## BIRD CONSERVATION

The Magazine of American Bird Conservancy

Winter 2013-2014



## Join Our Journey to Bring Back the Birds

This issue of *Bird Conservation* will take you on an extended field trip. Read on for first-hand accounts of vital work being done by ABC and our terrific partners to reverse threats to birds across the Americas. Some of these field sites are on the far side of the hemisphere. Others may be closer than you think.

We begin our journey in the Ozark Mountain woodlands at the heart of the United States' Central Hardwoods region. There, John Nielsen tells us how creative efforts to restore "lost forests" rich with birds have been successful on a heartening scale, thanks to a public-private Joint Venture coordinated by ABC.

Those woodlands could hardly be more different from the seabird colonies described by long-time partner Peter Hodum, Director of the Juan Fernández Islands Conservancy. In a story set off the coast of Chile, Hodum writes about the innovative field work and community outreach that are improving prospects for the Pinkfooted Shearwater. Then, we take another great leap: to the highlands of Bolivia, where ABC's Dan Lebbin describes the quest to see and save the beautiful Palkachupa Cotinga.

After additional stops in Canada, Peru, and Washington, DC, I hope that you will be convinced that "bringing back the birds"—a phrase we have started using frequently—is much more than a slogan. It's a good description of events now taking place in scattered spots across the Western Hemisphere, as ABC and our partners turn solid research into real-life conservation.



As I write this, plans are being laid for a dramatic expansion of projects designed to start "bringing back the birds." ABC helped launch that process this past summer at the Partners in Flight V (PIF V) meeting held in Utah. There, representatives of more than 100 conservation groups gathered to determine how to reverse the population declines of many of our migratory species.

I had hoped that PIF V would represent a turning point in bird conservation, and I was not disappointed. Participants—dedicated, knowledgeable people who passionately love birds—began developing "business plans" designed to meet the needs of

birds across their full life-cycles. The work started at this meeting will continue far into the future.

How will we succeed? It starts with a bold vision, followed by the funding to bring that vision to life. I estimated at PIF V, conservatively, that a minimum target of \$1 billion will be needed. I pledged that ABC

will bring that future closer by raising \$50 million.

We can, and must, succeed in bringing back the birds—for the irreplaceable beauty and inspiration they provide, and the critical role they play in ecosystems that support all life. If you agree, I hope you will signal your support with a generous end-of-year gift to ABC today. Onward!

George H. Fenwick President, ABC

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Barn Swallows by Marlin Harms

WINTER 2013-2014

## Forward in the Field

- 6 How to Bring Back the Birds: Woodland Restoration in the Ozarks
- 14 Field Notes on the Pink-foot: Learning to Save an Amazing Seabird
- 18 Travels in the Valley of the Palkachupa Cotinga: Conserving an Iconic Bolivian Bird
- 21 Bugged Out? Exploring the Decline of Aerial Insectivores
- 23 The Neonic Problem: Racing to Gauge a Global Threat to Birds and Bees



Photo by Kasia Majewski

### **DEPARTMENTS**

- 2 Bird's Eye View
- 4 On The Wire
- 26 Final Glimpse



## ON the WIRE

### Buenaventura Reserve Expanded

cuador's Buenaventura Reserve, established in 1999 to protect the El Oro Parakeet, El Oro Tapaculo, and other endangered wildlife, has been expanded by almost 600 acres, bringing its total size to over 4,400 acres. In the process, a host of threatened species found only in this region gain better prospects for the future.

Surrounded by cattle pastures and forests fragmented by agriculture, the Buenaventura Reserve protects the largest remnant patch of a unique ecosystem that combines elements of tropical wet and dry forest. As little as five percent of this forest, which once spanned northern Peru and parts of the Ecuadorian coast, may now remain.

More than 330 species of birds have been recorded here, a dozen of which are threatened, including the Pacific Royal Flycatcher, Grey-backed Hawk, Rufous-headed Chachalaca, and Long-wattled Umbrellabird. The furtive El Oro Tapaculo is the subject of a monitoring program that aims to better track population changes for this seriously declining species.



El Oro Parakeets by Greg and Yvonne Dean

Birds are not the only beneficiaries of Buenaventura. The Western white-fronted capuchin, extirpated from the area in the 1990s due to hunting, is now being reintroduced. Mantled howler monkey, Hoffman's two-toed sloth, Western tamandua (an anteater), and oncilla (a small cat) are also present, and even pumas are occasionally seen.

A species of frog and lizard new to science were recently discovered and described here. Brightly colored poison-arrow frogs are numerous at certain times of the year.

The expansion of Buenaventura, which translates to "good fortune," is the result of a long-term, successful collaboration among Ecuador's Fundación Jocotoco, Rainforest Trust, and ABC.



Buenaventura Reserve by Daniel J. Lebbin, ABC



### **ABC Reforestation Efforts Growing**

Saplings ready for planting, Abra Patricia Reserve.
Photo by Daniel J. Lebbin, ABC

ABC and its partners in Latin America have planted roughly three million trees and shrubs to restore forests and provide habitat for resident and migratory birds. In Peru, "living fences" that benefit both cattle and migratory birds are rising at the edge of the Abra Patricia Reserve. In Ecuador, newly planted trees are providing additional habitat for rare local birds, including the Jocotoco Antpitta and the Golden-plumed Parakeet.



Elsewhere, newly replanted forests are sequestering carbon to help slow global climate change. These trees also protect watersheds that provide clean water to local communities and big cities, and provide sustainable timber supplies for landowners.

To get these projects started, ABC has helped establish or run 27 tree nurseries in Latin America. Typically, these nurseries are located in places where the tree-planting will be taking place, but there have been dramatic exceptions. For example, in parts of the Andes, burros carry loads of saplings grown at lower altitudes over rugged mountains to key reforestation sites.

Over the course of the last 10 years, ABC has become involved in several different kinds of reforestation efforts on private lands. They include agreements to create and sustain mixed forests near the edges of reserves; efforts to grow shade trees on coffee and cacao farms; silvipasture programs; and the creation of "biological corridors" that allow birds and other wildlife to travel between forest fragments.

In 2014, ABC—along with partners Fundación Jocotoco and ECOAN—will be co-hosting an international workshop of groups and governments to further promote strategic reforestation in Latin America. Please contact Daniel J. Lebbin (dlebbin@abcbirds. org) for further information.

Jocotoco Antpitta, a species benefiting from reforestation efforts by Fundación Jocotoco and ABC in Ecuador. Photo by Mark Harper

## Blue-throated Macaw Listed Under U.S. Endangered Species Act

n early October, the U.S. Fish and Wildlife Service listed the Bluethroated Macaw as endangered under the Endangered Species Act. This species is endemic to a small area in Bolivia, where fewer than 500 individuals are estimated to remain in the wild. Its status remains tenuous despite conservation efforts. The illegal pet trade and use of macaw feathers in traditional headdresses reduced wild populations until recently. Lack of suitable nesting sites and high reproductive failure at many existing nesting sites are continuing problems.

The Blue-throated Macaw is a priority for ABC under our efforts to safe-

guard the rarest bird species. Working with our Bolivian partner Asociación Armonía, we established the Barba Azul Nature Reserve—home to this and many other threatened species—along with expansion of reserve infrastructure and construction of artificial nest boxes. Armonía's work to reduce trafficking in birds and feathers have helped to effectively end much of the illegal trade in these macaws.

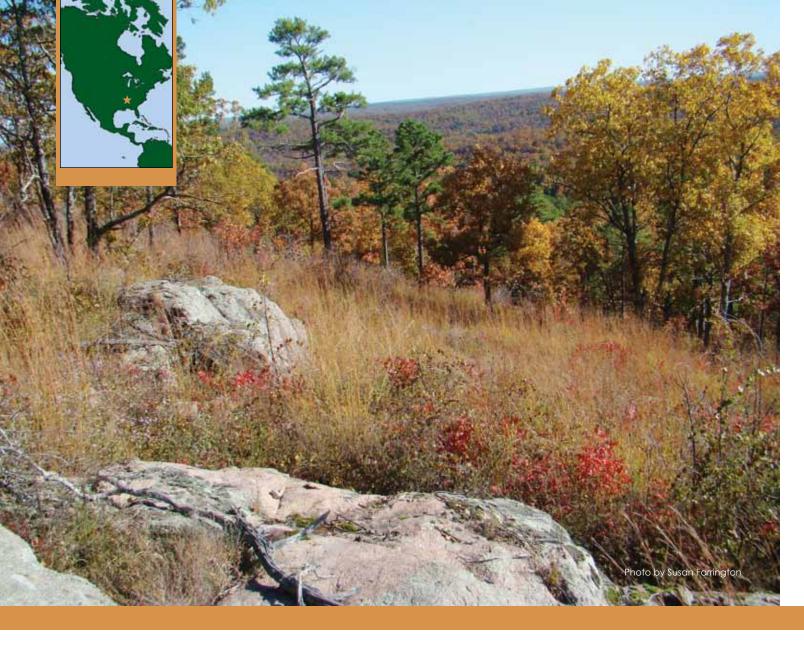


Read more about the Barba Azul Nature Reserve:

ConservationBirding.org/aboutbarbaazul.html



Blue-throated Macaws by Daniel Alarcon, Asociación Armonía



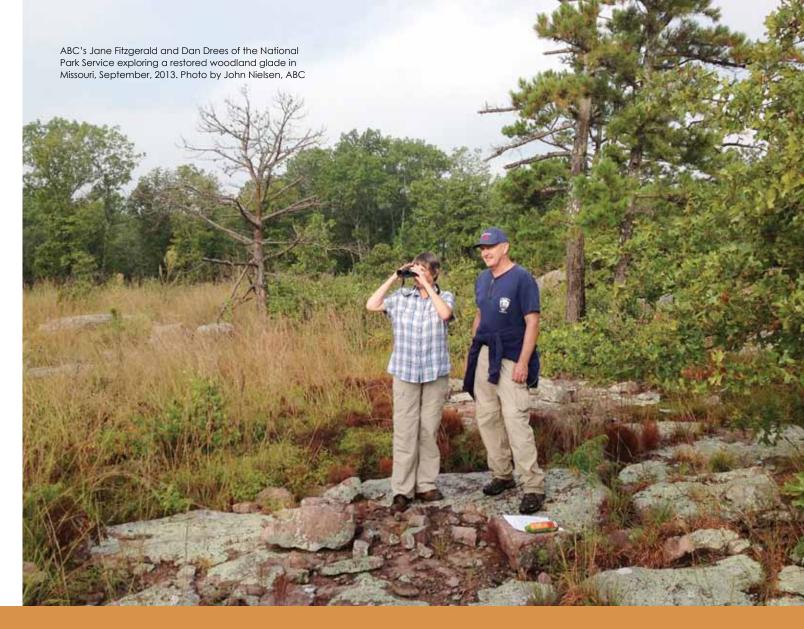
# How to Bring Back the Birds:

Woodland Restoration in the Ozarks

By John Nielsen, Senior Writer/Editor, ABC



Carolina Parakeet by Gustav Mutzel





Once a mix of woodlands like no other stretched across the center of North America. Giant pines and gnarled oaks formed open canopies that let great beams of sunlight reach the ground. Rocky mounds awash with wildflowers were interspersed among the trees. Frequent fires burned off the fast-growing shrubs and saplings, clearing room for a huge range of native plants and grasses—and a spectacular variety of birds. Loud, kaleidoscopic flocks of now-

extinct Carolina Parakeets were common in the old-growth woodlands. So were seemingly endless flocks of Passenger Pigeons, also now extinct.



Liatris (blazing star) springs to life in a restored glade. Photo by Susan Farrington

Nearly all the woodlands that helped foster this diversity were clear-cut near the turn of the last century. In some places, new woodlands have replaced the old ones. But the new ones have problems.

"The woodlands we have today—the ones out there in front of you—can look nice from a distance," ABC's Jane Fitzgerald said as we climbed into the viewing room on top of the old fire tower on Stegall Mountain, in Missouri's portion of the Ozarks. We looked out at distant mountains carpeted in green.

"Unfortunately, when it comes to biodiversity—to the range of birds, for instance—the woodlands in front of you are no match for the woodlands that were lost." Fitzgerald explained that underneath the thick new canopies there's hardly any sunlight; this shade suppresses native plants and grasses. Thick layers of leaves cover the ground beneath these trees, which also keep the plants from growing. Finally, the new woodlands are packed with fast-growing trees that were not present in the old days. Those trees are bad for native oaks and pines that don't like being crowded, and for native birds that live in sunny, open woodlands.

At this point, the man who had led us up the fire tower added his perspective. "The new woodlands are both degraded and unhealthy," said Dan Drees, a botanist and fire ecologist with the National Park Service. "One big reason why is that for more than 50 years now, fire towers like this one helped us pinpoint and extinguish nearly all the fires that got started, which was a good thing in some ways. The problem is that in the absence of these fires, trees and shrubs that would have burned have turned what

should be open woodlands in dark, dense, tree-filled thickets. What we want to do is turn those thickets into places that resemble what was here 200 years ago, before the European settlers arrived. The level of biodiversity was far higher then."

Both Drees and Fitzgerald say the best way to turn back the clock on crowded, modern woodlands starts with logging. "First we thin the woodlands out by harvesting many of the trees that shouldn't be here," Drees explained. "Then we try to imitate the frequent fires of pre-European times with a series of prescribed burns."

### Long-buried Ecosystem Springs to Life

It happens that an excellent example of what work like this can do lies at the bottom of the Stegall Moun-

tain fire tower, which looks out on lands managed by the National Park Service and the Missouri Department of Conservation. Until a few years ago, new woodlands were the only thing you saw below the tower. Drees said they were full of cedar trees that would have burned like matches 40 years ago, when they were small saplings. But the fires never came, and the cedars grew so large and so shady that they made it hard for fires to burn underneath them.

Drees says that's why wildlife biologists began the restoration work by cutting down those cedars by the thousands. That made it much easier for prescribed burns to move through woodlands evenly, taking out most of the leaf-litter and the shade-loving plants. That in turn allowed a long-buried ecosystem to spring back to life, birds and all.

We climbed down the tower and walked out across a sunny mound of

igneous rocks and native plants. This place, called a "glade," is what the logging and the burning had uncovered. At the edges, great gnarled oaks that don't burn easily had formed an open woodland canopy that let sunlight through. Glades like this were much larger and more common in pre-European times, said Drees as we picked our way between sharp chunks of exposed bedrock. "They were also wonderfully diverse, these glades," he said. "Look at all those flowers. It

### Looking Back at a Natural Wonder:

### What the Early Europeans Saw

George William Featherstonhaugh, an English geologist, traveled through old-growth woodlands of the Ozarks in the fall of 1844. In his journal he marveled repeatedly at the open canopies formed by "beautiful woodland trees scattered about as they are seen in the charming park scenery of England."

Featherstonhaugh was less enamored of the frequent fires that kept these woodlands open. One night, in the front yard of a settler's cabin, he saw fires burning "on every horizon." Later he seemed transfixed by "narrow edging of bright crackling fire, sometimes not more than two inches broad, but sometimes much larger" that came toward him "in a waving line, consuming everything before it." European settlers despised these fires, wrote the English traveler. Native Americans took advantage of them to hunt animals including elk and bison.

Featherstonhaugh was not an ornithologist. But he noted the amazing diversity of birds in the old-growth woodlands. Like many other travelers, he wrote of "flocks of wild (Carolina) para-queets... wheeling and screaming about in the bright sun, and showing their brilliant colors to the greatest advantage."

Further south, in another woodland where the trees were "far asunder" and the understory "quite extensive," Featherstonhaugh and his colleagues "saw (our first) Ivory-billed Woodpeckers.... A beautiful bird not found further north than in this part of the country."



But those were not the birds that most impressed this English traveler. Instead, it was the sight of flocks of Passenger Pigeons "many miles long" that flew above these woodlands, "with one flight succeeding another, obscuring the daylight." The movements of those giant flocks presented "an image of most fearful power," wrote Featherstonhaugh, adding that the wild pigeons so frightened his horse that it would "stand and tremble in its harness."

The Carolina Parakeet and the Passenger Pigeon are extinct now, and the Ivory-Billed Woodpecker is likely gone as well. But it may be possible to recreate the open, spacious woodlands that enthralled George William Featherstonhaugh—and, in doing so, to help recover other birds that used to thrive here.

Special thanks to Steve Paes, Resource Forester, Missouri Department of Conservation

is not unusual for botanists to find hundreds of native plant species in a two-acre glade like this one."

Widely varied native plants beget more native insects, Drees explained. More native insects means more native birds. "Places like these are magnets for all kinds of birds," Fitzgerald added. "The shrubby parts of glades are where the Prairie Warblers breed, for instance. The scattered trees out on the edges of the glade are where you typically find Blue-winged Warblers. In the open canopies you'll see your Scarlet Tanagers, Eastern Wood-Pewees, and Great Crested Flycatchers. If you're really lucky you might see a Bachman's Sparrow in the grasses and the wildflowers."

Many other birds use this mix of habitats, including an extremely noisy Pileated Woodpecker that watched us from a nearby tree. But most of the birds named by Fitzgerald are "WatchList" species, which are either rare or in decline. Some of them have been declining most precipitously in the Central Hardwood Bird Conservation Region (BCR), which includes the Ozark Highlands in Missouri and Arkansas, along with parts of several other states. In the BCR, shady hardwood forests and thick woodlands cover more than 70 million acres of rolling hills and river valleys.

## Overcoming Doubts, Building Momentum

Fitzgerald says key portions of these woodlands are now changing for the better, thanks to restoration projects launched by groups and agencies connected to the Central Hardwoods Joint Venture (CHJV). Fitzgerald is Coordinator of the CHJV, which has helped restore more than 100,000 acres of woodlands since 2011. In



some places, recently abandoned farm fields have been purchased and reforested.

Ten or 15 years ago, proposals to do work like this raised lots of eyebrows and went nowhere. Local people worried that the prescribed fires would jump boundaries and burn homes (or worse). Some environmentalists did not think it was possible to make forests more "natural" with chain saws. Even Fitzgerald had her doubts about whether enough research had been done to show that key birds would use the restored woodlands.

But by most accounts those fears are fading now. ABC's Fitzgerald found relief when research showed that WatchList birds preferred the managed woodlands. Other doubts were quelled by highly detailed maps, based on the original land survey records that showed exactly where the woodlands should be thinned and burned.

Fears linked to the fires have subsided as well, according to Dan Drees. "More people have learned about the many precautions taken by the fire teams," Drees explained. "They're aware that these burns only take place in the late winter when the trees aren't actively growing, and only then on days when the temperature, wind, and humidity are right. They know we make use of natural fire boundaries—rivers, for example—and "burn lines" cleared of flammable materials. They know we have people on the edges of our burns who keep track of floating embers. Things like that."

Drees said it is fortunate that many of the glades and woodlands found in this part of the Ozarks are on lands controlled by entities that share the same restoration goals, including the USDA Forest Service, the Missouri Department of Conservation, and The Nature Conservancy. In the years ahead, this coalition hopes to create a corridor of glades and woodlands that would serve as a stronghold for declining birds.



This place, called a "glade," is what the logging and the burning had uncovered. At the edges, great gnarled oaks that don't burn easily had formed an open woodland canopy that let sunlight through.

Restoration in action: Overgrown woodland in the Ozarks becomes a diverse, open glade. Photos by Susan Farrington

### Cathedral of Towering Pines

That's a vision heartily endorsed by Bill Paxton of the Forest Service. Recently, he took Fitzgerald, Drees, and myself on a whirlwind tour of restoration projects in and around Missouri's Mark Twain National Forest.

"I'm a true believer in this process," said Paxton, as he folded up a map that had been stretched across the hood of his big white Forest Service pick-up truck. "This year we'll be treating 25,000 acres in the national forest and 15,000 acres on private lands. In the long term, we're planning to treat more than 100,000 acres in this area alone."

For a few hours, as the pick-up bounced along a rutted road that seemed to tie itself in knots, Paxton played the role of tour guide. He told us that the first European settlers here wrote of trees so widely spaced that you could drive a wagon between

them. He said that the trees were oldgrowth, shortleaf pines that lived for hundreds of years and rose to staggering heights. At one point he hit the brakes as three wild turkeys raced across the road in front of us.

"Turkey hunters used to think—incorrectly—that our fires would kill their prey," said Paxton. "Now

the ones that I know say the forests we've restored contain more turkeys than they can remember seeing. The National Wild Turkey Federation, a hunting group, has helped us fund these projects." He drove us past a dark, dense woodland where many of the trees had bright blue Xs painted on them, which meant they were about to be cut down. We passed a



Wild Turkeys by Greg Lavaty, texastargetbirds.com









Some WatchList Bird Species of the Central Hardwood Forests

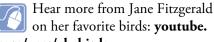
thinned-out woodland where a prescribed burn had scorched the trunks of scattered pine trees without killing them. Finally, Paxton stopped the pickup to show us a pine woodland that had been fully restored. Here, the scattered pines seemed to converge as they rose toward the sky, forming a natural cathedral. "You could drive a wagon through those trees," Fitzgerald said.

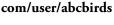
Then Paxton pointed toward the crowded, dark, unmanaged woodland on the other side of the logging road. "Guess which side is much more likely to be infested by tree-killing insects after the next drought," he said. "Guess which side is much more likely to burn out of control if some fool drops a lit cigarette into that layer of leaves."

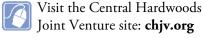
Fitzgerald says there's no doubt that managed shortleaf pine forests are healthier and more diverse than unmanaged ones. "You'll get the same basic suite of WatchList birds in managed pine woodlands as you get in restored glades and oak woodlands," said Fitzgerald. "Also, even though we'll never see another Carolina Parakeet or Passenger Pigeon, it's possible that someday, when we've made more progress, we might try to reintroduce some of the birds that used to live here, like Red-cockaded Woodpeckers and Brown-headed Nuthatches."

Near the end of our drive through the Mark Twain National Forest, we stopped at an area that looked awful to me, as if the trees had been blown apart by people with bazookas. "Logging sites this nasty cannot possibly be useful," I thought, incorrectly.

"A tornado passed through here two years ago," said Paxton. "Afterward we did a little salvage work, but not that much. Basically, you're looking at a natural habitat." "If you look more closely, you might see flowers blooming near the stumps," Fitzgerald said. "Those are native species that were probably buried under a carpet of leaves when these woodlands were standing. And if you look over there you'll see a dark shape at the top of that dead tree. That's a Red-headed Woodpecker. It's a WatchList species. Good news all around."









John Nielsen is Senior Writer/Editor at ABC and a former Environment Correspondent at National Public Radio. In 2006 his book Condor/To the Brink and Back/The Life and Times

of One Giant Bird won the National Outdoor Book Award for Natural History Literature.

## Can you spot nine differences between these two landscapes?

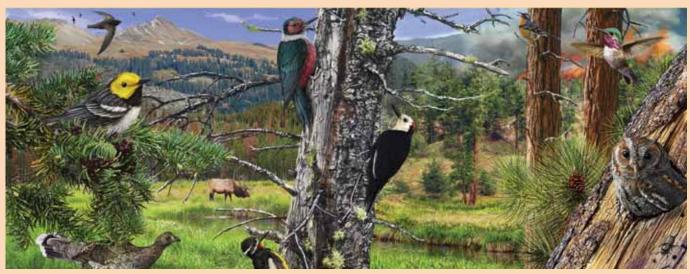


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Illustrations by Chris Vest

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## Field Notes on the Pink-foot:

Pink-footed Shearwater by Marlin Harms

Learning to
Save an
Amazing
Seabird

every movement of the winds and waves, Pink-footed Shearwaters are exquisitely attuned to the world around them. This is not surprising, since these birds spend nearly all of their lives over the open ocean, migrating from a set of small breeding islands off the coast of Chile to as far north as the waters off Alaska.

But when it's time to touch down

hen they're flying over

the Pacific Ocean, sensing

on the breeding grounds, these birds are much less graceful. To see the proof of this, go to Chile's Isla Mocha anytime from November through May, when thousands of "pink-foots" return to earthen burrows hidden underneath the thick green canopies of olivillo and arrayán trees. As you wait beneath the trees, you will see no shearwaters until the sun has set. As darkness gathers, long-winged

silhouettes appear, soaring over openings in the forest canopy above you. Not long afterward, a crash is heard, and something tumbles through the branches. Then, plunk! A shearwater smacks into the ground beside you. You hear more crashing noises as more breeding shearwaters bounce through the trees like sandbags. Eventually, it feels like it is raining birds. So much for grace.

And then the good part starts. Unperturbed by their rough landings, the shearwaters bounce up off the ground onto their pink webbed feet. Then, in the darkness, they shuffle through a vast complex of burrow entrances. Eventually, unerringly, these seabirds find their way to a specific breeding burrow. Usually this burrow is the same one they used last year, and the year before that, and so on back through many

By Peter Hodum, Director, Juan Fernández Islands Conservancy at Oikonos Ecosystem Knowledge generations. Early in the season, pink-foot mates wait deep inside the burrows, caring for a single egg. If that egg has hatched, the adult bird that has been away returns with fish caught in the Pacific Ocean.

### **Bird of Mystery**

Until the 1990s, conservationists knew next to nothing about Pinkfooted Shearwaters. Like most other seabirds, it was poorly studied, on land and at sea. No one knew how many of these birds there were, where their colonies were located, or whether the species was declining.

But that started changing in 1994, when the North American Free Trade Agreement came into force. Canada, Mexico, and the United States were the parties to the new agreement, which created an environmental body

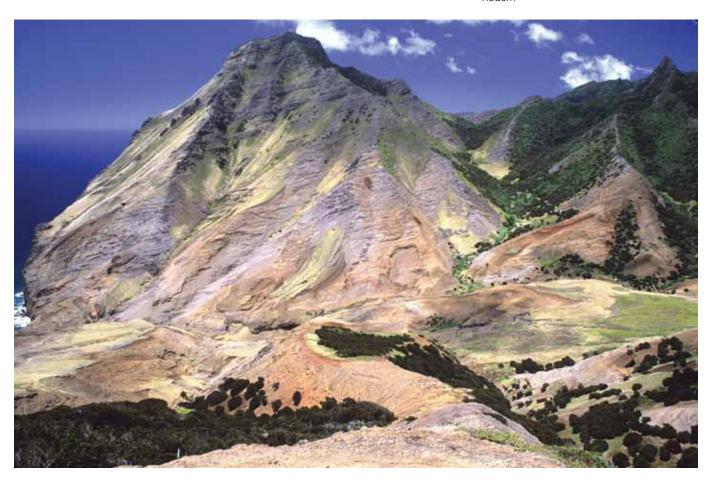
called the Commission for Environmental Cooperation. That group first identified the Pink-footed Shearwater as a Species of Common Conservation Concern. In the years that followed, the shearwater became a focal species for a wide range of entities, including the international Agreement for the Conservation of Albatrosses and Petrels, the National Fish and Wildlife Foundation, the national governments of Canada and Chile, and nonprofit groups including ABC, Oikonos Ecosystem Knowledge, and Pro Delphinus.

This increased attention has produced substantial funding for key studies of the lives led by these birds. In 2001, that funding put me on the Juan Fernández Islands, which—along with Isla Mocha—hold the only known breeding colonies of Pinkfooted Shearwaters in the world. In

the Juan Fernández Islands, forests near key breeding zones had long since been cut down by passing mariners and local citizens. That has made it easier—and probably less painful—for the shearwaters to land. Unfortunately, it also made it easier for heavy rains to wash the burrows out, and for herds of cattle to crush them.

My colleagues and I spent several years locating, counting, and then mapping out the burrows in these colonies, hiking over the spectacularly rough, steep landscapes for which these islands are known. When our data were combined with the results of other studies in 2006, we were able to estimate the global population of Pink-footed Shearwaters at approximately 27,000 breeding pairs.

Site of Pink-footed Shearwater colony ridge on Isla Robinson Crusoe, Chile. Photo by Peter Hadum





### Life Inside the Burrows

We did much more than map and count these burrows. We also spent several hundred hours lying face down in the dirt next to the burrows' entrances, spying on the shearwaters inside. This work was made possible by sophisticated viewing tools: long, thin, fiberoptic cables with infrared cameras at one end and high-tech night vision goggles at the other. First, we would snake the camera cables into the deep burrows dug by pink-foot beaks and feet. Then we would watch the pink-foots interact in their nest chambers. The birds themselves did not know they were being spied on.

Since the 1990s, camera probes have revolutionized the way researchers work with burrow-nesting seabirds. In the past, the main tool used to monitor these birds was a shovel, which was used to dig holes down into the nesting chambers. This approach disturbed the birds, especially

when field researchers stuck their arms into the holes so they could feel around for occupants.

Researchers armed with camera probes can check all the burrows in a colony without damaging them in the process. That work makes it possible to know how many of the burrows are in use from year to year, and to know how many of the occupied burrows are producing fledglings. With this information and counts of the total number of available burrows—we'll eventually be able to determine whether these birds are declining, or whether conservation efforts supported by ABC and other groups are stabilizing the species' population.

We have been doing work like this for 12 years now, in all of the colonies on all the breeding islands used by the Pink-footed Shearwater. More recently, we've been attaching thumb-sized transmitters to the backs of certain pink-foots, as part of an effort to find

out more about where these birds go when they are migrating across the open ocean. It's part of a long-term tracking project undertaken in collaboration with scientists from the U.S. Geological Survey, Hawaii Pacific University, and other institutions. Tracking has shown us the exact routes taken by the tagged shearwaters as they fly along the eastern edge of the Pacific. It has shown us that some of the major feeding spots used by these birds are also used by massive fishing fleets, which raises the possibility that these fleets are a threat to the shearwaters.

Since the early 2000s, groups including the Chilean government, Oikonos, and ABC have made life safer for the pink-foots on the breeding islands. On one of the smaller (and uninhabited) breeding islands in the Juan Fernández chain, the Chilean government



Pink-footed Shearwater in nest burrow. Photo by Peter Hodum

removed thousands of non-native rabbits that had eaten all of the plants and taken over many of the burrows. Since that time, the breeding population of Pink-footed Shearwaters has increased by more than 40 percent.

### "It's Your Bird"

We have also worked with local people living on the largest breeding island in the Juan Fernández chain. With their help, a remnant breeding colony near San Juan Bautista—the



Plump, fluffy Pink-footed Shearwater chicks are still eaten by the human residents of Isla Mocha. Photo by Peter Hodum



Isla Mocha schoolchildren holding Pink-footed Shearwater toys they made themselves. Efforts to involve local people in Pink-footed Shearwater conservation are gaining ground. Photo by Valentina Colodro, Oikonos, April 2013

only town on the island—is now a federal nature reserve and a source of local pride. Elsewhere, we have built a fence that keeps non-native cattle out of the breeding colonies they used to crush. Finally, with a lot of help from community groups and the municipality of San Juan Bautista, we have established programs designed to reduce the number of bird-eating feral cats by requiring that all pet cats be registered and collared and by providing free neutering services.

Change has come more slowly for the Pink-footed Shearwaters that breed beneath the forest at the center of Isla Mocha, which lies approximately 425 miles to the southeast of the Juan Fernández Islands. There, since the community was founded in the 1930s, local people have been pulling pink-foot fledglings from the burrows and then cooking and eating them. With the help of park guards who have begun enforcing a long-standing ban on this practice, we have made a lot of progress over the last four years.

But some fledglings still get eaten, and there is no doubt that some of the residents of Isla Mocha still believe it is their right to eat these birds.

I am convinced that problems such as these will disappear as more and more local people start thinking of this seabird as a living local treasure. We have tried to build that sense of pride by telling everyone who will listen about the natural history of this globally admired species. On the breeding islands, we take local people and birdwatching tourists to see the breeding colonies. We also train and employ local people to do seasonal work with pink-foot conservation projects and

hold workshops during which schoolchildren learn how to make their own stuffed pink-foot toys.

I have seen those children cheer and smile as they lift their handmade shearwater chicks up over their heads in unison. It's a sight that makes me think the future of this bird could be a bright one.

Learn more about seabirds at **ABCBirds.org**. Search on "seabirds."

Follow the migration of Pinkfooted Shearwaters and other species in real time at **seaturtle.org** or http://bit.ly/16wh1s1



Peter Hodum, a seabird ecologist and conservation biologist and self-described "seasonal vagabond," directs the Chile program, including the Juan Fernández Islands Conservancy, at Oikonos Ecosystem Knowledge. He is also an Assistant Professor in the Biology Department and Environmental Policy and Decision Making program at University of Puget Sound.



# Travels in the Valley of the Palkachupa Cotinga:

Conserving an Iconic Bolivian Bird

By Daniel Lebbin, Conservation Biologist, ABC

Standing on a ridge top in the highlands of Bolivia, near the isolated village of Atén, I looked out across the Apolo Valley. Beneath the rising clouds and fog, the grassy hills ahead of me rolled up and down for miles, interrupted now and then by twisted trees and patches of green forest.

Nearby, I saw pastures where the grasslands had been mowed by herds of cattle; many of these pastures were surrounded by barbed wire nailed to posts hacked from trunks of local trees. In the distance, ridges covered by moist forests marked the far end of the rolling grasslands.

As a rule, South American *cerrados*—think savannahs—are found at low altitudes. But not the Apolo Valley.

Here the grassy hills roll through a relatively flat part of the southern Andes mountains. At its lowest, this cerrado is at least 3,000 feet above sea level. Plants and animals found nowhere else live in this grassy valley—and getting here from anywhere is hard to do.

### Keeper of the Birds

"That is a *guitarerro* tree," said William Ferrufino, who had brought me to this place. Like nearly everybody born and raised in Atén, he's a member of the indigenous Leco people. He's also a moving force behind a fervent effort to conserve the things that make this valley such a treasure.

"It's called the guitarerro tree because its wood is used to make guitars," he says (in Spanish), while aiming a finger at a tall, pale hardwood. But Ferrufino says it's not the things that craftsmen make out of the wood of these trees that impress him. It's the fact that living guitarerros help sustain a bird found only in this unique valley: an elusive beauty with a long, forked tailed called the Palkachupa Cotinga. ("Palkachupa" is a Quechua word, with "palka" meaning fork and "chupa" meaning tail.)

It's an understatement to describe this bird as colorful. The eyes above its blunt, peach-colored beak are ringed with yellow skin; on its neck, small speckles and black bars that look a bit like zebra stripes stand out from a white background. The plumage on its back is greenish-yellow and brighter yellow on the underparts. And then there's the tail, which looks vaguely like a pair of scissor blades curved outward at the ends.

Ecologically and geographically, the Apolo Valley is an isolated place.





Also, as cerrados go, it's relatively small. For those reasons, the Palkachupa Cotinga may have never been all that abundant. Habitat destruction linked to logging and grazing have helped push them toward extinction.

William Ferrufino is the man who tries to minimize that risk. For years, he's been the keeper of this species. He locates and monitors the scattered nests of the Palkachupa Cotingas. When he isn't doing that, he's meeting with ranchers, townspeople, and anyone else with a connection to this valley and its flagship birds. That has made it easier for groups, including Asociación Armonía, to create a Palkachupa Cotinga Reserve at Atén.

### Search for a Rare Bird

I flew to Bolivia in 2012 to see this new reserve and—with luck—to see my first Palkachupa Cotinga. I met Ferrufino at my hotel in La Paz, Bolivia's capitol. He and a driver had arrived in an aging, red Land Cruiser he had borrowed for the trip. We turned back toward Atén after picking up Rodrigo Soria of Asociación Armonía, plus a reporter from a local newspaper.

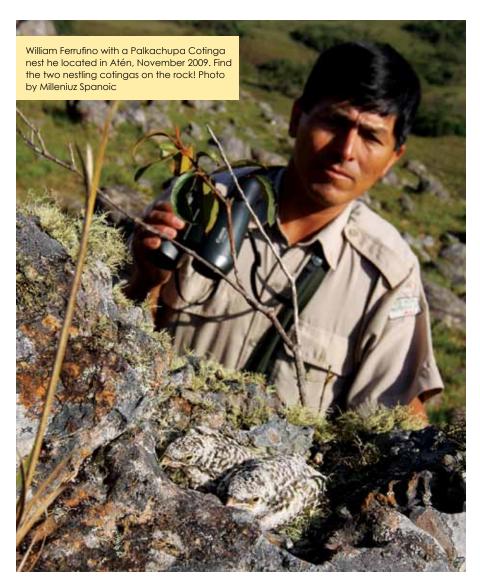
The drive that followed lasted 17 hours. Outside of La Paz along Bolivia's Altiplano and Lake Titicaca, we traded the paved road for a bumpier dirt road winding over high mountain tops and down the eastern side of

the Andes, through humid foothills known as the *yungas*. We were entertained along the way by groups of Torrent Ducks that perched on rocks and swam around in a whitewater river next to the road.

Other birds that showed themselves included a neon orange Andean Cock-of-the-Rock and a large black Amazonian Umbrellabird. In the humid cloud forests of the yungas, at least 140 large green and gold Military Macaws gathered before heading to roost for the night. That was just before we turned a corner and discovered that the road ahead of us had been buried by a landslide. Fortunately, a bulldozer was already clearing it when we arrived, so we only had to wait a few hours before proceeding. We arrived in Atén in the middle of the night and made plans to see the Palkachupa Cotinga the next day.

While we drove, I spoke with Soria about some of the work Armonía has been doing in the Apolo Valley. In recent years the group had renovated Atén's only school and purchased land that now comprises the new reserve. Armonía is also laying plans to help the local people set up honey production businesses in the bird reserve as an economic benefit for the community.

While those changes were taking place, Ferrufino was traversing this valley, watching the birds. When he wasn't driving borrowed motorcycles, he was walking long distances in search of isolated cotinga nests. He says he often finds these nests in the branches of twisted trees called *iscachupi* in the language of the Leco people. He has also found nests on bare rocks. Most surprisingly, in an attempt to increase Palkachupa breeding, Ferrufino told me that he had begun constructing artificial nests. As



far as I knew, no wild bird had ever used a cup nest built by human hands before, but Ferrufino told me that at least one pair of Palkachupas had used his nest during the 2011-2012 breeding season.

## A Passion for the Palkachupa

I asked Ferrufino why he does this kind of work, and his answer was a simple one. For as long as he remembers, he has had a passion for birds in general and the Palkachupa Cotinga in particular. When he isn't with these birds, he tries to share his passion with young students at the

school in Atén or with local cattle ranchers.

Ferrufino says there's still a lot of work that must be done to help preserve the Palkachupa Cotinga. Ferrufino says the Leco people—his people—are now learning how to manage their indigenous lands in ways that help the bird. He hopes local ranchers will learn how to manage pastures for the benefit of both cows and birds. To help move this transformation forward, ABC has helped Armonía develop and submit a funding proposal to the Inter-American Foundation, which will be reviewed later this year. If approved,

this funding would become available in 2014. There's also a need to find more money for the nest research being done by Ferrufino; we hope these extra funds will be collected before the start of the next breeding season.

With William Ferrufino's help, I got a first-hand view of the conservation challenges and opportunities for the Palkachupa Cotinga in the Apolo Valley. But, to my disappointment, the one thing that I did not see during my stay in Atén was a Palkachupa Cotinga. The weather was unusually cold, and the local birds responded to the weather by reducing their activity, making them much harder to see.

The drive back to La Paz from Atén was extremely challenging. The jeep lost its electrical power while we were driving in the dark on the highway leading through the Altiplano, eventually forcing us to pull over, attempt to make repairs, and then to find another vehicle.

Although I did not see a Palkachupa Cotinga, I'm happy to report that ABC helped make it easier for Ferrufino to see them. With support from ABC and thanks to Jeff and Connie Woodman, Asociación Armonía bought a Honda CTX 200cc motorcycle for Ferrufino's field work. He rides it all the time now, which helped him find a record number of Palkachupa nests in 2012—including 10 nests built in places where he'd never seen them.



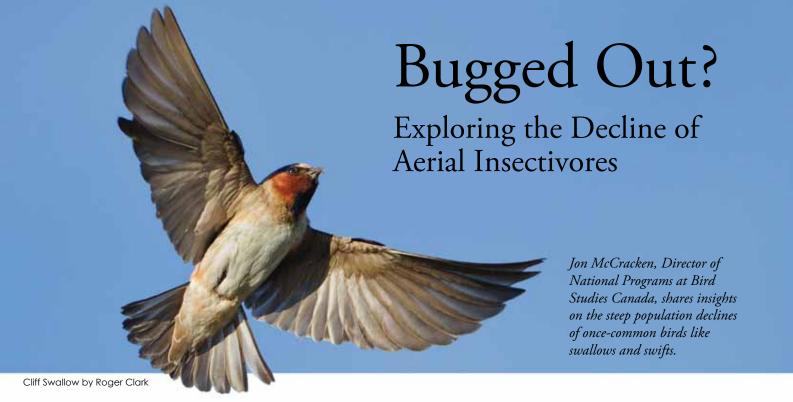
Read other stories by Daniel Lebbin on ABC's blog:

abcbirds.wordpress.com



Daniel Lebbin is a Conservation Biologist with ABC. He received a Ph.D. in Ecology & Evolutionary Biology from Cornell University. A birder since childhood, Daniel also enjoys

bird illustration and photography.



"Aerial plankton." That's a term you need to know if you care about the future of nighthawks, swallows, martins, swifts, flycatchers, and whip-poor-wills. All of these birds are now declining, some quite sharply—especially in the northeastern part of North America. Experts say they don't know what is causing the decline, but their leading theory holds that the aerial food supply is changing in a way that is making it hard for aerial insectivores (insect-eating birds) to make a decent living. Jon McCracken, a leading expert on the issue, talked about that theory with ABC's John Nielsen.

### JN: "Aerial plankton?"

**JM:** That's a phrase we use to draw attention to the fact that there's an ocean of insects in the atmosphere. We often hear that the actual ocean—the watery ocean—is the last great unexplored frontier on earth, but there's another largely unexplored frontier above our heads as well.

### JN: Why? What's up there?

**JM:** That's one of the questions that we need to get a better handle on—what's up there, when, where, and in what numbers. But studies suggest that the number of flying insects is mind-boggling. Huge numbers of "ballooning" spiders also move around above us after sending out silken strands that get caught up in the air currents. I've been told that air traffic controllers need to filter out the hordes of insects on their radar screens so that they can see aircraft properly.

I should add that many of these insects migrate, and I am not just talking about monarch butterflies. Other kinds of butterflies have distant winter homes, as do a lot of moths and dragonflies. There's all kinds of movement going on up there, all kinds of ecological interactions. We don't fully comprehend how it all fits together or how it's affected by what happens on the ground.

### JN: And how, theoretically, could all of this be related to the broad decline of aerial insectivores?

**JM:** The leading hypothesis is that there have been major changes in the distribution and abundance of the aerial plankton. These changes can occur in one of two ways. One would simply be a sharp decline in the number of flying insects. It's possible that this change could be linked to loss of habitat on the ground, or to rising levels of pesticides and other contaminants, particularly in our lakes and rivers. Many of the most abundant species of flying insects go through an aquatic phase before they start to fly.

The other possibility is that the flying insects eaten by certain birds aren't appearing at the same time of year as they used to. The timing of bird migrations or of their breeding cycles may have been thrown out of synch with the emergence of their insect food supply. It's possible that rising temperatures linked to global climate change could do that sort of thing.

### JN: Is there a way to test these theories?

JM: We're just now beginning to study the population dynamics of flying insects, but there are several ways to do it. Some people have started using radar tracking to estimate the total mass of flying insects at different times and altitudes. Others have used vacuum-sweeping gizmos at the tops of towers to suck passing insects from the sky. Airplanes that tow "plankton nets" are being used to sample insect populations. As more of this work is done across North America, we'll learn more about how variations in distribution and abundance of insects might be related to the broad decline of the aerial insectivores.

### JN: Let's go back to the declining birds for a moment. Why are they declining most sharply in northeastern North America?

**JM:** There are several theories here too. One is that the "human footprint" becomes more pronounced as you move northeast across the continent. Generally speaking, this part of the continent is more industrialized than elsewhere, with much more fallout from things like acid rain and mercury contamination. Agricultural activities in this region are relatively intense. Also, the dominant air currents above North America move from west to east, which means that airborne contaminants also move in this direction, often from the southwest to the northeast.

## JN: Are there any other leading theories about why these insect-eating birds are in decline?

**JM:** Yes. The main one has to do with the fact that the species of insectivores that are declining most sharply are all long-distance migrants, which makes some of us wonder whether these declines could be related to something that's happening in South America, where most of these species spend the winter. The loss of forests used by some of these birds could be a problem in the wintering grounds. Other possibilities include the use of pesticides ...

#### JN: Or a sharp decline in the amount of aerial plankton.

**JM:** Yes. Exactly.



### JN: And what happens next? How can people help?

JM: People can become involved in local efforts to monitor and conserve aerial insectivores. They can also be aware that if bad things are happening to the "aerial plankton," the potential impacts on society could be huge. Many of these flying insects—and birds that eat them—pollinate our plants and crops. For reasons such as that one, this is a hypothesis that must be tested.

Jon McCracken is Director of National Programs for Bird Studies Canada, where he has worked since 1989. He is a native of the Canadian prairies and an authority on grassland birds and aerial insectivores.





## The Neonic Problem:

Racing to Gauge a Global Threat to Birds and Bees

By Cynthia Palmer, Pesticide Program Director, ABC

Less muddy, smelly work, counting bugs in the Canadian wetlands, especially after the April snow melt. The surrounding croplands offer a pretty backdrop, but the sulfur and other swamp gases bite the nose while the mosquitoes sting the flesh.

But those inconveniences don't bother Christy Morrissey, an ecotoxicologist at the University of Saskatchewan. She's been leading eager groups of students armed with small glass sample bottles into the swamps for years. "We fall into the ooze a lot, and sometimes we get stuck in it," she says. "But it's fun, and it's worth the effort."

This is work that could affect the health of countless birds and honeybees, as well as the future of the world's most widely used class of insecticides. Known as neonicotinoids—or "neonics" for short—these chemical compounds are now so widespread that it's hard to find an insect control product that does not contain them. Neonics are sprayed on farmlands the world over. They are used to make tick and flea collars for dogs. They are injected into tree trunks. Seeds coated with neonics produce some of the world's most important crops, including a large number of the crops that grow in western Canada, where Morrissey is measuring how the neonics are affecting local food webs. That work is not close to being finished, but what Morrissey has found so far alarms her.

"There's an urgent need to find out more about the threats that neonicotinoids pose to the world around us," she explains. "Clearly, they are not as harmless as previously assumed."

### **Early Praise**

In the early 1990s, the first neonicotinoids approved for use were hailed as safe alternatives to notoriously toxic pesticides such as diazinon and carbofuran. At first, the U.S. Environmental Protection Agency (EPA) restricted the use of neonics to potatoes, which helped make it look like regulators were proceeding cautiously.

But that sense of caution seemed to vanish in the early 2000s, when the EPA began approving new neonic compounds much more rapidly and for a much wider range of uses. Since that time the agency has helped put nearly 600 new neonicotinoid products onto the market; in some cases, this was done over the objections of the EPA's own scientists. These experts repeatedly voiced concerns about how long it took for neonicotinoids to break down after being applied and about the speed with which they moved from farm fields into wetlands, lakes,

Although this field of canola looks beautiful, it has very likely been treated with the toxic neonicotinoid clothianidin. Former graduate student Kasia Majewski shown in the background. Photo by Anson Main, July 2012



and aquifers. Some warned that neonics could harm birds, bees, and other pollinators.

Morrissey says research teams around the world are now doing work that is deepening those fears. Some have published studies associating neonics with mass die-off of honeybees. Others have established that a single seed of corn treated with the oldest neonic, imidacloprid, is all it takes to kill a songbird. Still other researchers are now testing the hypothesis that exposure to neonics depresses the immune systems of bats, frogs, and other wildlife, making them more susceptible to parasites and diseases.

"It's the kind of work we should have done before allowing neonicotinoids to flood the global market," says ecotoxicologist Pierre Mineau. He has been a leading expert since the 1980s on pesticides' effects on wildlife, first with the Canadian government and now as an independent consultant. Recently, along with ABC and other groups, he asked the EPA to ban the use of neonics as seed treatments and to suspend all registrations pending independent review of the effects on birds, terrestrial and aquatic invertebrates, and other wildlife.

### Studying the Studies

Mineau made that request after evaluating nearly 200 studies, including the EPA's internal reviews and industry research obtained by ABC through the Freedom of Information Act. His report—co-written by this correspondent—was published by ABC last March. It charged that the EPA had "greatly underestimated" the threats posed by the neonicotinoids, in part because the risk assessment tools used by the EPA were "scientifically unsound and outdated." The report went on to note that when the EPA tried to evaluate the toxicity of



Eastern Meadowlark by Larry Thompson



Butterfly and bee on vetch flower. Photo by Kasia Majewski

neonics to aquatic invertebrates, it tested a species of freshwater flea that is uniquely insensitive to neonics. And when the agency set out to gauge the risk to bird species, it tested only Mallards and Northern Bobwhites, even though it is known that other birds can be 10 times more sensitive to chemicals like these.

The report concluded that the neonicotinoids were lethal to both birds and aquatic insects. Some of the field studies it relied on came from western Canada, where Morrissey and her students are studying what these chemicals can do to food chains.

"Actually, it was Dr. Mineau who first suggested that I study the effects of these compounds," says Morrissey. "Three years ago, when I was setting up my laboratory in Saskatchewan, I asked him what was the hot issue in Canada that I should be studying, and he suggested neonicotinoids. I couldn't pronounce the word but he seemed to have his finger on the pulse of something big."

Since then, Morrissey has been leading teams of field researchers into bodies of water found in the Great Plains of western Canada. The region

includes the provinces of Alberta, Saskatchewan, and Manitoba, and it is the nation's breadbasket, containing 80 percent of Canada's farmland. Like farms in the United States, these places are awash in neonicotinoids: The canola crop, which covers 21 million acres of this region, grows almost exclusively from seeds that have been treated with neonics, as do many other crops grown on the plains, including an increasing proportion of the cereal crops.

Not coincidentally, Morrissey and her field teams have spent huge amounts of time in the ponds and wetlands near these farmlands, filling hundreds of laboratory flasks with water samples. Some of those water samples have shown neonic levels high enough to kill aquatic insects. That's the kind of data that helped convince Mineau of the need for a moratorium on neonic registrations.

### High Stakes Game of Scientific Catch-up

Morrissey's research teams have been trying to find out more about how these pollutants move from farm fields into water bodies, and about what happens when regular spring



Morrissey's graduate student, Chantel Michelson, sampling macroinvertebrates near a canola field north of Lanigan, <u>Saskatchewan</u>. Photo by Kasia Majewski, July 2012



Tree Swallow research is part of an ongoing neonics study. Photo by Christy Morrissey

storms send major "pulses" of farm water laced with neonics into nearby wetlands. This work was inspired by a Dutch researcher, Henk Tennekes, who studies the damage neonicotinoids do to invertebrate neural synapses. He believes repeated pulses of polluted waters can do cumulative damage. Morrissey is carrying this work further by looking at the effect that major die-offs of aquatic insects have on the birds that eat them.

Every year, she and her students band and monitor hundreds of Tree Swallows in 120 nest boxes, taking weights and measurements and counting insects in the vicinity. Morrissey says that, so far, it appears that the swallows found near water bodies laced with neonics are lighter and less healthy than swallows found elsewhere, but she adds that those results are not yet final.

Canadian toxicologists like Morrissey and Mineau, along with researchers in Europe, the United States, Australia, and Japan, are now trying to determine just how dangerous the neonics are. Basically, these researchers have joined a high-stakes game of scientific catch-up. What they find will clarify our understanding of what the global

flood of neonicotinoids is doing to the natural world.

By all accounts, it will be years—at least—before the research is completed and regulatory decisions are finalized. In the meantime, the European Union has imposed a two-year ban on three of the most common neonicotinoids, in response to what has been described as an ongoing threat to the world's food production systems because of impacts to pollinators. In the U.S. Congress, Reps. John Conyers (D-MI) and Earl Blumenthal (D-OR) have introduced the "Save America's Pollinators Act of 2013," which would force the EPA to suspend certain neonicotinoid compounds. A wide range of conservation groups including ABC—have endorsed this bill.

### **EPA Re-evaluation**

So far, the EPA has chosen to forgo even a temporary ban on neonics, or to endorse the recent call for an independent review of threats posed by these pesticides. Instead the EPA has launched a multi-year review of the neonics. ABC and other groups have asked the EPA to compress the timeline for that review, but so far the

agency has expressed unwillingness to do so.

The companies that manufacture most of the world's neonicotinoids— Bayer and Syngenta—continue to insist that these chemical compounds are only harming "target insects" and not honeybees, aquatic invertebrates, or the birds that eat them. They've been harshly critical of the work being done by scientists like Morrissey and Mineau, but the researchers are not fazed. Mineau says he'll keep plodding through all of the neonic studies he can get his hands on. Morrissey says she'll continue wading through the prairie wetlands, counting bugs and studying birds—until she and her colleagues find out just how dangerous these pesticides are.

See ABC's report on neonics at **ABCBirds.org**. Search on "pesticides report."



Cynthia Palmer directs ABC's efforts to address major toxic impacts and pollution threats to birds. She coordinates the National Pesticide Reform Coalition and participates

on the EPA Pesticide Program Dialogue Committee.



By Michael Parr, Vice-President of Planning and Program Development, ABC

n the evening of August 14, 2011, I celebrated my birthday at the ABC-supported reserve at Abra Patricia in northern Peru, and was unexpectedly presented with a birthday cake with a very realistic picture of a Long-whiskered Owlet iced onto it. I had never seen a living version of the owlet, and so the reserve staff had decided to make me feel better with the sweetened version. It was a very thoughtful and unexpected gesture.

After I sat down, the entire reserve staff gathered to sing happy birthday. I enjoyed the moment, but I also felt self-conscious—having never actually

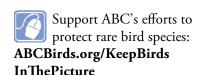
seen the bird that ABC and our partner ECOAN had worked so hard to protect. In fact, by myself and with my friend Tino Aucca, ECOAN's president, I'd spent many, many hours looking for the owlet in these forests. I had gotten close enough to hear it calling, but no sighting—yet.

Then, during the summer of the birthday cake, a group of friends from England and Brazil joined me at Abra Patricia. They were all keen birders and shared my desire to see the owlet. On August 15, we trekked down through a valley to the place where the species is most often seen, and we waited. And waited. Every few minutes a bat would streak across the trail, which made our hearts pound briefly. We played a recording of the owl's hoot and heard some real hoots

in reply. But the owlet kept moving through the darkness, always just out of sight.

The hooting stopped. "Not again!" I thought. That was when Roberto, our amazing guide, switched on his flashlight. In its beam, the little fellow I'd spent all those hours looking for was grasping at a stalk of bamboo, staring back at me. I remember being struck by how small the Long-whiskered Owlet was, similar in size to an Elf Owl. After granting me a quick look through my binoculars, the owlet flew off into the Peruvian night.

But that was enough for me. Standing in the darkness, wet and cold, we celebrated. Marching happily back to the lodge, I thought about my first trip to this area in 2006, when there was no reserve, no network of trails, no conservation. In just a few years, thanks to ABC and ECOAN, Abra Patricia had all of that and more. As a result, the owlet and the 300 or so other birds found in these forests, including several more globally threatened species, can remain here, protected by a great reserve, great rangers—and wonderful cake makers.





Michael Parr is a Vice President of Planning and Program Development at ABC and acts as Chair to the Alliance for Zero Extinction. At times wet and disheveled, Mike is a lifelong birder and bird conservationist

who has avidly pursued rare birds around the world since his teenage years.



Hundreds of species of birds...

Common Terns by Lloyd Spitalnik



Photo by Daniel J. Lebbin, ABC

Thousands of acres of habitat...



Common Terns by Lloyd Spitalnik

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