RURAL NYS
Open Space
Eco-Regions
Forests
Wildlife

Rural areas have seen a changing landscape since the late 1800s:
- Movement of people to the industrial cities.
- Farm abandonment.
- Increase in woodland acreage.
- Changes in the size and operation of farms.
- Encroachment as cities and suburbs grow.
- Exurbanization as city people relocate to rural areas but continue to work in the city.

Wildlife Management Exercise

Exercise 15 (extra credit) looks at wildlife management areas and bird nesting sites within the counties.

It is due by the date of the final exam.

RURAL LANDSCAPE

Rural areas are divided into 3 categories:
- Forest landscape: densely wooded areas; tends to be located in the least accessible areas (increasing)
- Farm landscape: mainly agricultural land (decreasing)
- Mixed landscape: farmland, abandoned farmland, woodland, towns and suburban development (increasing)

Land Use in New York State

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Acreage</th>
<th>% Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>19,533,793</td>
<td>62.8</td>
</tr>
<tr>
<td>Agriculture</td>
<td>7,727,003</td>
<td>24.8</td>
</tr>
<tr>
<td>Residential</td>
<td>1,352,117</td>
<td>4.4</td>
</tr>
<tr>
<td>Water</td>
<td>994,431</td>
<td>3.2</td>
</tr>
<tr>
<td>Wetland</td>
<td>901,990</td>
<td>2.9</td>
</tr>
<tr>
<td>Commercial/Industrial</td>
<td>303,979</td>
<td>1.0</td>
</tr>
<tr>
<td>Parks/golf courses</td>
<td>239,728</td>
<td>0.8</td>
</tr>
<tr>
<td>Barren land</td>
<td>57,857</td>
<td>0.2</td>
</tr>
</tbody>
</table>

A reduction in agricultural land has resulted in an increase in forest cover!

Eco-Regions of NYS

An ECOREGION is a biogeographic division of the Earth's surface based on the local distribution patterns of plants and animals.
Open Space

NYS is a national leader in the preservation of open space.
– In 1990 the Open Space Conservation Plan was authorized.
– In 1993, the Environment Protection Fund was established to buy private land.

Open Space is defined by NYS as “Land which is not intensely developed for residential, commercial, industrial or institutional use.”
– Open Space can be public or private land.
– Open Space can be within an urban area.

Goals

• To protect water quality.
• To provide quality outdoor recreation.
• To protect and enhance scenic, historic and cultural resources that are part of NYS’s heritage.
• To protect habitat for biodiversity, endangered species, and traditional pastimes.
• To provide places for education and research.
• To maintain resource-based industries as farming, forestry, fishing and tourism.
• To preserve open space for the protection and enhancement of air quality.
• To use open space conservation as a tool to combat global climate change.

Forests of NYS

• Of the NYS’s open space, forested land constitutes 63% of the land area, followed by agriculture with 25% of the land area.
• Read the Forest Cover and Uses handout on the course home page.

Forest Vegetation Zones

The location of the forests of NYS are dependent on:
- climate
- soil
- terrain
- human disturbance
- state law
**Forest Cover**

- The forests of NYS are relatively young.
- Native Americans had a great impact on the forests: cutting trees for wood and clearing land for farming. (Second growth trees were used in longhouse construction.)
- Clearings allowed sunlight to reach the forest floor, setting sequential vegetation cycles in motion.
- Climax vegetation: the best species for a set of physical characteristics.

**NYS Land Use**

- Land area by major use New York, 2008

  - Timberland: 15,887,400 acres (53%)
  - Other Forest Land: 2,973,000 acres (10%)
  - Non-Forest Land: 11,272,600 acres (37%)

  *Includes farmland, urban/suburban areas*

**Sequential Vegetation**

Leading to **Climax Vegetation**

- **Primary Succession** for the temperate deciduous forest
- **Secondary Succession**

**Forests of NYS**

**Forest Coverage**

(percent by year)

<table>
<thead>
<tr>
<th>Year</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600</td>
<td>90%</td>
</tr>
<tr>
<td>1775</td>
<td>80%</td>
</tr>
<tr>
<td>1810</td>
<td>83%</td>
</tr>
<tr>
<td>1825</td>
<td>63% in 1810</td>
</tr>
<tr>
<td>1880</td>
<td>20%</td>
</tr>
<tr>
<td>1950</td>
<td>40%</td>
</tr>
<tr>
<td>1975</td>
<td>63% in 1975</td>
</tr>
<tr>
<td>2010</td>
<td>50%</td>
</tr>
</tbody>
</table>

**U.S. Sources of Energy**

(as a percent of total use) 1850-2008

- Wood: 59% in 1850
- Coal: 36%
- Natural gas: 19%
- Oil: 12%
- Nuclear: 10%
- Hydro: 7%
Forests and History

- 1600s - Indian occupancy
- 1790s - Expansion of agriculture
- 1830s - Erie Canal
- 1850s - Height of logging industry
- 1870s - American industrial revolution
- 1885 - "Forever Wild" clause in the NYS Constitution; Catskill Park created
- 1892 - Adirondack Park created
- 1920s - Decline in agriculture; farmlands abandoned
- 1930s - Federal reforestation program (CCC) plants trees
- 1960 - Parkland Reclamation Act
- 1972, 1986 - Environment Quality Bond acts
- 1990 - Open Space Conservation Plan

2010 aerial survey estimates that 63% of NYS is forested.

Hamilton 98%
Warren and Essex 92%
Franklin 82%
Fulton 80%
Ulster 78%
Sullivan 78%
Greene and Herkimer 75%
(NYC is 3½% forested)
Adirondack Logging Camp


Commercial Use of Forests

**Fence Posts and Telephone Poles**
- use tall, small diameter trees
- wood is chemically treated to prevent rot and control insects

**Maple Syrup Production**
- NYS ranks within the top three states in annual production
- Major producing areas are the colder, snowier regions

**Firewood, Chips and Sawdust**
- used as fuels
- used in landscaping

Commercial Use of Forests

- **Commercial Lumbering**
  - saw milling (logs, planks, boards)
  - paper and pulp
  - furniture
  - flooring
  - construction materials
- **Christmas Tree Plantations**
  - located mainly in western NYS
  - trees are harvested after 6-20 years
  - constant recycling of acreage and planting of saplings

State Land Classifications

- **Forest Preserve** – land established under Article XIV of the NYS Constitution: “The lands of the state ... constituting the forest preserve...shall be forever kept as wild forest lands.”
- **State Forests** – forested land outside of the forest preserve.
- **Wildlife Management Areas** – habitat preservation; lands for the use of wildlife.
- **Conservation Easements** – land that has restricted use to preserve its character; Open Space.

Public Lands

Adirondack Park

Largest state park in the lower 48 states

**“BLUE LINE”** – the line marking the external boundary of Adirondack park.

Adirondack Park is a patchwork of public and private lands.

It is a multiuse area – from wilderness to private houses to industry.
Wildlife Management

- In 1885 NYS’s Bureau of Wildlife was established (then called the Fisheries, Game and Forest Commission) when wildlife populations were at one of the lowest points in history.
- Many species have been brought back from extinction through habitat restoration and species reintroduction.
- Now BoW monitors the geographic distribution of wildlife and engages in population control through regulated hunting. Also tracks invasive species.

http://www.dec.ny.gov/outdoor/55423.html Watchable Wildlife web site

Status of Biodiversity

- Presumed extirpated - 4%. All known occurrences are gone and there is little chance of finding new populations.
- Historical - 3%. No occurrences have been reported in the last 15 years, but more survey work is needed. These may still be present within NY or they may be anticipated.
- Critically imperiled - 15%. Known at five or fewer locations in the state.
- Imperiled - 10%. Known at just six to 20 locations.
- Vulnerable - 12%. Known at 21 to 100 locations.
- Believed Secure - 56%. Known at more than 100 sites.

http://www.nynhp.org/

Breeding Bird Atlas

- NYS Bird Conservation Area Program (est’d. 1997) safeguards and enhances bird populations and their habitats.
- NYS Breeding Bird Atlas is comprehensive survey of the distribution of bird species in NYS and their breeding areas.
  - http://www.dec.ny.gov/animals/7312.html - BBA home page

For a list of NYS Bird species and fact sheets, see http://www.dec.ny.gov/animals/54755.html

Breeding Bird Atlas

- Study areas change over time.
- Change in sightings due to habitat change.

Nuisance & Invasive Species

Nuisance species are those animals and birds whose habitats have been reduced by human encroachment and/or who have thrived in human areas by learning to seek food/shelter in populated areas.

Examples:
- Deer
- Black bear
- Moose
- Canadian goose
- Coyote
- Raccoons
- Skunks
- Numerous plants
Nuisance & Invasive Species

Both the NYS DEC and Agriculture & Markets monitor the geographic distribution of non-native species in NYS.
- They are considered "biological pollution."
- They have no natural enemies or controls.
- They can cause harm to the environment or to human health (only 10-15% currently do).
- Usually enter the state as "hitchhikers."

Examples:
- Asian long-horned beetle
- Sea lamprey eels
- Zebra mussels
- Big-head carp
- Potato beetles
- Snakehead fish
- Pathogens (disease carrying organism as viruses and bacteria) as those that cause West Nile disease.

Invasive Species Awareness

Invasive Species Tracking website: http://www.nyis.info/
Interactive mapping site: http://www.imapinvasives.org/

Invasive Species

- Snakehead fish - top-level predator without natural enemies outside of its native environment (Africa and Asia).
- Asian Long-horned beetle - favors maple trees; no known biological or chemical defense; no predators in N. America.
- Giant Hogweed - noxious weed whose sap irritates the skin; can grow to over 14 ft. tall; came from SE Europe.
- Sea Lamprey eel - a parasite that attaches itself to the body of a fish, injects an anticoagulant and eats off half until the fish dies; controlled by killing its eggs.
- Conservationist Magazine

Published six times a year, Conservationist is a NYS-focused magazine that is packed with informative and entertaining articles, first-rate photography and stunning artwork.

Articles cover a broad range of environmental and natural history related topics, including fishing, hiking, recreation, travel, hunting, and nature studies.

Conservationist connects New Yorkers to nature! $12/year

Subscription Form: http://www.dec.ny.gov/pubs/24071.html?showprintstyles