Introduction

Invasive plant species are primarily introduced to novel regions for ornamental purposes, where they escape our backyard gardens and spread into natural areas (Figure 1). However, these species continue to be sold and distributed through plant nurseries around the world. As climate change worsens, the northeastern US will become increasingly vulnerable to new plant invasions accelerated by the horticulture industry (Figure 2).

Objectives:

1. Build relationships with local nursery professionals
2. Promote the sale of native plants over non-native ornamentals
3. Spread awareness about ornamental species currently invasive in the northeast
4. Warn of species that could establish in the future with climate change

Methods

I visited 4 local nurseries to ask questions that informed by research:

- What trends exist in native and non-native plant sales?

To increase awareness about regulated invasives, I consolidated data for each species currently regulated in the Northeast as well as species projected to shift here with climate change:

- Invasive species origins, ecological impacts, Northeast native alternatives
- 124 regulated species, 81 range shifters, 279 species total
  - Sources include: USDA Plants, Invasive Plant Atlas, state websites

I investigated the best ways to distribute this list of species to the greater public, with hopes to deter further invasion from ornamental species already invasive as well as those that haven’t yet established here.

References:

   - Photos from Bugwood.com

Results

We narrowed the list of 276 species to 35 top impact species. Here are 4 examples:

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<thead>
<tr>
<th>DO NOT PLANT</th>
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<tbody>
<tr>
<td>Beale’s Barberry</td>
<td>Red Valerian</td>
<td>Giant Reed</td>
<td>Crapemyrtle</td>
</tr>
<tr>
<td>Native to: China</td>
<td>Native to: Europe</td>
<td>Native to: India</td>
<td>Native to: China, Japan</td>
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<tr>
<td>Mahonia bealei</td>
<td>Centranthus ruber</td>
<td>Arundo donax</td>
<td>Lagerstroemia indica</td>
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<tr>
<td>is a shade tolerant shrub that can outcompete native species and dominate the area. It bunches that aid dispersal. It has deep roots and is difficult to eradicate once established.</td>
<td>is a prolific bloomer and freely self seeds. It mostly becomes weedy when in areas with full sun and average soils, however it is drought tolerant and generally grows on its own.</td>
<td>forms dense stands that increase fire frequency. It often invades wetlands, where it outcompetes native species for nutrients, water, and sunlight, therefore suppressing natural ecosystem function.</td>
<td>is currently a popular ornamental species that has widely escaped cultivation and naturalized in the Southeast. It is drought tolerant, fast growing and can act as a host for powdery mildew and fungal leaf spot.</td>
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Want to help?

Avoid planting these invasive species.


Contact me

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Figure 1: Preliminary results for all global plant invasion pathways. Ornamental introduction dominates global plant invasion pathways.

Figure 2: Watch out! Northeast plant invasion trends are on the rise.

Figure 3: One example of a plant that could become invasive to the Northeast with climate change.

Figure 4: Mahonia bealei is currently an invasive ornamental in the Southeast.

Figure 5: Two examples of non-native ornamentals that are invasive in the Northeast.