



# Ecostudies Institute

A non-profit organization committed to ecological research and conservation

Newsletter Volume 2, Issue 1. Spring 2008

## *Project highlight: Mangrove birds*

Spring is always a busy time, but this year it seems especially so. In addition to many ongoing projects, we are embarking on a major new initiative to study the distribution, abundance, and habitat needs of birds living in the mangrove forests of southern Florida. These beautiful, wild forests are home to the endemic Mangrove Cuckoo, as well as unique subspecies of Yellow Warbler and Prairie Warbler. Because of the difficulties of working in mangrove forests (think mosquitoes, crocodiles, sharks, and the problems of navigating through shifting, labyrinthine channels), little is known about any of these species. We don't know what sort of environmental conditions they require to survive and reproduce. None of the standardized programs that monitor trends in bird populations—the Breeding Bird Survey or Christmas Bird Count, for instance—include the mangroves because of their inaccessibility. This lack of information is more than just a scientific inconvenience; it also poses real problems for conservation. Effective conservation requires that we have the means to monitor population trends and that we know

Continued on page 3

## *Notes from the field*

Well, this is a somewhat outdated field note—if we weren't so busy in the field, we might have time to write *Notes from the field* more often—but one worth sharing. Last April, with funding provided by the National Geographic Society, Research Director Gary Slater and Senior Research Ecologist John Lloyd, accompanied by Sonny Bass (Everglades National Park) and Tom Benson (Cal State Univ-San Bernardino) visited Grand Bahama to conduct bird surveys in the island's pine forests and to see if we could find any Brown-headed Nuthatches. Grand Bahama is home to a unique subspecies of this bird, which some have argued should be

Continued on page 2



Gary Slater carefully removes a Brown-headed Nuthatch from a mist net on Grand Bahama.

# Ecostudies Institute *Newsletter*

---

*Notes from the field* Continued from Page 1

recognized as a full species, distinct from its relatives in the United States (the government of the Bahamas has already commissioned a “Bahama Nuthatch” postage stamp). We are investigating this possibility by collecting DNA samples from birds on Grand Bahama, and comparing them with DNA collected from birds in various parts of the United States. Unfortunately, finding Brown-headed Nuthatches on Grand Bahama has become exceedingly difficult, as they have apparently undergone a remarkable decline in numbers (some researchers estimate that the current population size is only 5% of that of several decades ago). Relatively common in the 1960’s, recent surveys—our own included—have found just a handful of individuals. In 2007, we located only 16 adults and 7 juveniles during two weeks of island-wide surveys. We managed to trap one pair at their nest and extract a drop of blood from each. Preliminary analyses of the DNA contained in these blood samples revealed substantial differences with the DNA sequences obtained from two United States populations (Florida and Louisiana), but we have many more samples to process before we reach any firm conclusions.



Grand Bahama’s pine forests are home to many bird species, including a unique subspecies of Brown-headed Nuthatch.

In the meantime, of greater concern is the rarity of this bird on Grand Bahama. Not only did we find them in very low numbers, but we also found that they occurred only in one small part of the island, which also happens to be an area that has been platted for housing subdivisions. Although we still know fairly little about this population and why it is in decline, it is unlikely that we can delay implementing conservation measures

until all of the relevant research has been completed. As such, currently we are trying to organize a meeting of stakeholders (government agencies, NGOs, local business, and landholders) at which we can begin thinking about voluntary and cooperative conservation efforts for this unique piece of Grand Bahama’s natural heritage.

# Ecostudies Institute *Newsletter*

---

## *Project highlight: Mangrove birds*

Continued from Page 1

enough about habitat requirements to predict how species will respond to environmental change.

What makes these basic questions even more pressing to answer are the ongoing threats faced by south Florida's remaining mangrove forests. Over the next century sea level rise, increasingly severe hurricanes, altered water flows from the upstream Everglades, and the invasion of exotic plants and animals all threaten to change fundamentally this unique ecosystem. Maintaining healthy populations of birds in the face of these changes will likely prove a significant challenge. This study, conducted with our partners at the Florida Fish & Wildlife Conservation Commission and the National Park Service, will start to provide the information that we need to meet this challenge. In the long run, we hope this study will serve as a springboard for creating a cooperative regional monitoring program.



Aerial view of mangrove forests in Everglades National Park.

Are you interested in supporting the work that we do?

**How you can help:** Over 90% of our funds go directly to our tax-exempt purposes. The remainder is used to fund support staff, operations management, and fundraising. If you or your organization is interested in contributing services, time, or money, we encourage you to contact us for further information. All contributions are tax deductible.