**Community Engagement for the Birds!**

*Local nature centers, citizen scientists, and cooperative corporations all have a role in saving migrating birds*

by **Casey Keefe**

Migrating birds already face enormous challenges from predators, unpredictable weather, starvation and exhaustion. The least we can do is reduce/remove the other hazards that we have put in their way. To accomplish this, what follows is a conservation model that would include multiple community resources and combine the efforts and commitment of the following three parties: your local nature center, volunteer citizen scientists, and several cooperating corporations. Each has a specific role to play.

The goal would be to reduce human-made threats to bird migration, while recovering and preserving suitable temporary habitats along migration pathways. At the heart of this model is the local nature center with its professional staff of naturalists/educators who benefit from the strong support of readers like you who regularly visit nature centers and would be able to volunteer in this effort.

The nature center would first recruit and organize volunteer citizen scientists whose mission would be to map migrating species’ flyways and suitable habitat along those flyways, and to count and collect dead and injured birds. The nature center would then dramatically display the data collected, including injured birds in rehabilitation, in an exhibit which would solicit the sympathy and support of the public. Backed by this public support, the nature center would present these results to the relevant corporations, soliciting their cooperation in minimizing the hazards presented by their structures and installations.

This three-pronged conservation model — managed by the local nature center, supported by volunteer citizen scientists, and complemented by cooperative corporations — has a significant chance to succeed in saving migrating birds.

(para at the end – Why Birds Migrate)

# Local Nature Center

Protecting migrating birds presents the local nature center with the opportunity to create a “conservation partnership” with several corporations. The fundamental role of the nature center is to lead and encourage all parties to cooperate together for mutual benefit in a project of significant conservation value.

Citizen scientists would be recruited by the nature center staff as volunteers, and would include students, teachers, parents, and nature center staff. The local Audubon society would be requested to publicize the project and to solicit support from their membership. This project would be publicized on a weekly basis by nature center naturalists/educators who regularly visit local schools as part of the nature center’s outreach program.

Education of the community and raising public awareness of the threats to migrating birds are essential steps to success. Most people enjoy observing the beauty of birds or listening to their sounds, but they are probably unaware of the threats that birds face every year during their migrations in the fall and spring. As such, the nature center would produce exhibits of live birds that they have rescued and are rehabilitating after collisions with cell towers and power lines. A live exhibit of injured birds undergoing rehabilitation would be particularly influential on the public’s perception of the problems faced by migrating birds. The exhibit would include statistics and photographs about bird casualties and rescues, as well as information on actions taken by local corporations to reduce and/or remove obstacles. Promises of future, positive corporate actions, as well as refusals (for example, to upgrade power lines for the protection of the migrating birds) would also be noted. The result would be public pressure on the private corporations to minimize these hazards.

(para at the end – 5 major hazards)

# Volunteer Citizen Scientists

Citizen science can effectively engage people in science and conservation work with projects designed to include a role for volunteers who, under professional guidance, can make a significant contribution to these projects. The citizen scientists, while doing the “leg work” in collecting the data, learn about scientific methods and connect with the natural world. These ancillary benefits in themselves constitute a solid argument for incorporating citizen science into scientific research.

Various forms of technology can assist with the collection of great amounts of data over large geographical areas. They can provide communications, networking, data collection devices and massive data storage facilities with data-aggregation and data-analysis software.

More recently, the Cornell Lab of Ornithology has released a new feature in its Merlin software. This feature, called Photo ID, can identify up to 650 different species of birds from a cellphone photo taken by an amateur birder or citizen scientist. Photo ID’s accuracy is achieved by the combined use of a bird-species-distribution data base (according to where and when the photo was taken) and a photo match against nearly two million bird photos.

Photo ID is a useful tool that is best employed by a knowledgeable user. It is important to remember that tools such as these are no substitute for developing one’s own identification skills under the guidance of an experienced tutor.

The nature center would coordinate, train, and guide volunteer citizen scientists, whose first task would be to identify the species migrating in the fall and spring and to document the habitat needs of these species. By following a map of the local migration flyway, the volunteers would next assess the availability of the required habitats along that flyway. One of the particular benefits of using students and nature center volunteers is that it often allows for easier access to private, residential properties. Many of the stopover habitats are located on these properties.

The second task for these citizen scientists would be to count and collect dead and injured birds that are wounded or killed due to human-made hazards along the flyway. Whenever possible, wounded birds would be brought to the nature center for rehabilitation.

At the same time, these citizen scientists would collect important data on local hazards (e.g., cell towers, power lines, etc.). Windows, in particular, present a significant threat because birds don’t perceive window glass as an object, but rather perceive the reflections in the glass (e.g., tree branches) as objects. The result is often a fatal collision. If urban areas exist along a species’ flyway, the night lighting and windows on tall buildings also present collision hazards. Night lighting is distracting to birds’ internal navigation systems. If not necessary for human safety, such lighting should be reduced or eliminated.

Access to private properties on which cell towers, power lines, and wind farms are located can sometimes be problematic, but these properties are usually visually accessible, and the owners are often quite approachable. With binoculars and cellphone software, birds can be identified and counted, even if wounded birds might not always be retrievable. Observations of species on these properties, as well as observations of migrants in public spaces (e.g., parks), would provide the bulk of the supporting statistics for the exhibit at the nature center.

The data collected by the citizen scientists would also be analyzed by the nature center’s staff and presented to the corporations responsible for these hazards. Support can be enlisted from the local Audubon Society. Led by the local nature center, the public can petition these corporations to reduce, remove, or remediate these threats to migrating birds. At the very least, public pressure could force them to consider the migration flyways in their future planning, design, and placement of these hazards. Even if present circumstances cannot be changed, planning for a better future for migrating birds can still be initiated.

# Corporate Cooperation

Corporations must make money to stay in business and must, therefore, make business decisions that are economically viable. To address cost concerns, the economics of the situation must be treated realistically, not idealistically. The argument that a species or an ecosystem should be preserved simply because it has “intrinsic value” invariably loses to economic demands.

To offset costs incurred and investments required (e.g., infrastructure relocation and rehabilitation) on the part of these corporations, some benefit must be offered in return. That benefit would be in the form of public relations. These corporations would reap the public-relations benefits resulting from publicly displayed exhibits at the nature center, which would dramatically represent the beneficial results of their actions. Nature center outreach programs, as well as media coverage of the exhibits, would compound the public relations benefits and could provide the economic incentive for these corporations to take such corrective action.

Dismantling and relocating infrastructure can be prohibitively expensive, but there are other ways for corporations to address some of these problems. For example, much of cell tower-caused migrating bird mortality could be eliminated by not using guy wires on cell towers, locating new cell towers in flyway-friendly areas, and, wherever possible, keeping towers unlit. The same approach could apply to wind turbines. With power lines, the goal is not only to relocate, but also to increase maintenance of line insulation in order to prevent electrocution of migrating birds. The nature center and organizations like the Audubon Society, backed by an informed public, would lobby the executives of these corporations (and government officials, if necessary, for tax incentives) to encourage their cooperation.

A byproduct of their cooperation could be an increase in the availability of suitable habitats along migration corridors if corporations remove and relocate structures. In doing so, the corporations would be perceived as concerned corporate citizens, protecting the flyways for migrating birds, among them a number of endangered and threatened species. The public-relations value of this perception might provide strong incentive for corporations to reduce physical hazards.

Last but not least, keeping in mind the need for suitable habitats for migrating birds, future development demands should also consider the fact that clustered development (allowing overlap of ecological impact zones) is more protective of wildlife habitat than dispersed, low-density development. Armed with the data gathered by its citizen scientists, the local nature center could contact and engage the local Department of Environmental Conservation in this effort in order to curtail threatening development projects.

## **Conclusion**

This conservation model depends on the combined efforts of three parties: a nature center, volunteer citizen scientists, and cooperative corporations. The nature center manages the effort, the volunteer citizen scientists do the “leg work,” and the corporations implement the required infrastructure changes, if not in the present, then at least in future planning.

Implementing this model will not cost a lot of money, but it will take time and require lobbying of both the corporations concerned and, perhaps, some governmental organizations. A baseline assessment during the fall and spring migrations can be a starting point. Once the species involved are catalogued, the availability of their habitat requirements can be assessed and documented by volunteer citizen scientists with the aid of a map of the local flyway. At the same time, counts of dead and damaged birds can be made and correlated to the probable causes of their deaths and injuries.

The proposed migratory bird exhibit, which would be mounted and displayed at the nature center, is obviously a key element in this conservation effort. The attitudes and support of visitors to the exhibit, essential to effectively influencing the corporations, can be obtained via surveys and informal interactions. Corporate support can be evaluated based on the actions taken by the corporations to reduce the threats to migrating birds.

### This joint venture in community engagement is a real possibility. There is something to be gained by all sides, especially by the migrating birds. **Casey Keefe** is a naturalist/educator at the Greenburgh Nature Center in Scarsdale, New York. She has developed this model as part of her graduate work with Project Dragonfly at Miami University in Oxford, Ohio.

**Why Birds Migrate** – Many birds migrate to exploit the availability of more bountiful food supplies (and the extended daylight in which to find that food), and for the greater seasonal ability of breeding sites at higher latitudes. As such, migration is a necessity for many species, and without it, reduced food sources would mean increased competition for available food and, consequently, reduced breeding success, eventually endangering those species. Although migration may be the solution to the food problem, it is no easy task to accomplish because many obstacles – like power lines, cell towers and wind farms – lie along birds’ paths. At night, the lights on these obstacles adversely affect bird’s internal navigation systems. Facing these hazards, as well as the demands of navigation and the unpredictability of weather, migrating birds need safe areas where they can stop, rest and find sufficient food and water to re-energize themselves for the continuing journey. Once found, these habitats can become regular stops on their migration routes unless they are destroyed or damaged, often by human activities. As a result of habitat loss and alteration, many millions of migrating birds are lost each year.

**The 5 Major Hazards** - Based upon multiple sources, the following human made hazards, in order of significance, cause the deaths of hundreds of millions of migrating birds each year:

* Windows
* High Tension Wires
* Habitat Destruction
* Communications Towers
* Wind turbines