

CLIMATE CHANGE

“WHILE THERE IS MUCH DEBATE ABOUT THE CAUSES OF ATMOSPHERIC WARMING, WHAT MATTERS TO US IS NOT SO MUCH THE CAUSE, BUT HOW IT AFFECTS WHAT WE DO AND WHAT IT MEANS FOR THE FUTURE OF OUR FORESTS, WILDLIFE AND OUTDOOR RECREATION”

Richard J. Dolesh, National Recreation and Parks Association

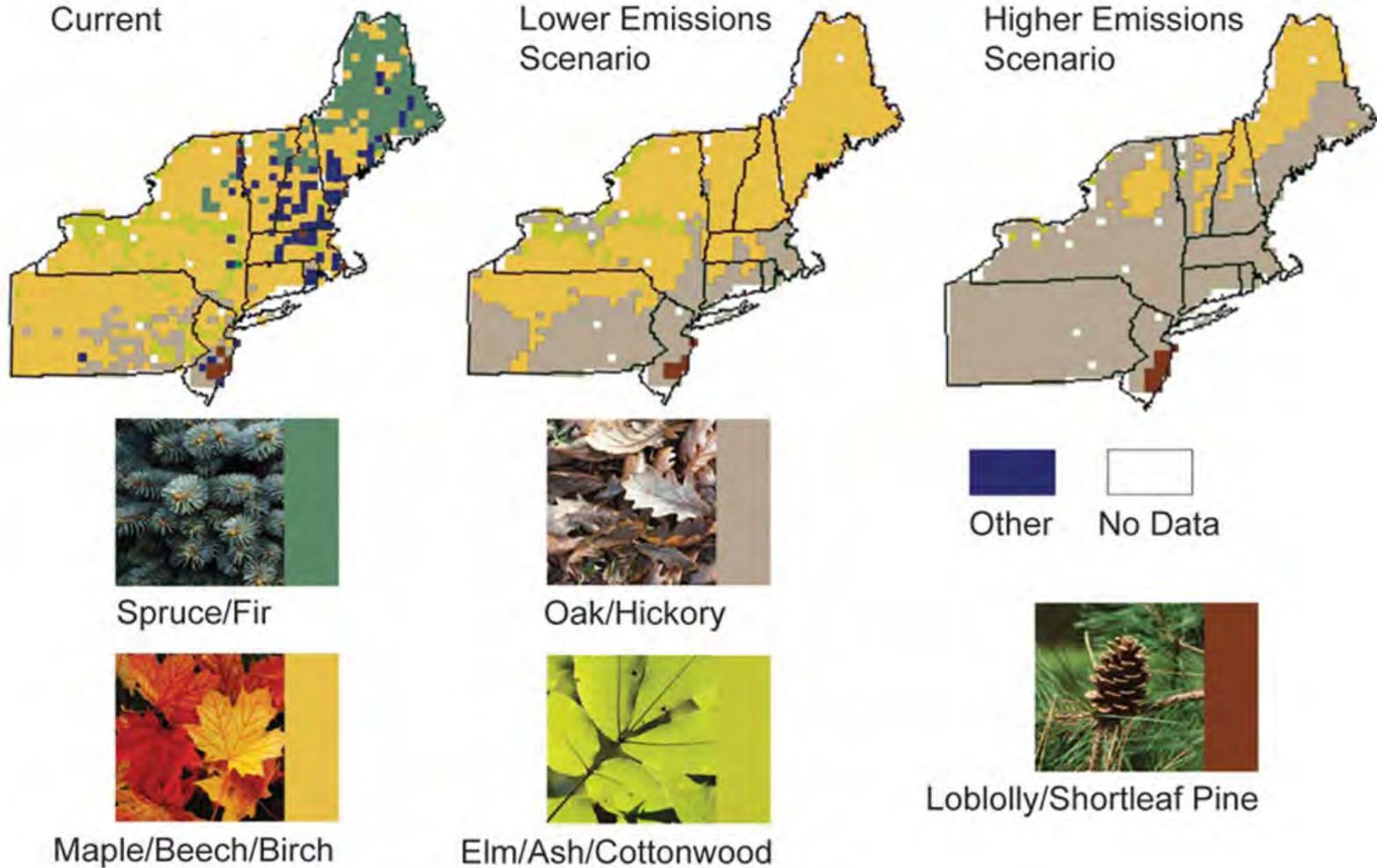


CLIMATE CHANGE

WHAT WE KNOW...

- THE NORTHEAST'S MEAN ANNUAL TEMPERATURE HAS INCREASED 2.4 °F
- PRECIPITATION PATTERNS HAVE CHANGED TOWARD GREATER ANNUAL RATES
- NUMBER OF EXTREME WEATHER EVENTS HAVE INCREASED
- SEA-LEVEL RISE ALONG NEW ENGLAND COASTLINE OF 12" SINCE 1900
- INCREASED GROWING SEASON LENGTH AND SHIFTS IN PLANT AND ANIMAL PHENOLOGY

FOREST TREND PREDICTIONS



POTENTIAL FOREST EFFECTS

- ALTERED HYDROLOGIC CAPACITIES
- REDUCED SUITABLE HABITAT FOR BOREAL SPECIES
- FOREST PRODUCTIVITY CHANGES- INCREASE/DECREASE
- INVASIVE SPECIES, INSECT PESTS AND FOREST DISEASES COULD IMPACT SPECIES DIVERSITY



WILDLIFE EFFECTS

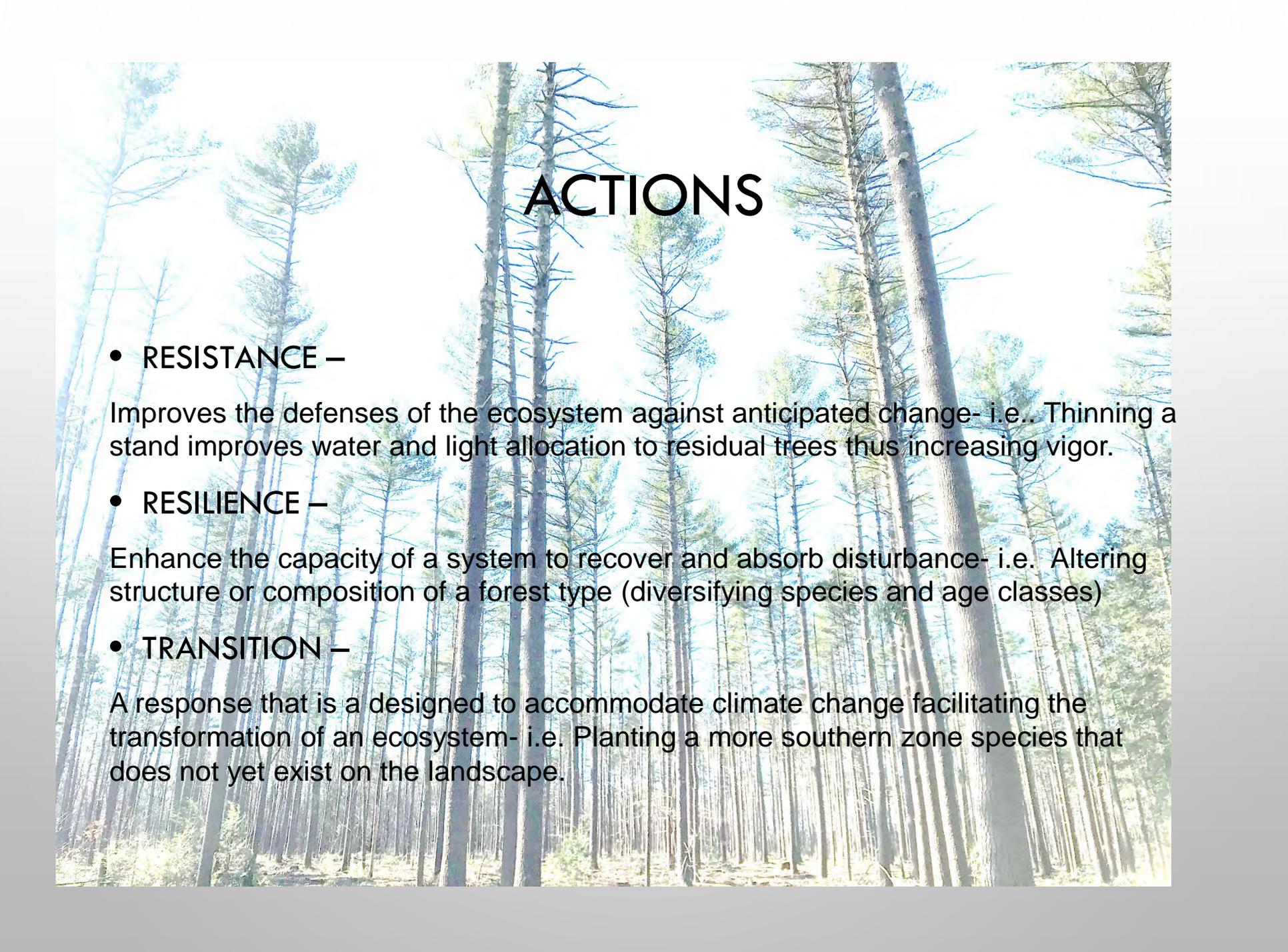
- SHIFTS IN HABITAT
- SOME SPECIES EFFECTED MORE THAN OTHERS – MOBILITY
- HABITAT CONNECTIVITY
- LOSS OF SOFTWOOD COVER WILL IMPACT ASSOCIATED SPECIES
- COMPREHENSIVE *Climate Change Adaptation Plan* BY F&G 2013



POTENTIAL RECREATION EFFECTS

- **CHANGE IN SEASONAL TRAIL USE PATTERNS**
- **INCREASED TRAIL MAINTENANCE/ DEGRADATION CLOSURE**
- **STORM RUNOFF INTERCEPTION IN DEVELOPED AREAS**
- **LONGEVITY AND HEALTH OF GREEN INFRASTRUCTURE**
- **HUMAN HEALTH – VECTOR BORNE DISEASES**





ACTIONS

- **RESISTANCE –**

Improves the defenses of the ecosystem against anticipated change- i.e.. Thinning a stand improves water and light allocation to residual trees thus increasing vigor.

- **RESILIENCE –**

Enhance the capacity of a system to recover and absorb disturbance- i.e. Altering structure or composition of a forest type (diversifying species and age classes)

- **TRANSITION –**

A response that is a designed to accommodate climate change facilitating the transformation of an ecosystem- i.e. Planting a more southern zone species that does not yet exist on the landscape.

RECOMMENDATIONS

- **MITIGATION**

CARBON STORAGE- Living biomass, organic layer, soil and coarse woody material – 2,176 acres in criteria 1

CARBON SEQUESTRATION – Rapid forest growth equals highest sequestration rates

- **ADAPTION**

Actions to assist forest to adapt to climate change impacts

Forest management activities to diversify species, age classes and resource allocations to maturing stands.



RECCOMENDATIONS

- MITIGATE
- ADAPT
- CONSIDER VULNERABILITY ASSESSMENT
- PROMOTE LANDSCAPE CONNECTIVITY
- MONITOR AND CONTROL PESTS, DISEASES AND INVASIVE PLANTS
- WORK WITH RESEARCH PARTNERS
- PLAN FOR RECREATION USE CHANGES
- EDUCATE PUBLIC – VECTOR BORNE DISEASES

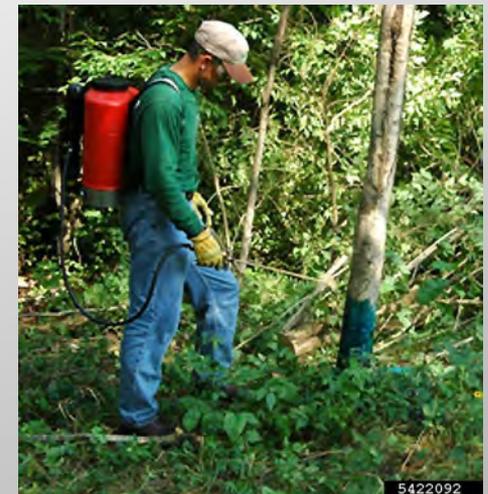


PHOTO CREDIT

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