

# How Species and Habitats Can Help Your Town Adapt to Climate Change



**And many  
conservation  
partners!**

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## ECOSYSTEMS AND WILDLIFE

### Climate Change Adaptation Plan

Amendment to the  
**New Hampshire  
Wildlife Action  
Plan**



October 2013

Funded by State Wildlife Grants  
and  
Conservation License Plate Funds



# Major Coastal Issues

- Inundation
- Erosion of beaches, dunes and salt marshes by storm surge.
- Changes in species due to temperature increases and salinity changes.
- Damage to habitat from hardening of shores.





# Major Terrestrial and Aquatic Issues

- Individual species will shift ranges
- Flooding
- Hydrological changes
- Temperature
- Increases in invasive species



# Strategies

1. Conserve Areas for Habitat Expansion and/or Connectivity
2. Habitat Restoration and Management
3. Restore Watershed Connectivity
4. Protect Riparian and Shoreland Buffers
5. Invasive Species Plan
6. Comprehensive Planning
7. Stormwater Policy and Flood Response
8. Revise Water Withdrawal Policies
9. State Energy Policy



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# Strategy Categories

10. Funding

11. Modeling, Research and  
Monitoring

12. Technical Assistance and  
Outreach



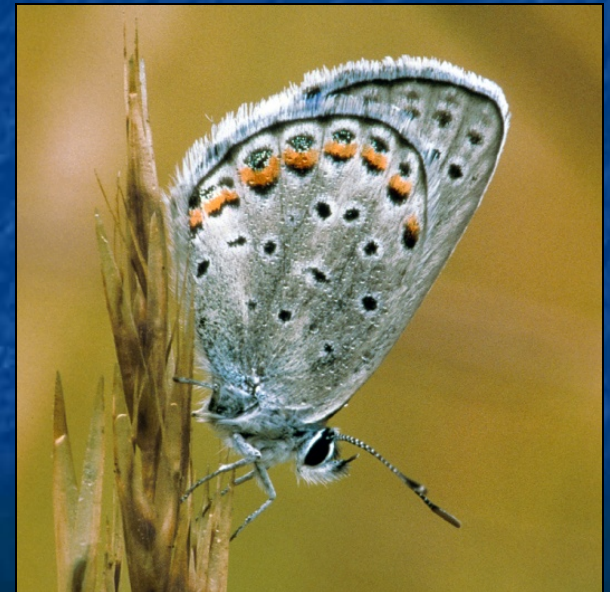


# Goal:

## Intact natural ecosystems!

Not necessarily those we have now – they will probably look different.

- Intact ecosystems will help mitigate effects of climate change.
- How can we help and how can we avoid making things worse?



# How Can Communities Help Themselves and Wildlife?

- PLANNING!!!
- Flood Control
- Reduce Storm Damage
- Infrastructure Protection
- Drinking Water Protection
- Keep cool!
- Keep Warm - Alternative energy sources





Surry, May 2005



Manchester May 2006



# Flood Control

Hurricane Irene Aug. 2011  
Rutland, Vt.

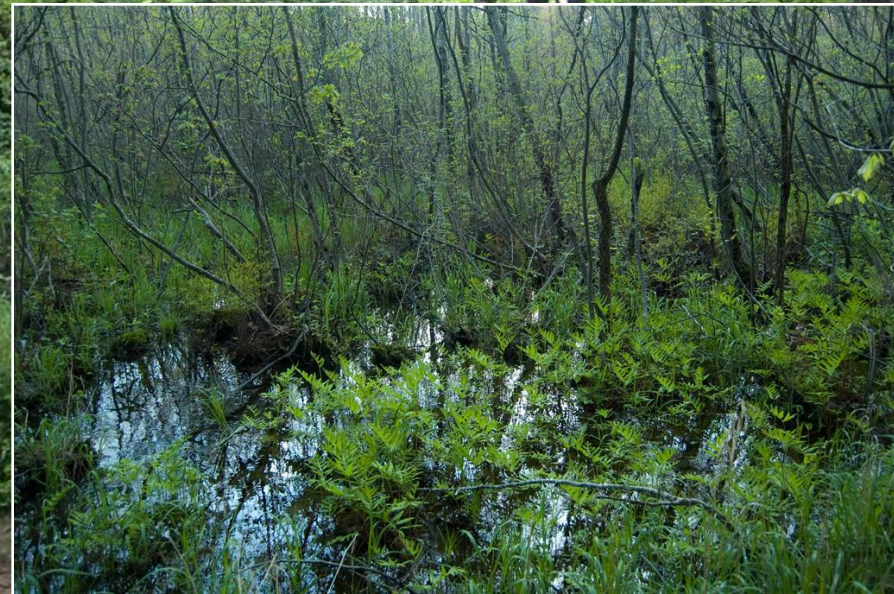


Lebanon, July 2013





# Floodplains





# Culverts



Culvert assessment  
and upgrade  
planning



# Stormwater Management



Pervious

vs.



Impervious



# Coastal Storm Surge



North Hampton  
March 2013



Hurricane Sandy  
Hampton Beach  
October 31, 2012



Seacoast Online

# Storm Damage Repair



Opportunity for habitat restoration?  
How can we make it work for all of us?





AP



AP



# Drinking Water



Private and  
public wells

Commercial water withdrawals





# Keep Cool!

Promote Shade Trees

Diverse tree species  
are better for wildlife.





# Biofuels





# Town Documents

## Include:

- Wildlife Habitat
- Flood Control: culverts and floodplains
- Storm Protection
- Drinking Water

INTO

- Master Plan
- Hazard Mitigation Plan
- Capital Improvement Plan
- Transportation Plan
- Town Ordinances
- Climate Adaptation Plan

**Prevent additional harm!**

# Citizen Science: National Phenology Network

Phenology is the study of seasonal biological events observed in plants, animals and microbes.

Examples:

- First flowering date
- Timing of animal emergences
- Dates when babies are observed or fledge
- Arrival dates of migratory animals

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