce a lot of pollen. The Noxious Weed act of 1974 (as amended from the 1990 Farm Bill) was created by the United States Secretary of Agriculture which gave them authority to declare plants “noxious weeds.” Please note that this Secretary oversees the United States Department of Agriculture (USDA), but that the USDA has many different agencies within it that have different interpretations of “noxious weeds” and “invasives”. The new act required that each federal land-managing agency, including the Bureau of Land Management, the National Park Service, the US Fish and Wildlife Service, and the US Forest Service do the following:

- Designate an office or person adequately trained in managing undesirable plant species to develop and coordinate a program to control such plants on the agency's land.
- Establish and adequately fund this plant management program through the agencies budget process.
- Complete and implement cooperative agreements (requirements for which are provided with the States regarding undesirable plants on agency land; and
- Establish integrated management systems (as defined in the act) to control or contain undesirable plants targeted under the cooperative agreements.

This led to USDA – APHIS, who then created a Federal Noxious Weed list, the latest updated being from 2010. You can find their list at https://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/weedlist.pdf

Please note that USDA-APHIS, Highway Control, and our Code enforcement, use the term “noxious” in their documents.

Invasive: Invasive plants are generally non-native species that show a tendency to spread out of control and harm native plants. Non-native plants that coexist with natives, are not generally considered invasive; native plants, though, can be considered invasive (e.g. burn sassafras, red maple, and goldenrod can sometimes take over and prevent other species from establishing).

Please note that every agency aside from Department of Agriculture uses the terminology “invasive.”

Weed: Weeds are often considered undesirable plants that are vigorous in growth that grow in undesired locations, but are generally not considered harmful or invasive. For instance the dandelion, which is non-native, and is considered a weed for people with manicured lawns, is actually a beneficial super plant due to the aeration it provides and nutrients to soil, as is some clover. Weeds also have a tendency to die back when a native is more prevalent in the area, in other words they aren't competing. Many permaculturists consider weeds to be an indicator of the ecosystem requiring certain services, e.g. chicory might suggest compacted soil. You will often see weeds show up in harsh environments, after burn sites, or ground that has been churned up, they are considered kick starters to phase 1 ground ecosystems. A “noxious weed” though, is something that *is* considered a pest plant in certain agencies.

Please note that the Department of Agriculture and the Office of the Entomologist both refer to “weeds” in their statutes to describe pest plants.

Native: Natives are any plants that are native to the ecology they reside in. One can plant native plants incorrectly, as is shown by giving them the ability to become an invasive, or planting them in an urban environment that has detrimental effects (eg planting pawpaws near sidewalks or roads, the fruits would have a negative impact on its urban environment, but it would work well in a park with open space.)

Please note that the term “native” plants do not show up in our state Ordinance KRS Chapter 249 which discusses weeds and enforcement. “Native plant” references only shows up in Ordinance KRS 146 for Endangered and Threatened Plants, which generally is used by NRCS.



Poison Ivy



Japanese Knotweed



Dandelion



Dutchman's Breeches

DATA GATHERED:

Three avenues were investigated to gather information:

Nurseries. These would be places that would supply businesses, professionals, and the general public. We looked at local nurseries to Fayette county, or well-known feeder nurseries that drew people from Fayette county. Who we reached out to:

Arboretum, Glenn Young's Landscaping and Nursery Center, Kelly Nursery, King's Garden Center, Landscaper's Paradise, Louis Flower Power Shop, Michler's, Pemberton's Greenhouses, Redmond's Garden Center, Spring House Gardens, Southern States, Sunshine Grow shop – Southland, Two Brothers Garden Center, Wilsons Nurseries-Lexington, Wilsons Nurseries-Frankfort.

Agencies. We reached out to at the Federal, State, and local levels, that would primarily be dealing with invasive plants. (Please note that some agencies have not submitted a response as of yet and require further engagement. For this study, we also did not reach out to any third party nonprofit groups that were not directly affiliated with the sale or potential governance of invasives):

- **Federal:**
 - USDA-NRCS (U.S. Department of Agriculture-Natural Resources Conservation Service). Mr. Joe Ulrich, urban conservationist and Mrs. Christina Wampler, State Biologist.
 - USDA-APHIS (U.S. Department of Agriculture – Animal and Plant Health Inspection Service). Mr. Brian Zaborski, State Plant Health Director.
- **State:**
 - Department of Agriculture. Mr. Michael Williams, Director and Mr. Harland Hatter, Assistant Executive Director of Consumer and Environmental Protection.
 - Division of Forestry. Mrs. Bridget Abernathy, Assistant Director. **No current response.**
 - Office of Kentucky Nature Preserves. Mrs. Sunni L. Carr-Leach, Executive Director and Mrs. Kendall McDonald, Botanist for the division.
 - Office of the State Entomologist. Mr. Joe Collins, Sr. Nursery Inspector.
 - KY-IPC (Kentucky Invasive Plant Council, formerly known as KY-EPPC, Kentucky Exotic Pest and Plant Council). Dr. Ellen V. Crocker, Ph.D. Forest Health Extension for the Department of Forestry and Natural Resources at University of Kentucky, former past president of council.
- **Local:**
 - LFUCG:
 - Division of Parks and Recreation. Mrs. Michelle Kosieniak, Superintendent of Planning & Design; Mrs. Jennifer Hubbard-Sanchez, Superintendent of Natural Areas; Mr. Joe Howell, Park Designer.
 - Division of Environmental Services. Mrs. Eve Miller, Senior Environmental Planner and Mr. Tim Queary, Urban Forester.
 - Division of Planning. Mrs. Valerie Friedmann, Senior Planner with the Division of Planning.
 - Code Enforcement. Mr. Alex “Cash” Olszowy III, Director.
 - Tree Board. Mr. Dan Stever, current Chair of the board.

General Public. We surveyed around 50 people (but received a final poll from 25) to get a grasp on what the general public knew about invasive plant species, where to get information on invasive plants, where they shopped for plants, and other questions.

NURSERIES / GARDEN CENTERS – Plant inventory

Reasons for reaching out to plant nurseries are primarily because they are the number one source of infiltration for invasive plant species. Our goal was to find out what each of them carried, and if they knew there was an invasive plant list currently supplied by the state.

We provided each nursery with a list of plants that was comprised of KY-IPC's invasive plant list. KY-IPC's current invasive plant list is comprised of 4 categories for invasive plants: **severe threat, significant threat, moderate threat, and watch list**. In order to try and get an unbiased answer out of the participants, we provided the list without saying that it originated from the KY-IPC list, though it was easy to infer that some of the plants on the list are invasive. We told all participants that we were doing a survey on specific plants that local nurseries might be carrying in stock. In the survey we asked each of the nurseries if they currently *stock, do not stock, or can be stocked* (e.g. in the spring or special order) each of the plants listed.

Things to note:

- We also called big box stores (Lowe's, Home Depot, Walmart, Kroger) to get their input, unfortunately these dealers often do not inventory their plant stock per species within their systems. The plants come in from a third party (generally out of Florida or California), boxed in a mix of plants and already tagged. They will often be listed generically like "houseplant" or "perennial" in the store's internal pricing system. The plants are often mislabeled. Lastly, they will often have plants that will come in only once. This makes it nearly impossible to keep track of the plants that come into the big box stores.
- We included U.K. Arboretum as a nursery in the survey, as Lexingtonians will go to this location to reference plant species to use in their own yard. Which they can then try to find locally to buy, illegally acquire a cutting from the Arboretum, or buy online.
- **9 of the 15 nurseries interviewed fully participated in the survey**, and provided their inventory, or a way to access their inventory.
- **3 of the 15 nurseries interviewed declined to participate** in sending in a plant survey.
- **3 of the 15 nurseries interviewed were no response** at all after the list was sent out to them.

Neither during the survey or after did one nursery recognize, nor mention, that this was the KY-IPC invasive list. Some recognized that there were invasive species on the list. When we completed the survey, we did a follow up with those who participated asking them if they knew of an invasive plant list in Lexington. Only a handful referenced the LFUCG planting manual, which were typical of greenhouses that also had a landscaping service to them. None referenced KY-IPC, NRCS, Code Enforcement, or anything by the USDA, or UK Cooperative Extension.

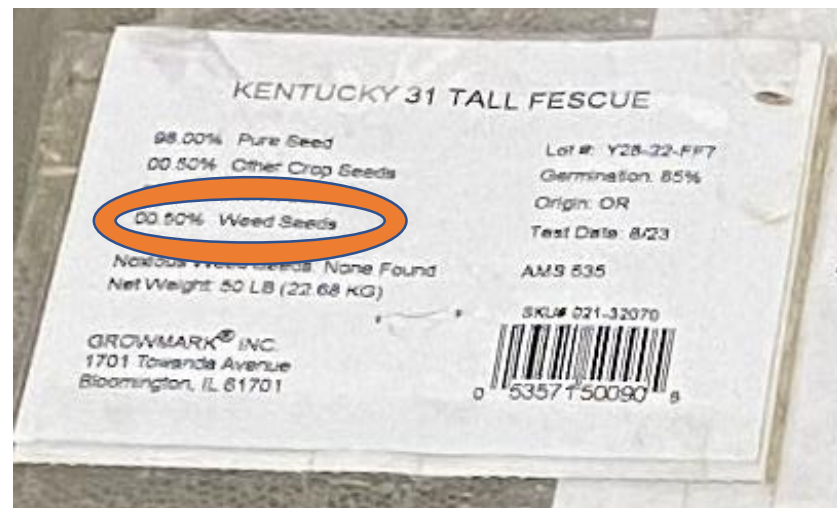


Scientific Name	Common Name	Currently Stocked	Currently not stocked in a Fayette county nursery for past <3 Years	Can be Stocked	What Nurseries stock what?
THREAT CATEGORY PER KY-EPPC: Severe threat					
Achyranthes japonica	Japanese chaff flower	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Ailanthus altissima	Tree-of-heaven	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Alliaria petiolata	Garlic mustard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Ampelopsis brevipedunculata	Porcelain berry	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Arthraxon hispidus	Hairy jointgrass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Carduus nutans	Musk thistle	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Celastrus orbiculatus	Oriental bittersweet	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Kings Garden Center
Cirsium arvense	Canada thistle	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Kings Garden Center / Landscapers Paradise / Pembertons / Wilsons Lex (has a clematis bush, may be the same)
Clematis terniflora	Leatherleaf clematis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Coronilla varia	Crown vetch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Dioscorea polystachya	Chinese yam	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Elaeagnus umbellata	Autumn olive	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Glenn Young's Nursery / Kings Garden Center / Landscapers Paradise / Pembertons (can be stocked) / Two Brothers Garden Center
Euonymus alatus	Burning bush	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Glenn Young's Nursery (Emerald Gaiety) / Kings Garden Center (supposed sterile version) / Landscapers Paradise / Pembertons / Two Brothers Garden Center / Wilsons Lex
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden Center (seeds) / Landscapers Paradise / Southern States
Euonymus fortunei	Wintercreeper	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Pembertons
Festuca arundinacea	Kentucky 31 fescue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Landscapers Paradise
Glechoma hederacea	Ground ivy	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Landscapers Paradise
Lespedeza cuneata	Sericea lespedeza	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Two Brothers Garden Center
Lespedeza stipulacea	Korean lespedeza	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Ligustrum sinense	Privet	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Lonicera japonica	Japanese honeysuckle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Lonicera maackii	Bush honeysuckles	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Glenn Young's Nursery / Landscapers Paradise / Wilsons (lex)
Lysimachia nummularia	Moneywort	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden (white variety)
Lythrum salicaria	Purple loosestrife	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Melilotus alba	White sweet clover	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Melilotus officinalis	Yellow sweet clover	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Microstegium vimineum	Japanese stiltgrass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Glenn Young's Nursery (Maiden and Morning) / Kings Garden Center
Miscanthus sinensis	Chinese silver grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Paulownia tomentosa	Princess tree	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Phragmites australis	Common reed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Polygonum cuspidatum	Japanese knotweed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Two Brothers Garden Center (can be stocked: cleveland pear)
Pyrus calleryana	Callery pear/Bradford Pear	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Ranunculus ficaria	Lesser celandine	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Glenn Young's (fineline, supposed sterile) / Kings Garden Center (carolina, supposed sterile) / Two brothers garden center (can be stocked: fineline) / Wilsons lex (creeping jenny)
Rhamnus cathartica	European buckthorn	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Pembertons
Rosa multiflora	Multiflora rose	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Stellaria media	Chickweed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Scientific Name	Common Name	Currently Stocked	Currently not stocked in a Fayette county nursery for past <3 Years	Can be Stocked	What Nurseries stock what?
THREAT CATEGORY PER KY-EPPC: Significant Threat					
Agrostis stolonifera	Weeping love grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Akebia quinata	Akebia	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Kings Garden Center
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Glenn Young's Nursery / Kings Garden Center / Pembertons / Two Brothers Garden Center / Wilsons lex (tropical version)
Albizia julibrissin	Mimosa	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Alternanthera philoxeroides	Alligatorweed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Arboretum / Glenn Young's Nursery / Kings Garden Center / Landscapers Paradise / Two Brothers Garden Center / Wilsons lex
Berberis thunbergii	Japanese barberry	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bromus inermis	Smooth bromegrass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bromus tectorum	Cheat grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Cardiospermum halicacabum	Balloon vine	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Centaurea biebersteinii	Spotted knapweed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chrysanthemum leucanthemum	Ox-eye daisy	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Kings Garden Center
Cirsium vulgare	Bull thistle	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Daucus carota	Queen Anne's lace	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Dipsacus sylvestris	Common teasel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden Center
Echinochloa crus-galli	Barnyard grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Eleusine indica	Goose grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Galium pedemontanum	Cleavers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Kings Garden Center / Landscapers Paradise (can be stocked) / Pembertons / Two Brothers Garden Center (Thorndale and english)
Hedera helix	English ivy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Arboretum / Glenn Young's Nursery / Kings Garden Center / Michlers / Pembertons / Two Brothers Garden Center / Wilsons Lex
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hemerocallis fulva	Day-lily	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Humulus japonicus	Japanese hops	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydrilla verticillata	Hydrilla	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Lespedeza bicolor	Bicolor lespedeza	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Arboretum / Pembertons (can be stocked)
Lespedeza thunbergii	Shrubby lespedeza	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Pembertons
Lotus corniculatus	Birdsfoot trefoil	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Mahonia bealei	Leatherleaf mahonia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Arboretum / Glenn Young's Nursery
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden Center / Pembertons / Two Brothers Garden Center / Wilsons Lex
Mentha spicata	Spearmint	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden Center / Pembertons / Two Brothers Garden Center / Wilsons Lex
Nepeta cataria	Catnip	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Oxalis stricta	Common yellow wood-sorrel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Paspalum dilatatum	Dallisgrass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Phyllostachys aurea	Golden bamboo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden Center
Poa annua	Speargrass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Potentilla recta	Sulphur five-fingers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Prunus mahalab	Mahalab cherry	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Ranunculus bulbosus	Bulbous buttercup	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Kings Garden Center
Rumex acetosella	Sheep sorrel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Solanum dulcamara	Bitter nightshade	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Thlaspi perfoliatum	Field cress	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Torillia arvensis	Hedge parsley	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Arboretum (multiple versions) / Glenn Young's Nursery / Kings Garden Center / Pembertons (can be stoked) / Two Brothers Garden Center / Wilsons Lex
Wisteria sinensis	Exotic wisterias	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Scientific Name	Common Name	Currently Stocked	Currently not stocked in a Fayette county nursery for past <3 Years	Can be Stocked	What Nurseries stock what?
THREAT CATEGORY PER KY-EPPC: Moderate Threat					
Agropyron repens	Quack grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Allium vineale	Field garlic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Glenn Young's Nursery
Arctium minus	Common burdock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Arenaria serpyllifolia	Thyme-leaf sandwort	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Barbarea vulgaris	Yellow rocket	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bromus arvensis	Field brome	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bromus tectorum	Cheat grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chenopodium album	Lamb's quarters	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Pembertons
Chenopodium ambrosioides	Mexican tea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden Center
Cichorium intybus	Chicory	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Convolvulus arvensis	Field bindweed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Dianthus armeria	Deptford pink	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Glenn Young's Nursery (Fire witch, etc)
Duchesnea indica	Indian strawberry	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Echinochloa crus-galli	Barnyard grass	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Eragrostis ciliaris	Lovegrass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Galium pedemontanum	Cleavers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Holcus lanatus	Velvet grass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hypericum perforatum	Common St. John's-wort	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Arboretum / Kings Garden Center / Michlers / Pembertons (can be stocked) / Two Brothers Garden Center / Wilsons Lex (can be stocked)
Lactuca saligna	Willowleaf lettuce	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Lamium amplexicaule	Henbit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Leonurus cardiaca	Motherwort	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden Center
Lithospermum arvense	Corn-gromwell	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Lolium multiflorum	Italian rye	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Medicago lupulina	Black medic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Poa compressa	Canada bluegrass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Scientific Name	Common Name	Currently Stocked	Currently not stocked in a Fayette county nursery for past <3 Years	Can be Stocked	What Nurseries stock what?
THREAT CATEGORY KY-EPPC: Watch List					
Acer platanoides	Norway maple	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Landscapers Paradise (crimson sunset, supposedly hardy)
Allium sativum	Garlic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Alnus glutinosa	European alder	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Artemisia vulgaris	Mugwort	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Glenn Young's Nursery
Arundo donax	Giant reed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Broussonetia papyrifera	Paper mulberry	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Didymosphenia geminata	Rock snot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Egeria densa	Brazilian elodea	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Eichhornia crassipes	Water hyacinth	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Eragrostis curvula	Weeping lovegrass	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Euphorbia esula	Leafy spurge	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hibiscus syriacus	Rose of Sharon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Arboretum / Glenn Young's Nursery / Kings Garden Center / Landscapers Paradise / Pembertons (can be stocked) / Two Brothers Garden Center / Wilsons Lex
Koelreuteria paniculata	Golden raintree	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Glenn Young's Nursery / Two Brothers Garden Center
Lactuca saligna	Willowleaf lettuce	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Lamium maculata	Spotted deadnettle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kings Garden Center
Nandina domestica	Heavenly bamboo	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Arboretum / Glenn Young's Nursery / Kings Garden Center / Wilsons Lex (can be stocked)
Phellodendron amurense	Amur corktree	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Polygonum perfoliatum	Mile-a-minute vine	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Polygonum sachalinense	Giant knotweed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Quercus acutissima	Sawtooth oak	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Glenn Young's Nursery / Kings Garden Center (can be stocked) / Landscapers Paradise / Two Brothers Garden Center
Rhamnus frangula	Alder buckthorn	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Glenn Young's Nursery / Kings Garden Center
Rubus bifrons	Himalayan berry	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Setaria verticillata	Bur-foxtail	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sonchus asper	Spiny sowthistle	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sonchus oleraceus	Annual sowthistle	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Trifolium campestre	Clovers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Ulmus parvifolia	Lacebark elm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Arboretum / Glenn Young's Nursery / Kings Garden Center (can be stocked) / Landscapers Paradise / Wilsons Lex
Viburnum opulus var. opulus	European highbush cranberry	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Landscapers Paradise (5 different varieties, can be stocked)
Vicia cracca	Bird vetch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Vicia sativa	Common vetch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Vicia villosa subsp. villosa	Winter vetch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Southern States
Zelkova serrata	Zelkova	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Arboretum / Glenn Young's Nursery / Kings Garden Center / Landscapers Paradise / Two Brothers Garden Center



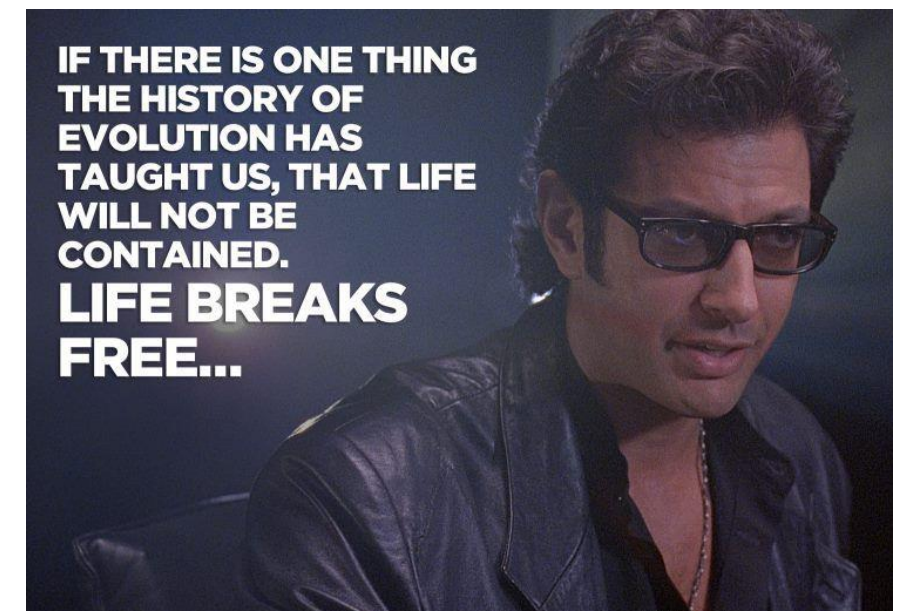
FINDINGS OF PLANT SURVEY

- Of the **Severe Threat** list with the greenhouses interviewed, our poll indicates that our county currently sells 43% (or 15 of 35 plants listed) of invasive species in one or more of their retail nurseries.
- Of the **Significant threat** list with the greenhouses interviewed, our poll indicates that our county currently sells 39% (or 15 of the 38 plants listed) of invasive species in one or more of their retail nurseries.
- Of the **Moderate threat** list with the greenhouses interviewed, our poll indicates that our county currently sells 24% (or 6 of the 25 plants listed) of invasive species in one or more of their retail nurseries.
- Of the **Watch list**, list with the greenhouses interviewed, our poll indicates that our county currently sells 37% (or 12 of the 32 plants listed) of invasive species in one or more of their retail nurseries.
- Some nurseries claimed their version of a plant, that was on this list, was “sterile”, which is, somewhat accurate. After discussing this response with different invasive governing agencies, a sterile plant can still be viable. The USDA states that a cultivar has to have less than 2% viable seeds to be considered sterile. The European Union (EU) has this set at 1%. So nothing is 100% sterile. Different zone conditions from where it was originally made sterile to where it is finally located, can affect its ability to remain sterile, as well as some other cultivating requirements. In other words, it is not a guarantee that the plant will remain sterile, the only guarantee is to not plant a potential invasive species. One must keep in mind that any non-native plant has the ability to become an invasive. *“The most successful non-native species, those capable of displacing natives, share several characteristics: (1) Effective reproductive and dispersal mechanisms; (2) Competitive ability superior than that of the native; (3) Few to no herbivores or pathogens; (4) Ability to occupy a “vacant niche”; (5) Capability of altering the site by either significantly changing resource availability or disturbance regimes or both” (Gordon, D.R. 1998. Effects of invasive, non-indigenous plant species on ecosystem processes.)* Or as Jeff Goldblum’s character in Jurassic Park would like to say...

Quick Quiz: What tree was introduced by the the USDA as an ornamental landscape tree in the mid-60s? It became a popular tree with landscapers because it was inexpensive, transported well, and grew quickly. It was considered a sterile hybrid, and plant experts did not think it would propagate out of control. While it couldn’t self-pollinate, it did end up reproducing with other varieties of the same species, creating an offspring even more problematic than itself.

SUMMATION:

1. **Develop a way to get updated invasive information to our greenhouses.**



AGENCIES:

We then reached out to agencies at the federal, state, and local levels and posed similar questions to each agency (with some difference in language based on how they might engage with invasive species in their departments). Please note, that there are other agencies that could and should also be interviewed. Interviews were via email or phone. Questions were primarily centered around:

1. *What document does your department primarily reference when you are referring to what is classified as an invasive plant species?*
2. *The KY-IPC (KY-EPPC) lists severe, significant, and lesser threat categories. Does your agency report back to KY-IPC (KY-EPPC) when you see an explosion of growth from one of these invasive plant species? Or do you report to another agency? Or no agencies at all?*
3. *What is the current means of dealing with plant invasives through your department? Are there any? If you do not handle direct removal from site specific locations, are there other things your department does to try and remove invasives from the state of Kentucky?*
4. *If you do deal in site specific direct removal, or help districts with this, what are your recommendations: herbicides, beneficial, other?*
5. *Does your department believe that native species should also be listed as noxious weeds? EG poke plant is currently listed as a noxious weed in our local ordinance, we have some sustainable groups who rally that this is a native plant and important to our landscape (same thing happened with milkweed). In these situations, who makes the deciding decision on this?*
6. *Does Kentucky currently have an enforcement effort to stop invasives into crossing the state line? Eg like California or Hawaii? If not, do you know if a department is actively trying to make this happen?*
7. *Does your department believe that the control of invasive species in our county is currently not an issue, currently manageable, or underserved?*
8. *What does your department recommend to counties to try and inform their citizens about planting and/or removal of invasive species? This would be at a municipal level (planting manuals), professional one (landscapers), and a general public one.*
9. *Do you have additional thoughts on the matter of invasive plants and their control?*



CODE ENFORCEMENT

Our first interview was code enforcement with the Director, Mr. Cash Olszowy III. This is the agency that prohibits and finds unlawful both noxious and invasive plant species. This ordinance though only applies to plants already planted on a site; agricultural zoned lands are exempt from this ordinance; and the sale of invasive plants is not currently overseen in our ordinance. Here is the current ordinance on these issues, Sec 12-2 Nuisances C.4.a-b

a. Any weeds such as thistle, jimson, burdock, ragweed, cocklebur, poison ivy, poison oak, pokeweed, poison sumac, and poison hemlock and any other weed, plant or shrub, or other weed of a like kind classified by the United States Department of Agriculture as a noxious weed is prohibited and unlawful. Notwithstanding the above, any property known to be a remnant, non-buildable or undevelopable regardless of zoning that is greater than one (1) acre in size shall only be required to have a minimum eight (8) foot buffer maintained in accordance with this section in all areas adjacent to developed properties or within two hundred (200) feet of a structure. This section shall not apply to property for which a current riparian buffer area permit is in effect or lands designated as environmentally sensitive, conservation areas, tree protection areas, greenways and woodlots.

b. It shall be unlawful for the owner to permit any weeds, or grass, edible or not, to grow to a height exceeding ten (10) inches anywhere on such premises, including those portions thereof abutting any street, road, alley or other thoroughfare, and in the event such premises are crossed by a sidewalk, ditch, pathway, private roadway, fence or other natural or manmade boundary or divider, including those portions thereof between such boundary or divider and the edge of the thoroughfare; any such weeds or grass exceeding such height are hereby declared to be a nuisance. Notwithstanding the above, any property known to be a remnant, non-buildable or undevelopable regardless of zoning that is greater than one (1) acre in size shall only be required to have a minimum eight (8) foot buffer maintained in accordance with this section in all areas adjacent to developed properties or within two hundred (200) feet of a structure. This section shall not apply to property for which a current riparian buffer area permit is in effect or lands designated as environmentally sensitive, conservation areas, tree protection areas, greenways and woodlots. This section shall also not apply to any crops, trees, bushes, shrubs, flowers or other ornamental plants or flowers which are maintained in a clearly definable fashion. This section shall also not apply to native plantings for the purpose of intentional naturalization, which includes plantings used for food or fiber, for aesthetic purposes, to attract or promote pollinators, to offset and control soil loss or erosion, to promote storm water control or water conservation, or to improve the soil. Naturalization does not include vegetation abandonment which is defined as the lack of premises management. Management activities include but are not limited to site preparation, planting, and maintenance. Naturalized gardens shall not contain plant species that are categorized as a level one threat by the Kentucky Exotic Plant Pest Council.”

Also to note, we have a state ordinance that addresses noxious and invasive weeds as well: KRS 176.051

(1) The Department of Highways shall keep all state rights-of-way free of all of the following, which are noxious weeds and invasive plants: (a) The species of grass, Sorghum halepense, commonly known as Johnson grass; (b) The species of weed commonly known as giant foxtail; (c) The thistles Cirsium arvense and weed or Carduus nutans, commonly known as Canada thistles and nodding thistles, respectively; (d) Multiflora rose; (e) Kudzu; (f) Poison hemlock; (g) Marestalk; (h) Amur honeysuckle; (i) Japanese knotweed; and (j) Common teasel. (2) Upon written request, the department shall give priority to and shall cooperate with any abutting property owner engaged in a program of eradication by eradicating the noxious weeds and invasive plants identified in subsection (1) of this section, or in administrative regulations promulgated pursuant to subsection (4) of this section, from abutting state rights-of-way. The department shall take steps to eradicate this grass and these weeds or thistles by the use of chemicals or any other means found to be effective by the department. (3) The Department of Highways shall inform property owners of the availability of the eradication program. In carrying out this responsibility the department shall, no later than the first week in March of every year, advertise in each county, pursuant to the provisions of KRS Chapter 424 that the program is available. The department shall stipulate in the advertisement the place and manner in which an interested property owner may make a written request for inclusion in the program. The department shall also promote awareness of the availability of the eradication program through the use of electronic media and the Cooperative Extension Service. (4) (a) The Department of Highways may by administrative regulation add noxious weeds and invasive plants to or delete them from the list of noxious weeds and invasive plants enumerated in subsection (1) of this section. In making a determination regarding a noxious invasive plant, the department may consider the following: 1. The plant's ability to directly or indirectly injure or cause damage to crops, livestock, poultry, or other interests of agriculture; 2. The plant's impact on the public health; 3. The plant's impact on the environment; and 4. The level of difficulty with controlling or eradicating the plant.

CODE ENFORCEMENT cont.

What we learned:

- Code Enforcement references the ordinance for code violation purposes only.
 - **Section A** which references “noxious weeds”, has not been updated in many years. While there is a USDA-APHIS Noxious Weed list, this is not specifically referenced in our ordinance, and the weeds listed on the APHIS site do not correlate to the weeds we have listed in our ordinance. It is also currently in conflict with other agencies, including the USDA with whom it references. The USDA-NRCS consider many of these plants listed in our ordinance as “noxious” to be “native” and important to our ecology. They also pointed out that our ordinance is currently too broad, as there are many divisions within the USDA that have their own lists for varying reasons. The USDA has recommended that our ordinance be more specific in its language when referencing their agency, but has also recommended eliminating the noxious ordinance all together when referencing native plants (as have other agencies). It also begged the question, if agricultural land is exempt from this ordinance, but it references an agency whose sole purpose is to act in the best interest of agricultural producers, why do we have this noxious ordinance at all, particularly if it lists native plants that are beneficial to our ecology?
 - **Section B**, the part about naturalized gardens was only recently amended a couple of years ago by our previous Vice Mayor, Steve Kay. This references what is considered a “level 1” threat, but this language is not found in the KY-IPC which uses different terminology (also, our ordinance refers to this agency as KY-EPPC still.) These discrepancies potentially negate the ordinance and set it up to be an unenforceable code. We also found out from USDA-APHIS that unless we have a specific quarantine or ban zone in place, that was enacted by an agency with the state (like the Office of the Entomologist), listing whatever plants as “noxious” or “invasives” in our county is at best, good practice, but at worst, not wholly enforceable, particularly when you do not have an official state or federal agency to back it up.
- Code Enforcement does not report to any other agencies, internally or externally, regarding invasive citations. Even though they are directly in the field with potential invasive sites.
- Code Enforcement does not know how to identify a majority of the noxious or invasive plant species listed. When they cite a property for code violation, they generally are referencing it being overgrown or having no landscape buffer; they are primarily leaning on the informant of the code violation to notate that either a noxious or invasive exists on the property in question.
- If a homeowner is cited for having invasives or noxious plants on their site, Code Enforcement offers no alternative information to the homeowner about how to deal with an invasive. They simply reference the ordinance for the violation and the homeowner needs to fix the problem. According to the Department, overgrowth of honeysuckle is considered a high level complaint from citizens.
- When asked of the agency, what would they like to see improved upon:
 - A visual reference guide of what species they are looking for when they have to investigate a code violation.
 - An LFUCG agency to address naturalized gardens. From their perspective they are having a hard time with what is overgrown and what is naturalized.
 - Updated ordinance language to make it more clear in regards to noxious and invasive species. They have no expertise in this area and are leaning on others to point them to applicable documents.

SUMMATION:

1. **Recommendation to update our local ordinance language to reflect more specific language when referencing different agencies.**
2. **Recommendation to provide Code Enforcement with better identification help. Both for the agency and the public it is citing.**
3. **Recommendation to involve Code Enforcement more in regards to notating where invasive species have been cited.**
4. **Recommendation to investigate prohibiting the sale of certain invasives with other enforceable agencies.**

USDA – NRCS / APHIS

Our ordinance references the USDA, so we wanted to reach out and find out which department oversees invasives. We were pointed to the APHIS and NRCS, we spoke with Mr. Joe Ulrich, Fayette counties Urban Conservationist, and Mrs. Christina Wampler, the State Biologist, and Mr. Brian Zabroski, the State Plant Health Director. What we learned:

- The USDA agency is made up of a multitude of different agencies, all with their own guidelines, their primary focus is on the preservation of agricultural lands and natural resources.
- The USDA-NRCS tries to provide technical advice based on landowner interested to identify resource concerns. They do not regulate the locations of invasives on the private properties they visit, as they have to consider client confidentiality as part of their conservation planning process. It is also not within their purview to tell a county what to enforce. USDA-APHIS has a PPQ (Plant Protection and Quarantine) program that aims to safeguard U.S. agriculture and natural resources against the entry, establishment, and spread of economically and environmentally significant pests and pathogens, and facilitates the safe trade of agricultural products. Our Kentucky APHIS department primarily focuses on insect pests and pathogens, not so much invasive pest plants.
- USDA-NRCS’s policy states that a plant species is considered *‘invasive’* only when it occurs on the Federal or State-specific list or a list developed by the State-specific Department of Agriculture with their partners and approved by the State Technical Committee which prohibits or cautions its use due to invasive qualities. They reference the Kentucky NRCS conservation Practice Effects on Invasive species. With that said, there currently is no USDA agency that has any kind of mandatory enforcement of native *‘noxious’* weeds. All current federal agencies only consider something ‘noxious’ if it is non-native (to the specific location). According to the USDA, there is no value in enforcing control of any native species, but there is value to managing native species from getting out of control; and prohibiting invasives that are not native, from harming the native environment. USDA-NRCS does believe that a native species can function as an invasive, but that they shouldn’t necessarily be defined as noxious. They are hesitant in classifying any one native as ALWAYS being a noxious weed, and instead try and manage with goals in mind. They wouldn’t encourage efforts to eradicate natives (including those deemed noxious), but try instead to manage the areas.
- USDA-NRCS/APHIS is aware of the KY-IPC list, but does not report to them, and it would be a huge undertaking to report each incident that they have notated invasives, but they admit that they can improve upon their reporting to specific landowners when invasives are noticed. They would have to look into how to appease client confidentiality with a potential waiver, and would want to see a yearly top 10 of what invasives are out there from an agency like the KY-IPC. They would also like to see a centralized body to manage the effort of addressing invasives. One idea that Mrs. Wampler stated was to bring together multiple agencies to fund a permanent position for something like the KY-IPC, to make it an official agency, which could serve as a central repository for data, a source for education and outreach, and a central reporting hub.
- USDA-APHIS works with the Kentucky Department of Agriculture and the Office of the Entomologist, particularly will enacting quarantine zones, that will become federally regulated by our local state APHIS chapter. For instance, Tennessee has certain counties that quarantine their nurseries from selling plants due to the spread of fire ants; North Carolina has recently banned the sale of Bradford Pear, both of these are then overseen federally by USDA-APHIS.
- The USDA offers incentives through Conservation Reserve Program (CRP), Farm Service Agency (FSA), and USDA to remove invasives. At a local level Mrs. Wampler recommended looking into offering incentives to landowners to help with invasive removal, eg a tax break for sites promoting “native planting.”

SUMMATION

- 1. Recommendation to clarify our ordinance with the specific USDA agency that references noxious weeds. With that said, the USDA-NRCS/APHIS division recommends to reword, if not completely remove, the “noxious” section of our ordinance. APHIS does not recognize nor enforce noxious weeds that are not on its 2010 list, particularly if they are native to their environment, they currently do not have a specific noxious list for Kentucky.**
- 2. The NRCS updates their Field Office Technical Guide at the beginning of each fiscal year, they recommend agency coordination with our county and their department on info in regards to invasives.**
- 3. Recommend finding a way for our local municipality to work more closing with the USDA office. Particularly in regards to conservation plans for individual parcels and LFUCG owned parks, as well as informing them of invasive plants.**

STATE

– Department of Agriculture-Consumer and Environmental Protections (CE for short)/Office of the State Entomologist

We reached out to the Department of AG, Mr. Michael Williams, Director and Mr. Harland Hatter, Assistant Executive Director of Consumer and Environmental Protection; and the Office of the Entomologist, Mr. Joe Collins, Sr. Nursery Inspector. APHIS not only references them both, so do our KRS statutes as an enforcement agency for “pest” plants. What we learned:

- Department of Agriculture and the Office of the Entomologist both reference “weeds” in their KRS 249 statutes, and not “invasives”, but by statute definition a weed can be considered an invasive, “*any plant which grows where not wanted.*” Their “pest” definition states, “*any insect, snail, slug, rodent, nematode, fungus, weed; and any other form of plant or animal life, or virus, bacterium, or other microorganism, except viruses, bacteria, or other microorganisms on or in living man or other living animals, which is normally considered to be a pest, or which the department declares to be a pest.*”
- Dept of AG-CE’s primary job is to oversee the enforcement of labeled pesticides according to the EPA. They have no enforcement agency, they use to but have since updated their statutes to cut back on how government reacts to weeds on private property. While their statutes refer to regulatory measures, they primarily react to information already in place. EG, they have no noxious weed or invasive weed list that governs them, they currently address each individual plot of land, and each county, as unique. They get the information of what weed they need to remove from the sites they are looking into at that moment. They would love a list that another agency could create for them.
- Office of the Entomologist has a statute that states, “*The purpose of this section....is to prevent the introduction and dissemination within this Commonwealth of insect pests, plant diseases, and weeds and to provide for their repression and control.*” This further goes into KRS 249.105 “*All shipments of nursery stock entering the state, as well as intrastate shipments, may be inspected in transit or at their destination in order to determine whether or not they are moving in compliance with the provisions of this section, KRS 249.005, 249.010, 249.020, 249.030, 249.040, 249.050, 249.060, 249.070, 249.090, 249.100, 249.101, 249.102, 249.103, and 249.104. Factors influencing the decision to inspect nursery stock include origin of plant material, destination of and probable distribution subsequently, whether or not a quarantine or other requirements exist relative to either geographic area, plant species, or pests, and personnel and budgetary restrictions.*”
- Technically speaking the State Entomologist has the authority to issue a quarantine on plant pests but it requires 3 signatures: state entomologist, dean of the College of AG, and finally KY Commissioner of Agriculture. Historically quarantines, when administered, have only been done for insects and diseases. There used to be some regulation pertaining to thistles but it was repealed in 2022 because the government was going onto private property to regulate the problem, and different counties were claiming state emergencies due to thistle growth. According to AG-CE and Office of the State Entomologist a county makes their own list of what they want to have banned. APHIS doesn’t consider the bans to be wholly enforceable until a state agency (which all signs point to the Office of the Entomologist) gives their sign off. At the Office of the State Entomologist, Mr. Joe Collins personally thinks the current KY-IPC list may too broad, as many of these plants are already widespread and impossible to eradicate, he would rather see an invasive plant list that defines truly invasive plants, not yet widespread, or ones that have a definite pathway into the environment, and he would focus on nursery trades/garden clubs, etc as a focus of how they are getting into the county.
- [Invasives.org](https://www.invasives.org)

SUMMATION:

1. **Department of AG-CE and Office of the Entomologist both have a KRS ordinance in discussing “weeds” but the language is vague as to what list they refer to that makes up “weeds.” Both departments point to another agency needing to provide them with a list. Office of the Entomologist pointed to KY-IPC again.**
2. **More coordination about regulatory efforts about what a county can do in regards to quarantining and banning the sale of invasive plants.**

STATE - Office Of Kentucky Nature Preserves (OKNP)

At a state level we wanted to also reach out and find out how they handle conserving Kentucky's Natural areas from invasives. OKNP seeks to conserve rare plants, animals, and communities native to Kentucky.

What we learned from Mrs. Kendall McDonald, Botanist for the division:

- OKNP is not a regulatory body, and do not enforce any invasive measures, nor do they report to any agency if they see invasives in their preserves. They report it internally to their land managers of each preserve, or to the property managers who oversee the dedicated state nature preserve. They try and educate the public at each individual site about invasive species pertaining to this site. They prioritize management where it will benefit the rare plants, animals, and communities the most.
- Their agency also has created educational pamphlets to inform the public.
- They reference KY-IPC invasive list.
- The state office does not currently classify any native plants as noxious and there are no plans to do so.

SUMMATION:

- 1. Recommendation to find ways to report invasive locations to help other agencies, or encourage agencies to use existing GIS location mapping.**
- 2. Recommendation again to review how we define noxious native plants in our ordinance.**

KY-IPC / U.K. Department of Forestry and Natural Resources

We wanted to know more about KY-IPC and so reached out to Dr. Ellen Crocker, who currently works with the UK Department of Forestry and Natural Resources, and is the past president of the KY-IPC. What we learned:

- The KY-IPC is a purely voluntary based non-profit organization. They are not an official government agency, nor an enforcing agency, and their list is not currently enforceable. They are primarily an educational and awareness conduit. With that said, their invasive list is extensively referenced amongst multiple agencies.
- The current KY-IPC list has not been updated since 2012 when it was still KY-EPPC. Dr. Ellen Crocker's department has received a grant to update this list in the next couple of years. She is also moving to make one complete comprehensive list that focuses primarily on the severe and significant invasives, versus the different categories currently listed. From her standpoint, the separation of the different categories has not been very applicable to the education or limitation of the spread of invasives. Her main focus is how to make a go-to comprehensive list that is understandable from different agencies and the general public.
- Another concern Dr. Crocker has, is with the enforcement of invasives. How is this assisted, both from a technical and a financial standpoint? According to her, many invasives are here to stay, so how do we maintain their growth patterns, versus trying to eradicate them all together? Complete eradication of invasives is impossible, but localized eradication may be possible, with increased land management. By the time invasives make the list, they are already heavily populated into an area. So the question really is, how do we deal with the maintenance of large naturalized areas that have invasives, how do we educate the general population, how do we inform the landscaping community, how do we deal with businesses continuing to sell invasives and introducing new ones, how do we fund maintenance and upkeep, and how do we track invasives?
- When asked, what would she like to see improved upon:
 - A desire for an agency to be funded that oversaw invasives.
 - Increased reporting, particularly on sites like **EDDmaps.org** (which is more for land managers), and **inaturalist.com** (which is more for the general public).

SUMMATION:

- 1. KY-IPC plant invasive list is currently the only referenced list in our state.**
- 2. Dr. Crocker would love to engage with our local LFUCG agencies, particularly in regards to the LFUCG planting manual and our Code of Ordinances specific language in regards to invasives.**
- 3. KY-IPC does not consider a noxious weed list, as many of these are considered native plants to Kentucky. Dr. Crocker, would recommend a review of the necessity of such an ordinance, as would Mr. Joe Collins with the Office of the Entomologist.**
- 4. Recommendation to investigate how to report invasive locations more. Which can help with early detection and the land maintenance of invasives.**

LFUCG – Department of Planning

With the new Comprehensive Plans goals and Objectives, we wanted to see what might be addressed within the new document. We reached out to Mrs. Valerie Friedmann, senior planner with the Division of Planning. She oversees long range planning as well as updating of the Comprehensive Plans goals and objectives and updated plan policies. What we learned:

- The Division of Planning references the LFUCG 2015 Planting Manual, but their division does not review or report invasives, nor do they enforce. A landscaping plan is sent to the Landscaping department and Division of Environmental Services for review after a development plan is submitted to the Division of Planning.
- The new Comprehensive Plan Policy and associated implantation items require low impact landscaping and native plant species (see following slide), this is currently under review.
- Recent updates to the Zoning Ordinance (article 20-3) require a percentage of vegetated area on most new development. The regulations state that invasive tree and plant species cannot be included in any area counted toward this requirement, it references the LFUCG Planting Manual as a guide.

Sec. 20-3. - Vegetated area standards.



(a) Requirements.

- (1) At least seventy-five (75) percent of the vegetated area must be covered by living plants.
- (2) Required vehicular use area interior landscaping is not included. Invasive tree and plant species, per the LFUCG Planting Manual, are not included.
- (3) On a preliminary development plan, the required and provided vegetated area square footage shall be listed as a percentage of the developable area in the statistical summary of pertinent site data.
- (4) For a final development plan or preliminary subdivision plan;
 - (a) Vegetated areas must be clearly designated on the generalized planting plan per [Article 26](#) and appear visually distinct from nonqualifying areas.
 - (b) The required and provided vegetated area square footage shall be listed as a percentage of the developable area in the statistical summary of pertinent site data.
 - (c) Where a vegetated area type listed in [Table 20-4](#) is used, hatching or other means of visually designating the area must be shown on the generalized planting plan and the square footage and multiplier rate used must be included in the statistical summary of pertinent site data.

([Ord. No. 004-2023](#), § 31, 1-31-2023)

SUMMATION:

1. **LFUCG Planting Manual is the only planting guide that new developments are required to abide by when submitting a new planting plan in our municipality. It is important that this document be in line with our code of enforcement ordinance and a cohesive invasive plant list, like the KY-IPC, as well as to address how to deal with invasives currently on site.**
2. **Should there be more language in the Comprehensive Plan Policy that addresses land management of invasives? Both during submittal and after implementation.**

LFUCG – Department of Planning, cont.

SUSTAINABILITY POLICY #11

REQUIRE LOW IMPACT LANDSCAPING AND NATIVE PLANTS SPECIES.

With an estimated coverage of over [40 million acres](#), lawns represent the largest cultivated crop in America, accounting for about 2% of the country's land. Lawns require a significant amount of time and money in their maintenance, but their maintenance also results in indirect environmental harm. For instance, mowing and leaf blowing contribute to greenhouse gas emissions, fertilizers cause algal blooms, pesticides pollute, and watering lawns strains freshwater resources. To combat climate change and prevent the extinction of species, Lexington should revise regulations to encourage the replacement of traditional lawns with native plantings and low impact landscapes.

An increasing number of communities are now planting with a purpose, aiming to help endangered wildlife, such as monarch butterflies, bees, songbirds, and to reconnect their cities to the local ecosystem. Low impact landscaping is a term that refers to this approach to designing and maintaining gardens and landscapes in a way that generates environmental and wildlife benefits. Policy changes at the local level can advance low impact landscaping, including passing native plant ordinances, updating weed and vegetation control ordinances, and designating no mow zones.

Passing native plant ordinances can make a big difference for wildlife, as they rely on native plant communities for habitat. Cities, counties, and homeowners associations can control what plants are installed in landscaping, parks, medians, and other open spaces. In 2018, both [Westchester County, NY](#) and [New Castle, DE](#) signed executive orders mandating that all county parks and landscaping around county buildings include 100% native plants. The Township of [Lower Makefield, PA](#) passed an amendment to their Subdivision and Land Development provisions mandating 100 percent use of native plants used in new developments. Lexington has made a commitment to protecting, creating, and preserving Monarch Butterfly habitat throughout the community by supporting the [Mayor's Monarch Pledge](#) and other initiatives, and passing a native plant ordinance will help progress toward this commitment.

Updating weed and vegetation control ordinances is necessary to support wildlife-friendly landscaping while ensuring public safety. Most cities and counties have rules in place to ensure homeowners and businesses maintain their landscapes, but these ordinances are typically designed to enforce a conventional landscape aesthetic of close-cropped lawn and ornamental plantings that provide no wildlife habitat. [Lexington's Code of Ordinances](#) regulate vegetation maintenance in a similar way, however an exception has been added for native plantings for the purpose of intentional naturalization, see Section 12-2(b) of the Code. Additionally, Lexington residents can also apply for a [Riparian Buffer Permit](#) to establish no-mow or native vegetation along streams. Lexington should promote and expand upon this work. The [City of Minneapolis](#) has an excellent model that supports wildlife-friendly landscaping while ensuring public safety which could serve as a guide.

Designating no mow zones can make a big difference for wildlife. Creating and managing "no mow zones" in appropriate places across cities allows native plants to grow and wildlife to flourish, while reducing maintenance costs. The National Wildlife Federation encourages cities with no mow zones to post signage and educate the public about the benefits to both wildlife and people. [Greeley, CO](#), and

imagine LEXINGTON 2045 COMP PLAN
[Pinellas County, FL](#) are examples of cities that communicate their "no mow" policy to residents, providing details about the timing of mowing and which areas are on reduced mowing schedules.

Summary of Changes:

- New policy to promote and encourage native plantings and low impact landscapes.
- Previous policy title: *Develop an overarching entity / organization for existing environmentally-focused agencies to collaborate on sustainability programs and follow through on implementation.* (Incorporated into new Sustainability Policy 3).

Summary of Changes August 17:

- Renumbered to Sustainability Policy 11

2018 Action Items:

- None

2045 Updated Action Items:

- Require that plantings for publicly owned property include at least 75% native species and decrease the area of mowed grass and irrigated land.
- Update codes, ordinances, plans, and manuals to require current best practices for low impact landscaping.
- Implement the Mayor's Monarch Pledge.
- Work with the Urban County Council and community partners to establish and promote "No Mow May" as a city wide initiative.

2018 Placebuilder Criteria:

- None

2045 Updated Placebuilder Criteria:

- B-SU11-1: Development should incorporate low impact landscaping and native plant species

LFUCG – Department of Environmental Services (DES)

We reached out to the Department of Environmental Services and connected with Mr. Tim Queary, Urban Forester and Mrs. Eve Miller, Senior Environmental Planner. This department reviews new development plans and oversees the public right of ways and LFUCG owned parcels.

- DES seeks to ensure that the development plans are meeting the zoning ordinance and subdivision regulations (Article 18 and 26) and part of this entails that the developments reference the Planting Manual. They do not prohibit activities on private properties in regards to invasive control or maintenance.
- They have an enforcement staff member for compliance issues on the public greenways and other development plans, this is different then code enforcement. One of these tasks is to ensure that developers have planted accordingly to their final development plan. With that said, there is currently nothing in effect to review development greenspaces a year after the fact or longer to see if it is being properly maintained, that no significant trees were removed, or that invasives were not planted. DES is currently discussing to bring landscapes up to new code standards if the parcel applies for a larger footprint/new development on the existing site/or new use.
- They acknowledge that the planting manual was last published in 2015, and currently are working on budgeting to utilize updating this manual, in conjunction with the Tree Board. The also acknowledge that the planting manual does not give direction in how to deal with invasives on new developments or existing sites. Currently they do not reference the KY-IPC, though this is proposed to be changed in the updated Planting Manual, nor do they report anything to another agency in regards to invasives.
- Sometimes public LFUCG greenspaces are siloed to different agencies when in development, like the Mayor's office or U.K., which can make it difficult to figure out who is maintaining the site in the long run.
- While DES is well versed in the plant discussions on invasives control and native plantings, dealing with the maintenance of invasive species is not a direct priority at the moment, due to budgetary and staff concerns.
- They have inquired with the Law Department to see if it is within the cities power to legally control the sale of invasive species.

SUMMATION:

- 1. Budget and staffing is another main issue that is brought up with this agency in regards to invasive maintenance.**
- 2. Further discussion is needed from Law into implementing bans or quarantines of severe invasive plants.**
- 3. Plant manual needs updating.**
- 4. Better invasive reporting between different agencies.**

LFUCG – Tree Board

Many of our local landscaping firms refer to the LFUCG 2015 Planting Manual, as do many new development plans. This manual's focus is on best practices, plant selection, protection, and installation. We were told the Department of Environmental Services were responsible for this document, so we reached out to Mr. Tim Queary, who, in turn, put us in touch with the Chair of the Tree Board, Mr. Dan Stever, whose Board is currently undertaking updating the Planting Manual. What we learned:

- For all new development projects, a planting plan is submitted for review by planning staff to DES and the city landscaper, and any plants that are deemed invasive or inappropriate according to the Planting Manual are flagged at the time of review to be changed. The new development project also submits a tree inventory which is where the Tree Board steps in to review, protect, and save significant trees.
- According to Mr. Stever, there is currently no chapter in the Planting Manual that references invasive species classification (like the KY-IPC), or how to deal with invasives on an existing or new development/site. They are trying to update the Planting Manual to have specific language that highlights the severe and significant designations found in the KY-IPC list to be considered “unacceptable plant material”. Currently there is no timeline as to when this manual will be updated, and they are also discussing making a simplified version for homeowners.
- The Tree board does not do any reporting on invasives. They primarily get their directives from LFUCG Division of Environmental Services, and information from referencing the KY-IPC list.
- The current Planting Manual list of invasive plants differs from the KY-IPC list. To note, that while the Tree Board is trying to update the Planting Manual, their primary focus is mainly to stop the removal of significant trees (as defined in Article 26) during development, and encourage the removal of *Pyrus Calleryana* (Callery Pear) during development. They have expanded this to try and also include educating the homeowner on which trees and plants are good to install, which is what led them to wanting to update the planting manual.
- Location plays an important factor when discussing invasive removal. As mentioned by Mr. Stever, the location of invasives can play an important role into whether or not it provides more benefit in an area despite its invasion. This goes in hand with the importance and need for reporting invasive locations, as well as having a green management plan for Fayette County. As an example, Mr. Stever brought up, *“Lexington actually gets a good air quality grade from the American Lung Association due to in large part that our major roads are lined with honeysuckle. Their tomentose leaves capture a lot of particulate matter. Does it make sense to spend limited resources to remove invasive plants in a highly disturbed ecosystem that actually contribute to the health of our citizens?”* (Please note that KRS 176.051, referenced in an earlier slide, does address invasive plants to be eradicated from highways. The State believes that highway corridors contribute to the spread of invasive species. Coordination with state would need to be had if language is to be amended along state roads to ignore invasives in these locations.)

SUMMATION:

- 1. Recommendation that an invasive section be added to the updated Planting Manual.**
- 2. Recommendation that “noxious” be addressed in the Planting Manual if it is to remain in the Ordinances.**
- 3. Recommendation to the Tree Board to coordinate efforts with the Dr. Crocker, as her department is updating the list that the Tree Board is seeking to refer to in the updated Planting Manual. She can also help with the invasive language in the Planting Manual.**

LFUCG - Parks and Recreation

We talked with Mrs. Michelle Kosieniak, Superintendent of Planning & Design; Mrs. Jennifer Hubbard-Sanchez, Superintendent of Natural Areas; and Mr. Joe Howell Park Designer. What we learned:

- There is currently not a single source of information that Parks and Recs use as a standard in regards to invasives. Staff participates in annual conferences and trainings that sometimes address invasive or noxious plants, diseases, etc. If they are unsure, they will reach out to OKNP, local arborists, UK Cooperative Extension, or site specific scientific journals and publications on the internet. Some reference the KY-IPC. They mainly create their own land management plans for each site they oversee.
- Parks and Rec planning does not manage the LFUCG 2015 Planting Manual, nor do they input or use this for their areas. They do not generally report any invasives, as they do not have ongoing land management responsibilities, though if they were to report, it would be mostly internal to Parks and Rec staff. For the Natural Areas division they work closely with UK faculty and researches who conduct research on invasives in LFUCG parks, but there is no official reporting for what is discovered by the researchers.
- In regards to noxious natives, their office takes the approach that ANY plant can be a “weed” or be “noxious” if the species is not appropriate for the space in which it was planted. They try to look at each landscape individually when selecting plants.
- They believe that addressing invasives is currently *under-resourced* in our county, and have noted a large explosion of non-natives to the Bluegrass that have overtaken the cities resources to effectively manage them. Current control of invasives struggle from lack of financial resources, lack of labor, and lack of good removal techniques. Most efforts with Park staff focuses on removal of honeysuckle, winter creeper, and garlic mustard. There is one park in our county that is currently infested with Kudzu.
- Natural areas division does host workshops, programs, and a Monarch Festival for the public focusing on which plants to plant vs. which plants are harmful. They do invasive species removal trainings for the public and teach about which plants to remove and how to treat, as well as maintain a volunteer base that assists with invasive species removal in Natural areas.

SUMMATION:

1. **Recommendation to review ways to find additional funding and resources for invasive maintenance/central agency/documentation.**
2. **Recommendation for better reporting between agencies.**

GENERAL PUBLIC <https://www.youtube.com/watch?v=920j7COxUwc>

1. Can you list ten invasive plants that are within Fayette county? If you are not aware of any invasive plants, please say so?

- On average those polled could list around 5 invasive plant species, none could list a total of 10 or more.
- A majority of those polled mixed up noxious plants species with invasives, and vice versa. Some even included weeds, such as dandelions.
- The invasive plants that came up repeatedly in the interviews were: Bradford Pear, Bush Honeysuckle, Kudzu, Johnson Grass, Multi-flora rose, Garlic Mustard, and wintercreeper.

2. Can you list any noxious plants within Fayette county?

- The majority of those polled struggled with this question, and that there was even a noxious list out there. Ones who could answer mentioned poison ivy and hemlock.

3. Can you list what agency to go to, to find out more about invasive plant species? If not, please say so. If you do, do you use this agency often?

- 20% of those polled mentioned UK Cooperative Extension. 1 person mentioned calling 311. 75% had no idea where to look.

4. Please indicate which greenhouses you shop at within Fayette county? If it's a boxstore (eg like home depot), that is fine.

- Box store nurseries were the number one response as to the most sought after places for plants. Box store made every single poll.
- A number of local nurseries showed up as well, those that showed up more than two times: Pembertons, Kings Gardens, Louis Flower Power, Michlers, and Wilsons.

5. Please indicate if you know how to remove invasive plant species from your property, and have removed invasive plant species from your property in the past.

- All those polled have removed an invasive plant from their property at one point or another. The most common removals were: winter creeper, poison ivy (not an invasive, but a noxious), and honeysuckle. Most hand pulled out the plants, all respondents did not resort to chemical usage, most mentioned the difficulty in removing honeysuckle and often just cut back rather than fully removed.

6. Did you know there were code enforcements about noxious plants, native gardens, and invasives in Fayette County?

- No one knew there were code enforcements or planning policies in regards to these topics. Some responded about wanting to grow a natural garden, but getting in trouble with the city, as they mentioned remembering a mowing ordinance.

7. If you have any additional thoughts on invasive plants, please let me know.

- A number of those polled mentioned wanting to know more about planting natives or converting their turf.

SUMMATION:

- 1. While the general public study could stand to use more people to poll from, what this generally infers is that basic information about invasives could stand to be updated, and a further discussion on how to increase public awareness is needed.**

OVERALL FINDINGS:

- A clearer and more cohesive definition of invasives, weeds, and noxious plants needs to be defined at all levels of governance within the state. Our local ordinance would benefit from a review to verify if the language is currently applicable to appropriate language in addressing noxious vs native, invasive protections, and native landscapes.
- Additional coordination is needed at a state level to define responsibility of reporting plant invasives at a municipal level.
- Fayette county could stand to be better informed about plant invasives and native planting. While there are clearly plenty of agencies addressing invasives and natives within the county, their findings do not seem to be reaching the intended parties. Our greenhouses are currently still selling a significant amount of *severe* invasives, our LFUCG Planting Manual which addresses the professional market is outdated and limited in its discussion on invasives, our parks are under-resourced in dealing with maintenance of invasives, HOA bylaws are in conflict with native plantings, and the general public could stand an updated debriefing (particularly in regards to invasive species, definitions, ordinances, and how to go about planting natives.)
- Most agencies are not reporting invasive plant locations, beyond internal reporting, which does little for other agencies. Reporting invasive locations enables for a better understanding of invasive plant outbreaks. Much like the website, homegrownnationalpark.org, that tries to crowd source natives being planted in the United States, one can get the general public and agencies to also list where they have spotted invasives. It might be too tall of an order to list every invasive plant species out there and their locations, or even ones that are in abundance (like honeysuckle), but as recommended, perhaps it starts with a top 10. Please note that agencies currently do rely on GIS reporting for other pest (insect and animal), and pathogen infestations.
- There is no mechanism currently in place to review new commercial and public landscapes after they have been planted (or a couple of years after) for maintenance purposes and to ensure no invasives have been planted. If the new comprehensive policy for native planting go into effect, how do we ensure new development is in fact planting and maintaining native sections? This would also go hand in hand with our addressing our current ordinance language.
- Most agencies interviewed, mentioned the desire for a centralized agency that would inform on invasives within Kentucky. KY-IPC already has a foot in this direction, but could stand for more agency coordination and funding. Some agencies are unaware of what other agencies are doing in regards to invasive plant control, particularly when land management is done internally with each agency. If there were a centralized agency, would this help with information connectivity? A central agency would both inform local and state agencies, have the potential to create a comprehensive invasive plant list, explain more thoroughly naturalization zones, maintain a reporting map (or access to one), etc.
- Lastly, more discussion needs to be had on how we maintain and fund the invasive plant control.

Question for the Board:

What are ways the Greenspace Trust can help? Before Kudzu takes us all...

