

What Shaped Today's NE Forests?

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Today's Forest

Plant type and abundance:

- Differs from pre-settlement times (this combination probably never existed before),
- Changing constantly,
- Will be a different forest in the future.



What Impacts Forests

- **Climate and plant dispersal**
- **Competition and succession**
- **Disturbance**
- **Legacy of land use history**



Climate and Plant Dispersal

- Glaciers left a bare landscape open for plant colonization.
- Plant species moved north at different rates.
- Climate continually changing (not at the current rapid pace).



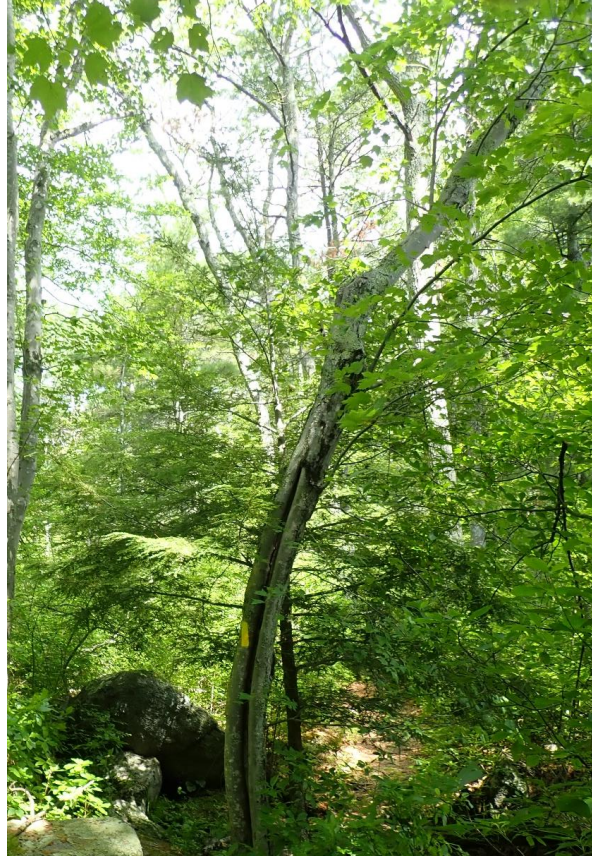
Competition Shapes Communities

Different adaptations to:

- Light
- Nutrients
- Water
- Temperature, wind



Changing Light Availability Alters Communities



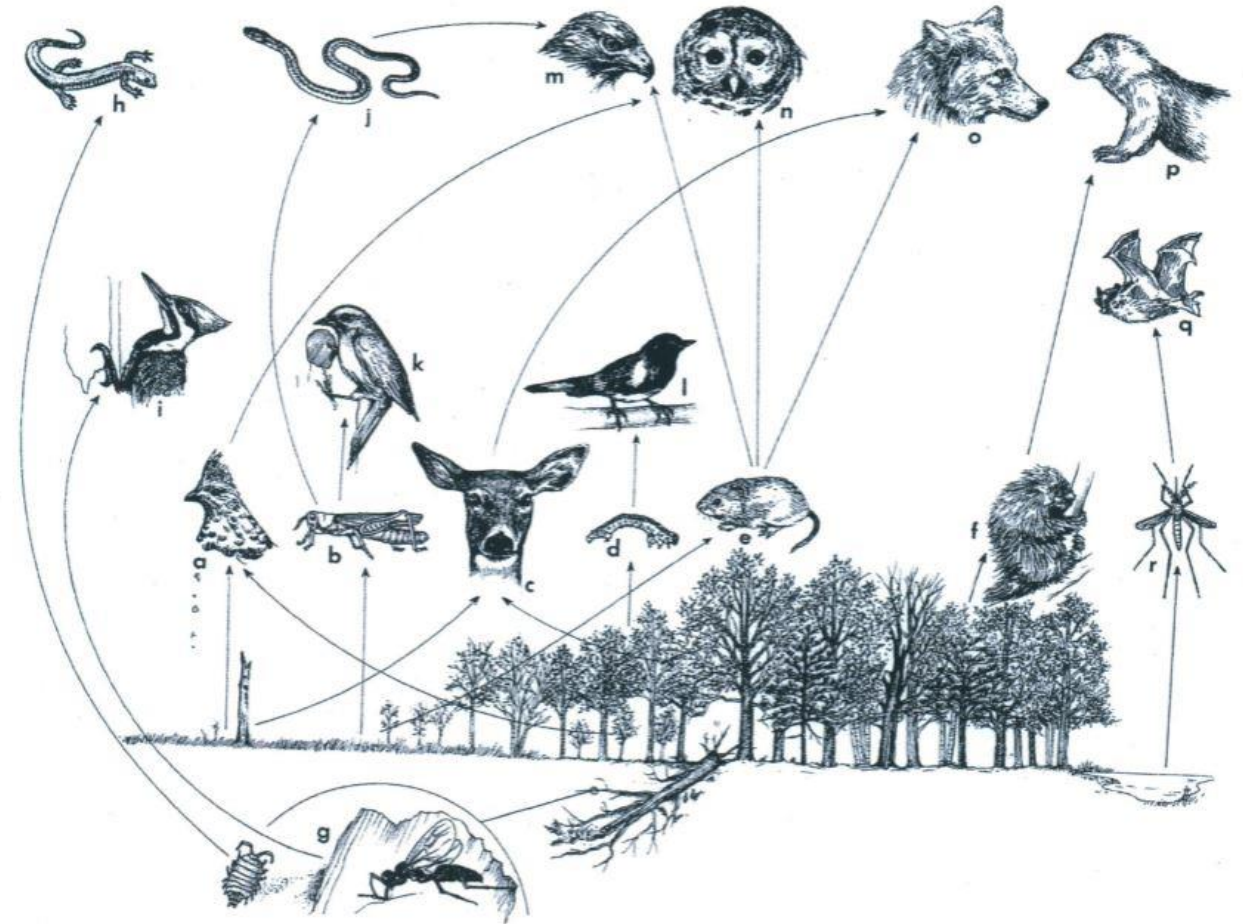
Disturbance

- Wind
- Floods
- Ice
- Fire
- Biological
- Logging
- Agriculture
- Development



Interdepend Communities

- Animals are community members.
- Parts are all connected.



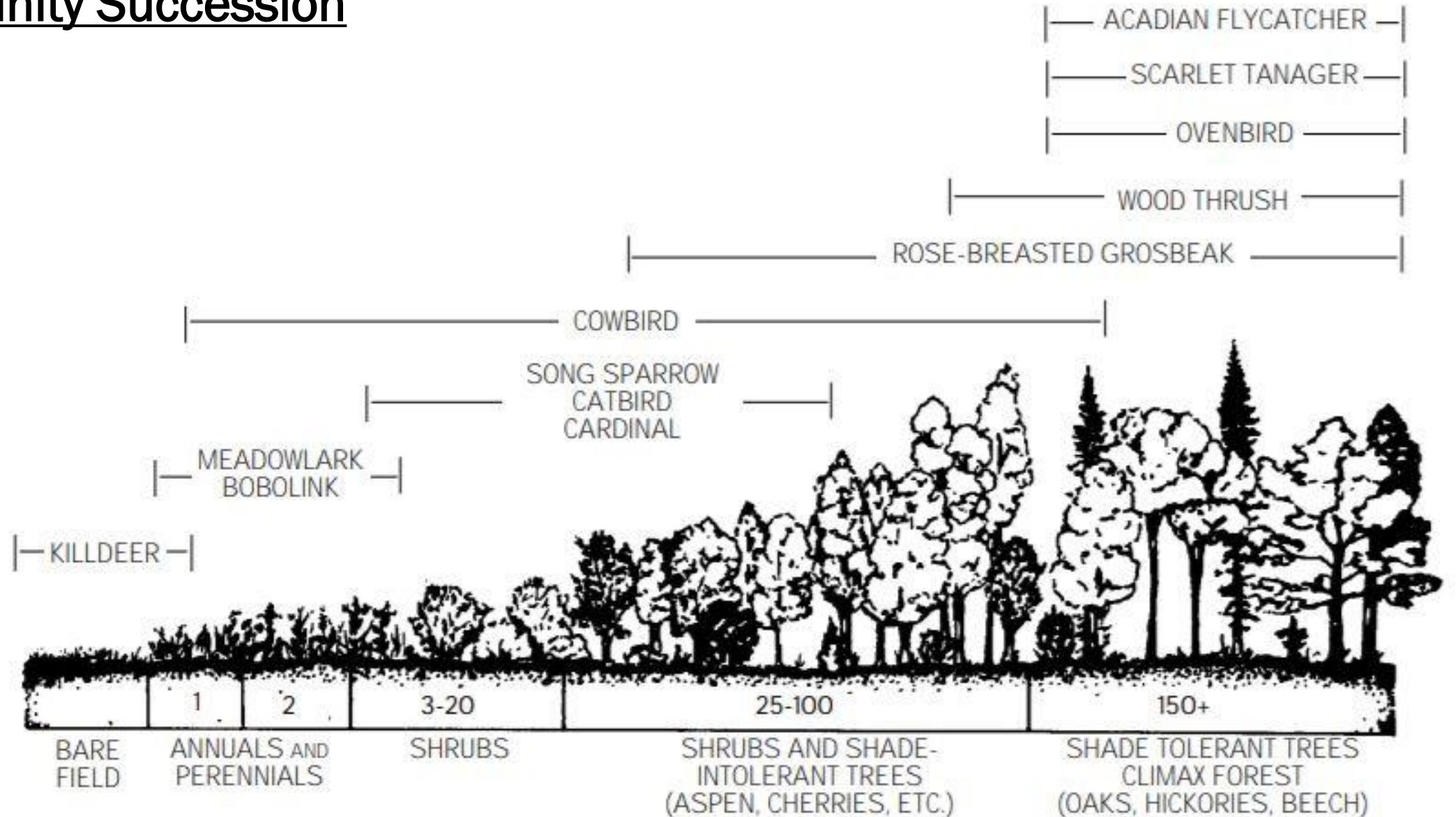
After DeGraaf, et. al. 2005. Landowners guide to wildlife habitat. Univ. Press of New England, 111pp

What Do Wildlife Need

- Food
- Water
- Cover
- Spatial
distribution



Community Succession





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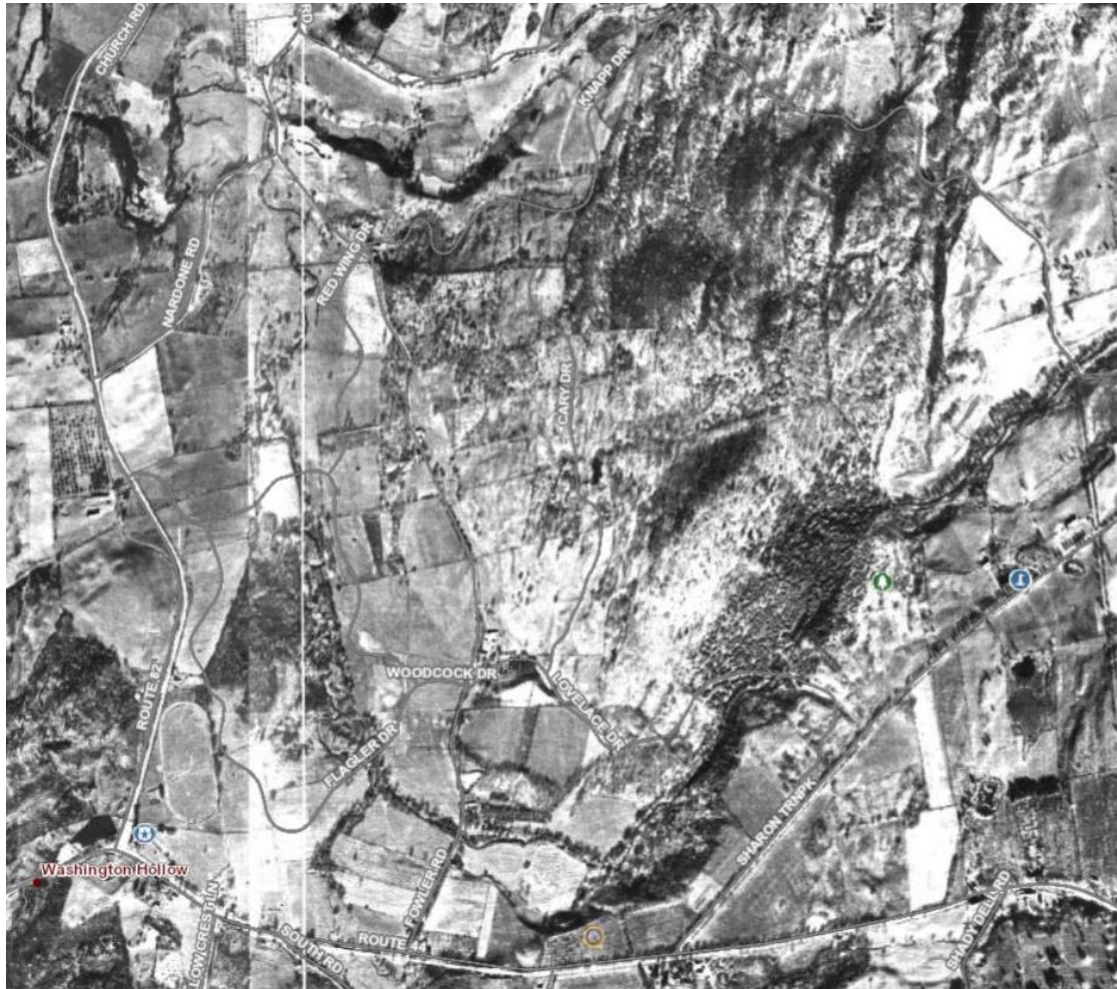


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Today's Wild Lands are the Legacy of Past Land Use History



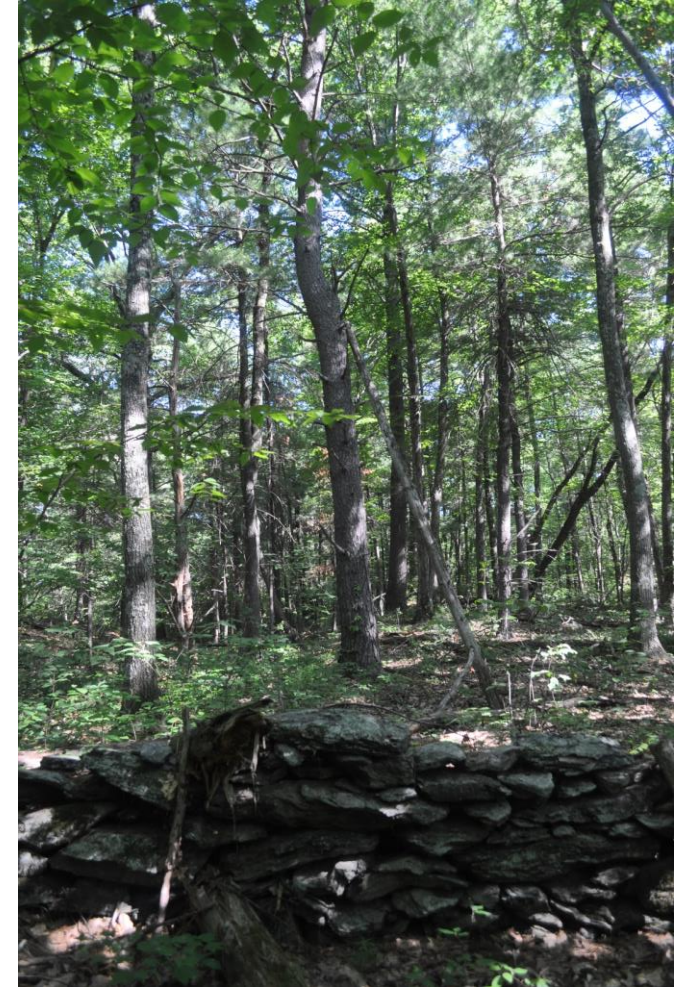
Land Use History of CIES Forests

3 Major Forest Communities:

- Chestnut and Northern red oak on steep, rocky, upper slopes never cleared for agriculture.
- White and black oak and pignut hickory at lower elevations on rocky, nutrient poor sites derived from abandoned pastures. Diversity of other plants suggests gradual tree invasion onto old pasture sites.
- Red maple and white pine on finer-textured, less rocky old field sites possibly abandoned from cultivation.

Species Composition Changes (Witness tree analysis):

- White and black oak declined in importance relative to red maple.



Plant Communities Reflect

- Climate, dispersal, succession and disturbance.
- Time scale not intuitive.
- Succession results in a shifting matrix of plant and animal species.
- We have and continue shaping forests through our land use practices and our plant and animal management.
- Our forests will continue to change over time, Wise stewardship can direct those changes in healthy ways.



Next Time: Threats to Our Forests

