Advanced Invasive Plant Management

Managing Japanese Barberry & Japanese Knotweed

Connecticut Invasive Plant Symposium

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Ecological Restoration

*Process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.*

- Invasive plant management is considered as one step in the ER process
- The native species displaced by the ip’s are restored to the site after ip management is completed
- The secondary ecological effects of herbicides or other invasive eradication methods are reduced to a minimum
Japanese Barberry
What’s a land manager to do?
Land Use History

Photo credit: Brian DeGasperis
<table>
<thead>
<tr>
<th>Date</th>
<th># person days</th>
<th>Amt. herbicide applied (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2016</td>
<td>9</td>
<td>108 (2% Rodeo; 0.5 non-ionic surfactant)</td>
</tr>
<tr>
<td>July 2017</td>
<td>5</td>
<td>8 (Thinvert 8% Rodeo)</td>
</tr>
<tr>
<td>September 2018</td>
<td>3</td>
<td>0.75 (Thinvert 8% Rodeo)</td>
</tr>
</tbody>
</table>
2017
Regeneration
Upland IP Management

2011

2012

2013

2014
Japanese Knotweed
Early Development

Connecticut River Bank Stabilization, Gill, MA
Small Patches
Stem Injection

Stem injection with JK Injection System
Knotweed Superorganism
Knotweed Reduction
Mid-June
Foliar Herbicide Application
After JK flowers (Mid-August)
Results after Initial Treatment
Results after Follow-up #1 Treatment
Results after Follow-up #2
Treatment
Emerging Success IPM & ER

Fannie Stebbins Memorial Wildlife Refuge, Longmeadow, MA
IP Success Criteria

1. **Year 1.** Initial treatments (combination of mechanical and chemical) results in 90% control.
2. **Year 2.** The first follow-up treatment (targeted chemical) results in 95% control.
3. **Year 3.** The second follow-up (manual or targeted chemical) results in 99% control.
4. **Annual Stewardship and Maintenance** (primarily manual) maintains 99% control.
Revegetation
Seeding

- Seed collection, processing, and storage
- Direct seeding from commercial seed sources
- Seedbed preparation: good seed to soil contact with light raking, rolling, or stomping
Smother Crops

Use of buckwheat cover crop to smother treated knotweed area.

Oats seeded into woodland planting area.
Revegetation Methods: Cuttings
Revegetation: Shrubs

2013

2015
Marble Works Park, Middlebury, VT
Marble Works Park, Middlebury, VT
Marble Works Park, Middlebury, VT