

Weather-Wise Worksheet for Private Landowners: *a tool for increasing resiliency of private forests to climate change*

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Climate Change



Disturbance Agents

Fire Change in fire frequency	Higher temperatures and more drought events lead to increased fire frequency
Wind Change in wind intensity	More frequent and more intense storms lead to higher frequency of damaging wind events.
Exotic Species	Higher growth rates, more establishment, poison ivy
Insect Pest Species	Most forest pests benefit from increased tree and forest stress. Hemlock Woolly Adelgid



Forests and Trees

Spruce - fir forests	Low: Modest widespread decline and loss. High: Decline everywhere and greatest in southern and central Maine
Northern hardwood	Low: Some increased forest productivity. High: Some decline widespread.
Hemlock	Hemlock woolly adelgid results in widespread loss.
Oak and pine	Widespread expansion, especially of pine
Swamp	Localized but widespread decline or loss due to drought and SLR



Key Challenges

- General uncertainty - forests will change but timing and magnitude of change uncertain.
- More frequent “Black Swan” events (very unlikely, high impact)



Weather-wise Worksheet

- Focuses on quality management
- Takes a nature's benefits approach (e.g., wood, water quality, wildlife, recreation, etc.)
- Simplifies complexity
- Not a “one size fits all” approach



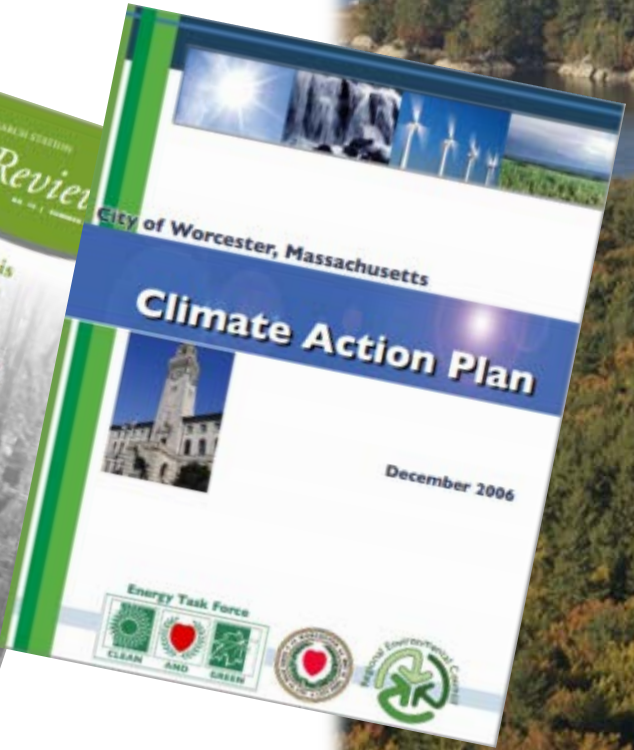
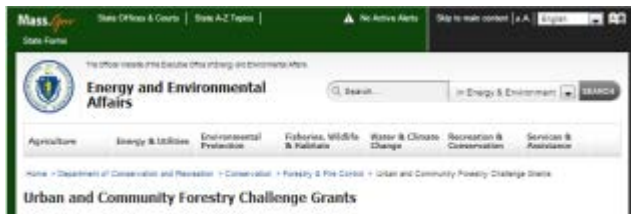
Four parts to the checklist

- Step 1: Prepare for Change
- Step 2: Plan for Change
- Step 3: Apply Key Strategies and BMPs
- Step 4: Monitor and Adjust



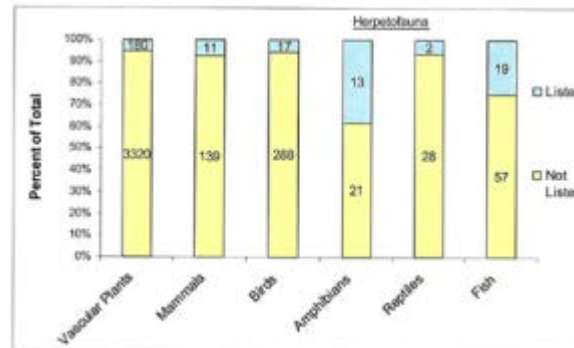
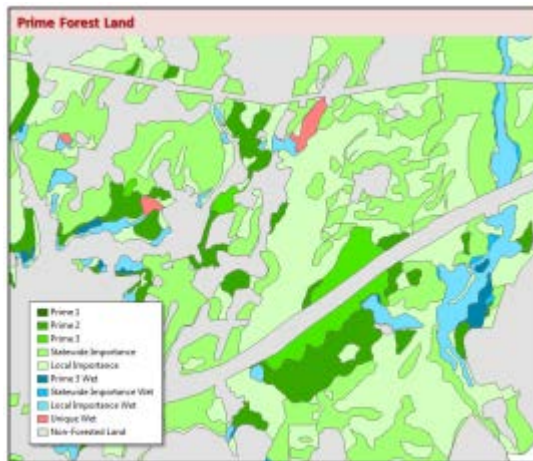
Prepare for Change

- General knowledge about climate change
- State and local information about potential threats



Plan for Change

- Landowner goals and objectives
- Location information
- Protection and maintenance activities
 - E.g., Identify vulnerable stream crossings
- Stands descriptions and inventory
 - E.g., Identify vulnerable stands (e.g., drought, access, northern s





Tools for Planning – i-Tree Suite

www.itreetools.org/



Program	Description
Eco	Uses your inventory data to quantify forest structure and ecosystem services.
Vue	Estimates cover types and some ecosystem services for community and private forests.

Apply Key Strategies and BMPs for climate change resiliency

- Forest Health and productivity
 - Favor regen of climate change “winners”
- Wildlife Habitat
 - Maintain forest habitat connectivity
- Carbon storage
 - Minimize stand damage when harvesting timber
- Water Quality
 - Minimize disturbance to water bodies & wetlands
- Human safety and health
 - Manage wildfire risk appropriately
- Recreation
 - Monitor and repair trails after large storms



Monitor and Adjust

- Have simple and effective ways to monitor forest health
- Have an efficient monitoring system for Infrastructure
- Adjust management strategies to respond to existing and emerging threats



Summary

- Focus on landowner goals & objectives
- Be prepared for greater uncertainty and the potential for more frequent extreme events
- Increase forest resiliency - pay attention to
 - Exotic species mgt.
 - Roads and stream crossings
 - Likely climate change “winners” and “losers”
- Encourage landowners to adjust in response to changing conditions

