

BIRD CONSERVATION

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PRODUCTION OF *FOREST BIRDS OF SOUTHERN NEW ENGLAND* BEGINS

The 50,000 plus bird observations of our eight-year long forest bird survey have now been completely computerized and proofread, and the analysis phase of this project has begun. As the work proceeds, the findings will be incorporated into a regional atlas, *The Forest Birds of Southern New England*.

The atlas will detail the distribution and populations of all forest species inhabiting Connecticut and Rhode Island. The first phase of the analysis is to estimate population densities. Estimates are developed by computing measures of species' detectability, which are used to extrapolate populations from the number of individuals encountered on surveys.

The second phase involves the construction of Geographic Information System-based maps of distribution and regional



The Red-shouldered Hawk was the commonest hawk in the forests of southern New England.

population densities. This task awaits estimation of populations.

The third phase involves examination of habitat use by each species. Places where individuals were found during sur-

veys are compared to available habitats. Such comparisons shed light on which habitats are preferred by species.

POWERPOINTS FOR AP ENVIRONMENTAL SCIENCE

Principal Biomes

Tropical Rainforest:

- 1) Climate- uniform hot, wet and dry seasons
- 2) Vegetation- diverse tropical hardwoods and vines
- 3) Limiting factor- heavy rainfall and uniform high temperatures
- 4) Distribution- N. S. America, W. Africa, SE Asia
- 5) Animals- Marianas Fruit Dove (right)



“At present, few educational resources are freely available for AP educators to use in their classrooms.”

This slide from the presentation *The Living World* is one of 64 slides that follow the national AP Environmental Science curriculum.

The advanced placement (AP) environmental science program for public schools has a nationally established curriculum with rigorous, college-level standards. The curriculum is a broad one that encompasses not only ecological topics but also Earth science and conservation issues.

Each year, a comprehensive examination is given

throughout the USA to evaluate the knowledge of students in the field of environmental science. However, at present few educational resources are freely available for AP educators to use in their classrooms.

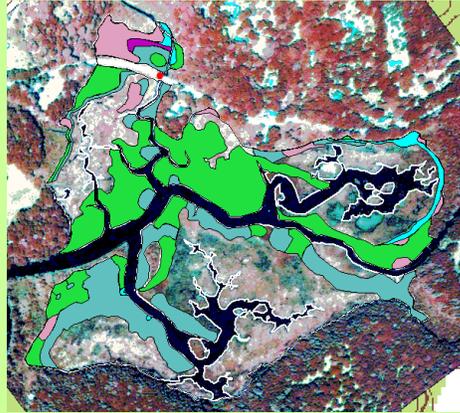
To begin providing these resources, BCR has produced a series of Powerpoint presentations that cover the national curriculum standards. In ad-

dition, they go beyond present standards to present timely topics that are at the forefront of ecological and conservation thinking.

To date, we have produced three presentations: *Earth Systems and Resources*, *The Living World* and *Population*. These will be available for free download via the BCR web site shortly.

Metapopulations

- Metapopulations are sets of geographically isolated populations that occupy patches of suitable habitat.
- Metapopulations maintain contact with each other, to a greater or lesser extent, by dispersal of individuals (or seeds) from one to another.
- The green areas in the aerial infrared photo at right are metapopulations of the marsh plant *Scirpus*. Blue areas are metapopulations of *Acorus*.



These slides are from the presentation *Population—a 43 slide review of population biology and its conservation implications.*

Endangered Species

- When deaths exceed births, populations decline. As populations shrink, they may lose genetic diversity, experience inbreeding weakness, develop uneven sex ratios and develop other characteristics that may impede population recovery.
- Endangerment occurs when populations decline to a level at which they become vulnerable to extinction. The most endangered species are those that continue to experience population decline.
- Causes of endangerment include 1) introduction of exotic competitors or predators, 2) exotic diseases or parasites to which native populations have no immunity, 3) habitat alteration or outright destruction, 4) environmental pollution, 5) overharvesting.
- Example: the island of Guam has a large human population and much of its natural environment is now greatly altered or eliminated. In addition, an introduced predator, the Brown Tree Snake, has built its populations to such high densities that it has driven nearly all native species of wildlife to extinction.
- The Guam Flycatcher is now extinct in the wild and persists only in zoo breeding programs.



BOG VIDEO TO APPEAR



This native *Rhododendron* from a bog in southeastern Connecticut is highlighted in BCR's latest video production.

Also available to educators in AP Environmental Science are our videos that highlight New England habitats. To date, we have produced videos on the floodplain of the Connecticut River and on the barrier beach of Napatree Point, Rhode Island.

Our latest effort highlights the bog habitat. Once completed, it will be available for free download from

our web site, www.birdconservationresearch.org. This along with all of our educational products are available by clicking the *Educators* tab.

The video *Bogs* describes two of the principal bog environments found in southern New England: northern-associated and southern-associated bogs. It describes the bog formation process by examining old black spruce bogs of the

Berkshire plateau of western Connecticut. It then shifts to a young Atlantic white cedar bog in northeastern Connecticut and explores the actively growing edge of a new bog mat. It concludes by examining an old cedar bog present along the southern Connecticut-Rhode Island border, which contains plant species that colonized the area not long after glacial times.

NATIONAL MUSEUM NEXT STOP FOR ESKIMO CURLEW STUDY



This Eskimo Curlew collected on eastern Long Island is one of the only existing specimens from this location.

One of the final collections to be visited in our investigation into the characteristics of the nearly extinct Eskimo Curlew is that of the U.S. National Museum. Few large collections of the species exist, and the National Museum houses one of these. Other large collections already visited include those of the

Museum of Comparative Zoology at Harvard and of the American Museum of Natural History in New York City.

Our present plans are to visit the National Museum this winter, where we have already made arrangements to examine its holdings. If time permits,

we may also visit a smaller collection housed at the Academy of Natural Sciences in Philadelphia.

Once our examinations are complete, we will attempt to answer questions about age and sex determination in the species.

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