



*Magnolia virginiana* var. *virginiana*  
APGA USFS Tree Gene Conservation

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Lincoln Park  
ZOO.

The  
Morton  
Arboretum 

# Building an Application and Trip Planning

1. Target Taxa
  2. Get the Story
  3. Build a Team
  4. Locate Populations
  5. Obtain Permission
  6. Collection Plan
- *Trip Summary*



# 1. Targeting Taxa

- Recalcitrant Seeds, Non-viable by seed banking
- Plant Collections Network (PCN)
  - Multisite Collections
    - Acer
    - Magnolia
    - Quercus
    - Cycads



Photo: Kris Bachtell 2009

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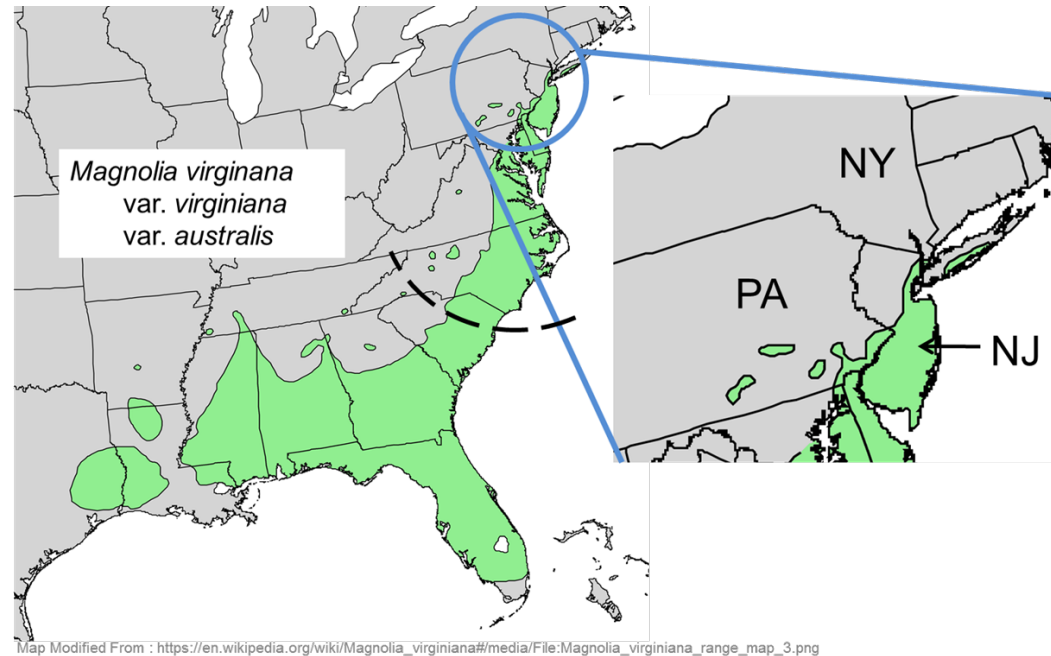
Multisite Collections with  
The Morton Arboretum  
Participation



Photo: Kris Bachtell 2009

# 1. Targeting Taxa

- Plants that are under Threat or Endangered
  - *Magnolia virginiana* state listed as endangered (MA and NY) and threatened (PA)
    - Habitat Loss
    - Animal Browse



## 2. Getting the Story

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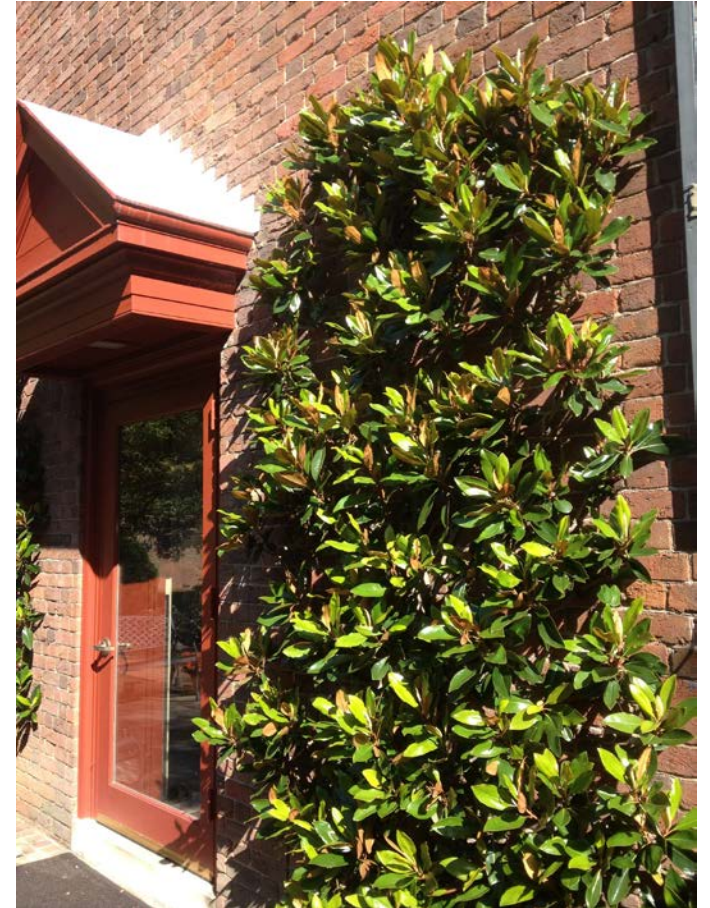
### Why does it matter?

- Can you put a dollar value on it?
  - 2012 USDA Census of Agriculture, Specialty Crops (Vilsack and Reiley, 2014)
    - All USA Sales of *Magnolia* >\$52,000,000 in 2012
    - *Magnolia* 1.2% of all Nursery Stock Sold

## 2. Getting the Story

### Why does it matter?

- 8 species of Magnolia are USA natives
- 3 important for cultivated selections and as parents in hybrids
  - *M. acuminata*
  - *M. grandiflora*
  - *M. virginiana*



## 2. Getting the Story

### Survey Plant Collections

- Is the taxa already well represented in living collections?
  - Start within PCN (17 gardens for *Magnolia*)
  - Search by taxa = 2 wild collections



#### NAPCC Magnolia Multi-site Magnolia Collection

The North American Plant Collections Consortium (NAPCC) is a network of botanical gardens and arboreta working to coordinate a continent-wide approach to plant germplasm preservation, and to promote high standards of plant collections management.

Become a Member

Give to the Arboretum



## 2. Getting the Story

### Survey Plant Collections

- Is the taxa already well represented in living collections?
  - Start within PCN (17 gardens for *Magnolia*)
  - Other Gardens?
    - Arnold Arboretum



## 2. Getting the Story

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### Survey Plant Collections

- Is the taxa already well represented in living collections?
  - Start within PCN (17 gardens for *Magnolia*)
  - Other Gardens?
  - Botanic Gardens Conservation International
    - Plant Search and Ex-situ Surveys  
(Dig into Information)

## 3. Building a Team

### Collection and Curation

- Gardens and Arboreta
  - “Near-situ” conservation
- PCN group
  - Curation is Invested and Committed



## 4. Finding Populations

- Tell people what you are doing!
  - University Botany Programs
  - State Natural Heritage Program
  - Local Conservation Networks

### Thank You

- Dr. Timothy Block (University of Pennsylvania)
- John Kunsman (Pennsylvania Natural Heritage Program)
- David Robertson (Pennypack Ecological Restoration Trust)



## 4. Finding Populations

- Tell people what you are doing!
  - Local Gardens and Arboreta
  - State Natural Heritage Programs
  - University Botany Programs
- Plant Societies
  - Magnolia Society International
  - Long Island Botanical Society

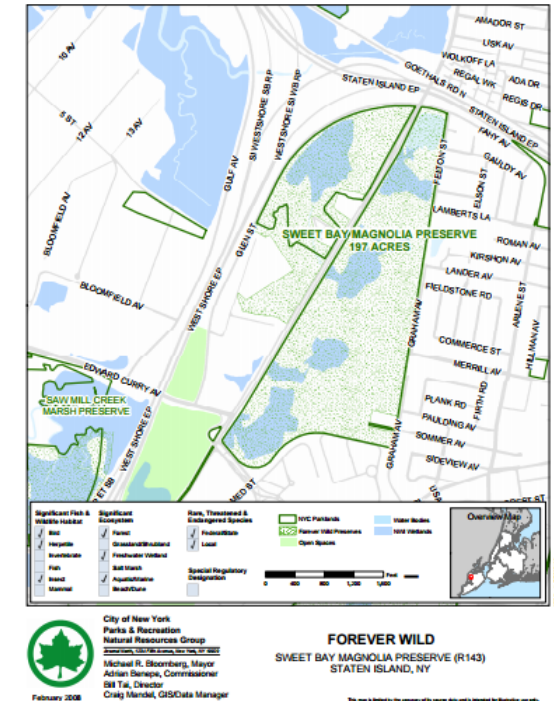


Thank You

- Richard Figlar (Magnolia Society International)

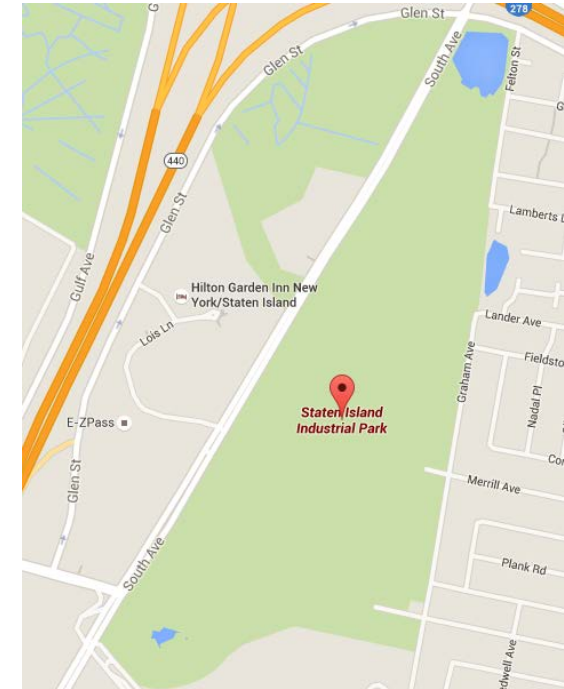
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- Maps – “Sweetbay Magnolia Preserve” or Likely Habitat



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 Staten Island Industrial Park



## 5. Permits and Agreements

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Challenges with varying levels of ownership

- National Forest and Parks
- State Forest, Parks, Game Lands
- Local Government, Counties, Townships
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**\*Seek permission 6-8 weeks ahead of collection trip**

## 6. Collecting Plan

- Seeds vs. Clonal?
  - Are plants fruiting?
  - Can it be rooted?
  - Cuttings need to be kept cool and moist



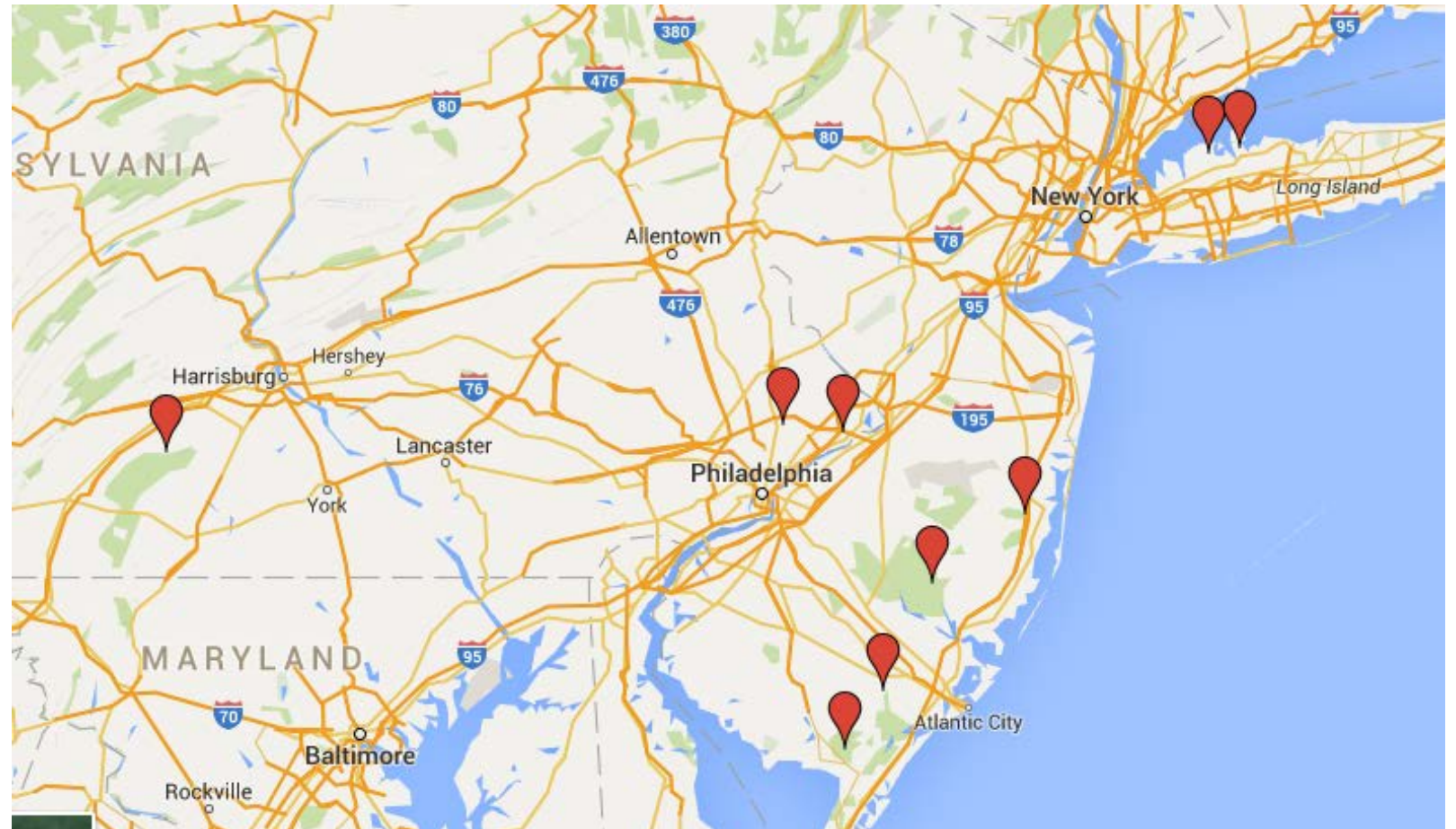
## 6. Collecting Plan

- How many plants to collect at each site?
  - Targeted 10 cuttings from 10 individuals at each site
- How many sites to visit?
  - Depends on time and available sites
  - 2-3 Sites a day with travel time



# Summary

- Collections in 3 states
  - Pennsylvania (3 sites)
  - New Jersey (4 sites)
  - New York (2 sites)



# Summary

- 5-7 node cuttings lightly wounded, leaf area reduced
- 5,000 PPM KIBA placed under fog
- 63 individuals rooted and overwintered (75%)
- Rooted plants to be distributed (PCN and APGA gardens)



# Thank You

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- APGA and USFS for funding this grant and tree gene conservation
- All the Gardens and Individual Collaborators who contributed
- The Morton Arboretum and the Daniel P. Haerther fund for the development of urban trees who supported the new plant development program