### Park Maintenance: Invasive Plant Management in Parks: 13-02

Budget and Economic Development Committee October 28, 2014





# Introduction

# General agreement that routine maintenance is appropriate and acceptable.

**Issue:** Additional resources needed to manage invasive plants within natural open space parks/natural areas of parks.

### **Scope of Report:**

- Current resource allocation and general maintenance practices.
- Invasive plant management options and limitations.
- Summary of efforts through the Adopt-a-Park Program.
- Options for consideration.



### Natural Open Space Parks

- The function of these parks is to provide green relief within urban residential areas, collect and filter stormwater, and provide wildlife habitat and recreational opportunities urban ecosystem.
- The character of these parks is largely determined by the Neuse River Buffer Rules because of the presence of blue line streams.



#### City of Raleigh Park Locator





# Fallon Park Picnic Shelter and Gazebo





parks.raleighnc.gov

## **Interior Trails**







- Mowing Maintenance
- Horticultural Maintenance





- Road shoulders are mowed and edge vegetation managed to allow for walking.
- Vegetation also managed to maintain sight distances around curves.



Vegetation managed to maintain vehicular travel: horizontal and vertical clearance.



# Invasive Species example:

Wisteria on guy wires of power poles and trees.



# Invasive Species example:

Porcelain vine covers shrubs and trees.



Park Properties with Significant Natural Areas

(Initial List)

Summary

40 Parks

Greenway property- Over 100 miles

and 3,800 acres

13.8 acres FEMA lots

12.2 acres Small Areas



# **Invasive Plant Management**

### **Invasive plants characterized by**:

Fast growth rates, High fruit production, Rapid vegetative spread, and Efficient seed dispersal and germination.

Persistent and aggressive: management vs. eradication

North Carolina: EDDMapS: Early Detection and Distribution Mapping System.

# **Invasive Plant Management**

- 544 invasive plant species identified across North Carolina.
- 280 species have been identified in Wake County.
- Invasive plants prevalent on undeveloped properties, utility easements, road rights-of ways, railroad rights-ofway) and developed properties (commercial, residential, agricultural).
- Introduced through landscaping or establishment unchecked in unmanaged areas.

# **Invasive Plant Management**

### **Management Options**

- Mechanical and manual removal,
- Chemical application,
- Biological agents,
- Controlled burning, and
- Prescribed grazing.

IPM: combination of methods – manual+chemical.

# **Invasive Plant Management: Current**

- Management through volunteer projects and Adopt-a-Park Program.
- Work closely with interested citizen volunteers to manually remove invasive plants during normal working hours and on weekends. Staff follow-up with herbicide applications to minimize regrowth.

Volunteer projects to manage invasive species vegetation

- (123 projects between 2009-2014)
  - 1,756 participants and \$87,447 value
  - Fallon Park: **15** projects between 2010-2014
  - Cowper Drive Park: **9** projects between 2011-2014

### **Invasive plant removal project Cower Drive Park**

#### 7/23/13 **Before**

#### After





### **Invasive plant removal project Powell Drive Park**

#### 4/26/14 **Before**

#### After



# Invasive plant removal projects

Fallon Park 3/28/14

**Charlotte Hilton Green** 10/26/13









### **Invasive plant removal projects**

#### Jaycee Park 2/7/14

#### **Lions Park** 3/22/14







**Option 1:** Continue current program of utilizing volunteers for invasive plant management in city parks and greenways on both an individual project basis and through the Adopt-a-Park Program. (Option 1 would be continued in Option 2 and Option 3).

**Option 2:** Identify a cross-section 10-12 selected park and greenway locations to include the four open space parks. Request funds for consultant (funds to be identified through FY 16 CIP budget process) to assist with the following:

- Develop an inventory of the invasive species on these selected properties;
- Review best practices in invasive plant management; and
- Develop an invasive species management plan for these locations and assess associated resources necessary to implement and sustain the plan.

**Option 3:** Undertake a comprehensive assessment and develop a citywide management plan. Request funds for consultant services (estimated at \$125K) to assist with the following:

- Inventory invasive species on park, greenway and other municipal properties, review need to include private property and property controlled by other agencies, determine possible options and costs and develop a prioritized management plan including a public education component.
- Determine program structure, associated resources necessary to implement and sustain the plan.

**Option 1:** Continue current program of utilizing volunteers for invasive plant management in city parks and greenways on both an individual project basis and through the Adopt-a-Park Program.

#### **Pros:**

- No additional funding required.
- Potential to develop volunteer program specific to the issue.
- Integrate a public education program to address problem on other public and private property throughout the City.

#### Cons:

- Limited impact: no guarantee of control on property outside of city parks and greenways: voluntary participation.
- If volunteer program expanded additional funds would be needed: pruning tools, herbicide, etc. Staff time to coordinate projects.

**Option 2:** Identify a cross-section 10-12 selected park and greenway locations to include the four open space parks. Request funds for consultant (funds to be identified through FY 16 CIP budget process) to assist with the following:

- Develop an inventory of the invasive species on these selected properties;
- Review best practices in invasive plant management; and
- Develop an invasive species management plan for these locations and assess associated resources necessary to implement and sustain the plan.

#### Pros

- Establish baseline for understanding of best management practices and overall strategy that could applied to other properties over time.
- Phased approach that could be expanded to other city park and greenway properties.
- Test efficacy through implementation and data collection over time.

#### Cons

- No consideration of other public/private property: limited impact.
- Staff resource impact; additional funding required for herbicide applications.

**Option 3:** Undertake a comprehensive assessment and develop a citywide management plan. Request funds for consultant services (estimated at \$125K) to assist with the following:

- Inventory invasive species on park, greenway and other municipal properties, review need to include private property and property controlled by other agencies, determine possible options and costs and develop a prioritized management plan including a public education component.
- Determine program structure, associated resources necessary to implement and sustain the plan.

#### Pros

- Broader understanding of magnitude of the problem citywide.
- Ability to prioritize and apply resources to critical areas.
- Potential for partnership with other government agencies, private sector.

#### Cons

- Cost to establish and sustain a comprehensive program.
- May require changes or additions to city code; enforcement capability.

### **Department Recommendation**

**Option 2:** Identify a cross-section 10-12 selected park and greenway locations to include the four open space parks. Request funds for consultant (funds to be identified through FY 16 CIP budget process) to assist with the following:

- Develop an inventory of the invasive species on these selected properties;
- Review best practices in invasive plant management; and
- Develop an invasive species management plan for these locations and assess associated resources necessary to implement and sustain the plan.

#### and

**Continue Option 1:** Continue current program of utilizing volunteers for invasive plant management in city parks and greenways on both an individual project basis and through the Adopt-a-Park Program.