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Abstracts From Papers Given at EBBA's Annual Meeting 23-25 March 2007

North American Bird Bander

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ARTICLE III Emblem of the Association

The emblem of the Association shall be six birds in silhouette with two passerines, a hawk, a hummingbird, a shorebird, and duck in a circle with the Eastern Bird Banding Association, Inc. 1923 around the edge - displaying the outline of 17 eastern states of the United States of America (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia and Florida) and six eastern provinces of Canada (Ontario, Quebec, Prince Edward Island, Nova Scotia, New Brunswick, and Newfoundland and Labrador) symbolizing the territory of the Association.

Section 1. This emblem shall be represented on a light background with black or some other appropriate color(s) outline.

Section 2. This emblem may be used on any official printed stationery of the Association, official electronic correspondence of the Association, and on such publications and other documents of the Association where deemed appropriate.

The meeting was adjourned.

ABSTRACTS FROM PAPERS GIVEN AT EBBA'S ANNUAL MEETING 23 - 25 MARCH 2007

***From Egg to Old Age: Long Term Studies of Common Terns* - Ian Nisbet, Scientific Consultant**

This presentation summarizes results obtained during a long-term (1970-2005) study of Common Terns in Buzzards Bay, Massachusetts. Numbers of terns increased more than ten-fold during the study period, leading to changes in the biology of the birds and requiring changes in methods of study. Topics addressed during the study included exposure to and effects of toxic chemicals, food and foraging ecology, breeding behavior and ecology, factors influencing egg size and egg

quality, predation and anti-predator adaptations, metapopulation dynamics, energetics, age-specific biology, individual quality, survival, life-history trade-offs, nest defense behavior, endocrine function, immune function, and several aspects of senescence. Long-term studies are difficult to plan and require creative approaches to funding. This study has relied on and has benefited from partnerships with many institutions and individuals with a wide range of specialized expertise.

***Saw-whet Owls in Southeastern New York: What do their feathers tell us?* - Gertrude Battaly, Drew Panko, Larry Fischer, Environmental Consultants**

Northern Saw-whet Owls (*Aegolius acadicus*) occur in southeastern New York state during fall and winter. Our study attempts to determine the origin of these visitors by use of hydrogen isotope analysis of feather specimens to approximate the latitude at which the feathers were formed. Our isotope study is part of a broader effort to understand the ecology of saw-whets, including duration of stay, roost site characteristics, and prey base. In fall, we trap owls at Westchester Community College in the middle of Westchester County. In winter, we trap owls at Pelham Bay Park along the coast of Long Island Sound in the Bronx. Our fall season is from mid-Oct to mid-Nov, and the winter season is from Dec to the end of Mar. Since beginning in Oct 2004, our maximum number of owls for a combined fall/winter season was 50 in 2005/2006.

***Breeding Hormones and Behaviors in Vireos* - Brandi Van Roo, Biology Department, Framingham State College, 100 State St., PO Box 9101, Framingham, MA 01701**

Birds are unusual for the degree to which males contribute to parental care. Further, males of different species of birds may contribute care to various degrees and in a variety of forms, including: nest building, incubating eggs, and feeding young. In order to elucidate the physiological basis of interspecific variation in male care, I have been documenting baseline levels of the hormones testosterone (T) and prolactin (PRL), as well as parental behaviors and breeding success, in several species of vireos. Like most north

temperate songbirds, male Red-eyed Vireos' sole contribution to parental care is less than half of the total feeding of young, relative to their mate. These males also demonstrate the typical hormone profile of a peak in T levels during territory defense and courtship, which decline as PRL levels rise during parental stages. Male Blue-headed Vireos, however, are extremely parental, performing fully half of all forms of care. This uncommon paternal devotion is matched by an absence of peak T levels and notably high PRL levels across all parental stages. Currently, I have been studying breeding behaviors in male Warbling Vireos, which appear to perform intermediate levels of care. Analysis of their hormone profile may reveal whether intermediate behaviors are created by intermediate hormone levels or if they are simply stimulated once hormones reach a threshold level, instead.

***In Hand Ageing and Sexing Techniques: Molt Pattern Summaries and Shortcuts* - Adrienne Leppold (presenter), Bander-in-Charge and Robert Mulvihill, Powdermill Avian Research Center, 1847 Route 381, Rector, PA 15677**

One of the most challenging aspects of banding is making accurate and precise in-hand age determinations; also, making correct sex determinations not infrequently depends on correctly ageing the bird first. Importantly, these decisions should always be made quickly, with as little handling time as possible, in order to minimize stress on the birds. While reference guides exist that contain information useful for making these determinations, consulting them with birds in-hand can be time consuming. We find that the presence or absence of molt limits is the single most reliable and consistent method for ageing birds and is preferable to skulling in most cases. With enough knowledge and experience, using molt limits to make age determinations can be accomplished as quickly and reliably as skulling, but with less handling-induced stress. In addition, molt limits provide a means for precisely determining the age of many birds after the time when skull pneumatization completes. At the Powdermill Avian Research Center, where we have banded over a half a million birds in the course of 45 years, we have had the opportunity to develop many "tricks of the trade" for ageing and sexing birds. First and foremost, it is important to know *where* to

look for molt limits. In this workshop, we will summarize different molt patterns that are consistent within genera and even families of birds. Additionally, we will show examples of shortcuts useful for species whose molt limits are difficult to discern.

***The Role of Energetic Condition in the Motivation and Orientation of Migrant Songbirds in the Gulf of Maine* - Kristen M. Covino (presenter) and Rebecca L. Holberton, Department of Biological Sciences, University of Maine, Orono, ME 04469.**

Energetic condition influences migratory decisions made by nocturnally migrating songbirds. Previous studies have demonstrated that individuals orient in different directions depending on their current energetic state, especially when confronted with an ecological barrier. In this study we performed orientation trials on migratory songbirds to investigate how various components of energetic condition relate to motivation and orientation decisions. Specifically, we were interested in determining which components better predict both the likelihood that an individual will initiate migration and the direction that it will choose. We used release tests and measurements of fat, mass, and plasma triglycerides (indicating fattening trajectory) to investigate which components of energetic condition play a significant role in both the likelihood that a bird will initiate migration and the direction that it will choose. Our results indicate that both the amount of fat a bird has and its size corrected body mass influences its decision to initiate migration. Additionally, the amount of fat a bird has also influences orientation decisions once the decision to initiate migration has been made. Plasma levels of triglycerides were not related to motivation or orientation decisions; however, further analysis into the interaction between fat and triglycerides is necessary.

***Comparison of Species Distribution with Recapture Rate, Mass Gain, and Stopover Time during Migration on Two Islands in the Gulf of Maine* - Rebecca Suomala (presenter), New Hampshire Audubon, 3 Silk Farm Rd., Concord, NH, 03301; Sara Morris, Department of Biology, Canisius College, Buffalo, NY, 14208; and Kimberly Babbitt, Natural Resources**

**Department, University of New Hampshire,
Durham, NH 03824.**

Migrant songbirds were mist netted on Star Island, NH, and Appledore Island, ME, during spring and fall migration, 1999-2000. Differences in bird species distribution between the islands were species-specific and highly consistent among sampling periods for nearly all species. Differences in recapture rates and stopover time were consistent with the differences in species distribution between the islands. The island with the greater percentage of recaptures and longer stopover was always the island with more captures. However, there were a number of species that had no significant differences in recapture rate or stopover time despite a difference in capture rates between the islands. Between-island differences in species abundance were not reflected in between-island differences in mass gain except for Red-eyed Vireo during fall. Species distribution was not related to the use of the site for food resources as measured by mass gain, suggesting an endogenous basis for habitat selection. There was no relationship between differences in fat levels and differences in captures, stopover length, or mass gain. Only 57 individuals (out of 13,815 birds banded) moved from one island to the other, suggesting little habitat shift after initial capture.

***Snowy Owls to Saw-whet Owls - Norman
Smith, Mass Audubon, 1904 Canton Ave.,
Milton, MA 02186***

Since 1981, Norman Smith has spent countless days and nights, in every imaginable weather condition, observing, capturing, banding and color marking Snowy Owls at Logan International Airport. Data have been collected on roosting, hunting and behavior while on their wintering grounds. Most recently, satellite transmitters have been attached to owls to learn more about their movements. Find out what has been learned to date, what questions remain on this research project and how this project developed to include research on Northern Saw-whet Owls.

***Report from the United States Banding Office:
Danny Bystrak, Bird Banding Lab, USGS,
Biological Resources Division, Patuxent Wild-***

***life Research Center, 12100 Beech Forest
Road, Laurel, MD 20708***

Danny Bystrak will review highlights over the past year and look to the future.

***Monitoring aquatic bird abundance in the
Northeastern U.S. - Shorebirds and Water-
birds in the Northeast Coordinated Bird
Monitoring Project - Stephanie Schmidt,
Wildlife Scientist/Manomet Center for
Conservation Sciences, P.O. Box 1770,
Manomet, MA***

The Mid-Atlantic/New England/Maritimes (MANEM) waterbird working group has recently completed the regional waterbird plan for the MANEM region. Seventy-four waterbird species breed, migrate, and/or winter in MANEM, which is comprised of Bird Conservation Regions 14 and 30 and pelagic Bird Conservation Regions 78 and 79. The MANEM plan identifies critical conservation resources (organizations, data, funding sources, etc) available to help ensure the persistence of waterbirds and their habitats. One identified need is that of coordinated waterbird monitoring. Lack of coordination in bird monitoring programs among agencies, institutions, and programs has resulted in much redundancy and inefficiency in data collection and management, and has resulted in an inability to address management issues that typically cross jurisdictional borders. A project to address these issues is being developed with state agency and other partners in order to implement a regional bird monitoring framework in the Northeast region. The Northeast Coordinated Bird Monitoring Project will assist States and other organizations in improving the coordination and effectiveness of their monitoring efforts and serve as a model for other regions of the country. A framework document and web site will be completed to document consensus about regional monitoring priorities and provide easily accessible resources for implementing coordinated bird surveys across the region. Manomet Center for Conservation Sciences is implementing the shorebird and waterbird portion of this project. These results meet an identified national conservation need by developing and implementing an improved monitoring system which will help build the fundamental basis for science-based bird conservation.

What has become of the American Kestrel in Southeastern Massachusetts - Joey Mason (presenter), Middleboro, MA 02346, & Mike Maurer, Marion, MA

An ongoing nest-box project of 17 years has documented a significant decline in American Kestrels in southeastern Massachusetts in the last six years. The cause of this decline has not been determined. Nest boxes were erected around cranberry bogs where pesticides have become more environmentally friendly through the years. Occupancy rates have plummeted because adult birds are not returning in spring to nest like they have in the past. The adults that do return appear to be raising nestlings adequately through the breeding season. All possible contributing factors, including natural competitors for nest sites, predators, West Nile Virus, housing development and more will be discussed.

Spatial Distribution and Abundance of Shorebirds at Monomoy National Wildlife Refuge, Massachusetts - Stephanie Koch, Wildlife Biologist, USFWS, 73 Weir Hill Road, Sudbury, MA 01776

Monomoy National Wildlife Refuge (Refuge) in Chatham, MA, is one of the most important stopover sites for migratory shorebirds in eastern North America. Although the 2,300 ha Refuge supports tens of thousands of shorebirds annually during migration, few quantitative studies have assessed the spatial distribution and abundance of shorebirds on the intertidal flats. From Aug-Sep 2005 and Apr-Oct 2006, we conducted repeated surveys on 14-25 3-ha plots to assess the phenology and spatial distribution of shorebird use on North Monomoy, South Monomoy, and Minimoy islands. We detected a total of 22 species in 2005 and 21 species in 2006. The most abundant species counted during August and September (>75% of shorebirds in both years) were habitat generalists that were widely distributed on the intertidal flats: Sanderlings (*Calidris alba*), Semipalmated Plovers (*Charadrius semipalmatus*), Semipalmated Sandpipers (*Calidris pusilla*) and Black-bellied Plovers (*Pluvialis squatarola*). Two other species, Short-billed Dowitchers (*Limnodromus griseus*) and Red Knots (*Calidris canutus*), were common habitat specialists with clumped distributions. Interannual variation in

abundance and distribution among species, and potential factors influencing distributions will be discussed. Gaining a clearer understanding of parameters influencing shorebird distribution will be critical to managers when considering public uses occurring on the Refuge.

Movement and Population Dynamics of the American Oystercatcher (*Haematopus palliatus*) in Massachusetts - Sean Murphy, City University of New York, 2800 Victory Blvd., Department of Biology, Staten Island, NY 10314

In the early 1900s, the breeding range of the American Oystercatcher, *Haematopus palliatus*, expanded north along the Atlantic coast. Since the 1970s, the species has assumed a prominent role as a nesting shorebird along the Massachusetts coast, including Cape Cod and the islands.

From 2005-2006, a color banding project following the protocol put forth by the American Oystercatcher Working Group began in Nantucket County to investigate the biology of oystercatchers. In 2005, 26 adults and one juvenile were color banded on Tuckernuck, Muskeget, and part of Nantucket. In 2006, 20 (77%) marked adults returned. Considering that many of the 2005 banded adults returned to territories similar to the prior year, supports the concept of site fidelity. The banding project area expanded in 2006 to include all of Nantucket Island as well as Chappaquiddick Island and the east shores of Martha's Vineyard. The evidence of site fidelity supports the concept that the migratory oystercatchers of these islands may be a metapopulation system.

Of the 85 individuals marked, 192 focal observations were recorded during the nonbreeding season. These nonbreeding observations could be grouped into three types: post-breeding, wintering, and pre-breeding. From 2005-2006, 54 post-breeding individuals were observed in a staging population on Monomoy Island/South Beach. Marked oystercatchers were observed during the 2005-2006 winter seasons throughout the known range. This research has the capacity to elucidate many biological processes in the migratory oystercatcher, including a heightened resolution of movement patterns and the estimation of individual-based parameters.

Potential Application of Banding in the Conservation of Purple Martins, with a Massachusetts Example - John Tautin (presenter), Purple Martin Conservation Association, 301 Peninsula Drive, Ste. 6, Erie, PA 16505; David Clapp (presenter), Natural History Services, PO Box 664 Brewster, MA 02631; Emily Pifer, Purple Martin Conservation Association, 301 Peninsula Drive, Ste. 6, Erie, PA 16505

In eastern North America, Purple Martins (*Progne subis*) nest almost exclusively in housing provided by people. This dependency, their tractable nature, and their strong fidelity to nesting colonies, make Purple Martins ready subjects for banding based studies. Results from the Purple Martin Conservation Associations' 12-year banding program are presented as example of what can be obtained through a concerted banding effort. A number of other Canadian and US banders having similar objectives independently band and color-mark Purple Martins. With some standardization and coordination, their data could be pooled for population monitoring and studies at different geographic scales. Results could be useful in addressing regional declines of Purple Martins. The situation with Purple Martins in Massachusetts is presented as an example.

Entering Data with the New Bandit Software Program - Danny Bystrak, Bird Banding Lab, USGS, Biological Resources Division, Patuxent Wildlife Research Center, 12100 Beech Forest Road, Laurel, MD 20708

Wintering Raptors of the Great Basin - Al Hinde, Independent Raptor Researcher, Cambridge, MA

Since 1985, I have conducted a roadside census and banding study of wintering raptors in the Great Basin. Initially, this project was limited to northeastern Nevada and was intended to augment knowledge of regional raptor ecology derived from HawkWatch International's (HWI) long-term migration study in the Goshute Mountains of northeastern Nevada (on-going annually since 1983). By 1989, further exploration throughout Utah and Nevada had revealed eight major concentration areas for wintering raptors, with each a roughly 50-sq-mi area consistently

containing 100–200+ individuals of several species. One such area, Lovelock, NV, contained a previously undocumented communal roost of 200+ buteos (Rough-legged, Red-tailed, and Ferruginous hawks) and several Great Horned Owls. Continuing each January, with field assistance from experienced HWI raptor biologists, other ornithologists, and local and state wildlife officials, I focused on these eight areas, including the Lovelock roost. All sites have continued to sustain similar large numbers of wintering raptors each year, with the Lovelock roost routinely containing dozens of mixed-species buteos. This long-term study suggests that these areas are among the most significant winter ranges for raptors in western North America, and the censuses provide a means of monitoring population changes in relation to habitat, land-use, and climatic changes in the study regions. The capture and banding of 300+ raptors over the course of study—including 85 Rough-legged Hawks, the focal species—also has yielded morphometric, genetic, and photographic data that have been used in several other studies and publications.



Red Tailed Hawk (SY-U)
Photo by Robert Pantle