

# BIRD CONSERVATION

The Magazine of American Bird Conservancy

Winter 2012-2013



# TRAVELERS' TALES



**S** *tories are the currency of birdwatching: the more you have, the richer you are. Long hours en route to birding destinations pass more quickly in the company of a globe-trotting raconteur of bird stories.*

For instance, I once spent an afternoon in a car with ABC's early Chair, Howard Brokaw, who delighted us by tirelessly reciting bird poetry – but with the bird's identity left out. We had to guess the species! And evenings in remote camps *sans* phone, internet, or television are to stories what a salt marsh at dusk is to mosquitoes. This is where lifelong friendships are born: swatting mosquitoes and swapping tales.

While one's own birding stories provide us with (mostly) fond looks back, others' stories take us forward as we imagine future trips to Machu Picchu or the Serengeti. A good story even helps to replace a trip that you may never actually take. And the richness of your own and others' tales combine into the warp and woof of birding's cultural tapestry, almost as enriching as the birds themselves.

The idea that stories can carry messages is as old as stories themselves, but it wasn't until a few years ago that it finally dawned on me that audiences might prefer a few stories from me to the dry recitation of what threatens birds and what steps conservationists are taking to overcome those threats. So, since then, I have begun to weave a few of my own tales into something more like parables for conservation.



George Fenwick and Blue-footed Boobies at the Mitsubishi project site in Sinaloa, Mexico, 2006. Photo: Jim Brumm

This issue of *Bird Conservation* carries that theme to the next level – an entire issue devoted to travelers' tales; tales that I hope connect you to a time and place and nudge you to think more about the context of conservation of birds and your own stories. If we do nothing more, we can inspire others with our own narratives.

In a novel use (abuse?) of ABC's Board of Directors, three tales come from its members. Jon Franzen recounts his visit to Chile's Juan Fernández Islands; Victor Emanuel remembers seeing what may have been the last Eskimo Curlew; and Carolyn Hendricks tells the story of her birding "eureka" moment in a way that cannot help but remind you of your own. I thank them and the others who generously offered their stories here and hope you enjoy them as much as I did. Let me know what you think of this issue – and you might even want to tell me a story of your own for the future.

I would like to tell you a few of my favorites, but you will have to catch me on a trip to hear them!

George H. Fenwick  
President, American Bird Conservancy





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Peregrine Falcon: Greg Homel, Natural Elements Productions

# BIRD Conservation

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Scan to check out ABC's new mobile website!



California Condor: Greg Homel, Natural Elements Productions

## New Private Reserve Recognized by Peruvian Government

For decades, Luciano Troyes and his family have been managing their land at Gotas de Agua as a nature reserve for birds. The area, located about four miles from the city of Jaen in northern Peru, supports several threatened endemic species, including the Marañon Spinetail, Peruvian Pigeon, Little Inca-Finch, and Marañon Crescentchest. Many birds commute daily into the reserve from the surrounding landscape to roost for the night as well.

The dry forests in this part of Peru are rapidly disappearing due to logging, agriculture, and grazing. But the forests owned by Troyes family look like they are here to stay. The efforts of the Troyes family to conserve these forests received official recognition on October 9, 2012, when SERNANP, the Peruvian agency in charge of national protected areas, approved two portions of their private property as Private Conservation Areas (PCAs).

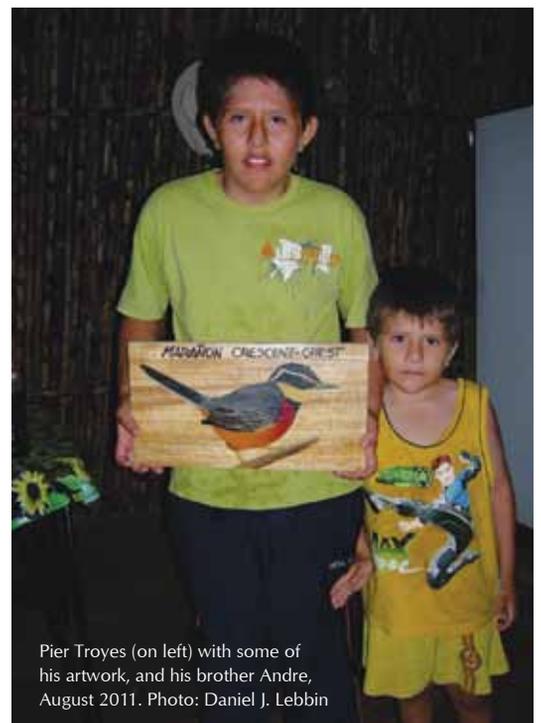
Asociación Ecosistemas Andinos (ECOAN), American Bird Conservancy's partner in Peru, assisted the Troyes family with the legal process to establish these PCAs on their land.

"I am so thankful for the support of ECOAN and ABC in establishing this new conservation area to conserve the endemic birds and biodiversity of the Marañon-Chinchipe dry forests. The success of Gotas de Agua reflects our profound passion for nature," said Luciano Troyes.

ABC has worked to promote Gotas de Agua for its conservation importance within a regional Alto Mayo-Marañon conservation plan and as a bird-watching destination. "Gotas de Agua is a fantastic and scenic place to see some challenging and fascinating endemic birds of Peru's Marañon Valley. It is a must-see for any birding tour traveling between northern Peru's coast and the eastern Andean slope," said Daniel Lebbin, ABC Conservation Biologist. Birdwatchers interested in visiting Gotas de Agua should visit the Conservation Birding website at <http://conservationbirding.org>, or visit the reserve's website at [www.acpgotasdeagua.com](http://www.acpgotasdeagua.com) for more information.



Marañon Crescentchest:  
Dubi Shaprio



Pier Troyes (on left) with some of his artwork, and his brother Andre, August 2011. Photo: Daniel J. Lebbin

# Help ABC Protect *the* Rarest *of the* Rare



Marvelous Spatuletail: Dubi Shapiro

**R**ight now, we have a terrific opportunity to increase protection for the rarest birds in the Americas, but we need your help. An anonymous donor has made a **year-end, dollar-for-dollar** challenge match up to \$100,000, but it ends 12/31/2012. Can we count on you for an extra gift this year to support bird conservation for these most critically endangered birds?

Some bird species are found at only one last location on Earth. These places have been identified by the Alliance for Zero Extinction (AZE) as imperative to save in order to prevent extinctions. There are 71 AZE bird sites in the Americas, and ABC

and our partners are actively protecting 23, and supporting the protection of another 20.

The Lear's Macaw in Brazil is evidence that we can succeed in protecting the most endangered bird species. In the late 1980s there were only 70 individual Lear's Macaws. Now there are nearly 1,300, and their conservation status has been downgraded from Critically Endangered to Endangered. With help from supporters like you, ABC and our partners made this happen. Our challenge match will help us advance conservation for rare bird species at other AZE sites, and your year-end tax deductible gift will make it possible.

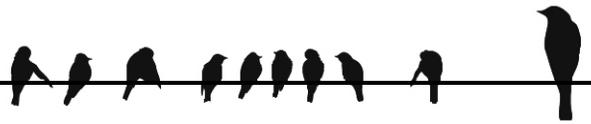
With your help, ABC can protect habitat now for the Esmeralda's Woodstar in Ecuador, Marvelous Spatuletail in Peru, and Worthen's Sparrow in Mexico. We will work toward new acquisitions of critical habitat for the Blue-throated Macaw and Stresemann's Bristlefront next year. We can keep highly threatened birds such as the Yellow-billed Cotinga and Royal Cinclodes from becoming AZE species by acting now to protect their remaining habitat.

This dollar-for-dollar match will mean \$200,000 for the most threatened birds, but remember it expires December 31<sup>st</sup>.

Blue-throated Macaws: Benjamin Skolnik, ABC



Please donate today by using the enclosed envelope, or donate online at **[www.abcbirds.org](http://www.abcbirds.org)**. Your extra gift will make an enormous difference for the birds that need it the most. Thank you.



## Loss of Native Birds Leads to Spider Explosion on Guam

Attention all arachnophobes: stay away from Guam! According to a recent study, the near-total loss of native birds caused by the invasive brown tree snake has led to an explosive increase in the number of spiders on Guam. During certain times of the year, arachnids on this island occur at 40 times the rate of nearby islands where the snake is absent and birds persist.

The brown tree snake was introduced to Guam in the mid-1940s, leading to the extirpation of all but three native forest bird species: the Mariana Crow, Mariana Swiftlet, and Micronesian Starling. All of these remain in extremely localized populations,

and in most other forest areas, have not been replaced by non-native species. This makes the forests of Guam a unique place to test the impacts of loss of bird populations on their former prey.

“We’ve known for some time that the introduction of the invasive brown tree snake was a disaster for the island’s native bird populations; now we are learning about some of the consequences of that loss of avian diversity,” said George Fenwick, President of American Bird Conservancy. “This study clearly illustrates the valuable function that birds provide in controlling invertebrate numbers, and the natural balance that birds bring



Huntsman spider devouring beetle: Wikimedia.com

to our environment. Birds pollinate our crops, control crop pests, and, it would seem, keep spider populations from exploding.

“With the introduction of the brown tree snake and resultant loss of native birds, arachnophobes and those afraid of snakes would do well to stay out of the forests of Guam,” Fenwick added.

## Proposal to Kill Prairie Dogs Threatens Birds and Other Wildlife

Conservation groups including American Bird Conservancy have urged the Environmental Protection Agency (EPA) to reject an application to use a potent rodenticide for the control of black-tailed prairie dogs in states throughout the western United States. The groups say this rodenticide could kill a wide variety of birds protected under the Endangered Species Act, Bald and

Golden Eagle Protection Act, and Migratory Bird Treaty Act.

The application was filed by Scimetrics, which manufactures the rodenticide known as Kaput-D. In a letter to the EPA, the conservation groups noted that this product contains an anticoagulant that causes poisoned animals to bleed to death, and is not selective in the animals it impacts.

Conservation groups have long argued that the use of rodenticides in and around prairie dog burrows can have significant impacts on animal populations beyond the intended target. Prairie dog colonies are used by many protected wildlife species that prey on or scavenge prairie dogs or use their burrows for shelter.

Raptors are highly susceptible to secondary poisoning from some of

the chemicals used in rodenticides, as they regularly prey on prairie dogs. The Golden Eagle, Ferruginous Hawk, and Burrowing Owl are among nine species with documented dependence on prairie dog colonies; all three have been identified as “Species of Conservation Concern,” likely to become candidates for listing under the ESA without additional conservation action. Golden Eagle populations in particular appear to be experiencing declines throughout most of their range, and the availability of poisoned prey is expected to exacerbate population declines.

Other birds and mammals that feed on grain-based baits are at risk of direct poisoning. Field applications endanger a broad spectrum of grassland birds, including prairie-chickens and sage-grouse, as well as songbirds such as the Western Meadowlark, and shorebirds such as the Upland Sandpiper and Mountain Plover. Prairie-chickens and sage-grouse are species of special concern that are being considered for possible ESA listing.

Golden Eagle: Wikimedia.com



# Far-flung Correspondence

A first-hand account of the struggles facing the Juan Fernández Archipelago

By Jonathan Franzen, novelist and ABC Board Member



Isla Robinson Crusoe: George Wallace

The Juan Fernández archipelago, which stretches from 450 to 600 miles off the coast of southern Chile, was originally a treasure house of plant and animal species found nowhere else on earth. The most charismatic of these were the local sandalwood tree (now logged to extinction), the fur seal, and the Juan Fernández Firecrown, a splendid large (relatively speaking) hummingbird, the male of which is cinnamon-colored with a blazing golden forecrown, and which now exists, in small numbers, only on the largest island, Isla Robinson Crusoe.

Goats were intentionally introduced to the islands by Spanish sailors in the 17<sup>th</sup> Century, followed later by cattle, sheep, rabbits, cats, coatimundi, and, by inevitable accident, rats and mice. The toll taken by overgrazing and by logging has been especially grievous on Robinson Crusoe, where as much as three quarters of the land is

eroded or severely degraded. From the perspective of early European settlers, the land has been “improved,” but to the endangered birds that breed only on the islands – the firecrown and the Masafuera Rayadito (a brown-hued neotropical ovenbird endemic to Isla Selkirk, also known as Isla Másafuera) – and the burrow-nesting seabird species, European civilization has been a disaster.

The archipelago is now a Chilean national park administered by the Corporación Nacional Forestal de Chile (CONAF), which resembles our U.S. Forest Service in its mixed mission of conserving land while abetting loggers and ranchers, but differs in being calamitously underfunded.

To visit Isla Robinson Crusoe, two years ago, I took a small commercial plane from Santiago, which landed at an airstrip nestled among erosional hills. While baggage was being extracted from the nose of the plane, I walked up a hillside

Masafuera Rayadito:  
Andrea Suardo



Pink-footed  
Shearwater:  
Peter Hodum

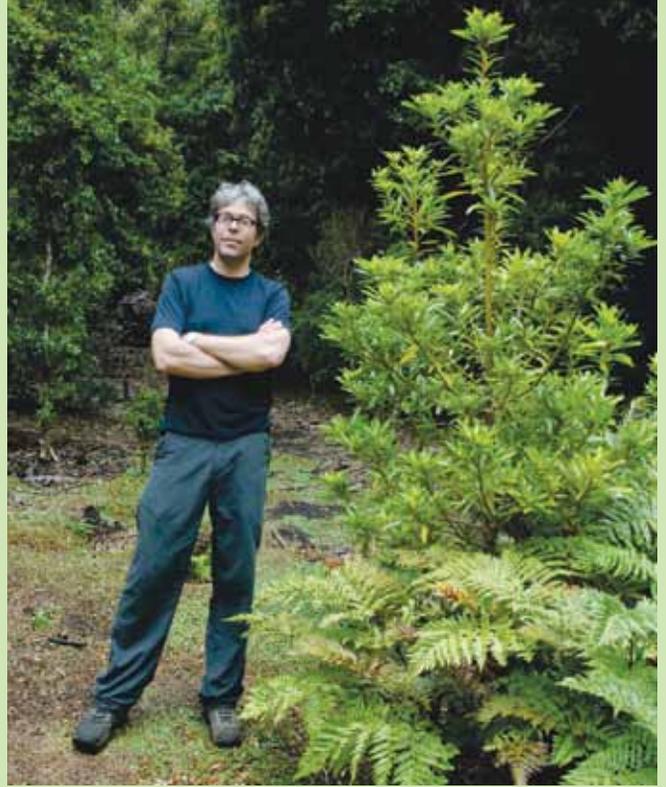


Juan Fernández  
Firecrown:  
Peter Hodum





Peter Hodum examining a shearwater burrow. Photo: Jonathan Franzen



Jonathan Franzen at Plazoleta del Yunque, native forest habitat critical for the Juan Fernández Firecrown. Photo: Peter Hodum

and disturbed hordes of grasshoppers and saw one solitary kestrel available to prey on them. Down by the water, which was nearly the blue of sapphire that afternoon, some seals were sunning and disporting near the single pier, but little other life, either plant or animal, was visible. During the boat ride around to the village of San Juan Bautista, I was hoping to see the petrels that nest on the island's towering cliffs, but the sheets of seawater coming over the bow penalized the glasses-wearer, the binoculars-wielder.

The tsunami following the magnitude-8.8 earthquake in 2010 had taken San Juan Bautista by surprise, the mainland authorities having miscalculated its force and direction. As many as 18 people, including four children, had been killed, and the town's entire waterfront had been destroyed, along with most of its lobster boats. When I arrived in the harbor, a Chilean Navy vessel was disgorging a backhoe through a door in its hull, villagers were repairing the gravel walkways of the harborside plaza, and hammering could be heard near and far. All along the waterfront were the ragged foundations of shorn-away buildings.

My hosts on Robinson Crusoe were Hernán González, a native-plant specialist from the Chilean Agriculture and Livestock Service, and Peter Hodum, an American ornithologist who directs the Juan Fernández Islands Conservancy (JFIC), a program of the California-based conservation and research organization Oikonos. One Saturday morning, the three of us hiked up from San Juan Bautista, through a cleft in the mountains, and down to an area called Villagra (I kept hearing this name as "Viagra"), where the island's annual rodeo was being held. Once we were past the groves of introduced eucalyptus and Monterey pine above the village, Hernán began to point out to me the rich variety in the flora that the untrained eye lumps together as boring "fern." Approximately 80%

of the island's native plant species are endangered, some of them numbering as few as 20 individuals, and the main threat to them is a trio of mainland plant species: maqui, which was introduced to supply sticks for lobster traps; blackberry, which bears edible fruit, and murtilla, a nice-smelling shrub from whose berries the locals make jam and wine. It was hard not to see a parable of Levi-Straussian cultural entropy, the leveling of difference by invasive Western culture, in the hillsides and ravines now monotonously overrun by maqui. No less aggressive and even more evil-looking was the blackberry, which bristles with thorns and can overwhelm even tall native trees, and which spreads in part by shooting out runners that look like something out of *Alien*. Nothing in nature is truly ugly, but the blackberry, being unnatural to Robinson, is.

The annual branding of the village's cattle is an occasion for drinking and singing and family picnicking, and a sizeable portion of the village's population had pitched tents at Villagra, in a field beside a primitive corral. The setting was spectacular – sweeping hills between volcanic peaks and white-capped ocean – but the hills were denuded and deeply gouged by erosion. The local CONAF administrator, Iván Leiva (known affectionately as Don Ivan), estimates that Villagra could sustainably support eight cattle; the actual herd, even after a winter in which wild dogs had killed 30 animals, numbered 120. Hernán, Peter, and I watched horseback riders gallop across a hillside and drive the herd down through a gully and into the corral. Six or eight of the cattle were healthy, the rest were undernourished, the majority of them so



Juan Fernández Firecrown: Peter Hodum

skeletal it seemed remarkable that they could even stand up. The herd had historically been a reserve source of protein, and the villagers still enjoyed the ritual of roping and branding, but couldn't they see what a sad travesty their ritual had become? The problem, Hernán explained to me, was that some families owned nine cattle and some only one. The one-cow families didn't want to have no cows, while the multi-cow families didn't want to give up cows if the one-cow families didn't have to. There was apparently nothing that Don Ivan could do about this, as CONAF administrator, except to entreat me, the last time I saw him, to mention in this article how terrible the cattle look.

The cow problem notwithstanding, the islands' residents have lately become more environmentally sensitive and are open to plans for the restoration of habitat. The lobstermen who live seasonally on Isla Selkirk have enthusiastically greeted every plan for quarantining and restoring the island except, perhaps, the eradication of the tasty goats there. On Robinson Crusoe, schoolchildren can now visit a eucalyptus grove on the outskirts of town, where Pink-footed Shearwaters hatch and raise their chicks in deep burrows; Peter Hodum has a fiber-optic camera that lets you see them underground. Since the endangered fire-crowns spend a lot of the non-breeding season in the village, feeding on the flowers of exotic vegetation and making themselves vulnerable to predation, San Juan Bautistas are cooperating with JFIC to register their pet cats, so that feral animals can be identified and removed.

Although the Chilean government, ever anxious to cement its sovereign claims to offshore islands, continues to encourage human habitation of the archipelago through direct subsidies to its residents, the really big impediments to ecological restoration are logistical and economic. Ridding Isla Selkirk of rodents, for example, will entail capturing and safeguarding the island's entire population

of native hawks and then using helicopters to blanket its rugged terrain, sector by sector, with poisoned bait, at a total cost of maybe \$5 million. Putting the genie of maqui, blackberry, and murtilla back in its bottle on Robinson is probably prohibitively expensive, since the stands of maqui, in particular, are extremely dense, tough, and extensive, and since the seeds of all three plants will continue to sprout for many years. CONAF itself has no money for any of this; indeed, Don Ivan's budget is getting only smaller.

On my last afternoon on Robinson Crusoe, Peter Hodum took me uphill from the village into an area known as the Plazoleta del Yunque to see the work that JFIC is doing, in part with ABC support, to save the firecrown. The hummingbird nests only in mature native trees at borders between forest and lower native vegetation, and the decline of its population is directly related to the rise of invasive plant species. JFIC has been clearing maqui, murtilla, and blackberry at a rate of more than two acres per year; ten acres have been cleared thus far. A trail, easily accessible to villagers, leads backward in time from dense tangles of invasives, through recently cleared areas with house-sized piles of dead maqui and scattered new seedlings of it, and into areas where the beautifully diverse native trees and ferns are rebounding and firecrowns zing from tree to tree. The site is tiny in comparison to the parts of the island overrun with invasives, and the clearing work is unbelievably arduous, but it did my heart good to see that restoration really is possible—that the island could be its native self again if given half a chance.



**About the guest author:** Jonathan Franzen, a member of the ABC Board, is a best-selling novelist, essayist, journalist, and translator. His recent works include *Farther Away: Essays* (2012), *Freedom* (2010), *The Discomfort Zone* (2006), *How to Be Alone: Essays* (2002) and *The Corrections* (2001), winner of the National Book Award for Fiction. Mr. Franzen has written extensively about birds for *The New Yorker* magazine. He lives in New York, NY and Santa Cruz, California.

*With support from the National Fish and Wildlife Foundation, ABC has supported JFIC's work on the firecrown since 2003, partnering on bird surveys and habitat restoration efforts. More recently, ABC and JFIC have teamed up to conserve the archipelago's seabird populations, protecting a major Pink-footed Shearwater colony from the trampling hooves of cattle, and investigating the impacts of street lighting on shearwaters and other seabirds. On the small island of Santa Clara, ABC is now working with JFIC on a habitat restoration program to improve vegetation structure and burrow stability in shearwater colonies there.*



# Encounters with a Ghost Bird

Victor Emanuel, International Bird Tour Leader,  
Recalls the Time He Saw One of the Last Eskimo Curlews

**S**ince he started leading birding tours in the 1970s, Victor Emanuel of Austin, Texas has been almost everywhere and seen almost every kind of bird. But he says the most exciting bird he ever saw turned up near his own back yard in the spring of 1959.

Over the years this bird had been variously known as the Prairie Pigeon, the Doughbird, the Fute...and finally, the Eskimo Curlew. Once, gigantic numbers of these birds travelled back and forth between High Arctic breeding grounds and Argentinian wintering grounds, but by the late 1800s market hunters all but wiped these curlews off the planet.

The Eskimo Curlew was extinct by the late 1950s. Or so a lot of people thought until the spring of 1959, when Victor Emanuel received a call from two of his friends. They'd just seen a strange bird in a field on Galveston Island, a barrier island 50 miles southeast of Houston. It looked a little like a cross between a Whimbrel and a Long-billed Curlew.

A few days later, Emanuel travelled to meet them, and the three men drove out onto the island, looking for a bird that was supposed to be extinct. Emanuel recalled what followed in a conversation with ABC's John Nielsen.

**VE:** Not long after we had left the city we drove past a field of cattle where the grass was short and there were lots of insects and 50 to 100 shorebirds, and I quickly saw a curlew that was smaller than a Whimbrel and yet clearly not a Long-billed Curlew. So I said "Wait. Stop. Let's get out of the car." Which we did – one of us had brought a scope – and we watched the bird for a while and we started to think yes, this might be an Eskimo Curlew.

**ABC: But you weren't sure?**

**VE:** No. We wanted to be sure, but I'd been raised to the idea that when a rare bird is involved you have check all of the identifying marks. And when we moved in closer, it looked like the legs were grayish and not greenish, as was stated in my Peterson field guide [for the Eskimo]. That put a real damper on the afternoon. We went back to the car convinced that we had seen a runt Whimbrel, a mutant Whimbrel, a different kind of Whimbrel. But then I changed my mind. As we were driving home I sat there

thinking "There's no way that was a Whimbrel. We have blown the chance of a lifetime. We shouldn't have left, we have to go back."

**ABC: Which you did, I take it.**

**VE:** Yes. The next morning, I drove back to the dairy farm by myself, certain that the bird would be gone. But there it was, still feeding on the insects near the cattle. The owner of the farm was also there – he looked like he was in his 80s – and I asked him for permission to walk out into his fields and he said "Fine."

The next two hours are forever burned into my memory. I'd brought a better telescope this time, and at one point, the field of vision covered by the scope included a Whimbrel, a Long-billed Curlew, and the curlew I had come to see, all standing side-by-side. And everything looked right to me, the colors looked right, I had satisfied myself, this was an Eskimo Curlew. Those were the most exciting moments of my life.

**ABC:** Well, what did you think about? How did you feel?

**VE:** I felt amazed. I felt like I was looking at a ghost. I thought about how giant flocks of curlews may have fed in fields like this one once.. I suppose I thought about how quickly things can vanish when they're not protected properly—just a few decades, in this case.



Eskimo Curlews: John James Audubon

Oh, and I was sure that nobody was going to believe that I had seen this curlew. I wasn't into cameras in those days and so I took no pictures, which was big mistake because at that point, no one had ever taken a picture of living Eskimo Curlew.

Let me add that later on I talked with the owner of the farm, who confirmed there had once been flocks of curlews in those fields. He said he used to shoot them when he was a kid, which could have been the 1890s.

**ABC:** You've written that you saw an Eskimo Curlew in this area several more times over the next few years, starting a week later when you came back to the island with a prominent birder from Rice University.

**VE:** Yes. His name was George Ruth. He had been the editor of the first birding publication in the Houston area, and I thought if he saw the bird as well, then maybe there would be a better chance that someone would believe me...so anyway the bird was still around when we got back and George and I studied it at length and eventually George wrote an article that was published in the notes of *The Auk* with the title "A Probable Sighting of the Eskimo Curlew."

**ABC:** I can't help but think about the giant crowds that would travel for miles today to see an Eskimo Curlew. Were there any crowds back then?

**VE:** There weren't. There was no birding hotline to speak of at that time and there certainly wasn't any internet. In general, the birding movement wasn't close to the size it is today. I saw the curlew several times with a handful of my friends and acquaintances, and I suppose some other people saw it as well. But no, no crowds.

Which may be doubly interesting because an Eskimo Curlew – maybe it was the same one – showed up on Galveston Island every spring for the next several years.

I went with my friends to see it several times and eventually wrote an article for *Audubon* magazine with the punchy title "Texans Rediscover the Nearly Extinct Eskimo Curlew."

**ABC:** And when was your last encounter with an Eskimo Curlew?

**VE:** The spring of 1960, I think. My friend Earnest "Buck" Edwards and I had been out looking for the

bird in other locations on the island, and when we were driving home, we passed the old dairy field and I said "Let's just try the original location." And so we got out – it was 4 o'clock – and we looked up and saw a flock of Golden Plover flying along the dune line that was parallel to the Gulf, and even at a distance, I could see that among these plover there was one small curlew and I thought "that's it." Eskimo Curlews have been known to migrate with the plover, so the idea's not all that far-fetched. Both birds are fast flyers and they were both known to migrate in mixed flocks.

So Buck and I just stood there, looking up into the sky, watching as the birds flew out of sight.

You know I didn't see that farm again until just a few years ago, when I went out to look at it because I was preparing for a talk about the curlew. And when I got there it was all gone. It was a failed housing development, with weedy streets and broken signs and unbuilt houses.

**ABC:** One last question. It's widely assumed that the Eskimo Curlew is extinct now, but every now and then there is an unconfirmed reported of an appearance. What do you make of those reports?

**VE:** I think they're wishful thinking. I think this is one traveler that we shall never see again. But I hope that I am wrong.



**About the interviewee:** Victor Emanuel is the founder of Victor Emanuel Nature Tours, which takes almost 2,000 clients each year on 140 different trips. In 1986, he established the first American youth birding camps. In 2004, Emanuel received the Roger Tory Peterson Award from the American Birding Association, and the Arthur A. Allen Award from the Cornell Laboratory of Ornithology. He is a member of the ABC Board and lives in Austin, Texas.

# A Raptor Workshop Turns a Doctor Into an Owl Conservationist

by Carolyn Hendricks, ABC Board Member

*Is it possible to develop a life-altering passion for birds during a weekend workshop? The short answer is yes. This is the story behind how that happened to me.*

Five years ago, I was a busy medical oncologist in solo practice with very little down time except on the weekends, and with a husband of 25 years who would disappear for hours-on-end on weekends to photograph birds in Rock Creek Park, in Washington, DC, where we live. My internet search for a gift for his 47<sup>th</sup> birthday ended at [www.wildplanetnaturetours.com](http://www.wildplanetnaturetours.com) with a “Winter Raptors Workshop” held in January 2007 in Charlo, Montana. It was to be led by renowned owl researcher Denver Holt and Megan Fyelling of the Avian Science Center at University of Montana.

My initial plan was to attend the workshop as a bystander, patiently permitting my husband to enjoy the breathtaking landscape and the opportunity to photograph the impressive number of species of hawks and owls that winter in the Mission Valley. We piled into a van on day one, drove from Missoula to the Ninepine National Wildlife Refuge, and spotted a Gyrfalcon perched on a utility pole. My life plan was altered. After three ten-hour days on gravel roads with close-up looks at more than 300 buteos, accipiters, and owls, I returned home entranced by birds of prey. I was fascinated by the size and plumage of the birds and their flight and hunting behavior. Our guides shared their knowledge of these powerful yet vulnerable birds by patiently providing instruction on their biology, field markings, and habitat. Within weeks of our return home, I booked a return VENT trip [led by Victor Emanuel, see page 10] to Missoula, “Montana Owls, April 2008.”

This workshop (which VENT still runs today) differs from a typical recreational birding tour. It is structured for birders of all skill levels to experience the field work required to study the nine species of owls that are the focus of the Owl Research Institute (ORI) in Charlo, Montana: Barn, Flammulated, Snowy, Northern Hawk, Long-eared, Short-eared, Northern Pygmy, Boreal, and Northern Saw-whet. The emphasis is on various species-specific survey techniques and data collection. Our guides demonstrated trapping and banding of Long-eared Owls for measurements, including data on eye ring color for sexing the birds. They also hauled



Great Gray Owl: Robert Royse



Snowy (left) and Short-eared (right) Owls on the hunt. Snowy Owl by Steve Hendricks; Short-eared Owl by Alan Wilson

and climbed the ladders needed to reach an active Barn Owl nest in a natural setting. One highlight of the trip was a number of Short-eared Owls in open grasslands exhibiting their classic mating behavior, “sky dance.” There was something magical about seeing the males appear suddenly at dusk and silently rise from their ground roosts to dive and clap to impress the females. One long day was spent searching from the van and on foot for a Great Gray Owl. We had nearly given up when we came upon an adult who dwarfed the small fence post he was perched on. He kept hunting intently, caught a small prey item and then flew off. The species name now makes perfect sense to me.

From then on, I was hooked and craving information about raptors and owls from many sources, including bird guides, books, websites, a subscription to *Journal of Raptor Research*, day trips with our local Audubon chapter, the Virginia Ornithological Society, and American Bird Conservancy, longer trips to Manitoba and Homer, Alaska, a trip to a raptor rehabilitation facility at Ft. Collins, Colorado, and most recently, trips to Barrow, Alaska and back to Charlo, Montana to focus on small cavity-nesting owls (which also coincided with the recent Snowy Owl irruption, during which Snowies looking for food could be found as far south as Dallas, Texas and Honolulu, Hawai’i.).

The trip to Barrow during the nesting season was the result of several years of cajoling Denver Holt, and bartering with the promise of my husband’s photographs to post on the ORI website and share with others. Denver’s 20 years of work on nesting sites there can only be described as feast or famine. The Snowy Owl population depends almost exclusively on unpredictable fluctuations in the lemming population. Some years, ORI graduate students have neared emotional and physical exhaustion covering vast swaths of the tundra to count, observe, and study 20-plus active nests. Other years there are none, and tedium and boredom set in. Denver was understandably worried

about both scenarios for our trip, which took place in July 2011. There were only four active owl nests in their survey area in 2011. We saw ten adult birds and five chicks. We witnessed some amazing nest defense behavior by both the male and female when Denver approached to check the smallest chick for a possible eye injury. Needless to say, we have volunteered to return and spend more time helping with the survey once our day jobs permit it.

Our most recent trip to Montana took place in April 2012. Although Denver has never made any promises about getting good looks at the small cavity-nesting owls they study, the trip delivered some unbelievable sightings of Northern Pygmy, Northern Saw-whet, and Boreal Owls, along with invaluable information about the species, their habitats, and potential threats. After spending time with Denver and Megan (now spanning eight trips to Montana), I have seen evidence in their work that owls can also serve as indicators of healthy habitat. This knowledge can be used to guide conservation work



Northern Saw-whet Owl:  
Benjamin Skolnik, ABC



Eastern Screech-Owl: Richard Kretz



Great Horned Owl: Wikimedia.com

in academic settings, in the offices of public and private conservationists, and most importantly, in the field.

The ORI has several ongoing areas of high priority owl research, primarily focused on the breeding and winter ecology of owls. These include work on nest site fidelity for Flammulated Owls, new techniques for sexing young Snowy Owls, the development and implementation of new survey protocols for Short-eared Owls, and work on snag retention for cavity nesting owls. The Institute has also just embarked on a new migration survey of Northern Saw-whet Owls. Their survey practices also provide important data about causes of owl and raptor mortality including vehicular strikes, electrocution, hunting, and starvation. The opportunities for volunteer and community involvement that these projects present are boundless.

Close to our current home in northwest DC, my husband and I can hear (and occasionally see) Barred Owls and Eastern Screech Owls; the latter were lured to our deck for several years by the presence of a small colony of flying squirrels. Two years ago, we purchased 70 acres of land from the Western Pennsylvania Conservancy. Once we construct a carbon-neutral home on the property, we plan to move there and begin to survey the property for wildlife using what we have learned. In full disclosure, we decided to buy the land only after learning that there was an active

Red-shouldered Hawk nest on the property. We view this as prime future real estate for a Great Horned Owl.

A weekend raptor workshop under the guise of a birthday gift changed my life. At the age of 52, I am now highly unlikely to acquire the enviable skill of birding by ear or accumulating a long bird life list. In fact, I do not keep a written bird list. My life list consists of large framed posters and photo albums of all the raptors and owls I have seen so far in Northern America. That first trip opened my eyes and my mind. I am now personally and financially committed to conservation for birds of prey and for all birds. I am aware of the complexity of the issues in conservation, the need to advance the science, and the need to help carry out the mission of ABC.

I am an example of how a love of birds and a commitment to conservation can be found in mid-life. As organizations such as ABC make plans and projections for the future of bird conservation, the most important interactions might not be on a large scale, such as through legislation, litigation, or policy-making, but on a smaller scale between individuals who know a lot about bird conservation and those who know little to nothing, but for whom a conversation, a day trip, or a weekend workshop will change the way they think about birds and what they do about it.



**About the guest author:** Carolyn Hendricks, a member of the ABC Board, has trained and worked for 25 years as a breast medical oncologist, most recently in private practice: she is the current chair of the FDA's National Board of Mammography Quality Assurance. When not practicing medicine, Dr. Hendricks often participates in far-flung raptor studies. She is a strong supporter of the Avian Science Center at the University of Montana and the Owl Institute in Charlo, Montana. She lives with her "very supportive" husband in Bethesda, Maryland.

# RELOCATING A RARITY



The research vessel *Searcher*, anchored in the lee of Nihoa's 900-foot cliffs in 2011. Photo: H. Freifeld

## How A Team of Researchers Helped an Endangered Songbird Move to a New Home

By John Nielsen, Senior Writer/Editor,  
American Bird Conservancy

**QUESTION:** How much trouble can it be to move a bunch of birds from one Hawaiian island to another? **ANSWER:** Plenty, if the following apply:

- ✓ The birds you will be moving are found only on a rocky lava island that is barely accessible by boat.
- ✓ The birds are also Critically Endangered, which means you'll make headlines if you fail.
- ✓ Getting to the island where the birds will be released involves at least a three-day voyage through the open ocean. No one has ever moved small songbirds that far by boat before.
- ✓ The birds are delicate songbirds, meaning there is a chance that they may die of stress when they are captured, handled, or transported.
- ✓ No one knows for sure whether the birds that make that boat trip will be able to survive on the new island. They could fail to eat, nest, mate, lay eggs, or successfully raise fledglings.



## RELOCATING A RARITY

Those are but a few of the potentially disastrous problems faced by the research team charged with catching two groups of Millerbirds on the tiny Hawaiian island of Nihoa, and moving them by boat to Laysan Island, 650 miles away. Both islands lie in the remote Papahānaumokuākea Marine National Monument, more than 154 miles northwest of the main Hawaiian Islands.

The first translocation was in September 2011, the second in August 2012. Both operations came off just as planned, says Sheldon Plentovich, U.S. Fish and Wildlife Service (FWS) Coastal Coordinator for the Pacific Islands and lead biologist on the Millerbird Project. “We didn’t lose a single bird during the trips to Laysan. Every move we made worked out the way it was supposed to. There were no bad surprises and no accidents, and the birds are now thriving. We are very happy and relieved.”

The story behind these translocations is a case study in the art of moving precious wildlife to new locations. “In a way, we started planning for these operations in the 1970s,” says team member Holly Freifeld, formerly a biologist with the U.S. Fish and Wildlife Service (FWS), now Director of ABC’s Seabird Program. “That’s when the idea of translocating some Nihoa Millerbirds was first proposed.”

Then, as now, the thinking was that it would be much better to have two distinct populations of the Millerbirds, Freifeld said: “By adding a population on another island, we reduce the risk that the species could be wiped out by a catastrophic storm, the accidental introduction of a predator, or a disease outbreak on Nihoa.”

The plan to move the Millerbirds to Laysan in particular caught on in 1984, when it was included in a Millerbird Recovery Plan published by FWS. Laysan seemed appropriate because a subspecies of Millerbird had once thrived there before it was driven to extinction in the

Transfer of birds from Nihoa to the zodiac which will in turn deliver the birds to the *Searcher*. Photo: Ryan Hagerty, FWS 2012



early 1900s by introduced rabbits and cattle that ate almost all the vegetation on the island. Thanks to decades of work by FWS, the alien grazers have since been removed and the habitat has been restored.

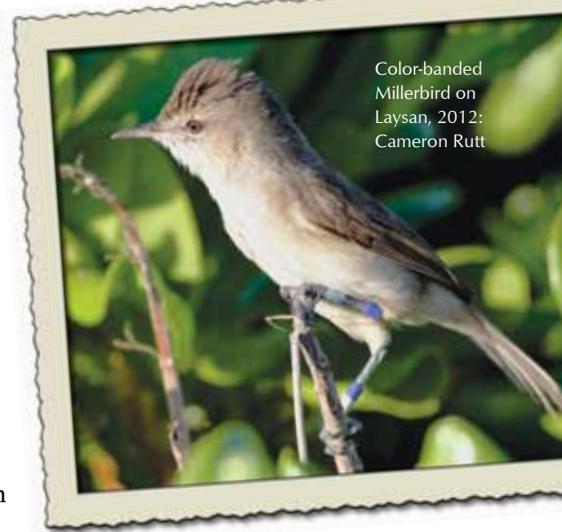
The plan to move the Millerbirds from Nihoa to Laysan was essentially hypothetical until 2006, when funding for field studies of the Millerbirds first started coming through. Freifeld says researchers spent a good part of the next five years anticipating things that could go wrong.

“We discussed every possible negative outcome,” Freifeld says. “It was like ‘How do we minimize stress so the birds don’t die of heart failure? How do we make sure the birds we pick are healthy? How do we move equal numbers of males and females when we can’t tell them apart in the field? What if the birds all get seasick?’”

Freifeld said those conversations helped the research team head off potential crises during the two translocations. For example, they kick-started genetic research that helped establish that the wing and tail lengths of the male and female Millerbirds were different, which in turn made it possible to sex the birds using measurements collected in the field.

Finally – and crucially – field studies seemed to show that the Nihoa Millerbirds would find the habitat they needed to survive on Laysan.

When the day for the first translocation finally came, the team had its movements on Nihoa planned out almost to the footstep. And that first step was a doozy.



Color-banded Millerbird on Laysan, 2012: Cameron Rutt



Peter Luscomb (L) and Thierry Work (R) caring for Millerbirds on the *Searcher* in transit to Laysan. Photo: Ryan Hagerty, FWS 2012

## Helping an Endangered Songbird Move to a New Home

“The landing at Nihoa is incredibly dicey because it is a shelf of lava rocks,” says team member Chris Farmer, ABC’s Science Coordinator for Hawai’i. “The research vessel that we were using, the *M/V Searcher*, stayed offshore because of that. To get ashore, the field teams took turns riding toward the rocks in a zodiac. When you got in close you waited for the waves to bounce up and over the edge of the rocks. And then you jumped ashore while trying not to drop the gear that you were carrying.”

That gear included solar panels, a bulky freezer, heavy batteries, and eight banks of custom bird enclosures, all of which were used to build a staging area near the rocky shoreline. Not long afterwards, three “capture teams” set off to find the birds.

“Catching Millerbirds without stressing them out is very much an art,” says Farmer. “Whenever we found one, we would set a mist net up behind it and then go around in front and gently move them toward the net. Every time we caught one, we would quickly band, sex, and weigh it, then put it in a transport box and run it to the staging area.”

There, the birds were placed inside the custom-made enclosures, where they would remain until the research boat arrived at Laysan Island. Each of the enclosures had a special perch inside that would weigh the birds when they jumped onto it; they also had floors that could be taken out so that a pair of veterinarians could examine the bird’s feces.

“Determining whether birds are healthy by examining their feces is an esoteric skill set,” says Farmer. “It was also vitally important, since we didn’t want sick birds on the boat.”

Farmer says the trickiest maneuver of the trip took place after two days on Nihoa, when all of the custom-built enclosures had been filled with healthy Millerbirds. It involved a human chain of researchers who gently passed the

boxes with the birds inside them down a rocky lava cliff face and then onto the zodiac as it bounced on the waves.

No one slipped or lost their grip, and soon the sheltered Millerbirds were moved onto the research vessel, where they were installed in one of the passenger cabins. A veterinarian and two avian husbandry specialists took turns watching the birds for any signs of trouble. At the time it wasn’t clear whether the birds would get seasick, or what the researchers would do if they did.

But Freifeld says the birds did not get sick on their first journey, partly because the ocean was “as flat as glass.” Three days later, when the *M/V Searcher* reached the much more accessible Island of Laysan, the captive birds were moved into to a new set of cages and then unloaded with a minimum of fuss.

Freifeld carried the first of these cages toward the release area at the northern end of the island, stopping at a low, scrubby opening and putting the cage down. Then, after attempting to wave off the flies that cover Laysan Island like a fog, Freifeld opened up a door on the front of the cages and watched the Millerbird fly out onto the island.

“Some of us were watching from a distance,” says George Wallace, a member of the translocation team and Vice President for Oceans and Islands at ABC. “When the bird took off, Holly turned around and grinned at us. That’s the image I’ll remember most from whole trip.”

The second translocation played out like the first one, except that the waves were slightly bigger. But none of the travelling Millerbirds got seasick that time either. That group, like the first one, is now thriving on Laysan.

*This translocation was made possible by ABC, FWS, the National Fish and Wildlife Foundation, and others.*



Sheila Conant releasing Millerbirds on Laysan, 2012: Chris Farmer

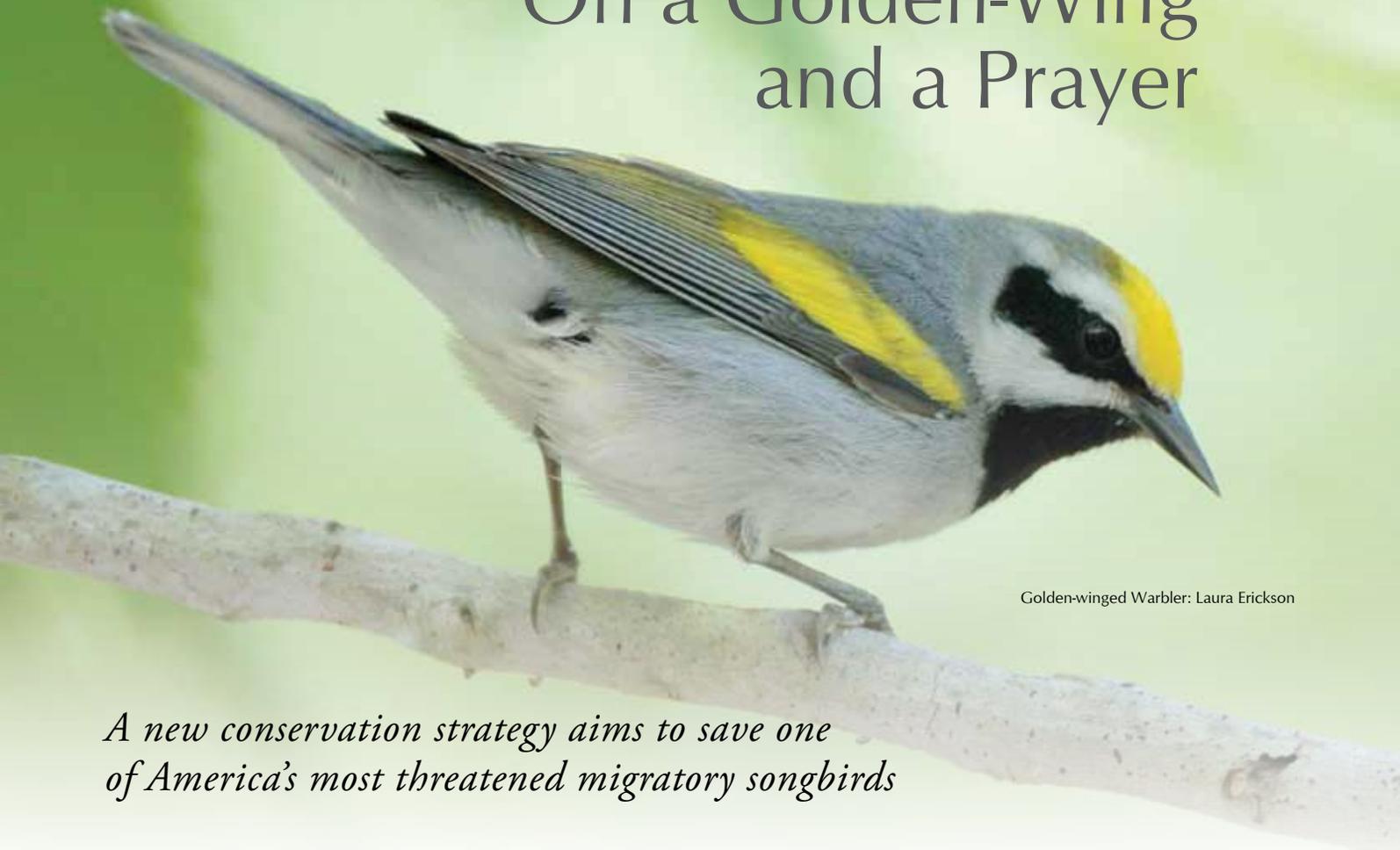


Color-banded Millerbird on Laysan, 2012: Cameron Rutt



Millerbird nest with egg, Laysan 2012: Cameron Rutt

# On a Golden-Wing and a Prayer



Golden-winged Warbler: Laura Erickson

## *A new conservation strategy aims to save one of America's most threatened migratory songbirds*

*By John Nielsen, Senior Writer/Editor,  
American Bird Conservancy*

**T**he Golden-winged Warbler is a gray-backed songbird identified by the bright yellow patches on its crown and wings and the jet-black markings on its face and neck. But the most striking attribute of this eye-catching bird may be the fact that it has now been declining at a rate of three percent per year since at least the 1960s. That decline has turned this warbler into a sad symbol of the problems faced by migratory birds in general, and by neotropical migratory songbirds in particular.

But that could start changing soon, according to the members of the Golden-winged Warbler Working Group. This broad consortium of managers and biologists has just produced a comprehensive plan to bring the warblers back in both their North American breeding range and their Central/South America wintering range. Endorsed by an expanding range of private funders, NGOs, government agencies, and landowners, it's a plan designed to alter massive forest landscapes at both ends of the warbler's migratory route.

It's also a plan that will require huge amounts of work if it is to have a major impact on the Golden-wing population, which is now approximately 60 percent smaller than it was 50 years ago. But the people behind the effort to reverse those trend lines say their confidence is high.

"Our initial goal is to stabilize the warbler population in the next ten years," says Andrew Rothman, a member of the working group and Director of the Migratory Bird Program at ABC. "After that, the goal is to increase the population count 50 percent over the next 30 to 40 years."

"I believe it's doable," adds Jeffrey Larkin, another member of the working group and a wildlife ecologist at Indiana University at Pennsylvania. "Sometimes conservation plans draw lots of praise and end up on a shelf somewhere, unfunded and ignored. But this plan is different. It's going to have an impact because it is going to be implemented."

Larkin's colleagues say he's one of the big reasons why this plan has a good chance of being implemented all across the warbler's breeding range, the forests of the Appalachian Mountains and the Northern Great Lakes.

Larkin studies Golden-wings that breed in Pennsylvania's share of the Appalachians. Like Golden-wings everywhere,

they build their nests on the ground in places where thick stands of forest give way to patchworks of scattered trees, high shrubs, low saplings, and ground cover.

Larkin calls these openings “young forest and shrub habitat,” and adds that they’re a vital part of forest ecosystems.

He says the warbler’s breeding range was riddled with young forest and shrub habitats 100 years ago, thanks to busy beavers, natural wetlands, family farmers, loggers, heavy storms, and forest fires left to burn themselves out.

“The early 1900s may have been the [Golden-winged] warbler’s prime,” says Larkin. “But then the forests all over its breeding range began to change. Large-scale timber harvests became much less common, and many small farms were abandoned. Beavers became less prevalent and wetlands were routinely drained. Smokey the Bear started telling us to prevent forest fires, and so we suppressed them every time we could. Far fewer young forest openings were created in the older, even-aged forests, and the ones that were there have now been filled by stands of mature forests. That change left the warblers with far fewer spots in which to breed.”

That’s a thumbnail version of the landscape-level change that drove the warbler’s decline across its breeding range. And by all accounts, it is a change that hit the Appalachian Golden-wings especially hard. Here, Golden-winged Warbler counts have fallen by a “catastrophic” eight percent per year for quite some time now, Larkin says. If that trend continues, Larkin adds that it will not be long before the Golden-winged Warbler all but vanishes from this part of its range.

And that brings us back to the ambitious plan to help restore the ecological complexity of the region’s forests, by restoring the former habitat of the Golden-winged Warbler. At its heart, says Larkin, it’s an effort to recreate the many acres of young forest and shrub habitat that once were much more commonplace in the warbler’s breeding zones.

In Pennsylvania, plans to start this restoration work have been approved and several dozen sites have been selected. Most of the restoration work will take place on private lands, which shouldn’t be surprising since approximately 85 percent of the forests in the state of Pennsylvania are privately owned. Larkin says the landowners involved in

the new program can seek funding and assistance from a wide array of sources, including the U.S. Department of Agriculture’s Natural Resources Conservation Service, the U.S. Fish and Wildlife Service, the Pennsylvania Game Commission, and the Pennsylvania Department of Conservation and Natural Resources-Bureau of Forestry. Much of ABC’s work with Golden-winged Warblers has come thanks to the support of the National Fish and Wildlife Foundation.

Most of the young forest and shrub habitats will be restored with chainsaws, other mechanized tools, and prescribed burns, says Larkin.

“It’s called ‘forest management’ and it’s a well-established practice,” he explained. “Sometimes people grimace when they hear you talk about it because they have trouble thinking about a chain saw as a conservation tool. But they tend to get it when you tell them that the changes you’ll be making to these forests will improve them by restoring lost complexities, like young forest openings. When you do that kind of thing, you’ll start to see a broader range of wildlife in these forests, and I’m not just talking about nesting warblers. Game animals such as woodcock, grouse, and deer tend to thrive in these young forest areas; so do rabbits, bears, and many other types of songbird.” The list of other migratory songbirds that use openings like these is especially impressive: it includes the Eastern Towhee, Chestnut-sided Warbler, Red-eyed Vireo, Indigo Bunting, Yellow-breasted Chat, American Redstart, Common Yellowthroat, and occasionally Cerulean Warbler.

“That’s why Golden-winged Warblers are sometimes referred to as an umbrella species,” Larkin adds. “If you do good things for them, you do good things for lots of other wildlife.”

That’s a line of thinking that is said to be quite popular in other states with forests in the Golden-winged Warbler’s breeding range, including Tennessee, North Carolina, West Virginia, New York, Wisconsin, Minnesota, and Michigan. In all of these places, plans to start restoring young forest openings are either on the drawing board or undergoing field tests.

But by all accounts it will not be enough to put young forest and shrub habitats back into the warbler’s breeding

## On a Golden-Wing and a Prayer

grounds. For example, Blue-winged Warblers hybridize with Golden-wings in large parts of their breeding range; there is a need to learn much more about the population-level threat posed by these interactions.

There's also a huge amount of work to do at the southern end of the Golden-wings migratory range, which is thought to stretch from Guatemala south into parts of Colombia, Venezuela, and Ecuador. Here, researchers from conservation groups such as Fundación ProAves, ABC's Colombian partner, have recently finished a three-year census of the birds, hoping to find over-wintering "hot spots" for Golden-winged Warblers in the region's badly tattered montane forests. Experts say it's long been known that extensive logging and unsustainable farming practices in these forests have helped pull the warbler population down. ABC's Andrew Rothman says the impact of these practices can be clearly witnessed as you drive into the mountains of northwest Nicaragua, passing former forests long since transformed into a patchwork of cattle ranches, coffee plantations, and potato farms.

"The landscape is now made up of fields and fences linked by remnant forest patches and tree rows," Rothman says. "The majority of the remaining forests are found only on the steepest slopes or the highest spots on the mountains." But Rothman adds that there is cause for optimism inside some of those forest fragments—optimism in the form of lots of different songbirds that use these amazing forests as their wintering grounds.

One such example is the 247-acre El Jaguar Reserve, owned by Georges Duriaux and Liliana Chavarria. Three quarters of their land is cloud forest; the rest is planted in coffee grown in the shade of big trees. Rothman says it has been established that songbirds, including Golden-winged Warblers, will make use of these shade coffee fields. In the cloud forest, the landscape is so rich with birds that this place is a research hub for several universities, members of Partners in Flight, the USDA Forest Service, and ABC.

More than 250 bird species have been recorded, including more than 50 species of neotropical migrants.

Rothman notes that both Duriaux and Chavarria are trained and certified bird banders who help with research. They also encourage their neighbors to save and reconnect standing forest fragments and plant more shade trees in their coffee fields and sunbaked pastures. They talk up the links between the forests and clean water, good soil, bigger coffee crops, and lower irrigation costs. The result: more than 15,000 new trees have been planted on neighboring farms so far.

Nurseries that will produce another 15,000 trees have been established in the area.

"These are people who care about their land," says Rothman. "And I think the word is spreading: reforestation is not just good for birds but for also local economies and everyone's well-being."

The researchers working at El Jaguar are now trying to discover more about exactly how declining birds like the Golden-winged Warbler make use of montane forests and adjoining shaded coffee farm and pasturelands. That work is expected to shed light on where and how to save existing stands of intact montane forest and on how to help ensure that shaded farms and pastures are as "bird-friendly" as possible.

Saving only forest fragments will not be enough, says Rothman. "We need to change entire landscapes, meaning we need to work with everyone from small landowners to policymakers. When that starts to happen on a broad scale, in the wintering and the breeding grounds, we'll have implemented a "full-life-cycle" approach to Golden-winged Warbler conservation."

That in turn, could help transform a symbol of decline into a symbol of recovery.



Golden-winged Warbler: Barth Schorre

BACKGROUND: This shade coffee farm at El Jaguar in Nicaragua provides good habitat for wintering Golden-winged Warblers. Photo: Georges Duriaux

# MARVELOUS MIGRANTS

*Gulf of Mexico*

## In an Era Known for Bird Migration Problems, Ruby- Throated Hummingbirds Are Thriving. Why?



Ruby-throated Hummingbird:  
Gary Kinard, [www.flickr.com](http://www.flickr.com)

*By John Nielsen, Senior Writer/Editor,  
American Bird Conservancy*

**R**uby-throated Hummingbirds are feisty, fast, extremely energetic, and remarkably good at traveling long distances. Every spring, they fly north out of Central America – across the Gulf of Mexico – to breeding sites in the eastern United States and southern Canada. And every fall, the Ruby-throats return to those same wintering grounds in numbers that seem to be robust.

Scientists have wondered how a bird that uses huge amounts of energy to fly survives these marathon voyages. Others have questioned how these “flying jewels” make it past the threats that have put other bird species into states of serious decline. At ABC we want to know what we need to do to help ensure that this migration stays as robust as it is now. The honest response to all this wondering is that we don’t know all that much about why Ruby-throated Hummingbirds are such successful travelers. This is true in part because, at one-tenth of an ounce, the average Ruby-throat is still too light to carry even the tiniest of radio transmitters, and so no one has ever mapped the daily movements of a migratory Ruby-throat: we can’t say

for certain how they get where they’re going or what puts them most at risk along the way.

On the other hand, we’ve learned a lot in recent years about the way this species goes about its daily business. People who track banded birds and scientists in labs have done important research on that score, work that makes it possible for us to paint an educated – if provocative – picture of the fall migration of these birds.

Imagine, then, that it’s August and you’re watching a Ruby-throat near a patch of woods in southern Maine. It’s a male, which means the feathers in its throat flash brilliant red when they reflect and refract the sunlight just so. It also means our bird tried hard to breed with several different females in the spring and early summer. More than likely, that helped put some tiny white eggs into the walnut-sized nests that females make out of lichen, dandelion down, and bits of leaves and spiders’ webs. But we can’t be sure he bred successfully because, like most males of this species, our Ruby-throat flew off when it was finished mating. But he likely did not go far. Instead, he claimed a nearby yard as his exclusive feeding zone, furiously defending it from fellow Ruby-throats and everything else from larger birds to stray carpenter bees. When those fights take place, we see exactly what the long, thin,

blade-shaped wings on Ruby-throats are best at: they can blast our bird straight towards another bird and stop it an instant before impact, or enable it to fly sideways, upside down, or backwards. Scientists have known for many years that the wings on a hummingbird don't flap up and down like other bird's wings: they carve out a very rapid figure eight, which enables all that speed and maneuverability.

Those buzzing wings are also very good at helping Ruby-throats utilize the huge amounts of food and drink they need to sustain their level of activity. Tiny swarming insects are snapped up in mid-flight, pulled off blooms or plucked from spider webs. Blooming plants with stems so delicate that they can break in the rain are probed for nectar, undamaged by the hummers that seem to levitate in front of them. Experts say it's this kind of precision that enables our Ruby-throat to drain 2,000 blooms in a typical day.

But today is not a typical day: it is the day that our male Ruby-throat begins his journey south. That means he's been fighting less and eating more of late: so much more that he has nearly doubled in weight in the last week or so, adding layers of fat to his breast, belly, and flanks. Double the weight of larger birds and many of them would not be able to get off the ground, but in the late morning, after one last feeding spree, our Ruby-throat ascends and then flies south.

No one knows what cues tell these birds to start migrating. No one knows how they know where to go. "Some of us suspect that as these birds fly south, they follow migratory routes that they've been following for generations," says Ruby-throat expert Robert Sargent of the Hummer/Bird-Study Group. "But...we aren't sure."

What is sure is that the adult males begin the fall migration first, followed by the females and the fledglings. By mid-August, millions of these birds are headed south along innumerable migratory corridors. That's because the breeding range of Ruby-throated Hummingbirds extends from the Atlantic Coast to Texas, and from the Gulf Coast up into Canada.

Typically, our Ruby-throat flies by itself during the daylight hours. People who have seen it on migration say it has a kind of loping glide, like the arcing dip of power lines. It also flies low, which may help it avoid high winds that could blow it off course.

The Ruby-throat is capable of flying faster than a lot of people used to think was possible. Years ago, the driver of a car helped tell us just how fast that can be: In a letter



Female Ruby-throated Hummingbird: Bill Thompson, FWS



Male Ruby-throated Hummingbird: Terry Sohl

**Those buzzing wings are also very good at helping Ruby-throats utilize the huge amounts of food and drink they need to sustain their level of activity...Experts say it's this kind of precision that enables our Ruby-Throat to drain 2,000 blooms in a typical day.**



written to the noted ornithologist Arthur Cleveland Bent, author of the 21-volume *Life Histories of North American Birds*, this driver wrote of cruising down a road at 50 miles per hour, when "[Suddenly] a Ruby-throated Hummingbird... paralleled our course along the side of the roadway as if deliberately racing with us. It actually passed us for



a short distance, keeping straight with our course, then swerved away.”

Our Ruby-throat zips past a car or two while flying down the country roads that meander southwards through New England. But it isn't following the asphalt, or the rivers, or the mountain ranges. Instead it may be looking for familiar “nectar corridors,” which, essentially, are lines of blooming plants that travel southwards in the fall. When it sees these blooms, our bird does not get territorial, says Bob Sargent. “Ruby-throats can be found in huge numbers at traditional feeding locations as they press on southward through the United States,” he writes. “Lake and streamside jewelweed and cardinal flower are often teeming with Ruby-throats.”

That cooperation saves the birds a lot of energy, which may help them fly farther when they migrate. It may also help that the Ruby-throats do not appear to be particular about where they go to find their food. They've been known to fly down city streets consuming nectar held by flowers in plant boxes perched on apartment windows. “Ruby-throats don't seem to be as bothered by development as a lot of other species are,” says Sargent. “In those areas where habitat has been drastically altered, they appear to have adjusted nicely.”

Let's say that our Ruby-throat flies roughly south for five or six hours every day at an average speed of 40–45 miles per hour. That means it would travel at least 200 miles per day when it isn't interrupted. But at times it is interrupted; for example, by a cold front that rolls in just to the bird's south, killing off the blooms before he gets there. At that point, our bird does something only a few other species can do – it goes into an energy-saving, sleep-like state known as “torpor.” Its heartbeat drops from a staggering average rate of 1,200 beats per minute while feeding to just 20. With its small black feet locked to a tiny branch, our bird is motionless, to the point where passers-by might think that it is dead.

When the storm front clears, our hummingbird recovers and takes off again, looking for another place to eat and drink. But storm fronts aren't the only natural threats to Ruby-throats. Natural histories of this bird are rich with stories – mostly second hand – of Ruby-throats consumed by raptors, swallowed whole by leaping bass, and caught on the tongues of big bullfrogs. There are also stories about Ruby-throats caught in up spiders' webs or in the

clutches of big insects. “We were walking in the woods ... and heard a continuous rattling,” another correspondent wrote to Cleveland Bent. “Investigation showed it to be a male Ruby-throated Hummingbird on the ground with a huge dragonfly on the bird's back; it had seized the bird by the neck.”

By most accounts, this natural predation seems to have no lasting impact on the Ruby-throat populations that have evolved with these threats over millennia. Experts such as Sargent think it likely that man-made threats do much more damage to the species. House cats lurk near the flowers where the Ruby-throats are feeding, waiting for the chance to pounce. Big picture windows next to feeders look like open sky or passageways...until you fly into them. Scientists say that outdoor cats and windows may kill billions of birds each year. Some of those birds are Ruby-throats. Nobody knows how many.

Let's say that our migrating Ruby-throat avoids the pouncing cats and windows, moving through the Mid-Atlantic and the South. As it travels, it not only searches for familiar “nectar lines,” but stops at some of the same backyard feeders it fed at a year ago, when it was just a fledgling. “If hummingbird feeders are not in place where they were located the previous year, the newly arriving veteran hummers will circle the empty hanger wires,” writes Sargent. “It is difficult for us to imagine the total number of feeding stops these hummers have memorized and stored away in their tiny brains.”

The last part of the fall migration of our Ruby-throat is the most dramatic, difficult, and dangerous. After stopping one more time to build up extra fat by binging on the nectar blooms and insects, our bird flies out low across the Gulf of Mexico, determined to make it all the way to southern Mexico or die in the attempt. Experts say the trip takes roughly 16 hours if the weather is perfect and the winds are right. Not surprisingly, that's just about how long the fattened-up hummingbirds can fly.

People who have seen how storms can whip the Gulf waters say it's likely that bad weather kills a lot of Ruby-throats each fall, either by blowing them off course or putting them down into the water to drown.

If the Ruby-throat's migratory strategy were a little less robust, that might create a problem. But for now, great numbers of Ruby-throated Hummingbirds come flying off the waters of the Gulf into Mexico each fall, ready to eat and drink until it's time to head back north.

*Gulf of Mexico*

# Flying in the Crane Plane



*By Joseph Duff, CEO, Operation Migration*

**F**lying with birds is not one of those occupations that your guidance counselor suggests when you begin to plan your post-secondary education. My career has been a twisted path, and many people ask how I became involved in such a project. My glib response is that it was New Year's Eve and it seemed like a good idea at the time.

In truth, I was a commercial photographer in Toronto, quite removed from my country childhood, when Bill Lishman asked me to join him for the summer. Bill was the first person to fly with a formation of birds back in the mid-1980s. At first it was a great adventure and an opportunity to capture some interesting images. It later evolved into a practical, if not whimsical, wildlife reintroduction method. Several attempts were made to reintroduce migratory Whooping Cranes, but none worked until Bill

Lishman first took to the air with his small flock of geese and set the stage for one of the most successful wildlife programs in history.

“Altricial” birds – those that hatch blind, without down, and helpless, such as songbirds – stay in the nest being brooded and fed by their parents until they fledge, but “pre-social” birds – such as geese, swans, and cranes – leave the nest shortly after hatching and must follow their parents in order to find food. Imprinting is the instinctive behavior that keeps parents and young together, and that natural attachment continues long enough for the chicks to learn to migrate.

The route to and from the wintering grounds may have evolved over thousands of years, passed from one generation to the next, but it is lost if a population is extirpated. Attempts to reintroduce populations

from captive-reared birds don't work because there is no parent generation to show them the way. Instead they become resident, like the thousands of Canada Geese that were reintroduced in the 1940s and 50s and whose descendants now stay in one area all year long, feeding on grass lawns and on waste grain left behind by modern agricultural equipment, and breeding beside artificially created ponds and lakes.

Our original test subjects back in the 1990s were Canada Geese because they were not endangered, were easily collected from the wild (with the proper permits), and were simple to imprint. Eventually we evolved from a flock of tame Canada Geese to a population of wild Whooping Cranes that now number 104 and migrate by themselves between Wisconsin and Florida. Once it reaches a self-sustaining level, this eastern migratory

flock will augment the only remaining naturally occurring population. That last surviving flock continues to migrate from northwestern Canada to Texas; at one point it numbered only fifteen individuals, but thanks to conservation efforts should reach a record high of 300 birds this year.

Through a simple but painstaking process, we slowly condition our birds to follow our aircraft, and when they are ready, we lead them on their first migration from Wisconsin to Florida. Reintroduced Whooping Crane chicks must be raised in isolation from all things human. We refrain from talking, and wear baggy white costumes designed to disguise the human form. The chicks are raised in remote wetlands that are closed to the public. This strict protocol is used to prevent them from becoming imprinted on people. When they encounter their first normally dressed human after they have been released, their natural fear of the unknown keeps them wild.

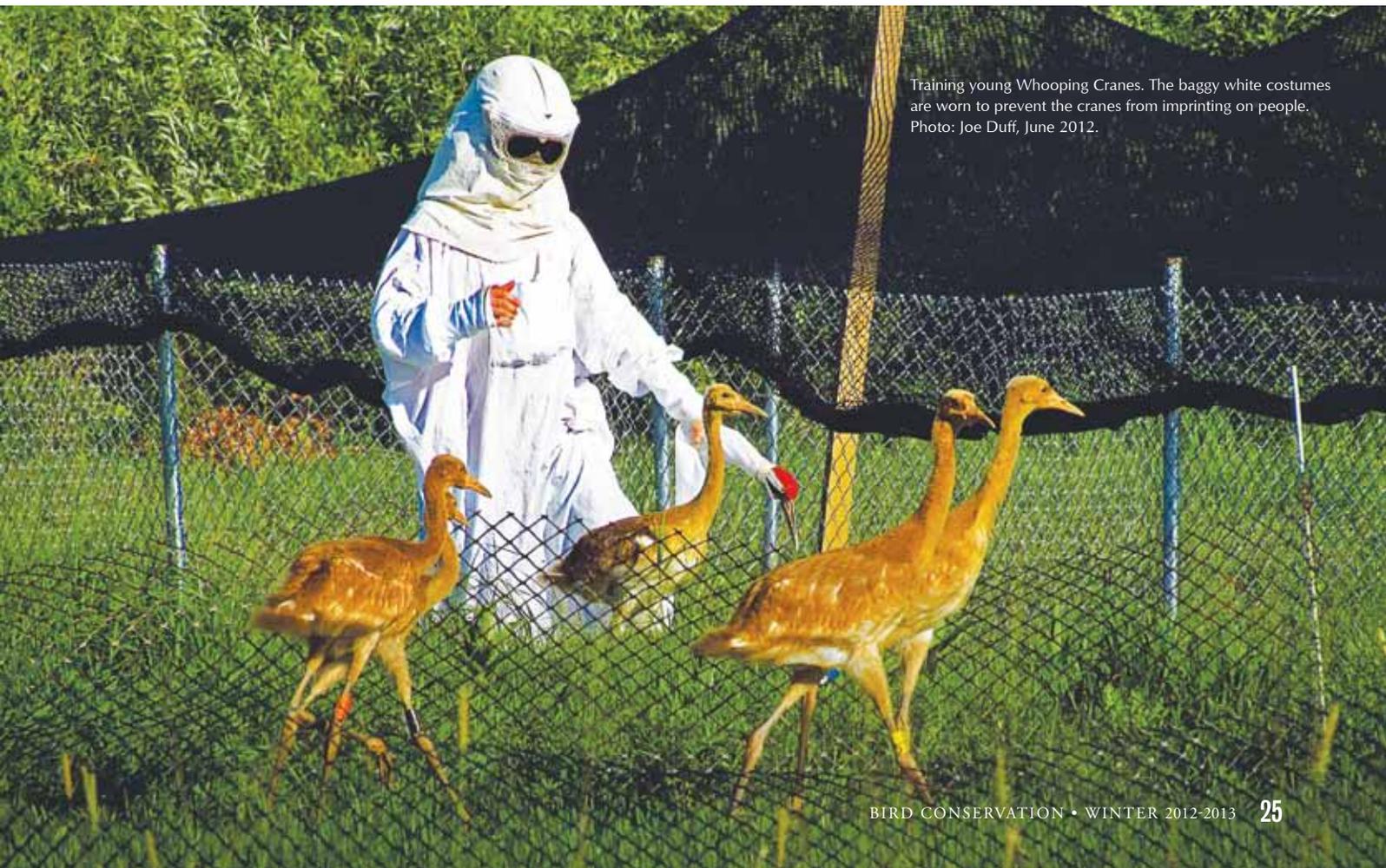
By the following spring, when they are ready to return north on their own, they have lost their affinity for parents, real or surrogate, and they are as wild as their natural counterparts. Thankfully, our initial fear that they would seek the company of ultralight aircraft at the local airport proved unfounded.

It is not only the process of teaching birds to migrate that has become more complex, but also the association that makes it all possible. The Whooping Crane Eastern Partnership was established in 1999, and includes nine private, state, and federal agencies. Since then, we have organized a science team, an outreach network, and a long list of contributing partners.

Within that organization Operation Migration is responsible for the training of the Whooping Cranes from hatch to when they begin their return migration the next spring. We start in April at the USGS Patuxent Wildlife Research Center in Maryland,

where the eggs are produced from a captive flock. The birds are imprinted on the costumed handlers there and introduced to the aircraft. At 50 to 60 days of age, they are flown inside private aircraft to their summer home in the isolated wetlands of the White River Marsh State Wildlife Area in Wisconsin. There, we work with them every day until the migration begins in early October. If we are lucky, we reach Florida by Christmas. Then the process starts again the following April.

It is a long and exhausting season, but it has its rewards, none more satisfying than spending time with the birds. The term “bird brain” is often used to describe ineptitude, but it hardly does justice to a creature as complex as a Whooping Crane. Yes, occasionally one can't find its way out of the pen despite a twenty-foot-wide gap left when the gate is opened, but when you don a costume and stop talking, you gain insight into an intricate social structure that has



Training young Whooping Cranes. The baggy white costumes are worn to prevent the cranes from imprinting on people. Photo: Joe Duff, June 2012.



## *Flying in the Crane Plane*

Six young cranes take off after their surrogate "parent". Photo: Operation Migration.

existed for millions of years. You gain even more insight when you have the privilege of accompanying them into the air.

When they are not catching a free ride by soaring on thermals of rising warm air, Whooping Cranes, like Canada Geese, will fly in a V formation or a single line. The lead bird does most of the work, but not from any sense of duty. Instead, he is out front because he is the strongest and most aggressive and has pushed his way to the lead. The bird behind can feel the lift created by the vortices his wingtips generate, and instinctively learns to take advantage of that assistance by flying just off to one side. Each bird in the row adds to that wake, creating more lift for the one behind until the last bird is gaining the most benefit. Each individual pushes its way forward according to its endurance. That aggressive behavior and their instinct to find the easiest way to fly gives the flock a common endurance so the weaker birds can keep up with the strongest. Throughout the line, birds will challenge the one ahead of them much like a competitive cyclist will tuck in behind the leader, waiting for an opportunity to steal the lead when he shows signs of fatigue. Without that ability, the flock could not stay together.

In the wild, the strongest birds are out front and the weakest towards the back. But in our case, the aircraft creates the greatest wake, and the bird directly behind our wing may not be the strongest or the weakest. But he may be the smartest.

Three aircraft accompany the migration, and we take turns being the leader. The lucky lead pilot will launch with the flock and the others will fly in the chase position, ready to pick up stragglers. Some birds have learned that if they drop back, eventually another aircraft will pick them up and they will have a wing tip all to themselves.

That happened once in Alabama when one of our pilots, Richard Van Heuvelen, was leading. Soon after takeoff, a perceptive bird dropped back and waited to be picked up. I was flying chase, so I moved in and placed my wingtip just in front of that clever bird. When you only have one bird on the wing, he gets maximum benefit from the wake you are generating, and together you can out-climb the aircraft that is leading a long string of them. My lone rider and I soon climbed to a thousand feet where we had a strong and smooth tailwind. Down below, Richard was fighting a hard battle to keep the birds on his wing long enough to get them out of the low-level turbulence and up into the smooth air above. However, they kept breaking and turning back to the pen. Several times he collected them on his wing and tried again to coax them above the rough air.

The lone bird and I were soon on course and making good time, but I didn't want to get too far ahead if Richard was not successful. So I turned around into what was now a headwind of better than 20 miles per hour. Whooping Cranes fly at around 35 mph, but with the headwind, our progress over the ground was slowed to five or ten. There we sat, almost stationary overhead, my companion hardly beating his wings, while we watched Richard and the other birds bang around in the increasing turbulence near the ground. We watched for almost an hour until Richard finally got his charges high enough for the air to smooth out so they could form a long line off his wingtip and turn on course for the next stopover.

For twelve seasons, we have led a new generation south each fall. The hundred or so Whooping Cranes that now use this flyway are the first in this area since the last nest was reported in Wisconsin in the 1870s.

The pilots on this team have spent a good portion of their lives flying with birds, some of it rewarding, some at great sacrifice. In the end, I hope we can leave behind a self-sustaining flock of Whooping Cranes as evidence of all the hard work. If not, we will blame it all on our high school guidance counselors.



**About the guest author:** Joseph Duff is the C.E.O. of Operation Migration, which he founded with Bill Lishman in 1993. Since that time, he's used his ultralight aircraft to lead migrations of Canada Geese, Trumpeter Swans, and Sandhill Cranes. Duff now heads the team of pilots that annually leads endangered Whooping Cranes on their 1,200-plus-mile migrations from Wisconsin to Florida. Duff's personal aircraft went on permanent display in the Smithsonian National Air and Space Museum in 2008. He lives with his

wife and daughter in Port Perry, Ontario.

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## SPECIES PROFILE

# California Condor – *Back from the Brink*

Nobody who sees a California Condor soaring on a rising column of warm air ever forgets the moment. With wings that stretch for nine and a half feet from tip to tip, this bird looks like a throwback to prehistoric times. Indeed, these condors once dined on the carcasses of the giant sloths, camels, mammoths, and lions that roamed North America during the Ice Age, over 10,000 years ago. The California Condor is the largest terrestrial bird in North America today. It is black with white underwing linings and edges, a ruff of feathers around the lower part of its neck, and a reddish-purple, bald head that's an adaptation to its messy carrion diet. The ivory-colored beak is razor-sharp. The eyes are dark red.

Condors can soar to heights of 15,000 feet, and may travel up to 150 miles a day in search of food. California Condors do not have a good sense of smell—they find their food using their keen eyesight. California Condors are social in their feeding behavior, and are primarily dependent on large mammalian carcasses such as those of deer, cattle, sheep, and even beached whales. They also associate in communal roosts. They

do not reach sexual maturity until six years of age, and lay a single egg each year, usually using caves or crevices in rock faces for nest sites.

This ancient species, the last of its genus, came perilously close to extinction in the 1980s due to poisoning and shooting; at that time, only 22 California Condors existed in the wild. The last free-flying condors were taken into captivity in 1987 to avoid extinction.

Controversial efforts to breed condors in captivity by the Los Angeles, San Diego Zoo, and Oregon zoos and the Peregrine Fund's World Center for Birds of Prey in Boise, Idaho were surprisingly successful.

As a result, these giant birds were reintroduced to the wild in Los Padres National Forest in southern California in 1992, then to the Grand Canyon area in Arizona in 1996, to Monterey County, California in 1997, and to the Baja Peninsula of Mexico in 2003. Reintroduction efforts continue today, as does intensive study and monitoring.

Lead poisoning from hunting ammunition that is left in the field in gut piles or in shot game not retrieved by hunters, and which helped push the bird so close to extinction, continues to be the major threat. Despite a ban on lead ammunition for hunting in the condor's California range, and voluntary non-lead ammunition schemes in Arizona and Utah, condors continue to be poisoned, and as a result, all wild birds are regularly caught to be tested for lead poisoning and treated if necessary. Besides lead poisoning, another major threat to the condor is collisions with overhead wires.

Despite these threats, the California Condor has stepped back from the brink where it was hanging back in the 1980s. From a low of 22, the condor population has now risen to more than 400 birds.



California Condor: Greg Homel, Natural Elements Productions



California Condor, FWS

California Condors: Lori Hibbett