18 - RURAL NATURE OF NYS Eco-Regions Open Space Forests Wildlife Prof. Anthony Grande Geography Dept. Hunter College-CUNY Spring 2018

Wildlife Management Exercise

- Optional Exercise 16 looks at wildlife management areas and bird nesting sites within the counties of New York State.
- ➤ It is due by the date of the final exam.

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Biosphere and Biodiversity

- Biosphere is the zone of life existing at the interface of the atmosphere, hydrosphere and lithosphere.
- Biodiversity refers to the total variety of life on Earth or within a given area, such as NYS or any of its parts (regions and counties).
 - Includes all the species of animals, plants, fungi, and microorganisms and bacteria living in NYS.
 - Includes genetic differences among those of the same species; and communities of plants and animals that occur together.
 - There are tens of thousands of species of plants, insects and animals (including 4,000 beetles!) in NYS.

3

Biodiversity & Species Conservation

❖Importance of Biodiversity

Variety benefits humans and of other species. Each species is a unique member of the biosphere and cannot be replaced if lost.

- Animals and plants provide food and materials for clothing, shelter and fuel.
- Insects pollinate crops and control agricultural pests.
- Plants produce the oxygen and absorb CO₂.
- Plants are the source for many medicines.
- Microorganisms decompose waste products and recycle nutrients.
- Biodiversity provides enjoyment, recreation, and spiritual fulfillment.

Threats to Biodiversity

Threats to the nature of New York

- Habitat destruction, alteration and fragmentation reduces ideal living space affecting food supplies and range of movement of a species.
- Spread of invasive species kill off native species and change the balance of nature within an area
- Pollution alters the chemical balance of water affecting plants, animals and fish
- Illegal collection poaching, unregulated hunting, overfishing has reduced numbers
- Climate change may cause species to shift their range and/or allow new species to enter the ecosystem.

5

NYS has

experienced

all of them

over time.

Status of Biodiversity http://www.nynhp.org/ 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 extirpated. Critically imperiled - 15%: known at five or fewer locations in the state. Imperiled - 10%: known at 21 to 100 locations. Vulnerable - 12%: known at 21 to 100 locations. Believed Secure - 56%: known at more than 100 sites.





KEENEY SWAMP WMA Allegany County Most of Keeney Swamp had been drained for agricultural purposes in the 1800's. By the late 1960's, most of the farms were abandoned. Beaver re-occupied the area and constructed several large impoundments. The area was purchased in 1978 by the DEC to ensure the permanent preservation of this diverse natural wetland. Consists mostly of shrub swamp, emergent marsh and wetland, open water and some brush and grassland. In 1990, 4 beaver impoundments failed and over half the shallow water impoundment was lost. By the late 1990's, this loss of habitat had decreased the diversity and number of many vildlife species, particularly water birds. The primary $\underline{\text{management objective}}$ of this WMA is to maintain quality wetland habitat beaver, muskrat geese deer song birds include water level regulation and grassland maintenance.

Breeding Bird
Atlas

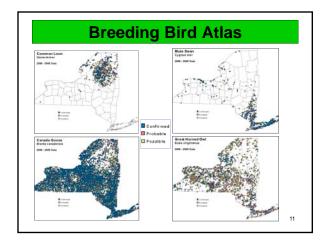
NYS Bird Conservation Area Program
(esrd. 1997) safe guards and enhances
bird populations and their habitats.

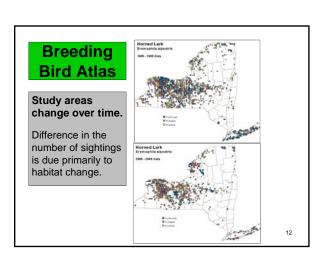
NYS Breeding Bird Atlas is
comprehensive survey of the distribution
of bird species in NYS and their
breeding areas.

http://www.dec.ny.gov/cfmx/extapps/bba/findex.
cfm - BBA search site

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





Nuisance and **Invasive Species**

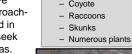
- In 2003 legislation was passed and signed to study the growing problem of invasive species.
- Nuisance and invasive species are monitored both by the Department of Environmental Conservation and the Department of Agriculture and Markets.
 - ➤ Insects, fish, reptiles, amphibians, plants and animals deemed harmful or potentially harmful to the environment of NYS and/or threatening to its agricultural and forest resources are closely monitored and regulated.

13

Nuisance Species

Nuisance species are 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
- Canadian geese
- Coyote
- Raccoons
- Skunks



Invasive Species

Species that are not native to NYS.

Both the NYS DEC and Agriculture & Markets monitor the geographic distribution of non-native species in the state.

- They are considered "biological pollution."
- They have no natural enemies or controls.
- They have the potential to cause harm to the environment or to human health (only 10-15% currently do).
- Usually entered 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

Snakehead fish A top-

Asian Longhorned beetle







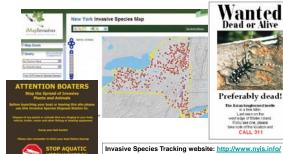
species from Lake Champlain A parasite that attaches itself to the body of a fish, injects an anticoagulant and eats off of it until the fish dies; controlled by killing its eggs.







Invasive Species Awareness



Interactive mapping site: http://www.imapinvasives.org/

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18

NEXT

Agriculture in NYS

19