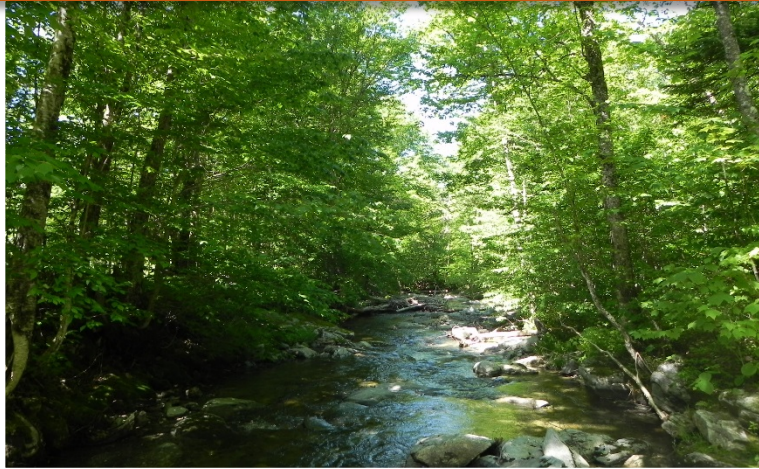


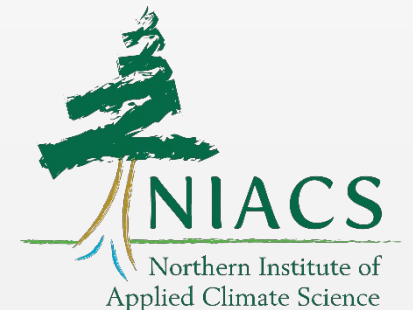
Communicating for Climate Adaptation: Engaging for Positive Action



**Forest Climate Adaptation Webinar
August 13, 2020**



**NEW ENGLAND
FORESTRY
FOUNDATION**



Today's Plan

SPEAKERS:

Lisa Hayden

Outreach Manager

New England Forestry Foundation

Eric Hansen

Consulting Forester

Ferrucci & Walicki

- Challenges of the climate topic – and some guidance (audience matters!)
- How we're reaching landowners on climate adaptation
- Role of foresters as messengers
- Questions & discussion
- Thinking about climate communications in your work

Do you talk about climate change?

To whom?

Relatives....

Friends....

or Neighbors?...

TABOO?

April 2020 study:

Climate Change in the

American Mind

<https://climatecommunication.yale.edu/publications/climate-change-in-the-american-mind-april-2020/2/>

- **More than six in ten Americans (64%) say they “rarely” or “never” discuss global warming with family and friends.**
 - 36% say they do so “occasionally” or “often” – a 10% > since 2015
- **Fewer (22%) say they hear people they know talk about global warming at least once a month.**

Climate Concern Stable, Even Amid Pandemic



A record-tying 73% of Americans think global warming is happening – (10% think it is not)

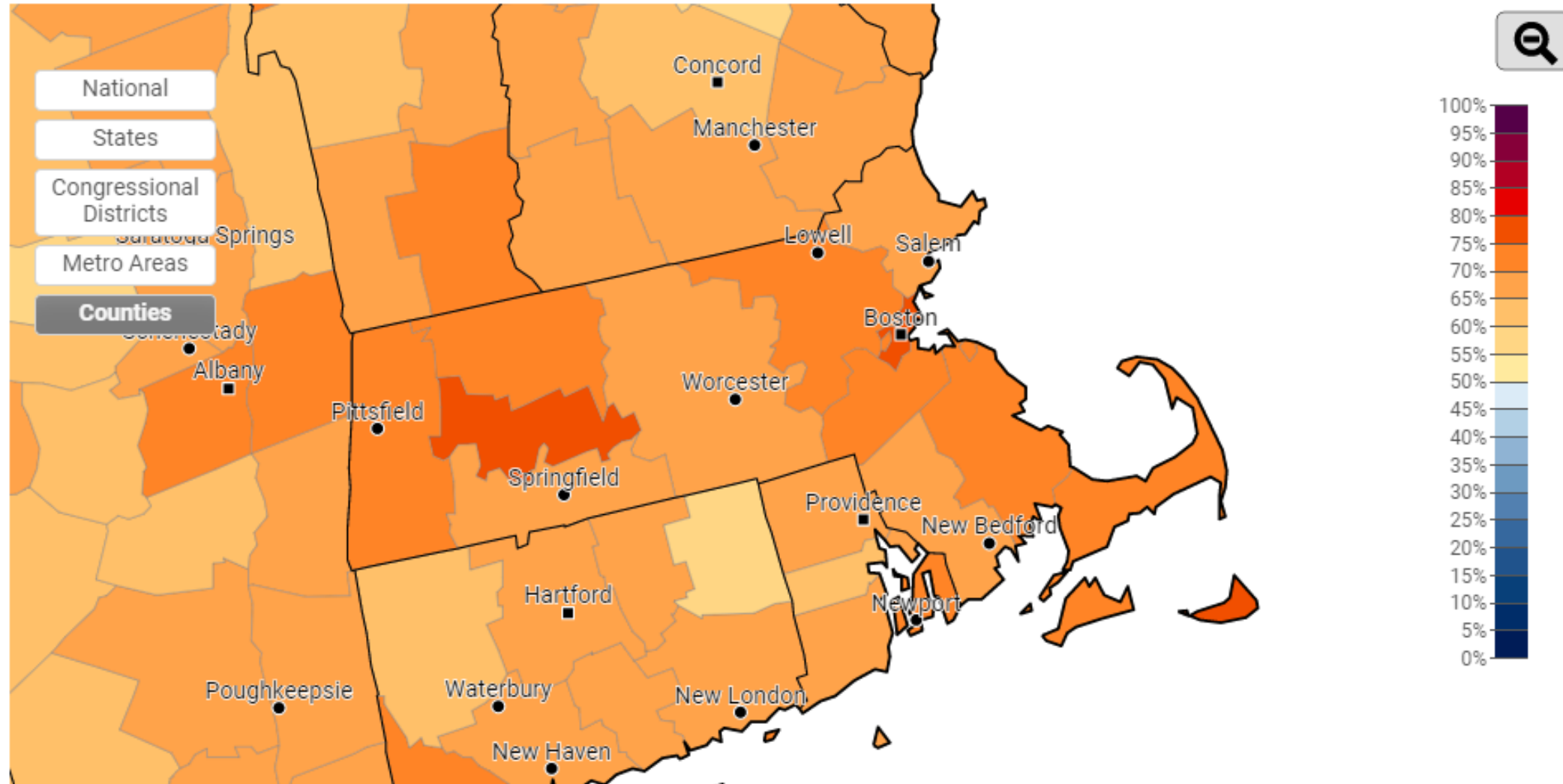
And 66% think it is affecting the weather

**April 2020 study:
Climate Change in the
American Mind**

Estimated % of adults who think global warming is happening (67%), 2019

Select Question:

Click on map to select geography, or:



Howe, P., Mildenerger, M., Marlon, J., & Leiserowitz, A. (2015) "Geographic variation in opinions on climate change at state and local scales in the USA," *Nature Climate Change*. DOI: 10.1038/nclimate2583

Climate Concern Stable, Even Amid Pandemic

Climate & the American Mind –
April 2020

- Adaptation:
 - 55% of Americans say state & local governments should protect agriculture, public water supplies and health from the effects of global warming
 - 4 in 10 (45%) think protecting forests should be a high priority; 30% medium priority

Leiserowitz, A., Maibach, E., Rosenthal, S., Kotcher, J., Bergquist, P., Ballew, M., Goldberg, M., Gustafson, A., & Wang, X. (2020). *Climate Change in the American Mind: April 2020*. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication.



Can we help RCP's scale up outreach to help meet **BIG** conservation and climate change goals?



NEFF Outreach Initiative:

- Woodland owners
- Foresters
- Land trusts

How do we get from here to there?



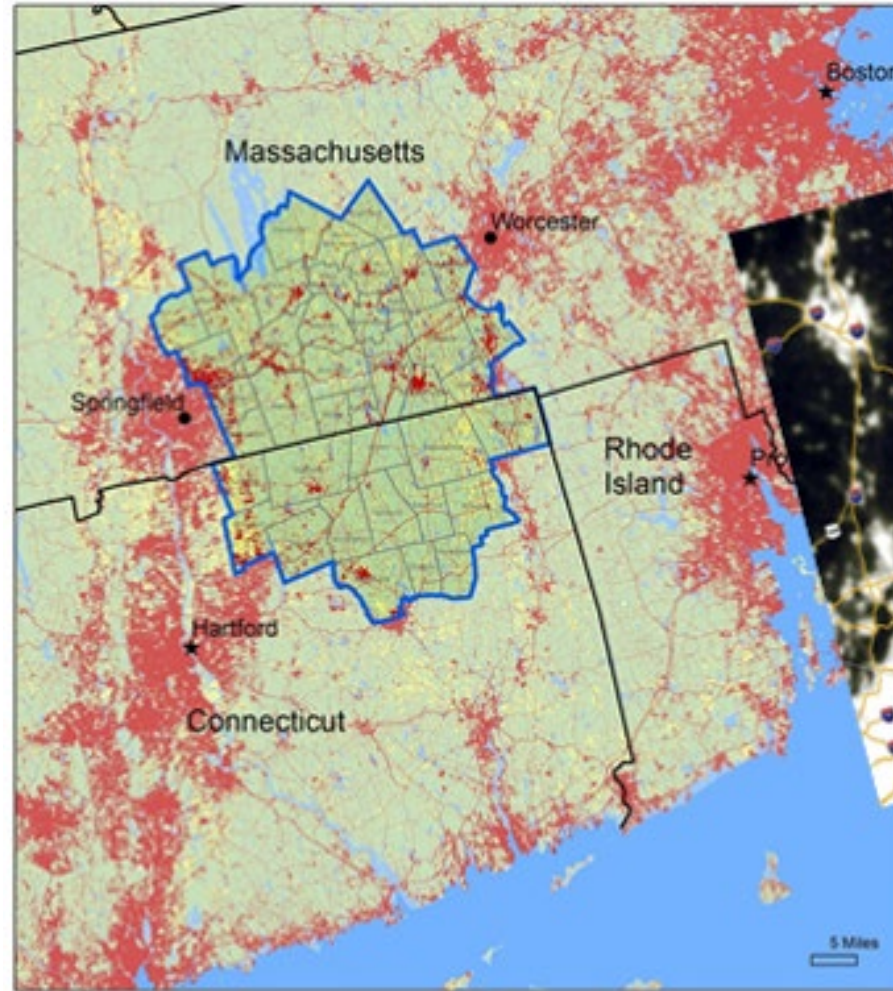
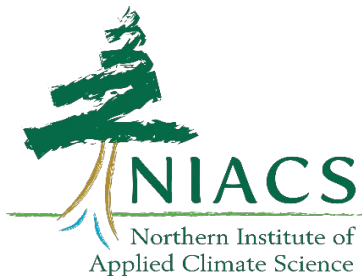
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FORESTRY
FOUNDATION



My MassConn Woods Landowner Outreach

Incorporating Climate-Informed Silviculture

- Climate adaptation visits by NIACS-trained foresters



MassConn Sustainable Forest Partnership

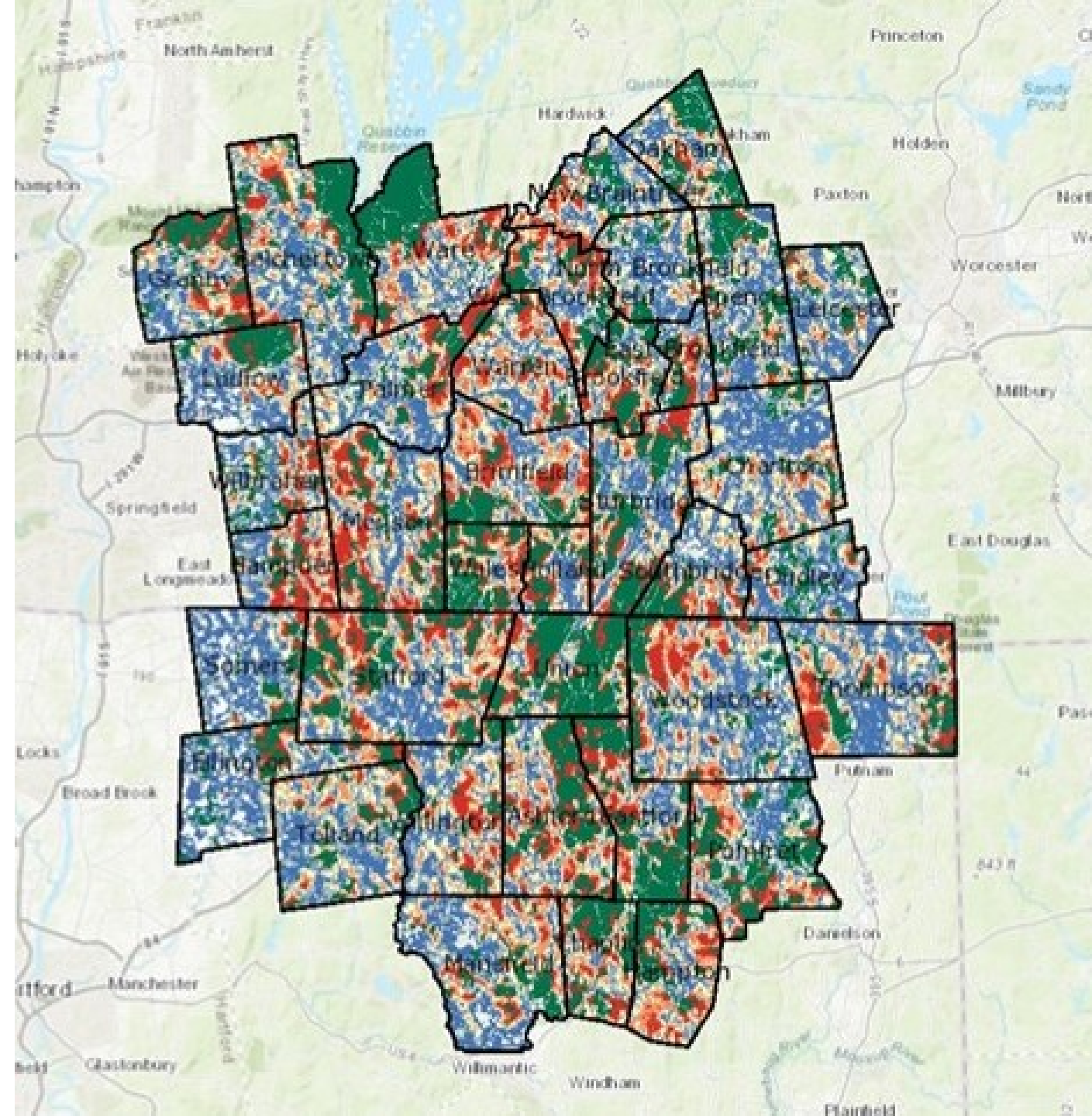
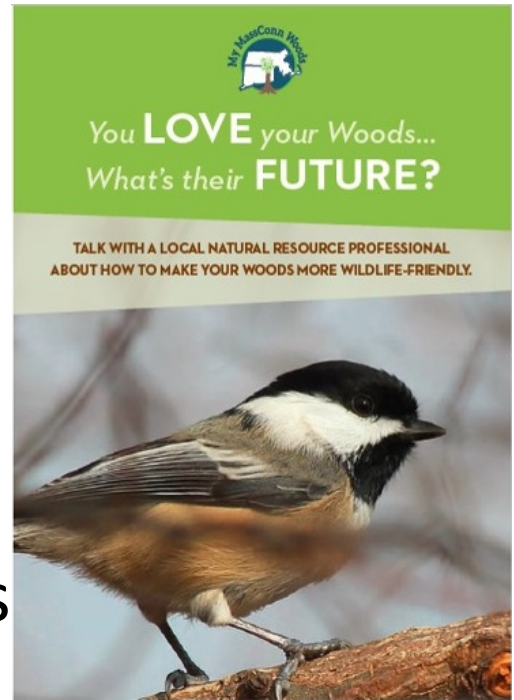


Land Cover (NLC02011)	
Blue	Water or Wetland
Light Green	Grassland/Herbaceous
Dark Green	Forest or Shrub/Scrub
Red	Developed
Yellow	Agriculture



- MassConn ecological priorities – Red = top 20%

- Tool for strategic landowner outreach:
 - high-ranking parcels for conservation/terrestrial resilience;
 - 25+ acre parcels



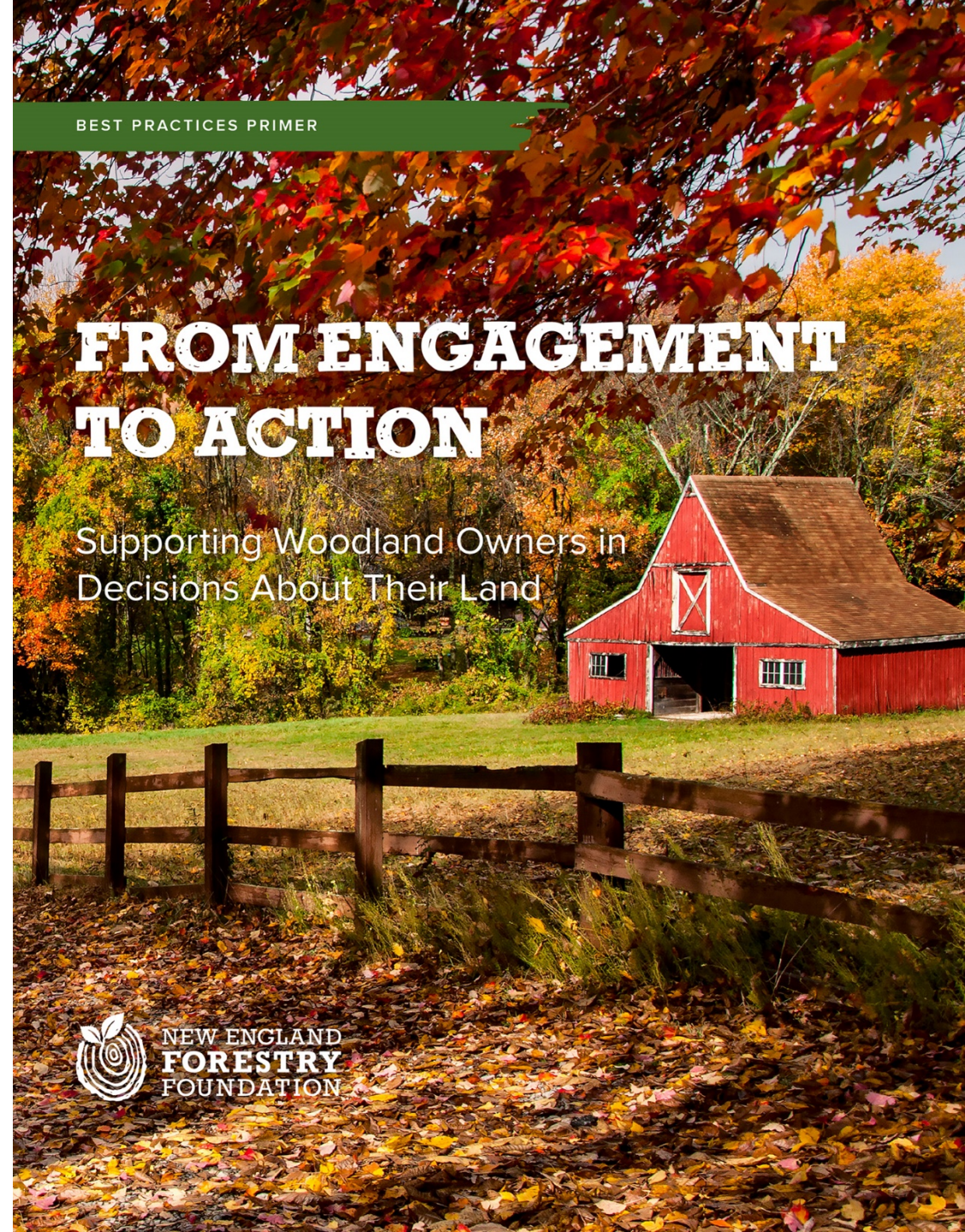
OUR CORE AUDIENCE:

FAMILY LAND OWNERS

The crucial private landowner audience...

- 215,000 private New England woodland owners of 10+ acres
 - MA: 26,000 ownerships
- Owners of undeveloped lands – whether permanently protected or not – will decide the future of our forests
 - Will we manage with exemplary forestry, for forest carbon and resilience?

Report available on NEFF web site



Communicating about Climate Change

... 5 Research-based Recommendations

1. Lead with politically neutral messages
2. Find trusted spokespeople to deliver your message
3. Focus on local impacts/responses, rather than causes
4. Avoid technical jargon – keep it simple
5. Use photos to tell a story: faces, people doing desired actions

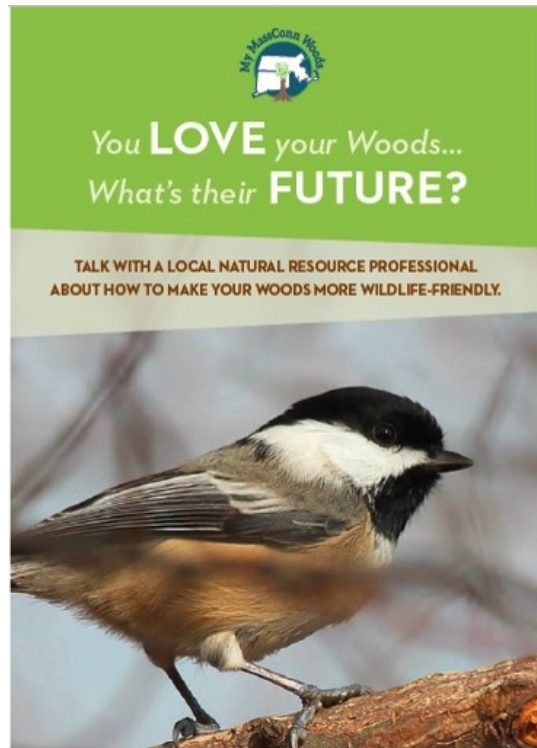
<https://climatechange.lta.org/recommendations-for-communicating/>

1. Lead with politically neutral messages ...about topics people already care about

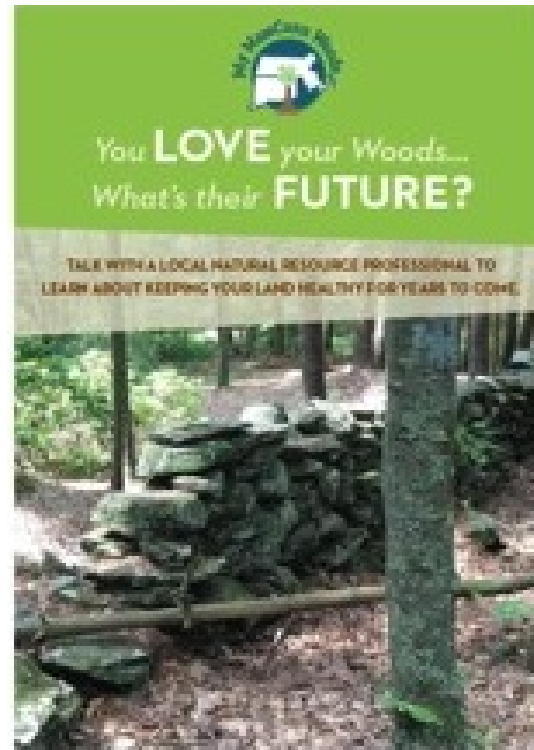
Source: <https://climatechange.lta.org/recommendations-for-communicating/>

What messages resonate?

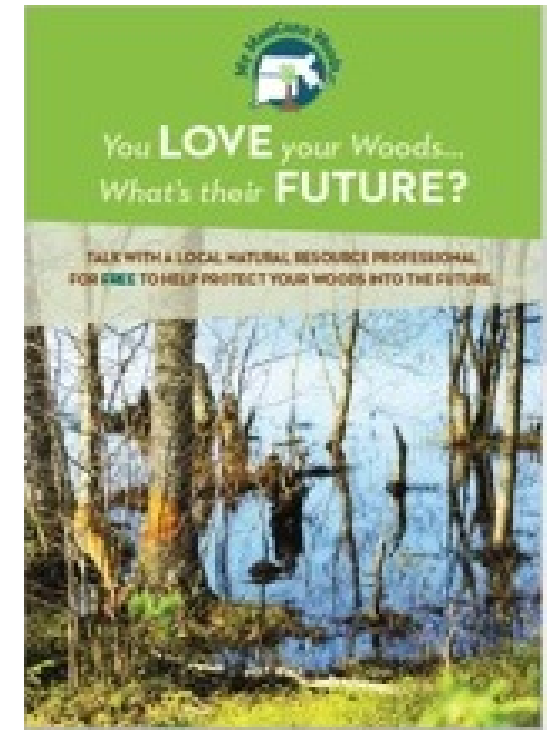
MassConn Woods: 2017 Direct Mail Info campaign (series of post cards with postage-paid reply option)



Wildlife - 27%



Healthy Woods - 39%



Extreme Weather - 33%

2. Find trusted spokespeople to deliver your message

Equip Foresters to be Adaptation Messengers

Climate Change & Our Forests



Guidance for Foresters and Land Managers

Forests are a defining feature of the landscape in "the MassConn Woods" of northeastern Connecticut and south central Massachusetts. These natural systems, so crucial to our history and current quality of life, provide many environmental, economic, and social benefits to the region.

These forests, primarily in private family or individual ownership, will increasingly be affected by a changing climate. Understanding these potential impacts is an important first step to sustaining healthy forests in the face of changing conditions.

THE CLIMATE HAS CHANGED

The Earth's climate is changing. Many trends have been tracked across the globe, some reaching back hundreds of thousands of years. Although the climate has always changed, the changes that have occurred over the past century are more profound than anything that has happened since the start of human civilization and have important effects on our current environment.

The average annual temperature in the area has risen more than 2°F since the late 1800s.^{1,2} Temperatures warmed in all seasons, with winter warming by more than 3°F. Temperature records show that warming has accelerated in recent decades.

Winter temperatures increased by more than 3°F since the turn of the last century, and heavy rainfall events have become more common.

Precipitation also increased during this period, ranging from increases of approximately 3 inches across most of Connecticut to more than 5.5 inches in central Massachusetts.¹ The greatest increase in precipitation has been in the fall, with smaller increases during spring and summer. Extreme precipitation events have increased substantially, particularly over the past several decades.³

CHANGES WILL CONTINUE

It's impossible to predict exactly what will happen in the future, so global climate models can help us understand how the climate may react under various scenarios. There are many different models available and they provide an opportunity to understand the range of potential changes that may occur depending on the carbon-intensity of future energy sources.

Temperatures will increase

Climate models agree that temperatures will increase across all seasons in the region over the next century. The projected increase in annual temperature ranges from 3 to 10°F by the end of the century, depending upon future scenarios.^{1,4} Growing seasons will continue to get longer as a result of warmer temperatures.



Considerations for Your Woodlot

The following are general recommendations to keep your woods healthy and able to adapt to changes into the future. While all of these actions are important, the checked recommendations are most applicable to your woods and your situation. To learn more, consult our fact sheet, consider working with a professional to implement these practices on the ground or visit our website at <http://mymassconnwoods.org/>.

Top Forest Stressors to Keep an Eye On	Extreme Weather Vulnerabilities
<input type="checkbox"/> Protect water and soils on your land	
<input type="checkbox"/> Improve ability of your trees to resist bugs and disease	
<input type="checkbox"/> Prevent and control non-native plants and weeds that threaten native plants and animals	
<input type="checkbox"/> Manage damage to young trees from excessive deer browsing	
<input type="checkbox"/> Prepare for big weather events by promoting strong, healthy trees in your woodlot	
<input type="checkbox"/> Respond quickly after big disturbance events to help your woods bounce back	
<input type="checkbox"/> Promote a diversity of tree species	
<input type="checkbox"/> Promote a diversity of tree sizes	
<input type="checkbox"/> Protect rare or sensitive plant & animal communities	
<input type="checkbox"/> Consider how your current trees will react to future conditions and which tree species you might want to promote	
<input type="checkbox"/> Monitor your woods and the effect of different management tactics	

Keeping Your Woods Healthy Through the Years Ahead

Whether you spend time outside in your woods, or just enjoy the beauty of your trees and wildlife from your window, you likely love your woods and want to keep them healthy.

Forests are always changing and adapting to new conditions. Some changes are anticipated as the progression of green summer leaves to the bright red and gold of fall foliage, or annual rains of brightly colored migratory songbirds. Other changes in our woodlands are only visible when comparing differences across many years or decades.

Our climate is changing in ways that humans have never experienced before, resulting in rising temperatures and shifts in seasonal precipitation patterns. You may be noticing some of these changes in your woods - such as earlier starts for the first signs of spring leaf-out, unusual weather patterns, longer dry periods for summer, or even an increase in fast-growing invasive plants such as poison ivy.

In particular, temperature and precipitation patterns in the MassConn region of southeast Connecticut and south central Massachusetts have changed over the course of our lifetime. For example, the heaviest rainfall events have increased 70% in the Northeast U.S. from 1950 to 2010 - more so than in any other part of the country! Additional changes are expected by the time our grandchildren are having grandchildren of their own.

Annual precipitation has increased by 2-6 inches in the MassConn Woods area, and is projected to rise at least another inch over the next 100 years. At the same time, summer or very heavy precipitation events are expected to occur more often, and warmer temperatures will result in more rain than snow! This means your stream crossings and culverts will need to accommodate dramatically increased flow at times.

By the end of the century, average annual temperatures are projected to increase somewhere between 3 to 10 degrees Fahrenheit, increasing both the length of the growing season and the frequency and severity of extremely hot days!

A longer growing season, warmer temperatures, and more variable summer rain are likely to increase summer moisture stress leading to potentially harmful droughts.

As climate conditions change, the MassConn area is expected to become less favorable to traditional northern trees we are familiar with and more favorable to typically southern species, such as oaks, hickories, and pines. This means that many common trees of the old-growth forest may have more opportunities!

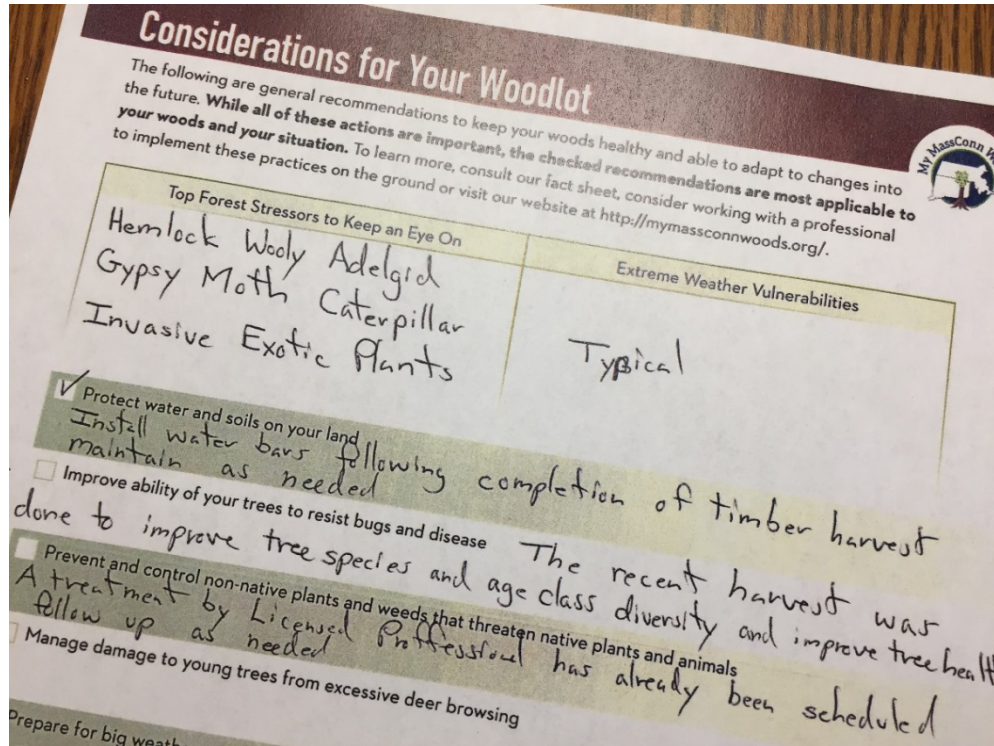
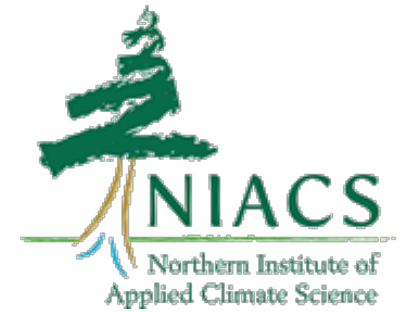


Help foresters talk to landowners

OUR SECONDARY
AUDIENCE:

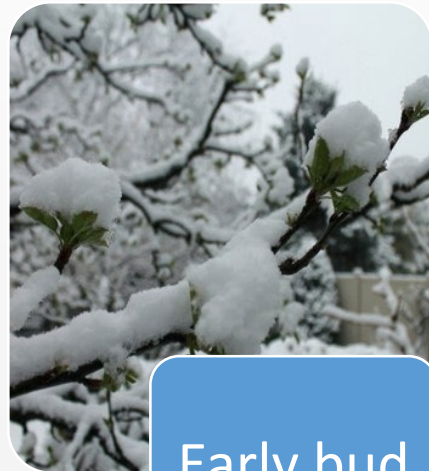
PRACTICING FORESTERS

Forester Trainings – Adaptation Planning ... and Communications



3. Focus on local impacts/responses, rather than causes

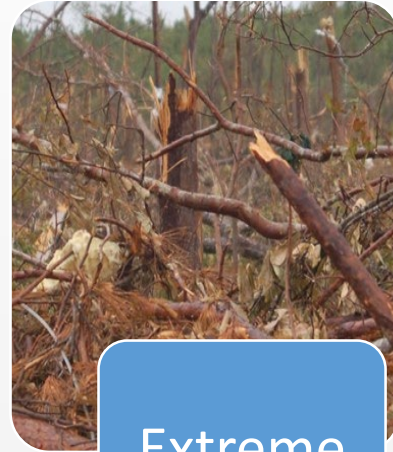
Finding common ground



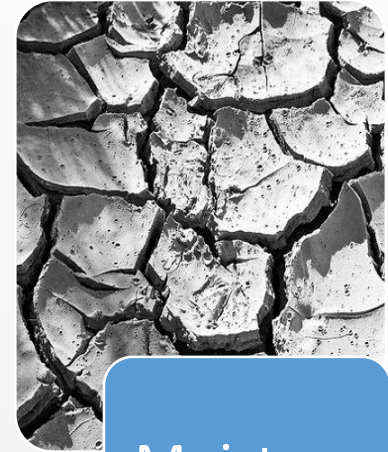
Early bud
break



Wash-
outs

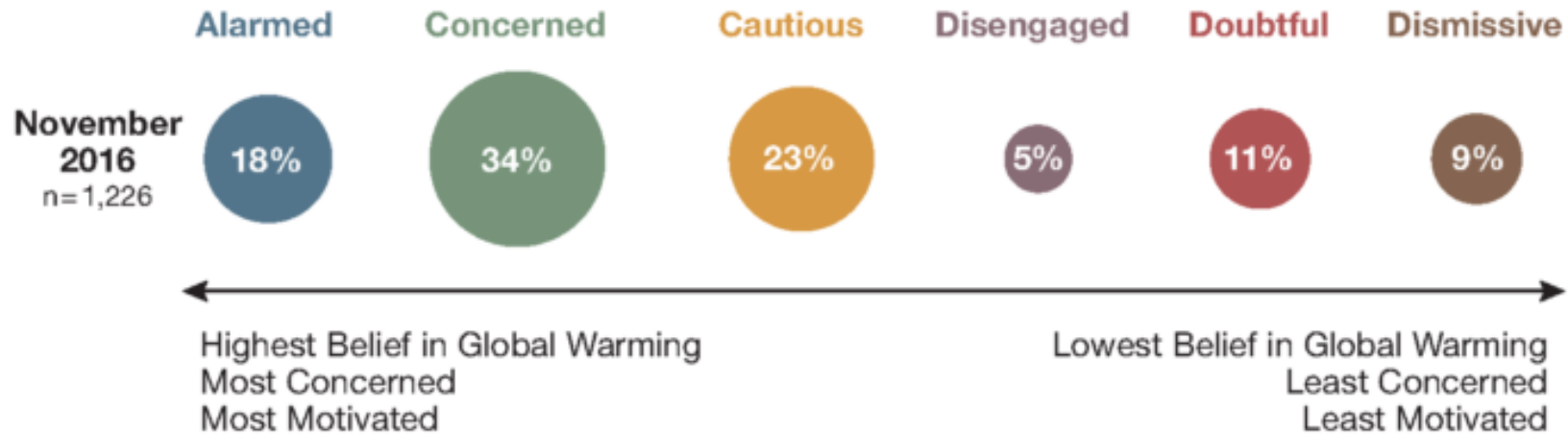


Extreme
weather



Moisture
stress

Know your audience. What do they really believe?



Proportion represented by area

Source: Yale / George Mason University

4. Avoid technical jargon – keep it simple

Translating or synthesizing the science can help reach your target audience



NIACS Menu of Adaptation Strategies & Approaches was translated into common terms and landowner-friendly language

...To create a condensed Checklist for assessing site-level climate vulnerability – “Considerations for Your Woodlot” visit tool

5. Use **photos** to tell a story: ...faces, people doing desired actions

Source: <https://climatechange.lta.org/recommendations-for-communicating/>



MassConn 2018 mailers

To date:

- 102 private owner visits for parcel-level climate adaptation completed
- Combined ownership of 8100 acres in 38-town, 2-state region



HOW CAN
LANDOWNERS ADAPT?

IDENTIFYING ACTIONS
(PRACTICES)

What actions can help systems adapt to change – on *your* lands?

*MassConn's
Considerations
for Your Woodlot
"Checklist"*

- Protect **water and soils** on your land.
- Protect rare or sensitive plant and animal communities.
- Improve ability of your trees to **resist bugs and disease**.
- Prevent and control non-native plants and weeds that already threaten native plants and animals.
- Prepare for **big weather events** by promoting strong, healthy trees in your woodlot.
- Respond quickly after big disturbance events to help your woods bounce back.
- Promote a **diversity of tree species** and tree sizes.
- Consider how your current trees and new trees that you may want to plant will react to **future conditions**.

Considerations for Your Woodlot – a climate vulnerability checklist

29 acres - Woodstock, CT

Forester Recommended:

- ✓ Continue to remove invasives, replace with natives (protect soil, H₂O)
- ✓ Thin, release crop/mast trees (prepare for weather; promote strong trees)
- ✓ Release white pine regeneration (promote diversity of tree species)

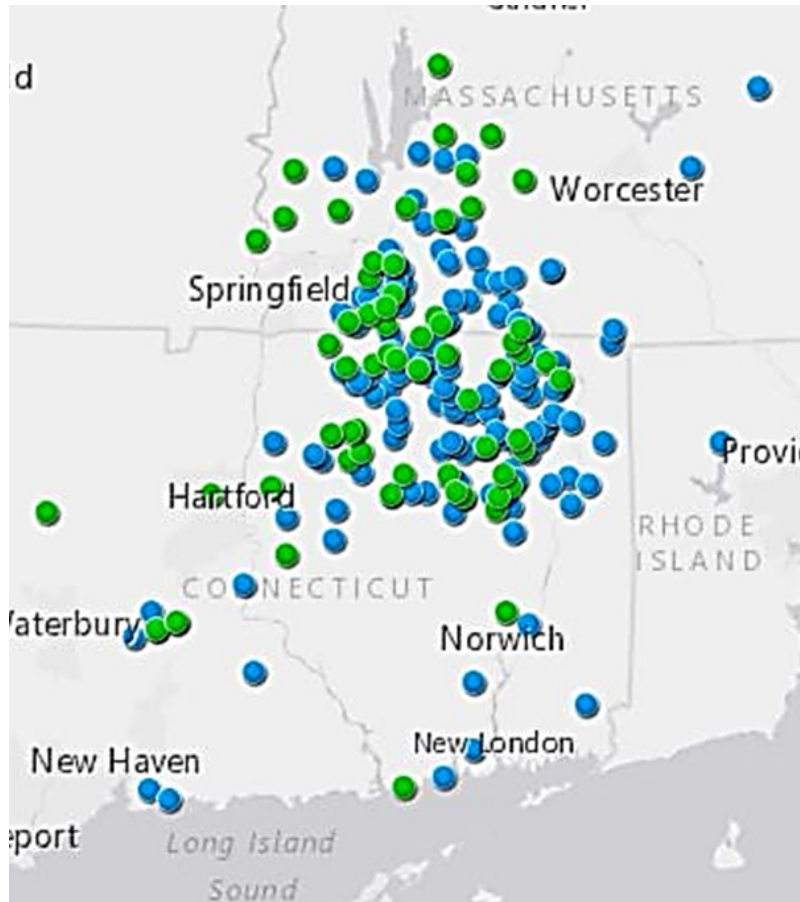
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<input checked="" type="checkbox"/> Monitor your woods and the effect of different management tactics	



Connecting the Dots to Funding



MassConn Hand-Raisers 2014-17
(mailing address)

- Referring landowners who met with foresters to grants for forest management plans, Forestry for the Birds habitat assessments

Or

- Traditional NRCS cost share for wildlife habitat, invasive plant removal, or other recommended practices

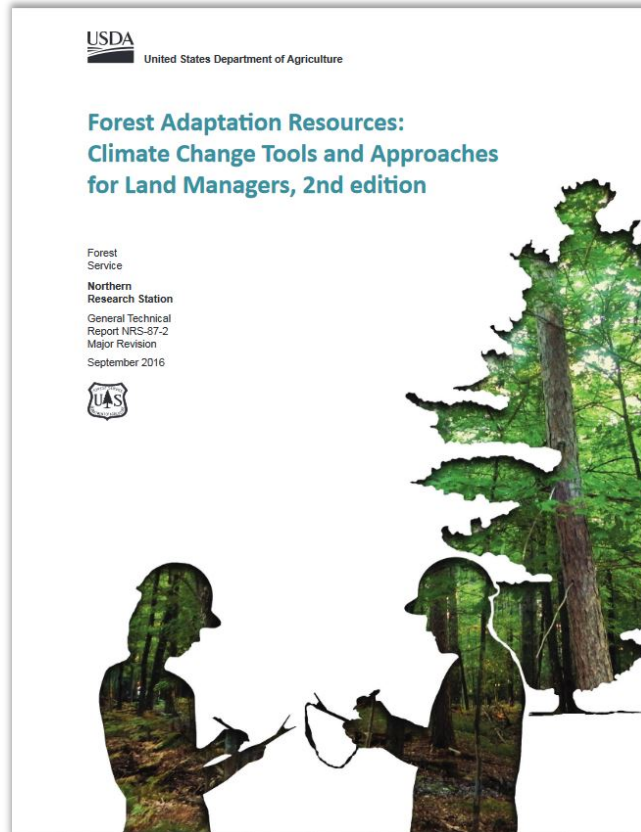
WOODLAND RESILIENCE WALKS

Landowners Leading...

Owners who got a Checklist visit,
taking action on their land...
And sharing their experience with other owners



Forest Adaptation Resources



Swanston et al. 2016;
www.forestadaptation.org/far

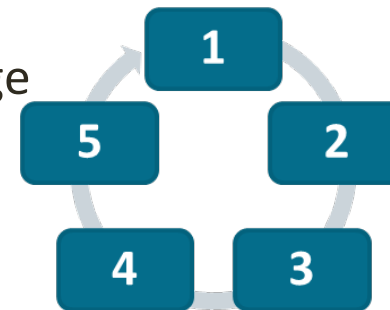
Strategies & Approaches

Menu of adaptation actions



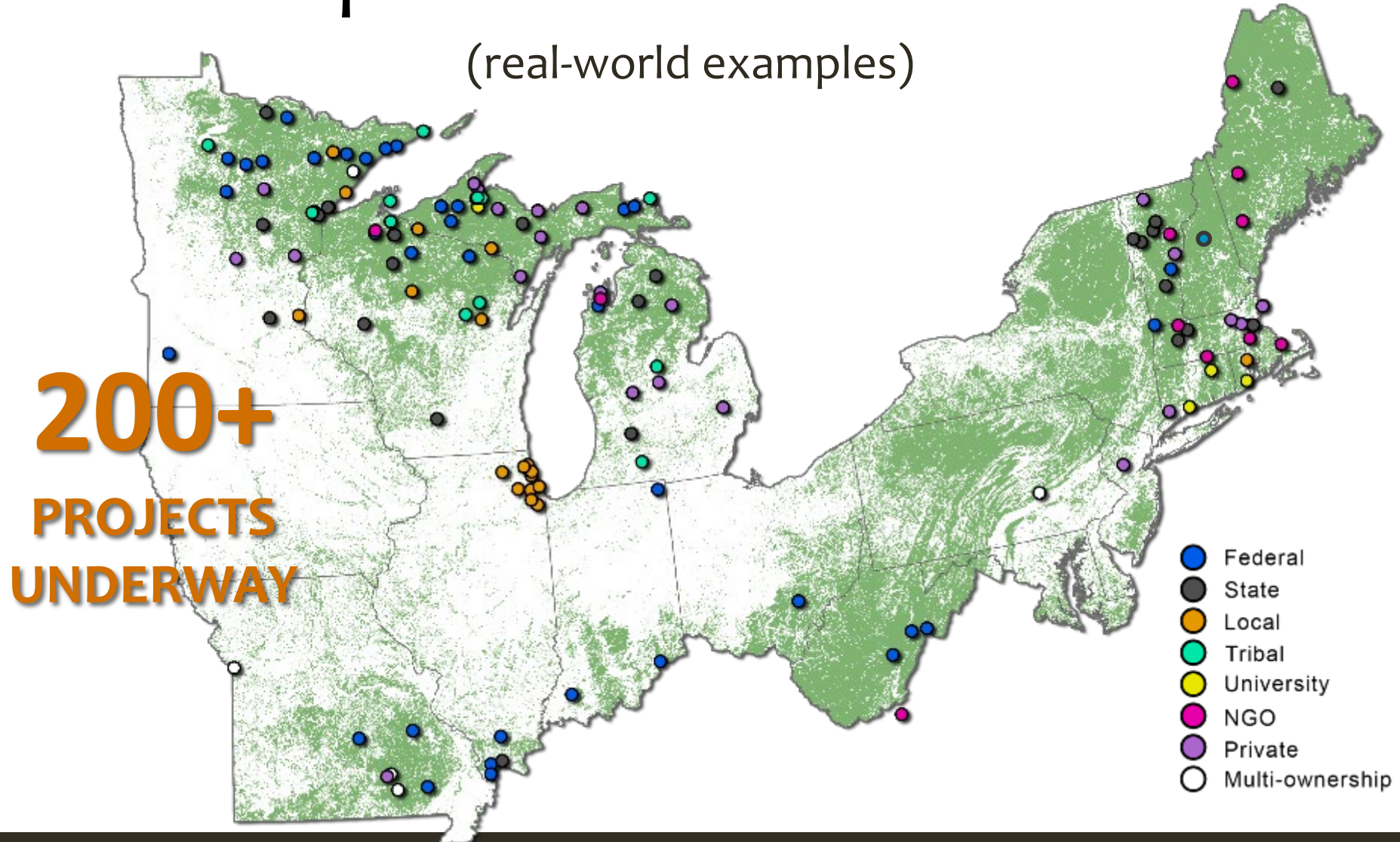
Adaptation Workbook

- Structured process to integrate climate change considerations into management
- Workbook approach



Adaptation Demonstrations

(real-world examples)



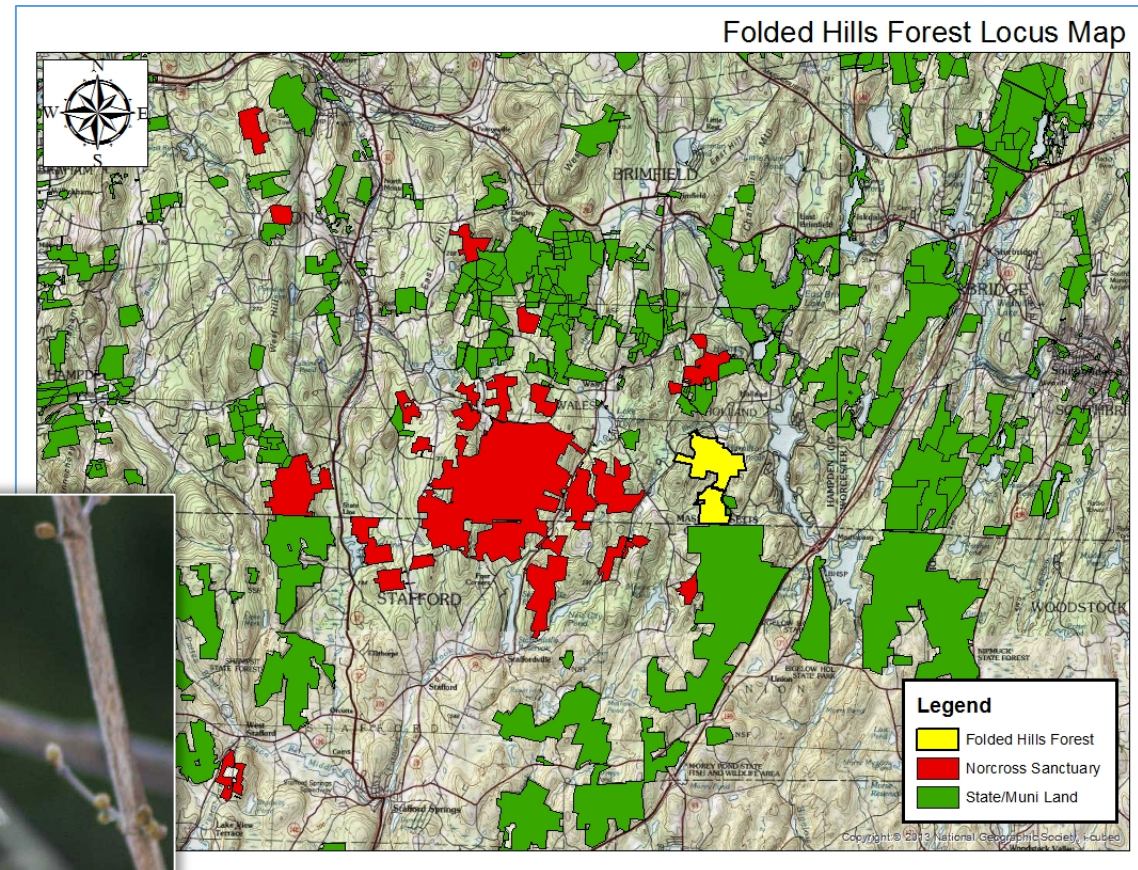
www.forestadaptation.org/demos

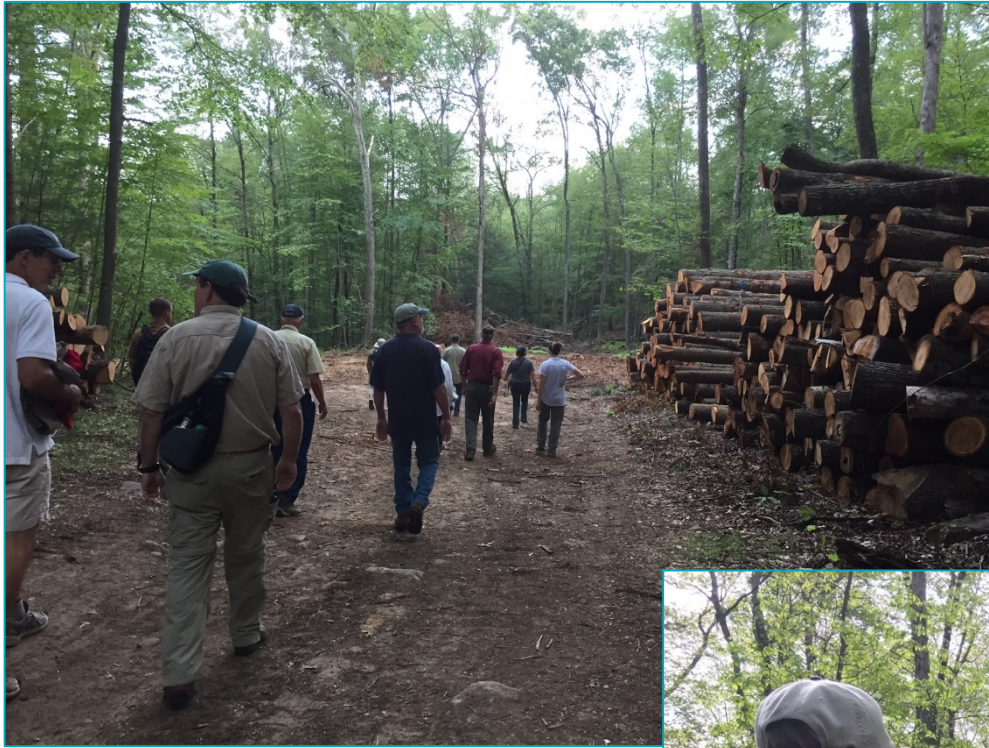
MassConn Demonstration Sites

Norcross Wildlife Sanctuary

Privately-managed refuge with >8,000 acres in MA and CT

- Heart of Emerald Forest within MassConn region
- Forest management on portions of Sanctuary
- Upland & aquatic habitats





Harvest & Habitat Walks at Norcross Sanctuary

Folded Hills Forest
40-acre management site
August 2016



Whaleback Ridge Forest
20-acre harvest site
May 2016

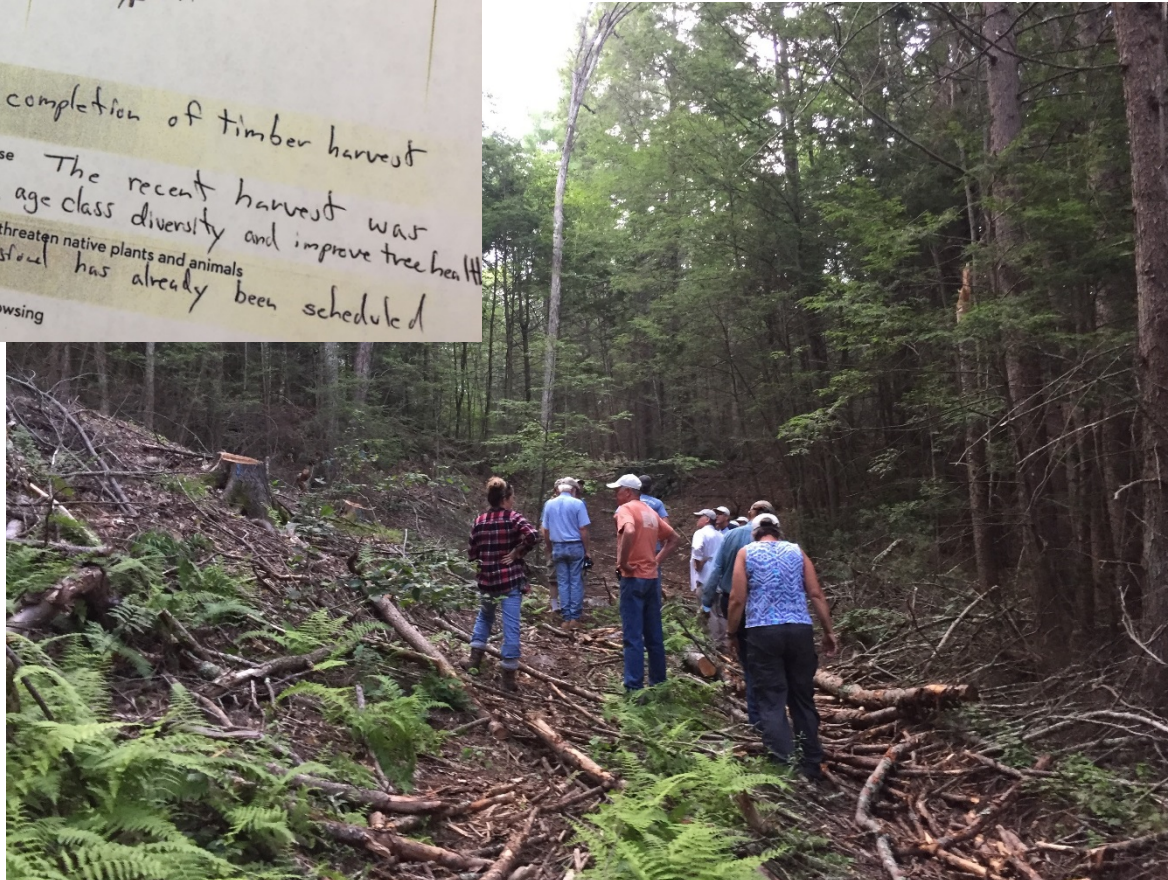
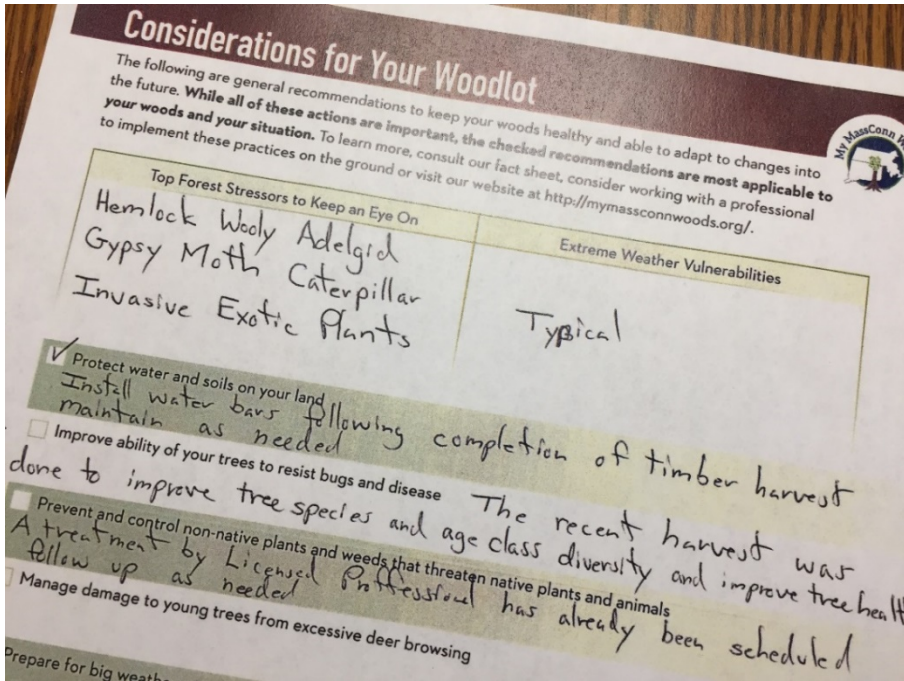


Considerations for Your Woodlot

Southbridge/Dudley, MA
Opacum Land Trust
140 acres

Climate-Informed Practices:

- ✓ Treated/removed invasives (12 acres - barberry, knotweed, multiflora rose)
- ✓ Timber harvested to diversify age classes & species (40 acres)
- ✓ Clear-cut with reserves for wildlife habitat (4.5 acres)



Forest Adaptation Demonstration Sites



Keney Park Sustainability Project

The building up the hill from the Windsor Avenue entrance was once the park foreman's residence. Today, it's the headquarters of the Keney Park Sustainability Project. The group's focus is creating collaboration within the community to preserve Keney Park through hands-on training, on-site demonstrations and educational outreach. KPSP has even transformed an old school bus into a mobile kitchen to increase access to nutritious food and nutrition education in Hartford's food deserts. The end goal? To spread the news about nutrition, food safety and how to be environmentally-conscious citizens.



Courtesy of Keney Park Sustainability Project



Draft Community Priorities:

- Recreation
- Wildlife
- Forest benefits (clean air, water, carbon, utilizing downed trees)



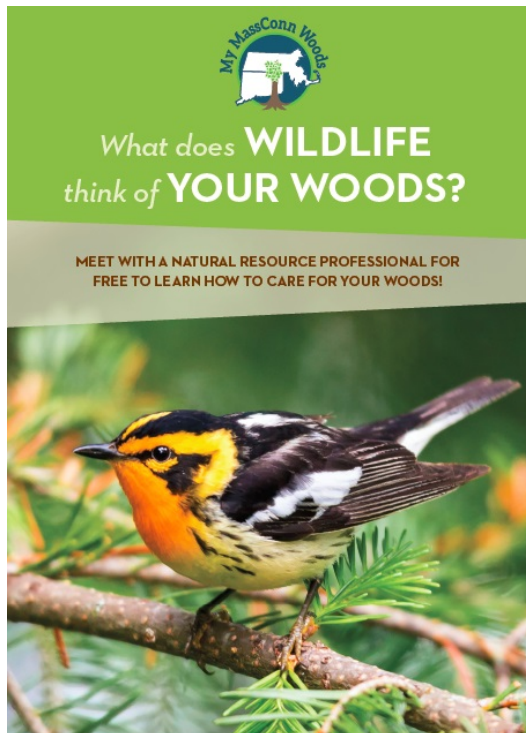
KENEY PARK, HARTFORD

NIACS Adaptation Workbook in progress – NEFF FS grant

Key Resources

From Engagement to Action... Outreach report

<https://newenglandforestry.org/connect/publications/from-engagement-to-action/>



To access resources developed for the MassConn Woods RCP, visit:

<http://www.forestadaptation.org/massconn>

Tools for Engaging Landowners Effectively – TELE

<https://www.engaginglandowners.org/>

LTA/ MA ECAN Climate Communications recommendations:

<https://climatechange.lta.org/recommendations-for-communicating/>

Annotated references for climate communications practices:

<https://docs.google.com/document/d/1ZGqs4hdGNkJRe287Z7MOSix2iW7bdt2Mpy1NOImOciU/edit>

Questions?



MassConn Woods Landowner Survey Themes

- Woodland property owners very concerned about keeping development from threatening the region
- Take responsibility for maintaining their woods – cleaning up, being able to enjoy wildlife, aesthetics
- Communicated strong sense of responsibility to their neighbors, community and overall region (their land can protect water, wildlife routes)
- Concerned about the health of their woods

Outreach Symposium: Bridging Research & Reality

- Moving from one-off events to strategies to support owners through a series of small steps to a larger-action goal
- Training to implement effective “peer-to-peer” learning
- Support to measure impact through tracking, monitoring & evaluation tools
- Getting estate planning tools to the right owners at right time

