Forest Management Planning

Gary Koplun
Service Forester
NYSDEC
Forest Management:

Forest ≈ Forested Land ≈ Woods ≈ Woodlot

Management practices – harvesting, planting

Health indicators – growth rates, stocking

Productivity measures – timber revenue, wildlife numbers
Why Manage?

Protection of the Soil, Water & Habitat

- Overland flow, erosion, soil loss
- Turbidity, Sedimentation
- Fish & Aquatic organisms
Why Manage?

Improve or Create Wildlife Habitat

- Big & Small Game
- Diversity
- Threatened species

Habitat Requirements:

- Multiple cover types
- Appropriate acreage
- Cover Patterns
Why Manage?

Generate Revenue

- Timber
- Firewood
- Maple sap $\rightarrow$ syrup
- Other Specialty Products

Forest crops

- as with all crops planning, preparation, and tending impact yield
Timber Management

Products:
- Veneer
- Saw Logs
- Low Grade Logs
- Pulp

Timber management practices balance:
- Timber production
- Sustainable harvests
- Revenue gains
- Forest Health
Timber Management Practices – Thinning

Stand Dynamics
- Tree size ↑
- Competition ↑
- Carrying Capacity ↓

Purpose of Thinning
- Maximize growth rates
- Capitalize on mortality
- Choose residual trees
Thinning and Timber Production

Overstocked – closed canopy

Well stocked

Thinned
Types of Thinning

Pre-commercial Thinning – Sapling/Pole Stands
• undesired species
• crowding

Non-commercial Thinning – Pole/Sawtimber Stands
• poor form & low grade trees
• salvage

Commercial Thinning/ Harvesting – Sawtimber Stands
• mature timber
• regeneration
Why Not Manage? - Common Hurdles

• Time

• Trust
Why Not Manage? - Common Hurdles

- Costs
- Approach
Overcoming the Hurdles

Every Task Deserves a Good Plan
Every Plan Deserves Good Advice
Good Advice Comes from Good Advisors

Forest Resource Advisors ≈ Foresters
Free Services, Advice & Conservation Programs

- State Forestry Department
- Land Grant College, Cooperative Extension
- Soil & Water Conservation Districts
- Forest Landowner Organizations
Environmental Quality Incentive Program (EQIP)

EQIP Forestry

- Cost-share program available through the NRCS
- Supports conservation practices beneficial to the environment and long-term forest productivity

Eligible Practices

- non-commercial thinning
- forest trails & landings
- tree planting
- Invasive species treatment
Professional Services

Private Industry Foresters:

• Industrial Foresters
  – work for wood using manufacturers or exporters. Have economic interests in purchasing and procuring wood for their employer.

• Consulting Foresters
  – work in the private sector. They may be hired on a fee or contingency basis. Do not have an economic interest in procuring wood for another entity.
How to Find a Consulting Forester
What Does A Consulting Forester Do For You?

- Property Visits
- Forest Inventories
- Management Plans
- Timber Sale Marking
What Does A Consulting Forester Do For You?

- Timber Sale Layout
- Sale Bidding
- Contract Administration
- Logging Inspections
Developing a Plan

Forest Management Plan
- A guide for the landowner to achieve specific goals according to their ownership objectives and the capabilities of the land

1. Acknowledge Landowner Objectives

2. Inventory Forest Resources

3. Assess Resources and Site Qualities; Compare with Objectives

4. Identify Concerns & Opportunities

5. Create Management Schedule
Breakdown into Components

Tax Parcels

Compartments

Forest Stands
### Management Schedule

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Stand(s)</th>
<th>Acres</th>
<th>Treatment</th>
<th>Description</th>
<th>Projected ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 - 2016</td>
<td>10, 11, 12</td>
<td>15</td>
<td>Skid trails</td>
<td>Add 1,200’ &amp; repair 800’ thinning (from below)</td>
<td>-2,000</td>
</tr>
<tr>
<td></td>
<td>10, 11, 12</td>
<td>15</td>
<td>Commercial thinning</td>
<td>3,000</td>
<td></td>
</tr>
<tr>
<td>2016 - 2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017 - 2018</td>
<td>Other 8,9</td>
<td>8</td>
<td>Purchase Right-of-Way</td>
<td>ROW &amp; extension of trail thinning (from below)</td>
<td>-2,700</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Commercial thinning</td>
<td>1,800</td>
<td></td>
</tr>
<tr>
<td>2018 - 2019</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019 - 2020</td>
<td>11 11</td>
<td>2</td>
<td>Harvest</td>
<td>Clearcut Hazelnut, Chestnut, Walnut</td>
<td>1,800</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>Tree Planting</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>2020 - 2021</td>
<td>10 10</td>
<td>3</td>
<td>Prepare for maple sap production</td>
<td>Purchase taps, lines, collection tanks wholesale to syrup producer</td>
<td>-5,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>maple sap collection</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td>2021 - 2022</td>
<td>10 3</td>
<td></td>
<td>maple sap collection</td>
<td>wholesale to syrup producer</td>
<td>1,500</td>
</tr>
<tr>
<td>2022 - 2023</td>
<td>10 8, 9, 10, 12</td>
<td>20</td>
<td>maple sap collection</td>
<td>wholesale to syrup producer</td>
<td>1,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Commercial thinning</td>
<td>12,000</td>
<td></td>
</tr>
</tbody>
</table>
Management Scenario - Threat

Invasive Species:
- Emerald Ash Borer

- Introduced near Lansing, MI early 1990s
- Officially acknowledged in 2002
- Found in NYS 2009
- Found in 19 States by 2012
Management Scenario - Threat

Emerald Ash Borer

• Feed on inner bark & cambium
• Slowly Girdle Trees
• Gradual Crown Decline
• Fatality 3-10 years
Management Action - Preparation

Emerald Ash Borer

Evaluate:
- Closest known EAB Location
- Age and % in forest stands
- Other species
- Available markets

Recommendations:
- Favor removal of ash when thinning
- Thin to regenerate other species
- Protect select ash trees
Management Action - Preparation

The forest inventory indicates:

- Heavy Components of Ash in Stands 9, 10 & 12
- Valuable Ash Sawlogs in Stand 9 & 12
- Mostly low value Ash Poles in Stand 10

Management Schedule

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Stand(s)</th>
<th>Acres</th>
<th>Treatment</th>
<th>Description</th>
<th>Projected ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 - 2016</td>
<td>9, 12</td>
<td>10</td>
<td>Commercial thinning</td>
<td>thinning (from below &amp; above) - focus on sawtimber Ash; go light on maple &amp; cherry</td>
<td>6,000</td>
</tr>
<tr>
<td>2016 - 2017</td>
<td>All</td>
<td>105</td>
<td>Examine for EAB</td>
<td>if found hasten schedule</td>
<td></td>
</tr>
<tr>
<td>2017 - 2018</td>
<td>All</td>
<td>105</td>
<td>Examine for EAB</td>
<td>if found hasten schedule</td>
<td></td>
</tr>
<tr>
<td>2018 - 2019</td>
<td>All</td>
<td>105</td>
<td>Examine for EAB</td>
<td>if found hasten schedule</td>
<td></td>
</tr>
<tr>
<td>2019 - 2020</td>
<td>All</td>
<td>105</td>
<td>Examine for EAB</td>
<td>if found hasten schedule</td>
<td></td>
</tr>
<tr>
<td>2020 - 2021</td>
<td>10</td>
<td>8</td>
<td>Commercial thinning</td>
<td>thinning (from below &amp; above) - focus on sawtimber Ash; go light on maple &amp; cherry</td>
<td>2,500</td>
</tr>
</tbody>
</table>
Management Scenario - Opportunity

Emerging Markets:

Craft Breweries ↗
Local NYS Hops ↗
Rot Resistant Poles ↗
Pole Size Locust Trees ↗
Management Scenario - Opportunity

Black Locust:
Management Action – Encourage black locust

The forest inventory indicates:

- Heavy Components of Locust in Stands 6 & 11
- Locust non-merchantable – twisted trunks
- Mix of ash, black cherry, and Red pine sawlogs

Management Schedule

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Stand(s)</th>
<th>Acres</th>
<th>Treatment</th>
<th>Description</th>
<th>Projected ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 - 2016</td>
<td>6, 11</td>
<td>3</td>
<td>Clearcut</td>
<td>Harvest all valuable timber</td>
<td>1,500</td>
</tr>
<tr>
<td>2016 - 2017</td>
<td>6, 11</td>
<td>3</td>
<td>Prune black locust sprouts</td>
<td>encourage single, straight stems</td>
<td>-100</td>
</tr>
<tr>
<td>2017 - 2018</td>
<td>6, 11</td>
<td>3</td>
<td>Prune black locust sprouts</td>
<td>encourage single, straight stems</td>
<td>-100</td>
</tr>
<tr>
<td>2018 - 2019</td>
<td>6, 11</td>
<td>3</td>
<td>Prune black locust sprouts</td>
<td>encourage single, straight stems</td>
<td>-100</td>
</tr>
<tr>
<td>2019 - 2020</td>
<td>6, 11</td>
<td>3</td>
<td>Prune black locust sprouts</td>
<td>encourage single, straight stems</td>
<td>-100</td>
</tr>
<tr>
<td>2020 - 2021</td>
<td>6, 11</td>
<td>3</td>
<td>Prune black locust sprouts</td>
<td>encourage single, straight stems</td>
<td>-100</td>
</tr>
<tr>
<td>2021 - 2022</td>
<td>6, 11</td>
<td>3</td>
<td>Harvest black locust Poles</td>
<td>Sell to hop pole distributor</td>
<td>3,200</td>
</tr>
</tbody>
</table>
Additional Benefits

Forest Certifications:
Additional Benefits

Tax Considerations:

- Right-Offs
- Deductions
- Amortization
- Forest Tax Law Incentive Programs
Any Questions?