
Bander's Forum

An Invitation to the Bird Banders of North America to Contribute to a Continent-wide Network for the Long-term Monitoring of Avian Productivity, Survivorship and Population Levels

The Institute for Bird Populations extends an invitation to North American bird banders to become part of the Monitoring Avian Productivity (MAP) project, a cooperative, continent-wide network of constant effort mist-netting stations for the long-term monitoring of land bird productivity, survivorship and population levels.

It is becoming increasingly apparent that Earth's biosphere, and its bird populations, are facing a growing number of environmental threats of ever increasing severity. Many of these threats are global in nature: accelerating habitat loss from the deforestation and fragmentation of tropical and temperate forest ecosystems, the desertification of scrub and savanna ecosystems, and the filling and degradation of estuarine, wetland and riparian ecosystems; global warming due to the atmospheric accumulation of greenhouse gases; loss of stratospheric ozone due to chlorofluorocarbon pollution of the atmosphere; and toxic pollution of marine and terrestrial ecosystems from acid rain, industrial wastes, agricultural runoff and low-level radiation.

In fact, the human species seems to have embarked upon a global ecological experiment, the ramifications of which may challenge the greatest extinction rates and fastest rates of range change ever recorded in the fossil record. And the scientific community has not yet put into place the means for recording the data from this experiment. Clearly, the need for a continuing and comprehensive program of biomonitoring is justified.

Birds, because of their high body temperature, rapid metabolism and high ecological position on most food webs, may be excellent indicators of environmental change. Moreover, land birds, because of their abundance and diversity in most terrestrial ecosystems, diurnal nature, discreet reproductive seasonality, and intermediate longevity, may be excellent indicators of change in terrestrial ecosystems, ecosystems in which it is often difficult to demonstrate adverse effects of habitat change and pollution. Furthermore, the beauty of land bird plumage and song make them favorite objects of human attention, study, and love.

Indeed, a number of large-scale, long-term biomonitoring programs for land birds are already in place on this continent. They include the Breeding Bird Survey, the Breeding Bird Censuses and Winter Bird Population Studies, and Christmas Bird Counts. All of these efforts provide annual estimates of population trends for land birds, but all suffer from the same shortcoming: they fail to separate the effects of productivity (birth rate effects) from the effects of

survivorship (death rate effects). Without these critical data, it is impossible to test hypotheses to account for observed population changes.

Here is where the efforts of banders like us can aid enormously. By banding and recapturing the individual birds that we encounter, we can accumulate data on the age-specific survivorship of our birds. Furthermore, by accurately ageing each individual captured, we can accumulate data on the ratio of young to adults, thus, information on the productivity of our birds. The key to both of these determinations is standardization. By standardizing the number and location of our nets, and our total efforts, including the effort and timing per day and per season, we banders can provide extremely valuable data on productivity and survivorship. In fact, only we banders can easily provide this information. Furthermore, by networking with other banders, we can provide meaningful information on changes in productivity and survivorship over larger geographical areas.

As has often been the case, the British have pioneered such cooperative banding programs. Since 1981, the British Trust for Ornithology has operated a Constant Effort Sites ringing operation during the breeding season to monitor productivity and survivorship of birds. Other constant effort banding projects are currently being established in Finland, France, the Netherlands and Denmark, and are being considered for New Zealand, Spain, and Israel.

Now, at long last, a constant effort sites, breeding season, mist netting program has been established in North America, the Monitoring Avian Productivity (MAP) project coordinated by The Institute for Bird Populations. Twenty stations were established and operated across the continent during the 1989 pilot project. The long-term goal for this project is the establishment of about 200 stations in North America, including a series of stations to be operated in the national parks. The goal for 1990 is the establishment of 80 stations.

Here then is an opportunity for banders to make an important and crucial contribution to avian biomonitoring. Moreover, the methodology is simple and straightforward. First, establish a study area and banding station (or use an already established one) at a location that can be utilized for at least five years, and that will permit the capture of substantial numbers of many of the common species of land birds. We are particularly desirous of stations located in scrub, riparian, and woodland habitats. Then, set up a series of mist nets at 5 to 20 permanent sites in the study area. Operate

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these nets for a standardized number of hours per day (we suggest six morning hours), and for a standardized number of days in each of eight to twelve consecutive ten-day periods between May 1 and August 28. Operation on just one day per ten-day period is sufficient. And finally, identify, age, and band all birds captured, including recaptures.

We urge banders from all parts of North America to become part of this exciting new project. For more information, please write The Institute for Bird Populations, P.O. Box 554, Inverness, CA 94937, or call (415) 669-1663.

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Short Notes

High Altitude Capture of a Northern Cardinal

A male cardinal (*Cardinalis cardinalis*) was first observed at 10 a.m., July 17, 1989, at the University of Denver High Altitude Laboratory, Echo Lake, Colorado (altitude 3264m, 10,710 ft.). The Laboratory is 22.2km (13.8 miles) southwest of Idaho Springs, 0.2km from the junction of highways 5 and 103.

An hour later, the bird was trapped and I banded, measured, and weighed it. The identification was verified by W. W. Brockner. After the bird was released, it was sighted twice during the afternoon.

At least one cardinal had been observed for about a month at a ranch about 2.4km from the Laboratory at 2896m elevation. On Oct. 25, I observed a banded male Cardinal at Georgetown, Co. at an elevation of 2597m (8519 ft.), but was unable to trap it. The bird had been coming to a feeder for about 6 wks. Georgetown is about 10 km (6 mi.) from Echo Lake. The bird was still present at the feeder in late Jan. 1990.

This observation apparently establishes a high altitude record for Northern Cardinal. The only previous records for Colorado's foothills and mountains were at Great Sand Dunes, May 5, 1977 at about 2530m (8300 ft.) (Hugh Kingery, pers. comm.) and Bergen Park, Jul. 10, 1964 at about 2375m (7790 ft.) ("Birds of Colorado"). Bergen Park is about 23 km. from Echo Lake.

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During a recent telephone conversation with one of EBBA's long-time banders, I was discussing some of my long-term banding project goals and several hypotheses concerning raptors that overwinter in Florida. It was suggested that I put one of these hypotheses in NABB so other banders and, in particular raptor banders, could benefit from my thinking.

October - December

It is widely believed that the current deforestation of tropical rain forests is the cause for the ever decreasing passerine populations that migrate through Florida, particularly during the fall. I doubt that any bander has hard data to prove this thesis but, for the moment, let's assume it is true. We also know that some of the larger raptors have passerines in their food chain; that is well documented. Therefore, one could argue that as passerine migrant populations decline, so does the availability of food supply for wintering raptors. This leads to a very interesting hypothesis, namely, when migrant and subsequently wintering passerines are reduced in number consistently over a period of years, the wintering habits of raptors could change. The raptors could begin to favor areas of the south where passerines are higher in numbers during these periods than in other areas of the south where their populations have declined. This is something that should be looked into.

My personal banding consists of capturing and banding migrant raptors at a stationary site in fall between mid-September and mid-November. At that time of the year, we switch to roadside banding in several areas in south-central Florida where we primarily concentrate on wintering raptors until mid-March of the following year. Up to now we have had enough banders to cover many areas but that is also changing. In addition, it is very difficult to quantify results because some areas are favored more than others (by the banders rather than by birds) which creates a bias. Using mist nets for passerines, we can achieve a comparative index by using "birds per net hour" on an annual basis, since the nets are usually in the same place from year to year; but with raptors, such an index becomes a moot point. At the stationary site, some raptors are lured in, while others are not; some are captured with bow nets, others in mist nets. Some birds end up in the mist nets in a diversionary manner. When we are using Bal-Chatri traps on the roads and byways of our area, there is no index that can be applied to arrive at a meaningful comparison from year to year. In addition, adult raptors are less likely to be lured in to traps than are immatures or those that were HY in the previous year. I've been doing comparisons by slicing up our area in longitudinal bands 10-minutes wide, regardless of latitude, in order to lessen the bias created by spot sampling. Those comparisons have as yet not yielded meaningful results with three solid years of winter data behind us.

I invite any NABB reader to correspond with me and/or discuss possible means to arrive at a meaningful year-to-year index for the winter banding, so that a more uniform method can be found to prove the above-mentioned hypothesis.

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