

# Regenerating oak in the northern Piedmont

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Green Man Forestry

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## Green Man Forestry



Consulting Forestry



Low-impact restorative harvesting



Educational Outreach



## On the importance of forests

- Market benefits
  - Timber/pulpwood
  - Non-timber products
- Non-Market benefits
  - Carbon storage
  - Global heat balance
  - Air purification
  - Water filtration/collection
  - Soil fertility/stability
  - Biodiversity
  - Wildlife Habitat
  - Aesthetics
  - Recreation



## Sustainable forestry



- EcoSystems approach
- Mimic natural dynamics
- Extended time horizon
- Improve forest health
- Balanced-Use
- Max. long-term income

## Oak ecology



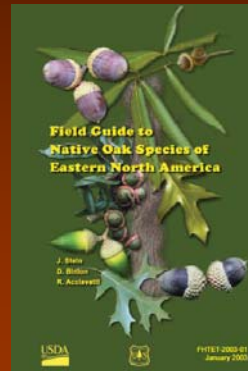
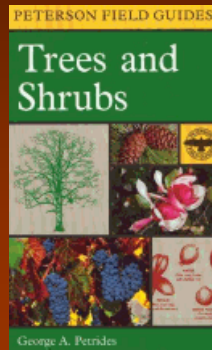
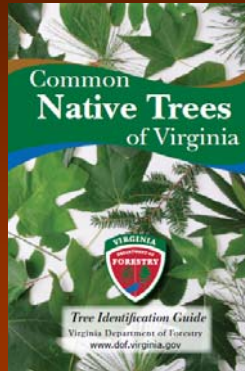
- Beech Family – Quercus genus
- Most important tree in N.H.
- High diversity (400+ species)
- Widespread
- “Persistence” strategy
- Mid- to late-successional
- Deep root system
- Irregular mast production
- Moderate shade tolerance
- Moderate fire tolerance
- High wildlife value
- High wood use value

## Piedmont oaks

- Red oak group
  - black oak
  - pin oak
  - willow oak
  - scarlet oak
  - northern red oak
- White oak group
  - white oak
  - chestnut oak
  - post oak
  - swamp white oak



## Oak identification



## Benefits of oak

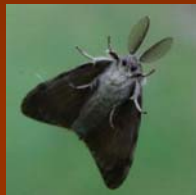
- Historic value
- Cultural value
- Intrinsic value
- Ecological value
- Wildlife value
- Aesthetic value
- Economic value



## The oak regeneration problem



- Highgrading
- Fire exclusion
- White-tailed deer herbivory
- Shade-tolerant competition
- Exotic plants and pests



## Regenerating oak

### 1. Develop a roadmap – forest management plan

- Management objectives
- Property description
- Forest condition
- Stand composition and structure
- Aesthetic, recreational, wildlife and economic values
- Feasibility of oak management
- Obstacles
- Cost-share programs
- Land use and Easements
- Future projects
- Stand specific recommendations



## Regenerating oak

2. Manage the local deer population
  - Food source management
  - Hunting
  - Other methods (sustainability?)



## Regenerating oak

3. Exotic invasive plant control
  - tree-of-heaven, bittersweet, honeysuckle, etc.
  - Manual, repeatedly during the growing season, in the wet
  - Chemical (glyphosphate) late summer/early fall
  - Variable cost (\$50 to \$1,200 acre)
  - Repeat, Repeat...



## Regenerating oak



### 4. Selective harvesting

- Mimic natural disturbance regime
- Worst-first, individual tree selection
- Reduce BA to about 60 ft<sup>2</sup>/acre
- Favor oaks where appropriate
- Timber stand improvement
- Reduce shade-tolerant species

## Regenerating oak

### 5. Prescribed fire

- Mimic natural fire regime
- Light understory burn
- High frequency, roughly every 10 to 15 years
- Low-intensity, fast burn
- Spring burn most effective
- Cost of \$10 to \$20/acre



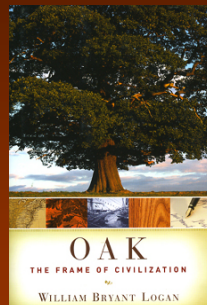
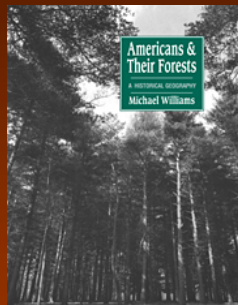
## Regenerating oak



### 6. Monitoring

- Get to know your property
- Make a walking or riding trail
- Forest health exam (5 years)

## Suggested readings



Thank you

