



---

# WOOD HILL/BALD HILL FOREST STEWARDSHIP PLAN

---



---

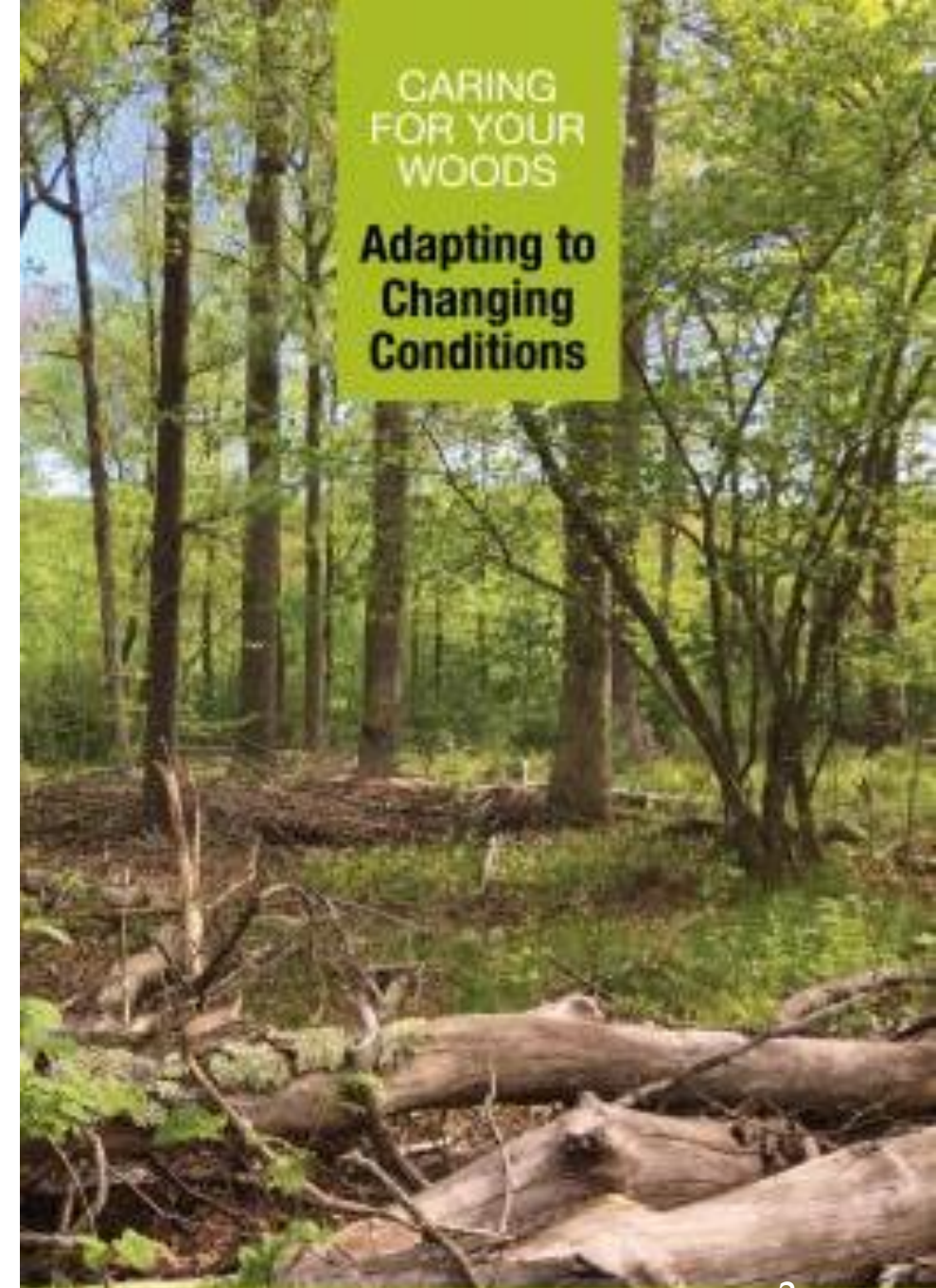
# AGENDA

- Introduction: what is a Forest Stewardship Program and why do it?
- Forest Health and Regeneration
- Climate Change and Forest Resilience
- Wood Hill/Bald Hill Forest Stewardship Plan
- Goals:
  - Forest Adaptation and Regeneration
  - Deer Browsing
  - Invasive Species
  - Bird and Wildlife Habitat
  - Preservation of Legacy Trees and Forest Features

---

# DCR FOREST STEWARDSHIP PROGRAM

- **Massachusetts DCR program**
- **“Forest Stewardship plan documents your options for management practices that will lead to healthy productive forests.”**
- **Work with a DCR Service Forester and contracted private Forester to accomplish the plans aims**
- **The program designed to encourage forest health and resilience**



---

# WOOD HILL/BALD HILL FOREST STEWARDSHIP PLAN



- **First plan created 10 years ago by Commissioner Kevin Porter**
- **Outlined a series of goals to address invasive species, deer browsing and tree health**
- **Ten years later: all of these problems have persisted.**
- **Examples:**
  - **70% Ash mortality**
  - **10-20 acre increase in invasive species presence**
  - **Andover Hunt has helped mitigate deer browsing, but continues to be a problem**
  - **Stunted growth of saplings due to high shade conditions**

---

# WOOD HILL/BALD HILL FOREST STEWARDSHIP PLAN

- **New plan focuses on:**
  - **Climate Adaptation and Resilience**
  - **Bird and Wildlife Habitat**
- **Addresses the changing conditions**
- **Worked together with Forester who wrote previous plan, Gary Gouldrup**
- **Conservation Division contributed goals and guided the objectives of the plan**
- **Over-arching goal: a forest with a healthy and productive future**



---

# CLIMATE FORESTRY

- **Uses silviculture methods to address forest health and carbon**
- **Improvement thinning: harvesting individual or groups of trees to improve quality and composition of a stand.**
- **Salvage cut: harvesting dead or damaged trees in danger of, or already infected by, bacteria, fungi, or insect pests.**



---

# FOREST HEALTH

- Forest health is the measure of a forest's ability to produce new trees and adapt to changing environmental conditions
- Some characteristics of a healthy forest:
  - Mixed aged stands
  - Habitat diversity
  - Tree mortality rate and cause
  - Tree growth and regeneration
  - Species richness and diversity



Beech leaf disease



White pine blister rust



Emerald Ash borer



Pine wilt

---

# CLIMATE CHANGE AND THE ROLE OF FORESTS

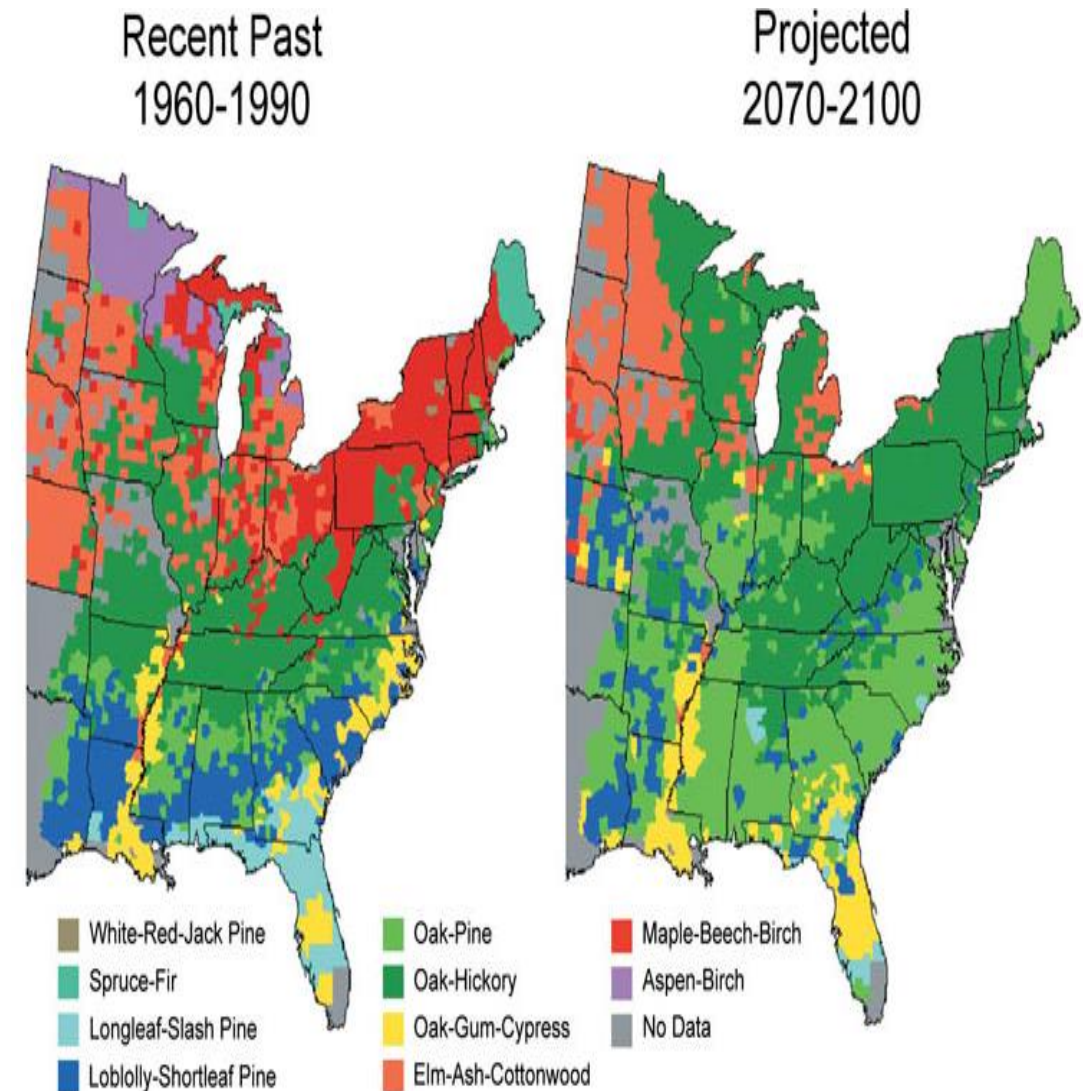
- Three ways climate forestry helps prepare for climate change
- Mitigation: reduce the effects of changing temperatures
- Adaptation: adapt to new environmental conditions.
- Resilience: the capacity of a forest to defend against and rebound from challenges associated with climate change.



---

# CLIMATE CHANGE AND THE ROLE OF FORESTS

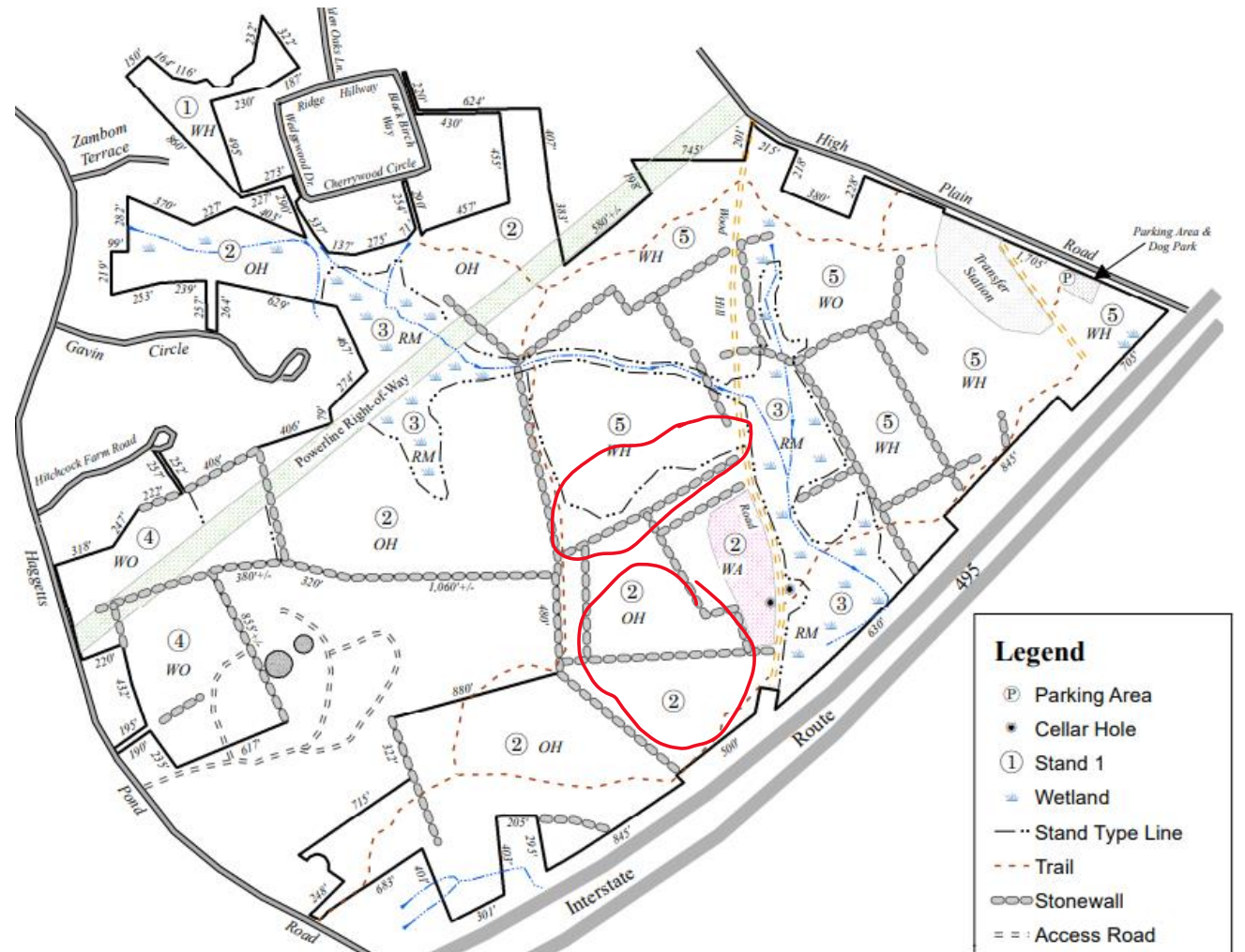
- Mitigation
  - Carbon sequestration: the rate at which a forest takes in carbon
  - Carbon storage: the amount of carbon a forest stores
- Adaptation adapt to new environmental conditions.
  - Encourage and plant trees that have wider southern range
  - Oaks, maples, hickories
- Resilience
  - Address challenges that weaken the overall integrity of a stand
  - tree blight, invasive species, deer browsing





# FORESTRY PLAN

- Stand 2: Habitat Diversity
  - 3 acres
  - Salvage cut the ash trees
  - treat invasive species with mechanical clearing followed by herbicide treatment
  - Potential for reseedling with grasses and early successional species
- Stand 5: Regeneration of Mixed Hardwoods
  - 25 acres
  - Selective thinning
  - Harvest approximately 25-30% of overstory
  - Legacy trees (trees 25''+ DBH) preserved
  - Sawtimber 16''+DBH harvested



---

# SO...WHAT WILL IT LOOK LIKE?: IMPROVEMENT THINNING (STAND 5)



**Before:** closed canopy,  
shaded understory



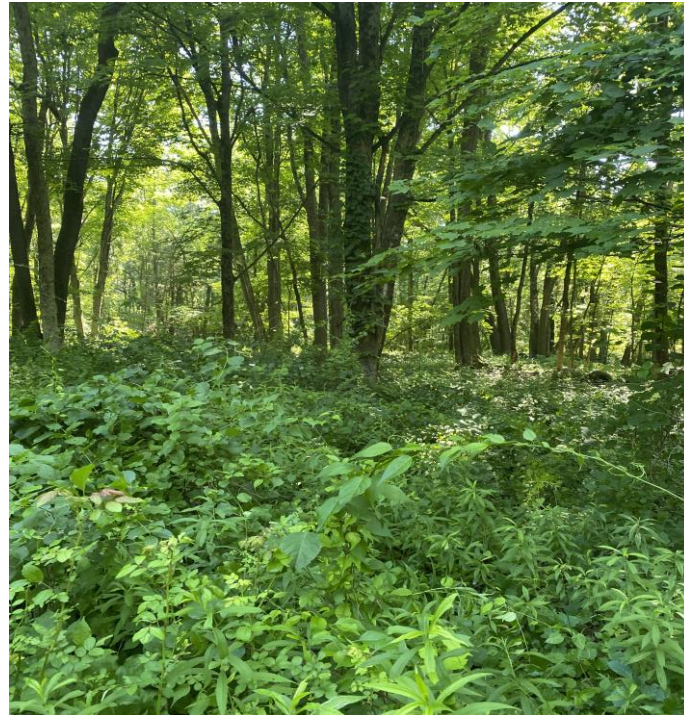
**During:** Feller buncher removing a tree



**After:** open canopy,  
light rich understory

---

# SO...WHAT WILL IT LOOK LIKE?: EARLY SUCCESSIONAL HABITAT (STAND 2)



**Wood Hill/Bald Hill Today:** Dead ash, with Oriental bittersweet and other invasive species

---

---

# SO...WHAT WILL IT LOOK LIKE?: EARLY SUCCESSIONAL HABITAT



**Wood Hill/Bald Hill: Possible Futures**

---

# WOOD HILL BALD HILL RESERVATION: THE FUTURE

- Harvests occur at regular intervals (10+ years) to continuously regenerate stands
- **The primary goal will always be to improve the health and resilience of Wood Hill/Bald Hill Reservation's forest stands**
- All returns from harvests go right back into Wood Hill/Bald Hill Reservation
- Forest management becomes self-supporting and allows us to plan long-term
  - Invasive species removal, deer mitigation, manage for old growth features



---

# SUMMARY

- The Bald Hill/Wood Hill Stewardship Plan aims to make the Reservation more climate resilient
  - Habitat diversity
  - Climate adapted trees (hardwood)
  - Support habitat for rare and threatened birds
  - Improve forest health
- Current forestry plan addresses 30 acres
  - Salvage cut and creation of early successional habitat
  - Improvement thinning to support forest health
- This is a long-term plan that will allow the Town of Andover to invest in the health of Wood Hill/Bald Hill's forests



---

# Questions?



---

# ADDENDUM

- Organizations that support active management for forest health and/or climate mitigation:
  - Mass Audubon
  - Department of Conservation and Recreation (DCR)
  - Nature Conservancy
  - Natural Resources Conservation Service (NRCS)
  - U.S Forest Service
  - Environmental Defense Fund (EDF)
  - MassWoods
  - Massachusetts Land Trust Coalition (MLTC)

