

Open Field Management: Managing Fields for Wildlife Habitat



Presentation Outline

- Context: history, biodiversity, landscape
 - Site specific considerations
 - Invasive species control
 - Case Studies
-





Landscape Level

Loss of habitats and associated species



Conservation Planning at the Landscape Level



Conservation Planning at the Landscape Level

- Look for areas with other open areas nearby
 - Field nesting birds have minimum area requirements
 - Birds-Eye View - all open areas are attractive
 - Insects and plants do not have known area limitations
 - Consult with MassWildlife and MNHESP
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Considerations

Landscape Context

Size

Environmental Conditions

Land Use

Wildlife













Grazing



Pollinators



No field can be all things to all grassland species

- Identify Conservation Targets
 - Identify Threats
 - Consider Management Options and Plan Accordingly
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Treatment of Invasive Plants in Field Habitat Management

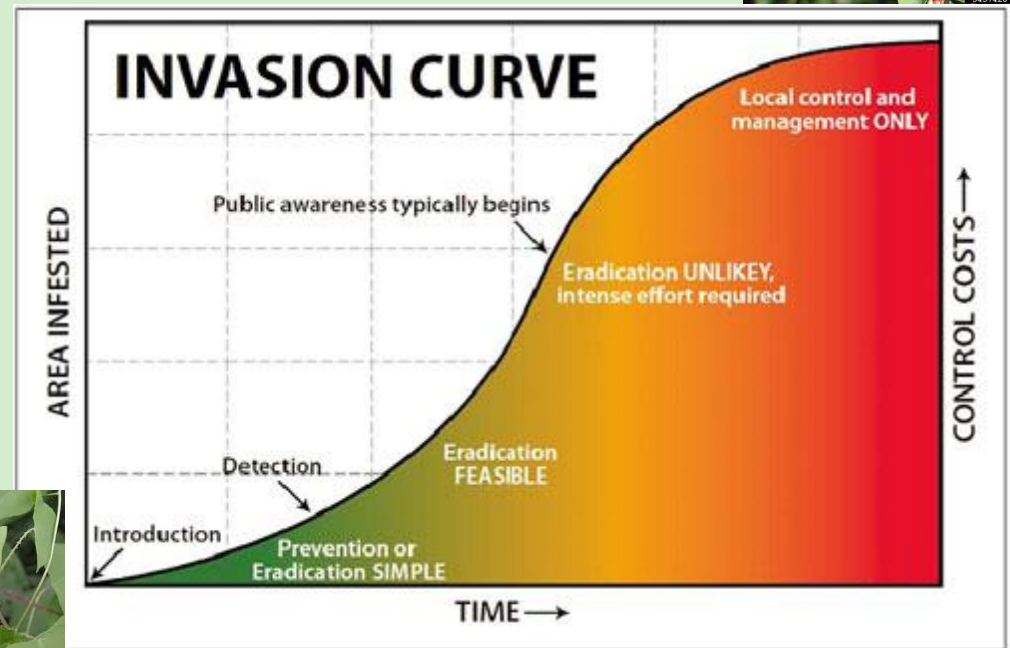
- Control Strategies
 - Suggested Techniques
 - Tough Species
 - Precautions
 - Restoration & Shifting Plant Communities
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↑ Land use history = ↑ Invasive species abundance



Control: Sequence

- ID important natural resources
- Which invasives threaten resource(s)?
- Set a goal
- Investigate inputs
- Get permits
- Implement!
- Document
- Revise



Control Strategies

Small Patch

Manual \$\$\$\$



Mechanical



Chemical

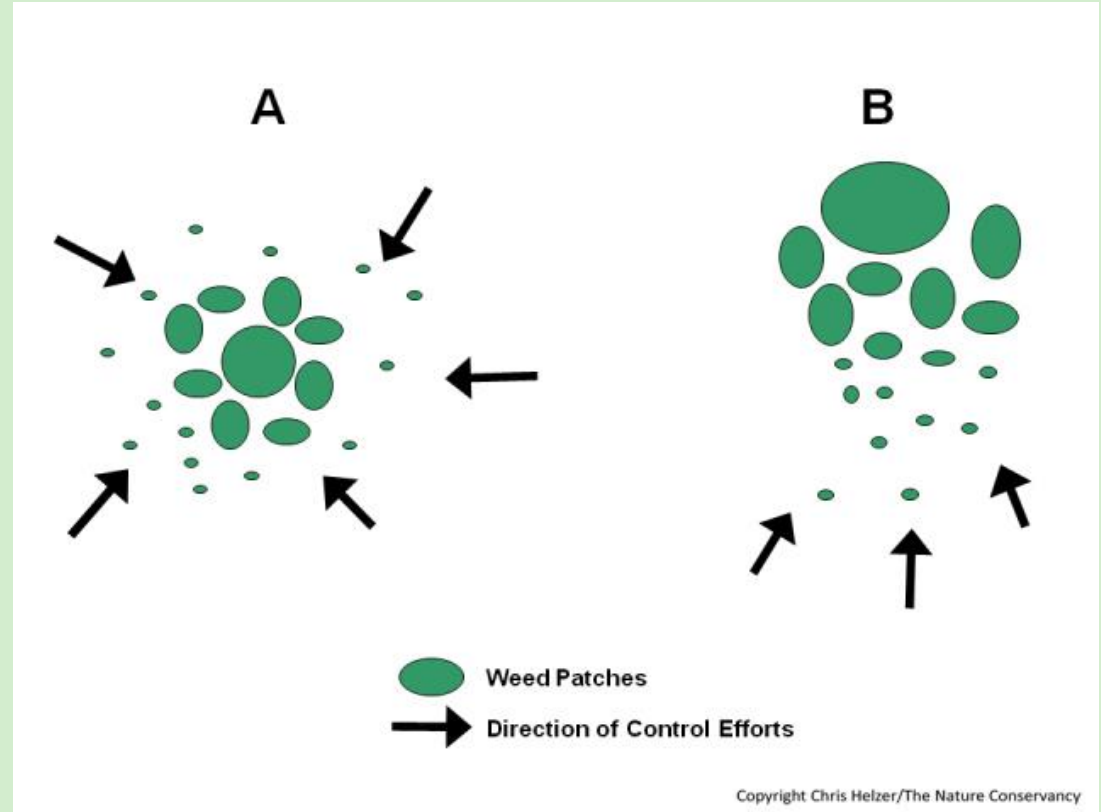


Biological \$



Large Patch

IPM



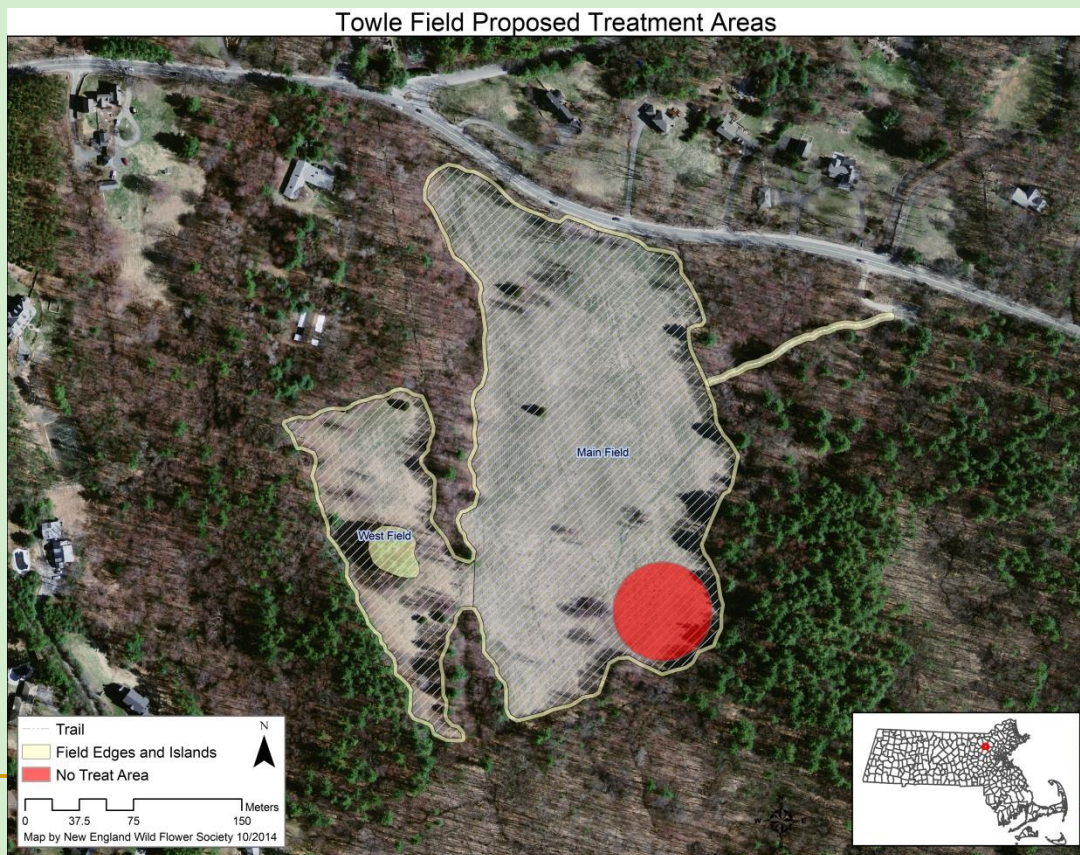
Considering Costs

Diffuse knapweed control on Colorado rangeland in 1997 (Sebastian and Beck 1999)

<u>Control Method</u>	<u>Total Cost per Acre</u>	<u>Efficacy</u>
Hand pull	\$2,678	0%
Mow	\$150	0%
Mow + Herbicide	\$130-\$160	100%
Herbicide	\$31	96%

Control Techniques

- Pre-treatment
 - Map treatment areas
 - Flag sensitive areas & native species



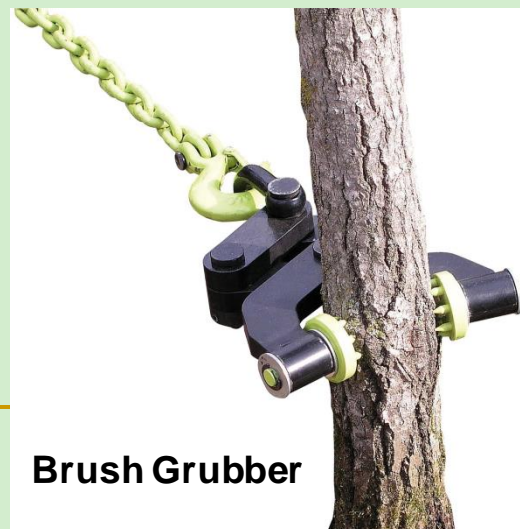
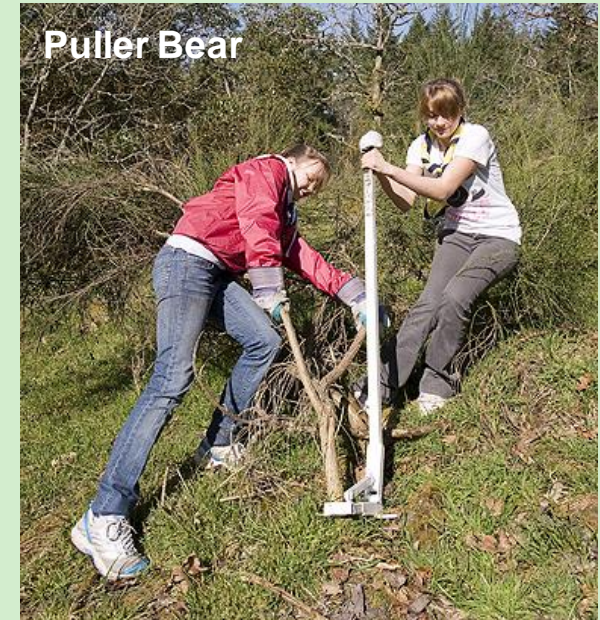
Control Techniques

- ❑ LATE FALL - WINTER
 - Remove large woodies
 - ❑ Cut-paint or hack glyphosate treatments
 - ❑ Basal bark and dormant stem triclopyr treatments
 - ❑ Mechanical



Control Techniques

- ❑ **SPRING – EARLY SUMMER**
 - Remove small-medium woodies
 - ❑ Hand pulling or wrenching
 - Volunteers!
 - ❑ Mechanical uprooting
 - ❑ Mound mulch/cover herbs.



Control Techniques

- ❑ MID SUMMER – LATER FALL
 - Treat woodies and herbs, < 5 ft.
 - ❑ Foliar triclopyr - height of summer
 - ❑ Foliar application of glyphosate late summer - fall
 - ❑ Mechanical mowing, cutting or uprooting







Precautions

You need to be licensed to apply herbicides

- ❑ **To apply “general use” herbicides you need**, at a minimum, a Commercial Applicators License (sometimes called the CORE license) (\$75, \$100)
- ❑ **To apply “restricted use” herbicides you need** a Commercial Applicators License PLUS a Commercial Certification (\$75,\$125, 2x \$100)
- ❑ You also need a **license to apply herbicides in aquatic habitats** from MA Department of Environmental Protection (**BRP WM O4**) (\$95/yr)

Wetlands Permitting

- Invasive Management is considered Ecological Restoration Limited Project
 - Complete WPA 3 and Appendix A (NOT WPA 3a)
 - Eligibility Criteria – Coastal or Inland Ecological Restoration Limited Projects
 - Check with your local Conservation Agent regarding local bylaws
 - Contact DEP specialist
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Restoring Plant Communities

- Planting and Seeding
 - Select natives to your county
 - Select plants for the site and your goals
 - Collect seed or purchase plants



Shifting Plant Communities



Case Study

Greenways Conservation Area, Wayland



Case Study

Greenways Conservation Area, Wayland



Case Study

Greenways: SVT North Field (2007)



Mowing invasive shrub perimeters

Funded by MassWildlife Landowner Incentives Program



Fecon Bull Hog Mounted on a Skid Steer



Brush Hog Maintenance
mowing



Treatment of Shrub Wetland/Field Edges



Persistent Buckthorn and Others

Funded by National Fish & Wildlife Foundation
& NYANZA Mitigation Funds



3 years of
treatments+



After first year



Planting Natives

Choose Plot locations and kill existing plants



Rototilled Plot – Much easier!

(Success was similar)



Weeding and Watering



Success!!



Pollinators

(Thank you to Mass. Butterfly Club volunteers)



Case Study

Stevens-Coolidge Place, North Andover

Pollinators and Birds

Single management
strategy

Staggered Mowing

Diverse
Management



Wet Meadows





Rotational Grazing for birds
Staggered Mowing in wet meadows

Case Study

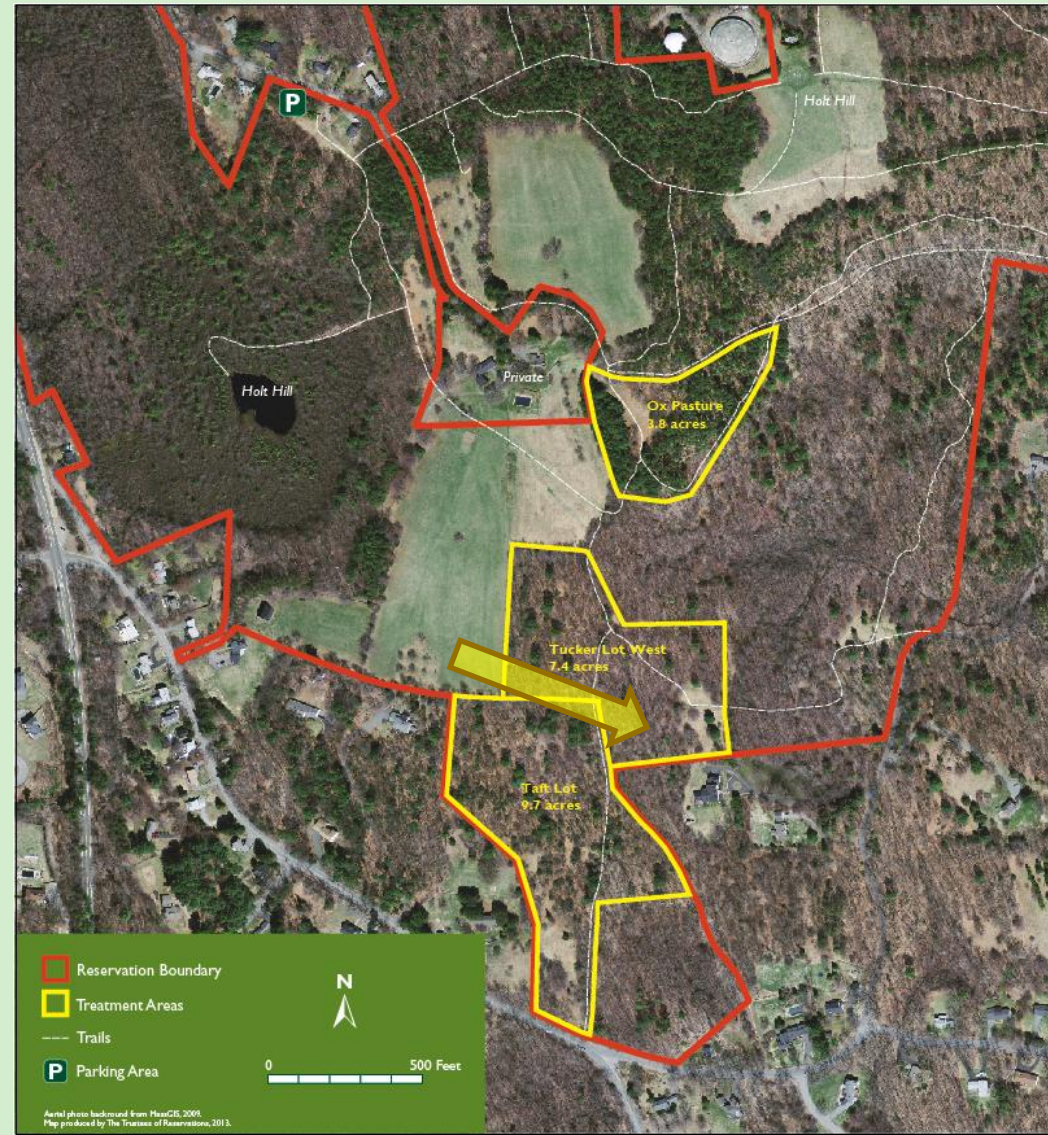
Ward Reservation, Andover

Large, Unfragmented
Habitat for broad suite
of plants and wildlife

More efficient use of resources

Invasive plants and decaying
plantation

Restoration – habitat and
scenic vista



Before



After





1 Year Later

**Annual Mowing
Spot treat for invasives**

Plantation – safety, aesthetics, invasive plants and poor habitat



After



Case Study

Grass Rides, Hamilton

Small, native grassland

Rare plant

Succession

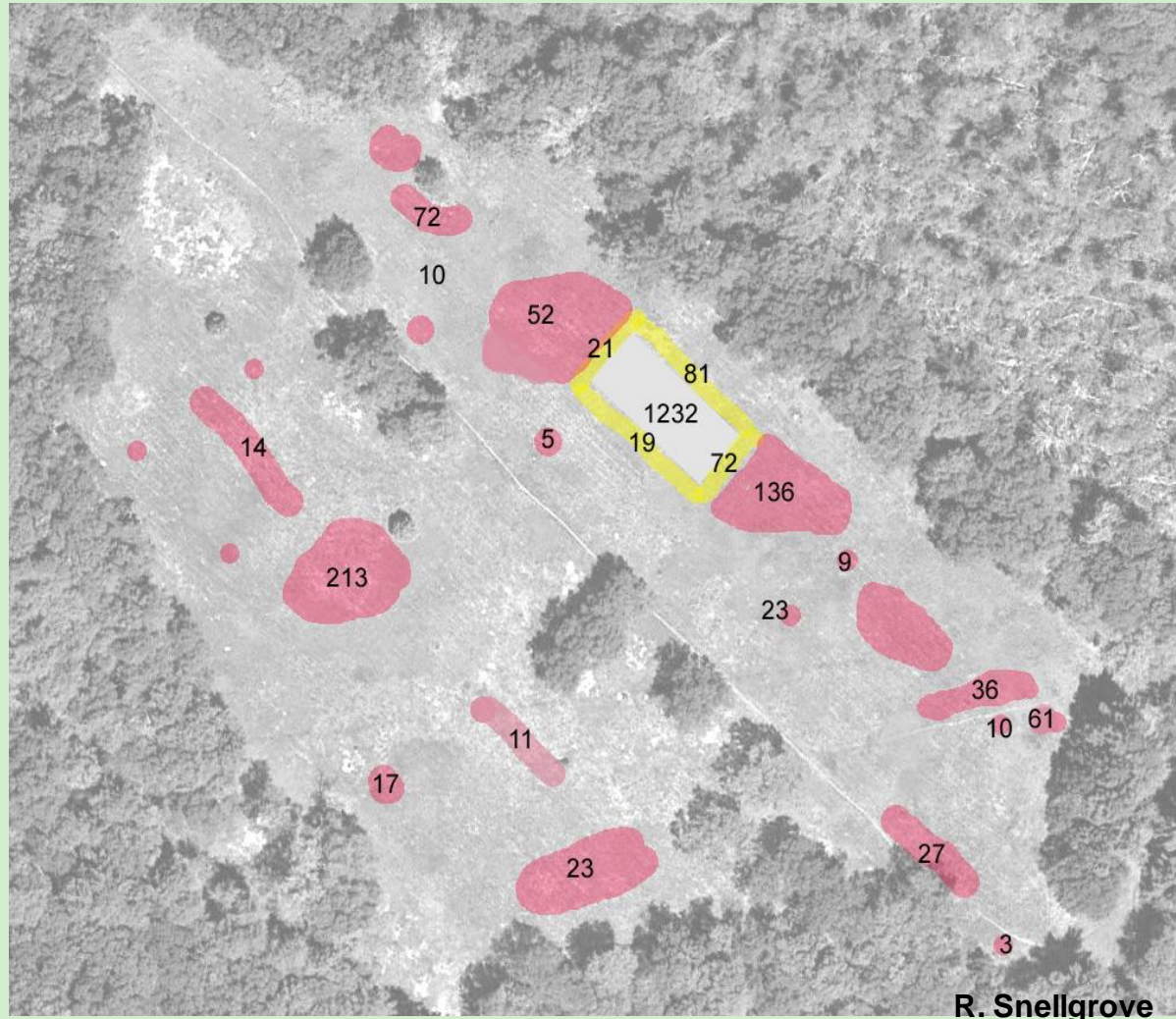
Mechanical clearing and
Prescribed fire (deferred
and routine maintenance)







New England Blazing Star distribution



A photograph of a forest clearing. In the foreground, a dirt path leads from the bottom center towards the middle ground. To the right of the path, a large, leafless tree stands prominently. The ground is covered in dark, charred soil and sparse, dry vegetation. In the background, a dense forest of trees with autumn foliage in shades of orange, red, and brown is visible under a clear sky. The overall scene suggests a managed woodland area.

Annual Mowing
Prescribed Fire
Spot treat invasives and oak seedling
Hunt Deer and exclose Liatris

Charles River Peninsula

Moderate sized grassland

Grassland Birds - target

Invasives – major threat

Fragmentation

**Mechanical clearing,
herbicide, regular mowing**



Cyprus Spurge



Smooth bedstraw



After Treatment



Funding Grassland Habitat Management

- USDA Natural Resources Conservation Service (EQIP) – DCR Liaison
 - National Fish & Wildlife Federation – Pulling Together Initiative
 - DCR Forest Stewardship Program
 - New DFW Habitat Management (former LIP)
 - Work with partners if possible to increase funding potential
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Q & A Discussion

