Session 3: Plan and Implement Forest Stewardship

An Ecological Approach

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Session 1 – Ecology & History

- Ecosystem services
- Scales of space and time
- Climate and plant dispersal mechanisms
- Succession and disturbance
- Land use history

https://www.caryinstitute.org/news-insights/lecture-video/forest-stewardship-workshop-ecology-history-northeast-forests

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Session 2 - Threats

- Development, habitat loss and fragmentation
- Invasive plants
- Pests and pathogens
- Too many deer
- Deer, invasive plant, disturbance and climate change interactions

https://www.caryinstitute.org/news-insights/lecture-video/forest-stewardship-workshop-threats-northeast-forests

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Another Threat: Do Nothing

Hesitancy to manage lands:

- Can't afford to do all you want.
- Unsure what to do (its complicated).
- Don't want to make mistake.
- Better to "Let nature take its course".

Why “Doing Something” Should Be Considered

- Not“pristine” forest communities, nor transitioning toward pre-colonial condition.
- Today’s disturbances are not equivalent to what produced pre-colonial forests.
- Change is happening – regardless if you take action or not. Do you like it’s current direction?
- Are becoming more homogeneous, less diverse and less able to support wildlife and withstand catastrophic disturbances.

“Letting nature take its course” is a management decision!

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"Acts of creation are ordinarily reserved for gods and poets, but humbler folk may circumvent this restriction if they know how. To plant a pine, for example, one need be neither god nor poet; one need only own a good shovel."

Aldo Leopold

Pines Above the Snow, *A Sand County Almanac.*

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Session 3 – Getting Started

- Identify interests & set goals
- Seek help
- Making a plan
- Assessing forest health/risks
- Inventory techniques
- “Field Trip” to assess forest health

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What are Your Interests & Goals?

- Scenic beauty or scenery
- Preserve wildlife habitat or water resources
- Privacy
- Access/protect nature or biological diversity
- Hunting
- Wildlife study
- Firewood
- Timber products
- Non-timber forest products
- Carbon sequestration

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When Setting Goals

- Include all the players.
- Works through different opinions.
- Scale your efforts to your interests and abilities.

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Ask Professional's for Help

On-line (reputable organizations) and in Person

- US Department of Agriculture (NRCS, FSA, Extension Service)
- State Agencies (NYSDEC, NYSDAM)
- Land grant universities (Cornell, SUNY ESF,….)
- Private organizations (Cary Institute, Dutchess Land Conservancy, LH PRISM, The Nature Conservancy, Scenic Hudson, National Wild Turkey Federation, Ruff Grouse Society, Ducks Unlimited)
- Consulting foresters, Master Forester Program, NY Forest Owners Association

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Financial Assistance

- NY's 480a Forest Tax Law
- NRCS through the Farm Bill.
- "Regenerate NY" Forestry Cost Share Grants

  Private landowners who own between 10 and 1,000 acres of forest land in New York State may apply for grant awards ranging from a minimum of $3,000 to a maximum of $50,000.

  https://www.dec.ny.gov/press/122934.html

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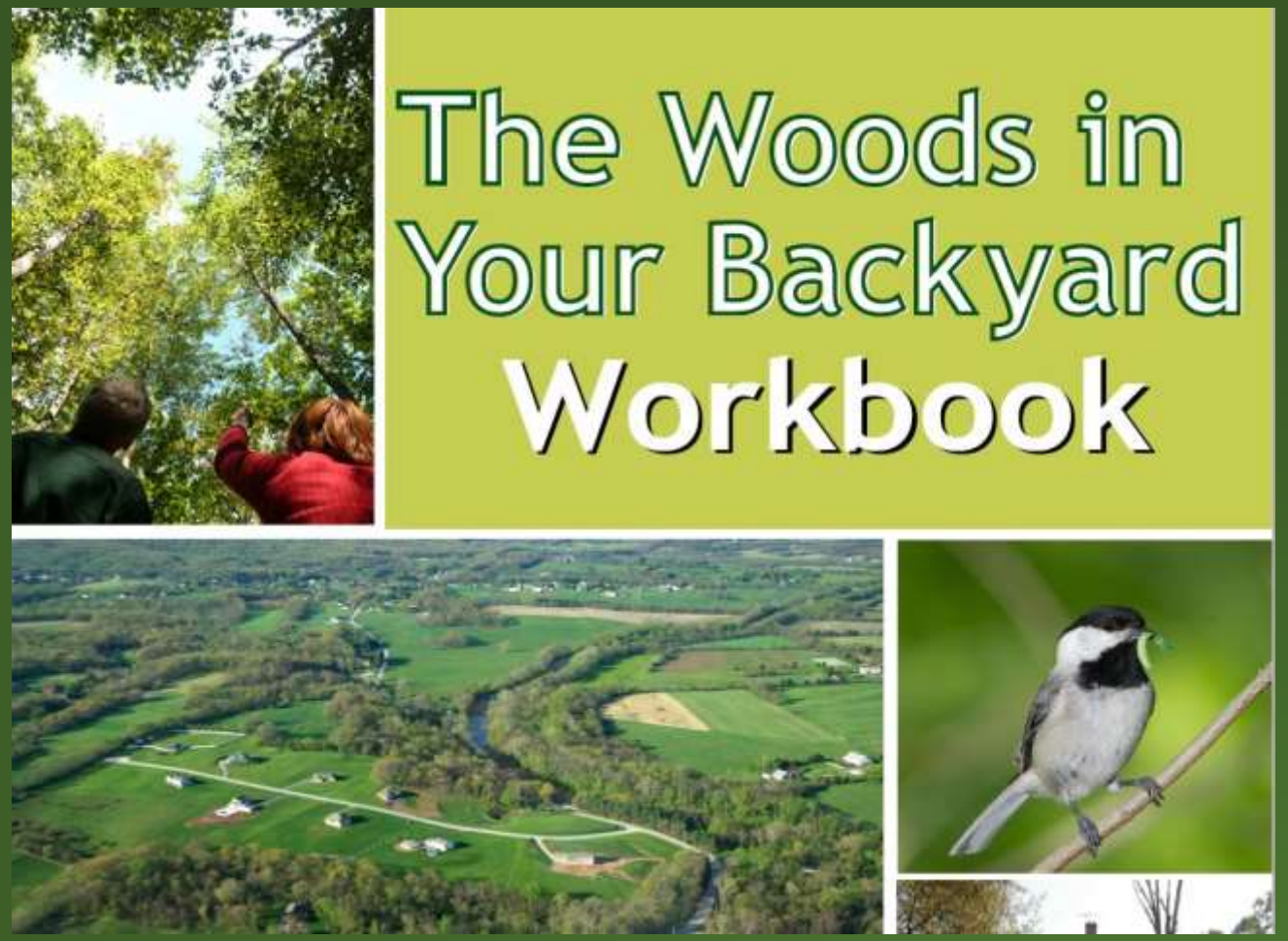
Resource with Case Studies:

The Woods in Your Backyard Workbook
https://www.pubs.ext.vt.edu/ANR/ANR-199/ANR-199.html



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Other Resources:

My Woodlot
www.mywoodlot.com

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Resource Inventory

- Map with on-line tools followed by field checks.
- Identify major habitats and their sizes.
- Sample each unit
- Learn skills as you go!

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Assess Constraints / Risks

- Economic and physical
- Social
- Legal
  - Covenants, easements and right-of-ways
  - Regulations
  - Zoning
- Ecological

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Ecological Risks

- Diversity and Composition
  - Species diversity, suitability, health, insects and disease
- Structure
  - Age and size diversity, standing and down dead wood, space and competition
- Regeneration
  - Abundance of desirable and undesirable plants, suitability to zone, deer browse pressure.
- Site Level Risks
  - Soil quality, excess or lack of water, susceptibility to extremes of weather, impacts of climate change

stadaptation.org/sites/default/files/KeepForestsHealthy_02.27.19.pdf

FOREST DIVERSITY AND COMPOSITION

Every woodlot is different and will contain a different mix of tree and plant species due to the conditions unique to that place and to the history of the land. In general, a forest that contains a variety of tree species that are well-suited to current local conditions and future climate conditions without many interfering plant species will be better able to tolerate changes in climate and other stressors.

SPECIES DIVERSITY

Higher Risk	Lower Risk
The forest has low species diversity, either in the canopy or throughout the forest. One or a few tree species are dominant.	Many tree species are present, without a single species being overly dominant.

SPECIES SUITABILITY

Higher Risk	Lower Risk
The dominant tree species are near the southern extent of their species range or are adapted to cold conditions.	The dominant tree species can tolerate warmer, drier, or more variable conditions and are generally found farther south.

GENERAL TREE HEALTH

Higher Risk	Lower Risk
Trees have poor growth form or have been damaged by insect pests or forest diseases.	Trees are healthy and free of disease and generally have good growth and form.

INSECTS AND DISEASES

Higher Risk	Lower Risk
The forest is currently affected by insects or diseases. There are looming threats such as nearby outbreaks.	There are no current or looming forest insect or disease issues and there is a diversity of

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Healthy Forest Checklist

https://www.mywoodlot.com/images/supporting_information/healthy_forest_checklist.pdf

Healthy Forest Checklist

There's a lot going on in a forest, several different factors should be considered in order to decide its health. Professionally trained foresters take measurements and look at many types of information to fully evaluate forest health.
Here, we guide you through making simple observations about your woods to assess how healthy (or unhealthy) they are.

STEP 1: Walk through your woods and use the Healthy Forest Checklist below to look for and record different signs of forest health.

STEP 2: Calculate your Score at the bottom.

STEP 3: If you are concerned about the health of your woodlot, consider contacting a Master Forest Owner or State or Consulting Forester. You can share you observations with them and start a conversation about the health of your woods and your options for the future.

WHAT TO LOOK FOR	WHAT IT MEANS	YES, I see it	NO, I don't see it
1. Signs of disease or damage • Leaves changing colors or dropping out of season. • Damage to leaves, bark, etc.	Seeing many trees damaged by insects and/ or disease is a sign of poor health.	☹	☺
2. Different species and ages of trees • Different -looking leaves, bark, overall tree shape. • Different size trees (height and diameter).	Seeing trees of different species and ages/ sizes is a sign of good forest health.	☺	☹
3. Lichen on your trees • Scan trunks and bark for flat, leaflike lobes or paintlike crust colored green, orange, yellow or gray.	Seeing lichen on tree trunks is a sign of good air quality and good forest health.	☺	☹
4. Different organisms in your soil • Look under a fallen log or dig holes.	Seeing different types of soil organisms is a sign of good soil quality and good forest health.	☺	☹
5. Signs of tree regeneration • Young trees several inches or feet tall.	Seeing young trees in the understory is a sign of re-growth and good forest health.	☺	☹
6. Standing dead trees and dead logs	Having a few dead trees and logs is actually a sign of good forest health. They provide wildlife habitat and return nutrients to the soil.	☺	☹
7. Different wildlife species • Mammals, birds, insects, amphibians, reptiles, etc.	Seeing many kinds of wildlife is a sign of diversity, productivity, and good forest health.	☺	☹

CALCULATE YOUR SCORE

Create a Written Plan!

Developing & implementing an ecologically-based, sustainable management plan.

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Parts of a Management Plan

- Interests and Goals
- Resource inventory
- Assess potential and constraints / risks
- Describe suitable best management practices
- Work schedule
- Monitoring plan

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Management Practices

- Base on goals, current conditions, constraints, and costs.
- Must be site specific.
- Look for BMPs.
- Consult / hire a professional.
- Investigate cost-sharing opportunities.

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Work Schedule

- Who, when, and what will it cost?
- Be realistic.
- Consult / hire a professional.

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Implementing your Plan

- Clarify “unknowns” and “unforeseen”
- Track progress
- Re-evaluate goals and feasibility.
- Pace yourself!
- Enjoy the journey!

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A Stewardship Journey: Chapter 1

-12 acres.
-Primarily forested
-Town road.
-Parkway.
-Right-of-ways.
-Wetlands
-Seasonal stream

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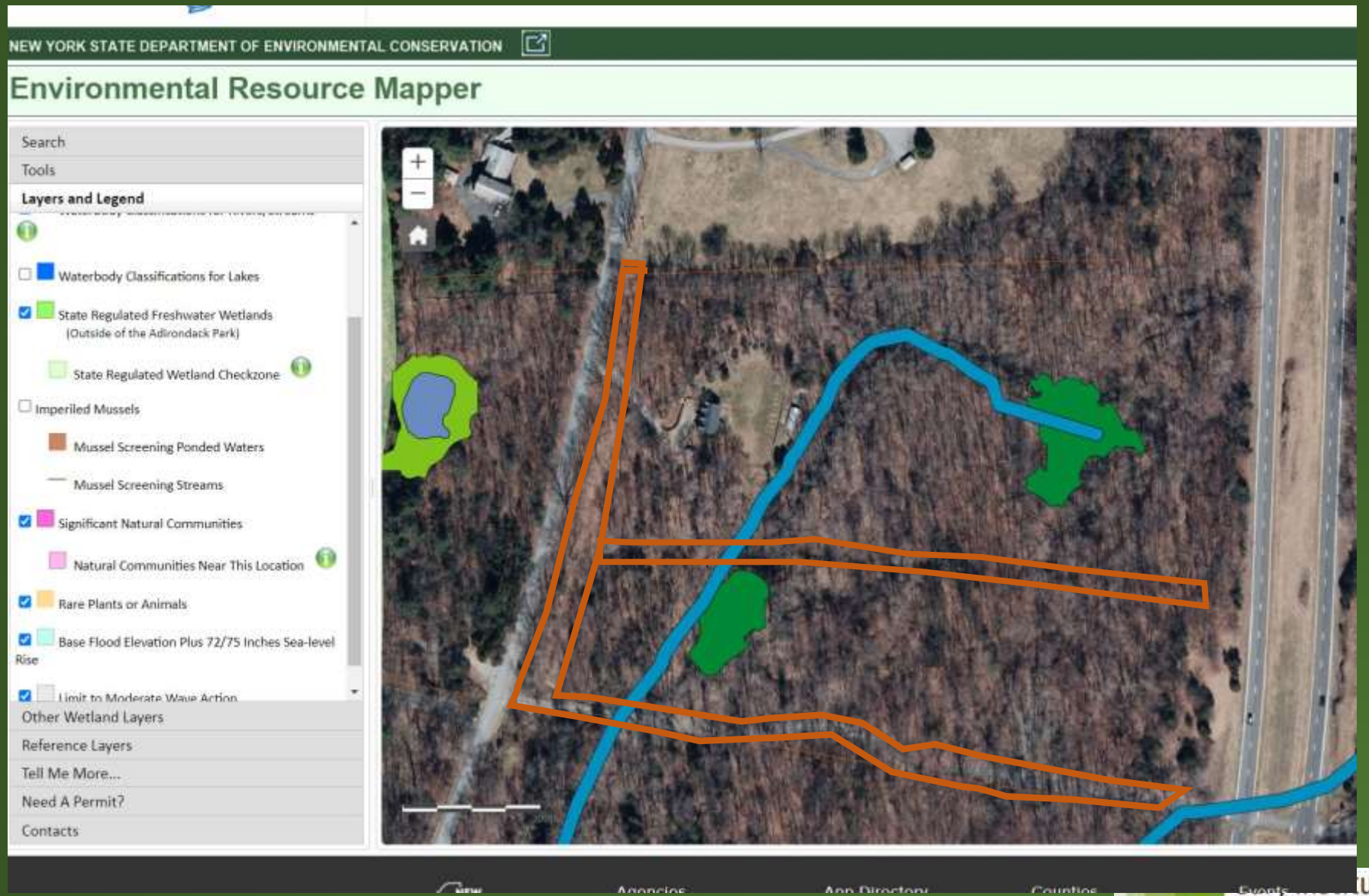
- Stream
- Wetlands
- ROW



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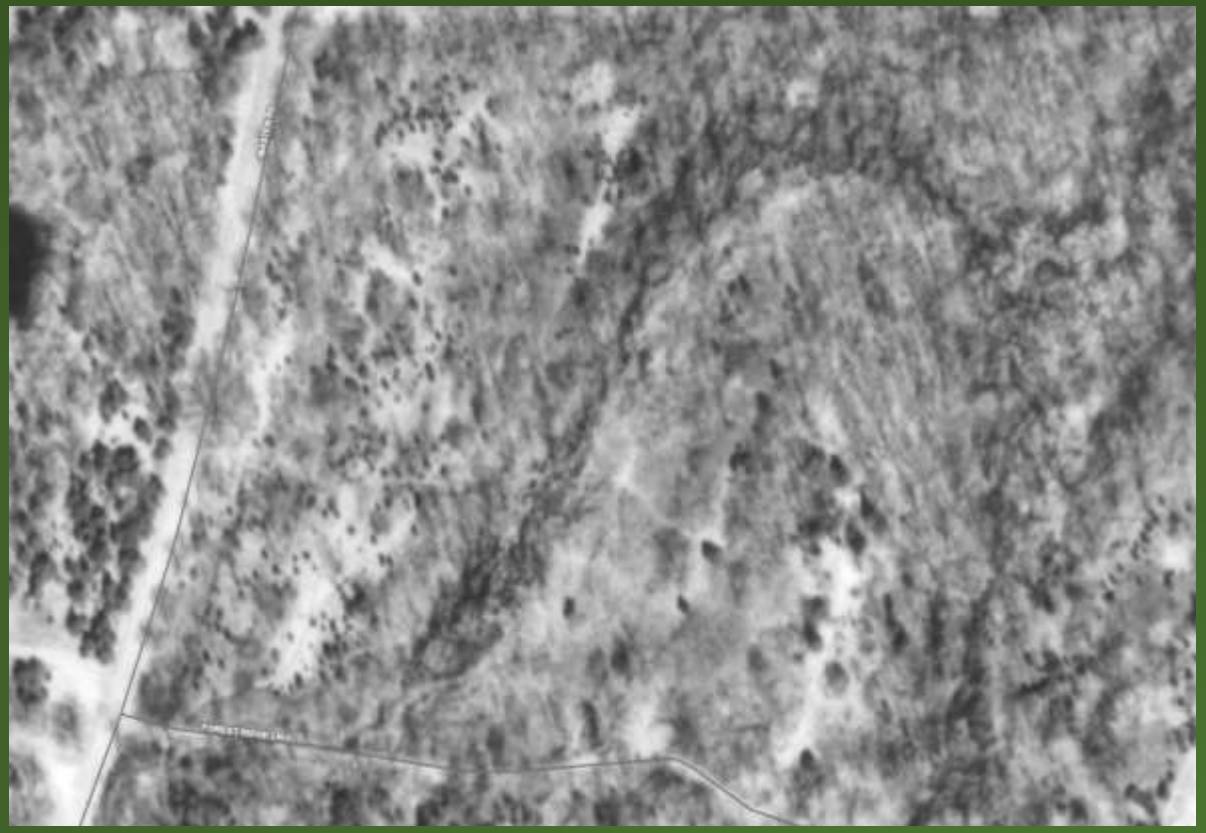
1940

1980



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- Upland: oak, hickory
- Lowland: ash, elm, aspen, red maple

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2016

2020

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EAB-killed Ash Trees

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Management Plan

- Interests and Goals:

  Scenic beauty, noise abatement, reduce ticks, enhance biodiversity, reduce dominance by invasive plants, improve wildlife habitat, enhance wildlife viewing.

- Resource inventory

  17 “study years” on site. Relied extensively on on-line resources.

- Assess potential, constraints and risks

  Not all stands heavily invaded or dominated by ash; Wetlands and stream; ROW’s; limited access to heavy equipment; financial and person-power constraints; do nothing would result in undesirable dominance by IS and loss of diversity.

- Best management practices

  Invasive control: cut-stump treatments, mowing, pulling. Wet areas: non-chemical.

  Planting: favor natives selected on water requirements/tolerance; increase diversity; conifers for sound barriers.

  Thinning: favor native over introduced; rare over abundant; retain wildlife food and cover species.

  Fell dead trees that pose danger; leave rest for wildlife and to drop on own.

- Work schedule

  As time allows. Focus first on areas of ash loss, particularly around the homestead.

  Move to other areas in future years.

- Monitoring plan

  On site daily; seasonal evaluations to plan for next year (tree ordering, equipment purchases, for-hire projects).

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Implementing “Our Plan”

- Not perfect or finished.
- Continue to discover “unknowns” and the “unforeseen”
- Track progress
- Re-evaluate goals and feasibility.
- Pace ourselves.
- Try to enjoy the journey!

Golden Ragwort (*Packera aurea*)

Planting *the Christmas tree* 1-2-2021

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Up Next: Julie Hart

Inventory and Measure Your Forest

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