Overview

• Introduction
  – What data is being collected by the GSP
  – How the information presented here fits into data collection and analysis efforts

• Field Work Analysis
  – Participation
  – Efficiency
  – Phase work

• Progress Snapshot
  – Forest restoration progress (Inventory & Tree-iage)

• Take-Aways & Next Steps
Our Data Collection Efforts

**Work Logs & Volunteer Logs**
- Entered by volunteers, contractors, and staff (CEDAR)
- Give us an idea of program **activities**

**Inventory & Mapping by Phase**
- Collected by professional partners
- Provide an idea of ecological **outputs & initial outcomes**
- General info on many areas

**Forest Monitoring**
- Collected by Forest Monitoring Team
- Permanent plot samples – shows **in depth ecological outcomes**
- Precise information on a few areas
Field Work Participation

Field Work Hour Totals
Work log hours recorded January 2007 - May 2013

- Adult Volunteer Hours: 311,629 (49%)
- Youth Volunteer Hours: 156,228 (24%)
- Paid Crew Hours: 127,367 (20%)
- Paid Volunteer Leadership Hours: 47,461 (7%)
Participation Over Time

Reported Labor Hour Contribution of Work Events 2007 - 2012

- Volunteer Led Work Parties
- Professionally Led Volunteer Work Parties
- Crew Labor Work Entries

Number and Size of Reported Work Events 2007 - 2012

- Number of Work Events
- Average Size of Work Events
Efficiency

Time Spent on Initial Invasive Removal

- Total (n=901)
- Crew (n=230)
- Volunteer Only (n=336)
- Mixed (n=335)

3rd Quartile

2nd Quartile

Hours / ft²
Efficiency

Time Spent on Potted Plant Planting

- Total (n=540)
- Crew (n=66)
- Volunteer Only (n=287)
- Mixed (n=187)

Hours/individual plant

3rd Quartile

2nd Quartile

- 3rd Quartile
- 2nd Quartile
Efficiency

Time Spent on Mulching

- Total (n=373)
- Crew (n=106)
- Volunteer Only (n=120)
- Mixed (n=147)

Hours/ft²

- 3rd Quartile
- 2nd Quartile
Efficiency

Time Spent on Weeding

<table>
<thead>
<tr>
<th></th>
<th>hours/ft²</th>
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<tbody>
<tr>
<td>Total (n=1210)</td>
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</tr>
<tr>
<td>Crew (n=324)</td>
<td></td>
</tr>
<tr>
<td>Volunteer Only (n=578)</td>
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<tr>
<td>Mixed (n=308)</td>
<td></td>
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</tbody>
</table>

3rd Quartile

2nd Quartile
Phase Work

Phase 1: Primary removal of invasive species, either manually or with herbicide.

Phase 2: Planting native species.

Phase 3: Plant establishment – mulching, watering, and weeding.

Phase 4: Monitoring and maintenance.
Phase Work

Distribution of Reported Field Labor Hours Across Phases
January 2007 - August 2013

Phase 1
Total Hours 265,046
44%

Phase 2
Total Hours 98,514
17%

Phase 3
Total Hours 232,424
39%
Phase Work Over Time

Reported Field Labor Hours Per Year by Phase

January 2007 - December 2012*

Phase 3 (Establishment) Hours
Phase 2 (Planting) Hours
Phase 1 (Invasive Removal) Hours

2007 2008 2009 2010 2011 2012

2007: 12
2008: 60
2009: 80
2010: 110
2011: 100
2012: 100

Thousand Labor Hours
GSP Progress

Tree-iage

Composition Value

High
>25% native tree canopy cover, >50% canopy cover is evergreen

Medium
>25% native tree canopy cover, <50% canopy cover is evergreen

Low
<25% native tree canopy cover

Threat

Low
<5% invasive cover

Medium
5% - 50% invasive cover

High
> 50% invasive cover

Monitoring & Stewardship

Invasive Plant Reduction

Major Invasive Plant Reduction

Planting

Invasive Plant Reduction & Major Planting

Major Invasive Plant Reduction & Planting

Evaluation & Major Planting

Invasive Plant Reduction & Major Planting

Major Invasive Plant Reduction & Major Planting
# GSP Progress

<table>
<thead>
<tr>
<th>Tree-iage of GSP Managed Acres</th>
<th>Baseline Tree-iage Value (1999-2000)</th>
<th>Un-Measured</th>
<th>Total</th>
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<tbody>
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<tr>
<td>9</td>
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<td>4.9</td>
<td>17.9</td>
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<tr>
<td>Un-Measured</td>
<td>25.3  117.2  42.0  41.3  235.1  346.8  20.2  234.6  408.2</td>
<td>109.0</td>
<td>1579.6</td>
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<tr>
<td>Total</td>
<td>38.8  373.4  122.4  59.7  407.0  568.2  27.0  385.3  591.2</td>
<td>178.5</td>
<td>2791.7</td>
</tr>
</tbody>
</table>

### Improved
- 752.1 acres

### No Change
- 171.5 acres

### Declined
- 179.1 acres
GSP Progress

<table>
<thead>
<tr>
<th>Improvement Level</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>752.1</td>
</tr>
<tr>
<td>No Change</td>
<td>171.5</td>
</tr>
<tr>
<td>Declined</td>
<td>179.1</td>
</tr>
</tbody>
</table>

Amount of Work Expended by Improvement Level

<table>
<thead>
<tr>
<th>Improvement Level</th>
<th>3rd Quartile</th>
<th>2nd Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td></td>
<td></td>
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<tr>
<td>No Change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Declined</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Hours/Acre Dedicated to Zone 2007 - 2013

(n = 407)

(n = 79)

(n = 97)
Take-Aways

• Importance and strength of volunteer participation

• Efficiency: Crews $\rightarrow$ Forest Stewards $\rightarrow$ Professionally Led Volunteers
  – Professionally Led Volunteers Provide Biggest Numbers

• Transition from invasive removal to maintenance

• GSP has improved most acres - some need revisit
Next Steps

• Monetize hours & add plants, supplies and overhead → total resources toward sites
• Evaluate progress across more dimensions
  – inventory and monitoring data
• Examine conditions leading to variation in effort (site - slope, interior to edge ratio, soil; labor – contractors, size of groups)
  – create predictive model for future work
Questions?