

Our most recent Annual General Meeting, held near the end of December, marked the Migration Research Foundation's fifth anniversary. Although our core projects have evolved somewhat differently from what we originally envisioned, these changes have been for the better, as they have been a result of seizing emerging opportunities. We are proud of our accomplishments to date, and very grateful to all of our generous supporters without whom none of our work would be possible. In this year end report, we summarize our key achievements from the past year as always, but also look back at our first five years, and ahead at the possibilities that MRF may explore in the coming years. Additional details on all projects are on the MRF website at www.migrationresearch.org, and are updated periodically throughout the year.

McGill Bird Observatory (www.migrationresearch.org/mbo.html)

When MRF was formed, we had a variety of future projects in mind – but little did we think that one not on that list would within a few years come to be our largest undertaking! The concept of establishing a bird banding station in Montreal first came to our minds in late 2003, and by the spring of 2004 we began field testing on the McGill University property that would ultimately become the McGill Bird Observatory (MBO). We operated a part-time pilot migration monitoring project in fall and obtained results exceeding even our most optimistic expectations. Thus, we decided to launch full spring (10 weeks) and fall (13 weeks) monitoring programs in 2005. They too were a great success, and in early 2006 MBO became a provisional member of the Canadian Migration Monitoring Network (CMMN). This collaborative venture allows us to pool our data with similar organizations across Canada to provide a more comprehensive overview of annual and long-term patterns in populations, with a particular focus on neotropical migrants breeding in the boreal forest. These birds are poorly monitored through other large-scale programs such as the Breeding Bird Survey and Christmas Bird Count. MBO is the only CMMN member in southwestern Quebec, and therefore may be the only site to sample migrants breeding in a large part of the province.

2007 was another successful year for MBO, and marked the third year of full operations. Numbers have been quite consistent, with 4121 birds of 84 species banded in 2005, 4265 of 84 species in 2006, and 3657 of 87 species in 2007. The total number of species observed during the year was 165, the highest count yet, though only slightly better than the 164 in 2005 and 159 in 2006. The number of birds banded in 2007 was slightly lower due to a decrease in fall numbers, and the winter banding program not operating. We hope to resume winter population monitoring for 2008-09, but doing so is contingent on funding. In total, we have now banded 103 species and observed 191 species at MBO – impressive numbers for a landlocked site close to a large urban centre. The volume and diversity of species, and their relative consistency from year to year, give us confidence that MBO is a valuable site for monitoring population trends over the long term, while also providing us ample opportunities to pursue research on particular species. Among the projects underway or currently in planning are studies of moult physiology, attempts to refine the accuracy of ageing and/or sexing individuals of certain species, and linking timing of migration to age, sex, and geographic origin.



The biggest rarity of the year banded at MBO was this hatch-year male Golden-winged Warbler in mid-September. (Photo by Marie-Anne Hudson)

For the past two years, we have been able to pay a modest daily stipend to our banders-in-charge through funds raised by our annual Baillie Birdathon, and grants from Mountain Equipment Co-op, Bird Protection Quebec, the James L Baillie Memorial Fund of Bird Studies Canada, and Canada Steamship Lines. While this has enabled us to consistently operate the spring and fall migration monitoring programs, we are now at the point where the volume of data we are accumulating demands that we spend more time on analysis and publication. Communicating the results of our research is an important priority for MRF, but it is difficult for those already involved with MBO to make meaningful progress on a volunteer basis, especially as they are already putting many unpaid hours toward necessary activities such as fundraising, site maintenance, and volunteer coordination. We are therefore hoping to fund a full-time position that would involve not only bander-in-charge responsibilities, but also data analysis and publication, an expanded public education program, and further fundraising. Without such a position, our scientific output will be limited to a fraction of its potential, and over time we are also likely to see much greater turnover in banders-in-charge, possibly putting at some risk the consistency of the methodology we have followed over our first four years. As MRF has no paid staff at present, such a position could also at times be helpful in supporting other MRF projects. Fundraising for this position will therefore be a priority for MRF in 2008, and any contributions in support of it will be particularly appreciated.



Of course daily operations during migration monitoring are also dependent on a large support team of volunteers. Again we had around 100 volunteers participate in MBO activities this year, contributing several thousand hours of assistance in the form of census observations, net extractions, scribing, site maintenance, and more. Marie-Anne Hudson was the primary bander-in-charge for 2007, responsible for coordinating all of those volunteers and preparing the seasonal reports, in addition to supervising the majority of field work. Barbara Frei filled in most of the remaining days as bander-in-charge, while Marcel Gahbauer took on the role for a few days in August. As usual, the fall numbers were much higher than those from spring. The 10-week spring program again ran from March 28 to June 5, with 704 birds of 61 species banded and 135 species observed. During the 13-week fall program from August 1 to October 30, we observed 144 species and banded 2876 birds of 76 species – plus 15 Northern Saw-whet Owls, thanks to the efforts of Shawn Craik leading our third owl banding season. We recently reviewed both migration monitoring programs, and have again concluded that despite the lower volume of birds banded, the spring period is well worth continuing in its present form, due to the considerable differences in species composition between spring and fall. Detailed 40+ page reports for each migration season are posted on the MRF website a few weeks after they end, while briefer weekly text updates and photo highlights are added throughout the season.

The most noteworthy surprise at MBO in 2007 was a Golden-winged Warbler, banded on September 11. Only one individual had been seen previously at MBO, in 2004. Another 11 species were seen at MBO for the first time this year, and seven were banded for the first time. This year Ruby-crowned Kinglet topped our list of most frequently banded species, with 438 individuals. It and White-throated Sparrow are to date the only species of which we have banded over 1000 individuals. We have yet to receive any news of foreign recoveries of those species, but did get such reports in 2007 for other species, including a Yellow-rumped Warbler recovered in Maryland just 16 days after we banded it in September 2006, and a Tree Swallow found in southern Ontario this spring, a year after we banded it at MBO.

In addition to our migration monitoring programs and other research, we continued with our education and training efforts in 2007. Over 30 undergraduate students from McGill University came out for at least three mornings of migration monitoring, and were taught basic bird identification, handling, and banding skills. Those who helped more often received further instruction, as did many of other regular volunteers. As a result, we currently have two volunteers apprenticing for their banding subpermits, and a few others are looking forward to reaching this level of experience in 2008. To complement the ongoing training efforts, we gave our second weekend workshop on ageing and sexing of passerines in late August. Marcel Gahbauer led an indoor photo-based session on Saturday, and then on Sunday morning participants were able to put their skills to the test at MBO, where we were lucky to have a big flight of migrants moving through. The photos were taken largely from our ever-expanding online photo library, which has over the past year drawn increasing attention and compliments from banders and other birders across North America. We consider it to be one of our most important educational tools, and are working to develop it further.



A sample page from the online photo library (enter through the index page at www.migrationresearch.org/mbo/id/index.html). Each species account begins with a seasonal abundance bar graph for MBO, followed by an overview of tips and a table with thumbnail images and brief descriptions of each age/sex. These are linked to larger images and additional text below.

Swainson's Hawk research (www.migrationresearch.org/research/swainson.html)

In 2007, Swainson's Hawks continued to defy our efforts to study them in eastern North America. A migratory raptor generally believed to breed only in the western half of the continent, it nonetheless is observed in small numbers at various raptor watches in the east each fall. In particular, they are an almost annual sight at Cape May in southern New Jersey, where Bill Clark and colleagues have been monitoring raptor migration since the 1970s. In 2005 he approached us with the idea of partnering on researching this puzzle using satellite telemetry. This would allow us to determine whether such individuals winter separate from the main population in Argentina, and then hopefully to follow them back to their breeding grounds the following spring. Swarovski Optics sponsored a transmitter in 2005, and we have been waiting ever since to deploy it, but unfortunately the few individuals that have passed by the Cape May Raptor Banding project over the past three fall seasons have all eluded capture. All we can hope is that our luck will improve in 2008.

Peregrine Falcon research (www.migrationresearch.org/research/peregrine.html)



The female adult Peregrine Falcon at the nest on Montreal's Place Victoria, during one of MRF's visits to band her young (Photo by Marcel Gahbauer)

Peregrine Falcons were an important part of MRF's activities from 2003 to 2005. On a local basis, we focused on banding young produced at accessible nests in Montreal, and collecting blood samples from them for a toxicology analysis being conducted by the Canadian Wildlife Service. In 2004 we expanded our efforts by putting a satellite transmitter on a juvenile male from the nest in Rochester, New York. Over the course of nine months, we received data almost daily, showing that he never dispersed from his natal territory, despite making a few forays in fall to the east, south, and west that took him as much as 200 km away. The project ended when he was killed by a vehicle collision. We repeated this study in 2005 with a juvenile female from the same nest, and were somewhat surprised when in August she left the area and headed northwest into Ontario. She stayed for a while in an agricultural area near Lake Huron, but died in September, likely a victim of predation. While it was unfortunate that both birds died within the first year of tracking, this was not unexpected, given that only around one-third of juvenile Peregrine Falcons are expected to survive to a year. Nonetheless, both birds provided valuable additional data on the behaviour of young peregrines from urban nests. However, as the overall body of research on Peregrine Falcon movements has grown considerably over the past decade, MRF decided not to pursue any further satellite telemetry of this species in 2006, as beginning to investigate the migration and dispersal of less-studied species became a higher priority. Some other research is continuing though, including an overview of migration and dispersal in eastern North America through analysis of banding recovery data. Two papers discussing the satellite telemetry results are currently in review, and another two on other aspects of our peregrine research will be submitted in 2008.

Short-eared Owl research (www.migrationresearch.org/research/shortear.html)

One of MRF's first objectives was to develop a research program aimed at answering some of the many questions surrounding the drastic decline in Short-eared Owl populations over the past four decades. While the causes of the decline are not well understood, part of the problem is that the species has long been considered nomadic. With only very limited knowledge of individual movements through band recoveries, it remains difficult to distinguish with any accuracy between population cycles or trends and irregular movements of a possibly more stable population. Satellite telemetry is the obvious choice for addressing this issue, but when we started our program, even the smallest transmitters available were too heavy for Short-eared Owls to carry safely. As such, we spent two summers documenting the distribution and habitat use of Short-eared Owls in southern Ontario, contributing to the growing volume of reports addressing the status of regional populations of this species across North America. In early 2007, we reviewed the existing data on band recoveries. We have posted this summary on the website, along with highlights of research to date by other members of the informal Canadian Short-eared Owl Working Group.

Last year, a 12-gram solar-powered satellite transmitter was developed, and MRF purchased one of these. It was placed on a female known as "Skor" undergoing rehabilitation at the Owl Foundation in Vineland, Ontario, where staff were able to closely monitor her reactions to the harness and transmitter, and adapt it to the best possible fit. In October, she was flown out to Saskatchewan, where she had been injured, and we released her near the Last Mountain Lake National Wildlife Reserve, an extensive grassland and wetland complex known to be favoured by Short-eared Owls. After she had spent more than 18 months in captivity following her injury, we were amazed to see that she flew over 1000 km southeast to Minnesota within her first two weeks after release. Another two weeks later she continued southeast to Iowa, and appeared to settle in for the winter in a largely agricultural area southeast of Des Moines. We are very grateful to the Owl Foundation and North Star Science and Technology for their assistance with this project.



Skor taking flight from her release location in central Saskatchewan. To our knowledge, she is only the fifth Short-eared Owl to be studied using satellite telemetry (photo by Marcel Gahbauer)

Heading into 2008, we plan to move forward on two fronts. We hope that once longer daylight hours provide a greater opportunity for Skor's transmitter to recharge, we will be able to follow more of her movements. Also, in late 2007, we were approached by a student looking to do graduate research on owls. She is interested in continuing the studies we initiated in the Kingston region, expanding the research to look at summer and winter territory usage by tracking individual

owls through a combination of colour-marking, radio telemetry, and perhaps even satellite telemetry. We are currently exploring options, and look forward to this project developing over the course of the next couple of years.

Conferences and presentations

MRF makes an effort each year to publicize the results of our research at both scientific conferences and public meetings, and also to attend some additional events to network with other researchers and learn about the latest developments that we may be able to integrate into our own work. This May, Marcel Gahbauer attended a weekend moult workshop given by Peter Pyle at the Boreal Centre for Bird Conservation in Slave Lake, Alberta, and subsequently passed on some of the tips learned there to the participants of the August MBO workshop. The CMMN held its biennial meeting at the same venue in October, which both Marcel and Marie-Anne Hudson attended, thanks to financial support for travel from Environment Canada, Quebec region. On a more local level, Marie-Anne also gave a presentation at the McGill Ecology and Evolution Symposium in Mont St-Hilaire, Quebec, highlighting the methods used and opportunities offered at MBO.

Fundraising news

For all MRF programs, fundraising is an ongoing challenge. We are always on the lookout for new funding programs, grants, project sponsors, and donors – and welcome any suggestions! At present, our biggest annual fundraising event is the Baillie Birdathon held in May. Essentially it's an event where birders go out for one day during spring migration, and raise money through flat rate or per-species pledges. We have learned that the key to success with this fundraising tool is to increase the number of Birdathon participants as much as possible – so we encourage you all to give it a try this year. A Birdathon can be as relaxed or intense as you like, from a 24-hr sprint around your region to an afternoon of feeder-watching. The priorities are to have fun doing it, and collect pledges from at least a few friends or family members. It may not seem like much, but if just 20 more people join our Birdathon and each raises only \$50, that's an extra \$1000! A successful Birdathon is particularly important for MRF because the money we raise through it can be used as matching funds to leverage other grants we otherwise couldn't qualify for.

In 2007, we also made two new online donation options available. From any page on the MRF website, visitors can click the "donate" button on the left panel to make a secure donation by credit card or Paypal account. For our US supporters, we have also registered at Giveline, an online store where you can buy everything from books and music to electronics and vacations. Just go to www.giveline.com, click on "search for your cause" and type in Migration Research Foundation. We will receive partial proceeds from every item you purchase – please give it a try!

Finally, for those specifically interested in supporting MBO, we have launched a net sponsorship program (<http://www.migrationresearch.org/mbo/netsponsors.html>), in which donors are recognized through a personalized plaque at the net of their choice. We also have produced reusable cloth shopping bags featuring the MBO logo, and MBO field notepads, each available in exchange for donations in support of MBO.

MRF website

The MRF website has grown tremendously since we launched it in late 2002. For most of 2007, we had 200 to 300 unique visitors per day. The MBO and satellite telemetry pages were on average the most popular sections, and new visitors most often arrived at the site through Google searches, especially for images in our MBO Photo Library. The library also received a spike in visitors after it was featured in the July issue of the American Birding Association's newsletter "Winging it". Thank you to Milburn Innovations Ltd. for ongoing technical support and advice.

Organizational news and acknowledgments

Heading into 2008, we are pleased to report that the MRF board remains unchanged from last year. As directors of MRF, we always strive to pursue research that best meets our organizational mandate, and to stretch our funds as far as possible without compromising the quality of our work. Ultimately though, we depend on the generosity of our supporters. In addition to the sponsors and partners acknowledged in the preceding sections, many more have supported us financially or through in-kind donations. We sincerely thank you all for your contributions during our first five years, and hope that we can look forward to your continued support for our existing and future programs!

Donations of any amount are always welcome, whether in support of specific projects (please specify on your cheque), or toward general operations. All donations are eligible for charitable income tax receipts. Please make cheques payable to the Migration Research Foundation, and send to the appropriate address below, or click on the "Paypal donate" button at www.migrationresearch.org to use our secure online donation option with your own Paypal account or using major credit cards.

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