Oak to Cut or Not to Cut?
Regenerating Oak/Hickory Woodlands in Southwestern Wisconsin

John Nielsen
Nielsen and Nielsen Forestry, LLC
nielsenforestry@gmail.com
Oak Forest Basics

• Mismanagement or no management is resulting in:
  – Conversion to more shade tolerant trees and shrubs on dry mesic / mesic sites.
  – Loss of Oak biodiversity with implications for insect and bird populations
  – Loss of Oak as a potential future “renewable” resource.
Is the current age class distribution balanced?

Acres of Oak / Hickory by Age Class and Ownership (FIA 2011)
Forest Community Dynamics (with and without management) on Mesic and Dry-mesic Sites in Southern Wisconsin
Recommended and Extended Rotation Ages by Habitat Type Groups and Species Group

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Black/Pin Oaks</th>
<th>Red Oak</th>
<th>White Oaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry</td>
<td>70-90-110</td>
<td>70-100-120</td>
<td>80-110-150</td>
</tr>
<tr>
<td>Dry Mesic</td>
<td>80-110-140</td>
<td>80-120-150</td>
<td>80-140-250</td>
</tr>
<tr>
<td>Mesic</td>
<td>90-120-150</td>
<td>100-140-200</td>
<td>100-160-300</td>
</tr>
</tbody>
</table>

Note: 1st and 2nd number represent the timber rotation age, and the 2nd and 3rd numbers represent the potential extended rotation age.
Oak Regeneration

- The regeneration of oak forests is an ecological process, not an event.
  - The oak regeneration process may straddle the end of a rotation and the beginning of the new stand (10+ years).
  - It takes planning, deliberate actions, commitment and “luck”.
  - Includes site evaluation, pre-sale work, timed appropriate harvest, post-sale follow-up.
  - We don’t have all the answers.
The Oak Management Process

Your woods will not look the same...

Disturbance is a good thing...

Timing is critical...
Site Evaluation

- **Timing of the harvest is critical.**
  - Considerations:
    - Is oak regeneration feasible, or economical?
      - Advanced non-oak regeneration, high deer populations.
    - You need existent, well developed, advanced seedling/sapling oak regeneration (min 400/acre >1500/acre desired). Not all your seedlings have to be oak (may require future management actions).
    - Control of competing tree regeneration and competing vegetation (invasive plants)
Low intensity fire may play a critical role in the perpetuation of oak on mesic sites...

Competitive Advantage

Competition from other species might be reduced and the proportion of oaks in advanced reproduction might be increased with fire.

Use cautiously as fire can damage crop trees and kill young oak seedlings and acorns.
Planting oak seedlings in combination with natural seedlings can help improve success. Perhaps you may “augment” existing regeneration with 200-500 seedlings per acre.
Oak Harvest/Regeneration Methods

Even-aged: provide required sunlight
- Overstory Removal (regeneration established)
- Shelterwood (to establish regeneration)
- Coppice (stump sprouts, not reliable on larger size trees)
- Patch cut (0.5 to 2 acres,)
- Clearcut (relies on acorn crop, risky)
Overstory Removal

➢ Already have desired, established
➢ Essentially a clear cut.
➢ May require post sale cleaning

Key Component
• Controlling light to seedling
• Controlling competition
• Regeneration established
Overstory Removal......
Shelterwood

➢ To develop established seed origin regeneration

➢ Two-cut shelterwood is standard
  1. Preparatory cut (Optional)
  2. Seeding cut (may be non-commercial)
  3. Overstory Removal cut (ends in Clear Cut)

Key Components
  • Controlling light to seedling
  • Controlling competition
  • Acorns incorporated into soil
Shelterwood harvest to establish regeneration.
Even-aged Patch Clear Cuts

- .05 -5 acre patches
  - each patch is a “stand”
- area regulation
  - at property level
- Need to start early in rotation age to allow for future harvests
- Treat the same as if a larger stand
Clearcut – Driftless Area

- No advanced regeneration
- Depends on regeneration by seed during or following cutting
- Timed to excellent acorn crop
- Can be risky
  - new seedlings originating post harvest may have problems competing, particularly on better sites
- Follow-up work may be needed to release
- If not successful, will require planting
Often times a combination of techniques…..
Post-Sale work and follow up
Cleaning the Patches/Post sale
Timber Stand Improvement
Invasive species management
Oak seedling monitoring & release.

- Evaluate in 3 years, release oaks if needed
- Age 10, release oaks if needed
- Favor oaks during normal management practices
Timber Sale 101
Hire a Professional Forester
• Have the timber marked
• Volume estimated
• Sold on bids.

Generally sell, “Lump sum” Standing
CONTRACTING PARTIES

1. CONTRACTING PARTIES
   a. Seller and Purchaser. In this Contract, the Seller and the Purchaser include their respective officers, employees, agents, directors, partners, representatives, successors, heirs, and members.
   b. Purchaser Ceases to Exist. If the Purchaser ceases to exist, in fact or by law, the Seller may terminate this Contract without waiving any remedies available to it and take all action necessary to assure its performance.
   c. Subcontracting. This Contract or work under it may not be assigned or subcontracted in part or in whole without prior written approval from the Seller and may be changed or amended only in writing. The Purchaser agrees to notify the surety, if any, of any such change or amendment.

ENTIRE CONTRACT

2. ENTIRE CONTRACT. This Contract, together with specifications as the request in this document, shall constitute the entire agreement and any previous communications or agreements pertaining to this Contract hereby superseded. Any amendments to this Contract shall be in writing, signed and dated by both parties.

ATTACHMENTS.

3. ATTACHMENTS. Any and all attachments to this Contract shall be made a part of this Contract and be fully complied with, including:
   a. Maps(s) or Diagram(s) of Sale Area;
   b. Payment Schedule and Conditions of Payment;
   c. Other:

CONTRACT PERFORMANCE, PERIOD, EXTENSIONS AND TERMINATION

4. PERFORMANCE
   a. Commencement. Cutting and removal of timber in conformance with this Contract may commence and continue only after the signing of this Contract by both parties and only after submission and maintenance of all bonds, certificates, or statements required under it.
   b. Contract Oversight. Cutting and removal of timber purchased under this Contract shall be conducted in conformance with the Contract and in a good and workmanlike manner with reasonable diligence to assure completion of all performance under this Contract prior to the expiration of the Contract period specified in par. 5. The Purchaser agrees to notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting the timber designated herein and upon completion of the cutting. In the event that the harvest is temporarily discontinued for more than one week, the Purchaser agrees to notify the Seller upon recommencement and resumption of harvesting. Notice to the Seller or the Seller’s Agent may be made by telephone to 608 206 4123 (phone number). The Seller or the Seller’s Agent may require an onsite meeting before commencement of harvesting.
   c. Inspection. The Seller retains the right of ingress and egress to and on the sale area and may request the sale area and trucks hauling forest products from or traveling on the sale area at any time. If the inspection reveals any violations of this Contract the Seller shall promptly notice the Purchaser. Upon notice from the Seller, the Purchaser shall promptly take measures to remedy the violations.
   d. Access. The Purchaser has no access or privilege to use the timber property other than to comply with this Contract and may not authorize access or use to others except for the sole purpose of performing this Contract.

CONTRACT PERIOD

5. CONTRACT PERIOD
   a. The term of this Contract shall be commencing harvest of the timber designated herein and upon completion of the cutting. In the event that the harvest is temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   b. This Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   c. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   d. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   e. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   f. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   g. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   h. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   i. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   j. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   k. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   l. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   m. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   n. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   o. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   p. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   q. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   r. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   s. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   t. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   u. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   v. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   w. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   x. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   y. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.
   z. The term of this Contract shall be temporarily discontinued for more than one week, the Purchaser shall notify the Seller or the Seller’s Agent 48 hours prior to the commencement of harvesting.

Where options are listed with "OR", strike the option(s) that does not apply.
Remember…
Oak Regeneration is a process….
And... the oak regeneration process is dependent on seedlings being there....
Questions?

Thank You