

# North American Bird Conservation Initiative



Advancing Integrated Bird Conservation in North America

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## The All-Bird Bulletin

### Developing Partnerships with Land Trusts for Bird Conservation

Ashley Dayer, Conservation Social Scientist, Cornell Lab of Ornithology

The importance of private land to birds is clear. Over sixty percent of the land area in the United States is privately owned, and more than 100 high priority bird species have more than 50 percent of their U.S. breeding distribution on private lands ([The State of the Birds, Private Lands, 2013](#)).

One increasingly widespread type of organization that is conserving birds and their habitats on private lands is the land trust. From 2005 to 2010, over 1,700 local, state, and national land trusts in the United States have more than doubled the number of acres conserved to 47 million—an area comparable to the amount of land protected by national parks.

Given the importance of land trusts in private land protection and stewardship—a priority of the North American Bird Conservation Initiative (NABCI)—this issue of the *All-Bird Bulletin* is dedicated to highlighting the unique and important roles land trusts play as partners in bird conservation across the country.

*But what is a land trust?* A land trust is a nonprofit organization that actively works to conserve land by undertaking or assisting in land acquisition or the development of conservation easements. Land trusts work with landowners and the community to conserve land by accepting donations of land; purchasing land; negotiating private, voluntary conservation agreements on land; and stewarding conserved land through generations.

*A Land Trust Initiative.* To develop mutually beneficial collaborations between land trusts and the bird conservation community, the Cornell Lab of Ornithology launched a Land Trust Initiative in 2013. First, the Lab initiated a needs assessment to ensure that the initiative would be effective. It then conducted interviews and an online survey to learn more about land trusts' interests and experiences with bird



Cornell Lab of Ornithology staff talk to land trust and state agency partners about habitat management at the Grand Lakes Reserve demonstration site in New York. / Mark Scarlett

habitat conservation and related resources. This research was a cooperative effort of the Cornell Lab of Ornithology, the Land Trust Alliance, and Wings Over Western Waters (a consortium of land trusts with support from the Intermountain West and Pacific Birds Habitat Joint Ventures). In addition, the Advisory Team for the effort included Cornell University's Human Dimensions Research Unit, The Conservation Fund, and Finger Lakes Land Trust.

*Survey Results.* In spring 2014, the collaborators surveyed regional and local land trusts throughout the United States. Six hundred and fourteen land trusts responded to the survey—a response rate of 42 percent. This effort revealed four key insights about land trusts and their bird conservation efforts:



The Pee Dee Land Trust in South Carolina has worked to protect lands along the Pee Dee River, which hosts scenic swamps and numerous bird species.  
/Tom Blagden

#### 1. *Land Trusts Contribute to Bird Conservation*

In the last five years, nearly half of all land trusts put land under conservation easement due, at least in part, to the bird conservation benefits that would be gained. Similarly, over half of land trusts prioritized land for protection due to bird conservation benefits. Nearly two-thirds of land trusts considered information about birds when creating their land management plans.

#### 2. *Land Trusts Act as Bird Stewards and Ambassadors*

In addition to habitat conservation, land trusts contribute to bird conservation in other ways. Land trusts reported hosting bird walks (62 percent), managing invasive species (57 percent), inventorying birds (52 percent), and installing and maintaining nest boxes (49 percent).

#### 3. *Land Trusts Use Bird Conservation Information*

While many land trust representatives were tapping bird conservation information, they most commonly accessed this information through people who had already distilled it (47 percent) rather than from original publications and other sources such as bird conservation plans. The most popular source was a scientist they know who specializes in birds (47 percent), followed closely by biodiversity data that includes information on birds (42 percent) and information from Audubon's Important Bird Areas program (41 percent). Although regional and state conservation plans were used by a third of land trusts, national conservation plans and bird species conservation plans were used by only 17 percent and 19 percent of land trusts respectively.

#### 4. *More Resources Mean More Conservation*

For land trusts, funding is the greatest barrier to conserving more bird habitat. More than three-quarters of all land trusts strongly agreed that their ability to conserve bird habitat would increase with access to new grant programs, matching fund sources for grants, availability of volunteers to help with monitoring, and a tool to allow staff or volunteers to inventory or monitor birds.

Results from this survey, published in 2014 ([Dayer, Rodewald, Stedman, Cosbar, and Rohrbaugh](#)) will guide future efforts with land trusts by the cooperating partners, the NABCI Private Lands Subcommittee, and others interested in working with land trusts on bird conservation.

*Meeting Land Trust Needs.* In response to these needs, the Lab has launched an [e-newsletter](#) to help land trusts access bird conservation resources. This publication is already reaching over 500 land trusts nationwide. The first issue focused on results of this survey and how the [Migratory Bird Habitat Joint Ventures](#) can benefit land trusts. The Lab is developing a companion website due to launch in early 2016. The site will connect land trusts with national and regional bird conservation resources and help them use the resources effectively to increase the pace and impact of land conservation and stewardship.

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This *All-Bird Bulletin* focuses on partnership efforts occurring between land trusts and the bird conservation community to engage private landowners and local communities in conservation. The Nature Conservancy's collaboration with the Lab on a unique "reverse auction" project for migratory waterbirds in the Central Valley of California is one such example (Page 14). Other highlights include Golden-winged Warbler conservation needs on private lands, which are a driving factor for several land trusts in Southern Appalachia (page 4) and the St. Lawrence Valley of New York (Page 6). In fact, all across New England and eastern New York informal networks of public and private organizations, called Regional Conservation Partnerships, are working with local communities and landowners to achieve conservation and stewardship on a landscape scale for birds and other wildlife (Page 8).

The Sonoma Land Trust, north of San Francisco, recently made a big splash for birds with the breaching of an historic levee—the culmination of a ten-year effort to restore tidal wetland habitat for waterbirds and other wildlife (Page 10). In coastal South Carolina, numerous land trusts are conserving thousands of acres of a diverse array of habitats for many priority bird species (Page 12). The National Audubon Society reports that 45 percent of Important Bird Area lands in the U.S. are unprotected, and highlights examples of the important role land trusts are playing in conserving private lands on IBAs across the country (Page 16).

Point Blue Conservation Science describes how land management practices, developed from its oak woodland bird monitoring results, are being adopted by land trusts and private landowners interested in supporting focal species on their lands (Page 20). The Pacific Birds Habitat Joint Venture reviews land trust accomplishments throughout their region on Page 22, and the Colorado Cattleman's Agricultural Land Trust describes their work across the state in partnership with Bird Conservancy of the Rockies on Page 24. Finally, an effort by two land trust executive directors, one in Alaska and one in Colorado, to develop a landscape-scale bird conservation initiative in the West, entitled *Wings Over Western Waters*, is described on Page 26.

Community-based conservation is the way of the future. Engaging people across the country in understanding, caring about, and conserving their home ground is a critical need, whether through outreach and education, citizen science, on-the-ground conservation, or advocacy. Land trusts are playing unique and essential roles in this effort by working directly with individuals and communities to protect and conserve their land. In some cases, the land has been people's livelihood, and in others it simply holds great meaning for the opportunities it offers for appreciating nature and wildlife—experiences many landowners want to ensure are available for future generations.

The partners featured in this issue of *The All-Bird Bulletin* understand the importance of private land conservation to the health of bird populations and humans as well. Read on and learn more about how land trusts are making a difference for birds!



Birds such as Blackpoll Warbler, in fall plumage above, benefit from forest conservation on private lands throughout the Northeast. / Donna Dewhurst

## A Bird's Eye View of Land Conservation in Southern Appalachia

*Michelle Pugliese, Land Protection Director, Southern Appalachian Highlands Conservancy*

It's hard to believe a tiny warbler weighing less than half an ounce has the power to permanently preserve hundreds of acres of critical habitat surrounding the Appalachian Trail. Yet thanks to the Golden-winged Warbler and the Neotropical Migratory Bird Conservation Act, the [Southern Appalachian Highlands Conservancy](#) (SAHC) conserved nearly 800 acres of ecologically significant habitat within the Highlands of Roan landscape on the border of North Carolina and Tennessee.



Monitoring and tagging Golden-winged Warblers on the protected National Trails Tracts. / Chris Coxen, Southern Appalachian Highlands Conservancy.

For thousands of people who hike the Appalachian Trail in the Highlands of Roan every year, high-elevation grassy balds—grass or shrub-covered mountain summits—evoke feelings of wonder and inspiration. However, the value of the Roan runs far deeper than the views. Beyond world-renowned public recreation opportunities, this unique landscape is home to globally significant habitat that is a high priority for protection by federal, state, and private conservation organizations. For over forty years, SAHC has worked with partners to secure a network of over 25,000 protected acres in the Roan, in large part to protect critical habitat for imperiled species such as the Golden-winged Warbler.

The Golden-winged Warbler is a Neotropical migrant that spends summers breeding in the Southern Appalachians before heading south to Costa Rica and Nicaragua for the winter. In recent decades, breeding populations in the eastern U.S. have rapidly declined, and the bird is now being petitioned for listing as an endangered species. In 2010, the presence of this small migratory bird changed the future of SAHC's land protection work.

During that year, a recession was in full swing and many private landowners tried to sell undeveloped mountain land quickly. SAHC focused on purchasing a portion of the National Trails Tract in the Roaring Creek Valley, a biologic gem adjacent to Pisgah National Forest in the shadow of the Appalachian Trail in North Carolina. The property contains diverse forest types, including rich cove, northern hardwood, Appalachian montane oak, and early successional forest. The early successional or young forest may not look like much—an old meadow slowly returning to forest with isolated shrubs and trees and a forested edge. Yet what some view as scrubby, neglected fields were a key element that helped ensure the conservation future of this property. Golden-winged Warblers are ground-nesting birds that breed in early successional forests, and protecting this habitat type is critical to the species' survival. The warblers were observed on public lands adjoining the National Trails Tract, and so the SAHC suspected the private property was used by the birds and aimed to protect and manage the habitat to encourage nesting. But these semi-open fields are also often desirable sites for housing development.

While SAHC struggled to raise funds to buy the property, it took a risk by obtaining a loan to fill the funding gap and purchase the land in a timely fashion. Enter the U.S. Fish and Wildlife Service and a grant program called the [Neotropical Migratory Bird Conservation Act](#) (NMBCA). This program provided the pivotal connection between an urgent funding need and critical habitat conservation. SAHC was awarded a federal cost-share grant and applied it toward retiring the loan, thereby securing the property's permanent protection. The grant also assured an active land management program for the property that prioritizes early successional habitat for Golden-winged Warblers and other migratory birds. SAHC retired the remainder of the loan by selling the majority of the National Trails Tract to the North Carolina Wildlife Resources Commission (NCWRC). The SAHC and NCWRC work together to protect and manage the critical habitat on this land.

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The National Trails Tract was fundamental in putting the NMBCA grant program on SAHC's radar and making the protection of Golden-winged Warbler habitat an organizational priority. Two years later, SAHC was poised to protect the 600-acre Grassy Ridge tract, one of the highest conservation priorities for the organization in its 40-year history. The property joins Pisgah National Forest at Grassy Ridge Bald, a premier hiking destination via a spur trail off the Appalachian Trail in North Carolina. The tract contains coveted early successional forest habitat as well as several active Golden-winged Warbler nests. This time, SAHC was prepared with a funding tool that fit this critically important acquisition. The NMBCA grant program provided needed dollars to complete the purchase and today the majority of this tract is part of a North Carolina State Natural Area. SAHC is holding the remaining 40 acres as a preserve, where its staff and supporters tell the story of how this special landscape will remain protected for generations to come.



Habitat managed for Golden-winged Warblers, on the Grassy Ridge tract adjoining Pisgah National Forest. / Southern Appalachian Highlands Conservancy

Both the National Trails Tract and the Grassy Ridge properties are managed and monitored annually for Golden-winged Warblers by SAHC and a team of federal and state partners, in cooperation with the National Audubon Society and the Appalachian Mountains Joint Venture. This small bird has made a large impact in the permanent preservation and management of one of the most significant and beloved landscapes in the Southern Appalachians. Listen for the [buzzy song](#) of the warbler—it might be the missing piece to your conservation puzzle.

For more information, contact Michelle Pugliese at [michelle@appalachian.org](mailto:michelle@appalachian.org).



In 2012, SAHC purchased the 600-acre Grassy Ridge tract, one of the organization's highest conservation priorities for 40 years. / Witt Langstaff, Jr.

## Land Trusts Partnering to Promote Bird Conservation on Private Lands in the St. Lawrence Valley

*Sara Barker, Conservation Biologist, and Nancy Cheng, Conservation Science and Outreach Assistant, Cornell Lab of Ornithology*

Due to a high concentration of grasslands, wetlands, and shrublands, the St. Lawrence Valley of New York is one of the most critical regions for grassland and early successional forest birds in the Eastern United States. However, large contiguous blocks of these habitats are being fragmented rapidly by human development, roads, and agricultural fields due to the expansion of Fort Drum, an influx of seasonal residents and visitors, and an uptick in intensive agricultural practices. The irreversible loss of these habitats and the connectivity among them can significantly impact birds and other wildlife in the region.



The Golden-winged Warbler population is in sharp decline due to lack of natural disturbances, too little forest management, and habitat loss from human development. / Roger Eriksson

Because most of the St. Lawrence landscape is under private ownership, a valuable opportunity exists for land trusts to create a matrix of private, protected lands that can promote land stewardship for maintaining biodiversity and preserve habitats for high priority species experiencing rapid population declines, such as the Henslow's Sparrow and Golden-winged Warbler.

The Golden-winged Warbler population is sharply declining with an estimated 400,000 breeding adults remaining globally, a drop of 66 percent since the 1960s. The St. Lawrence Valley supports the largest hold of breeding Golden-winged Warblers in New York; this is also one of the eastern-most population segments connected to the larger Great Lakes population. The connection between the privately held agricultural and forest lands of the St. Lawrence Valley and the declining Golden-winged Warbler provides a unique opportunity to bring bird conservation partners and land trusts together.

Why are land trusts natural partners for birds? To start, they manage 24 million acres of eastern forests, generate management plans to protect or enhance wildlife habitat, and provide an ideal mechanism for connecting with local landowners who may be interested in conservation.

In 2012, the [Thousand Islands Land Trust](#) and the [Indian River Lakes Conservancy](#) met with staff from Clarkson University, Audubon New York, New York Department of Environmental Conservation (NY DEC), and Cornell Lab of Ornithology. They visited sites in the St. Lawrence Valley and investigated how best to engage in conservation of the Golden-winged Warbler and other birds within this distinctive shrubland and young forest ecosystem. In

2013, Clarkson, Audubon, NY DEC, and Cornell supported the two land trusts in writing a multi-partner grant to establish three Golden-winged Warbler demonstration areas—two on land trust properties and one on a state wildlife management area in Jefferson and St. Lawrence counties. With letters of support from the bird conservation community and justifications from the Golden-winged Warbler Conservation Plan and New York State Wildlife Action Plan, the land trusts acquired funds from the Farm Bill's 2014 Conservation Partnership Program. Thus, the [St. Lawrence Valley Partnership](#) (SLVP) for Golden-winged Warblers was formed.

The collaborative SLVP is focused on three main goals: (1) raising awareness among a variety of audiences about the importance of the St. Lawrence Valley for breeding Golden-winged Warblers through education and outreach; (2) carrying out management and maintaining habitat for this imperiled species on both private and state lands; and (3) training land managers at demonstration sites to recognize and manage habitat according to best management practices for a suite of early-successional species.

All partners bring significant and diverse skills to the table to accomplish these common goals. Audubon, Clarkson University, and the Cornell Lab conducted pre-monitoring bird and habitat surveys at proposed implemen-

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tation sites prior to management. Audubon drafted site specific management plans according to Golden-winged Warbler best management practices, which in turn guided landowners' management actions. The land trusts and NY DEC shared resources and machinery to carry out restoration work laid out by a management plan on both agricultural and forest lands, including activities such as thinning, non-native shrub removal, and woody material plantings. All partners are working collaboratively to develop interpretative panels stationed at each of the three sites for the general public. These partners also hosted a two-day Golden-Winged Warbler Habitat Management Workshop that showcased the demonstration areas and taught land managers and resource professionals about the ecology, management, monitoring, and human dimensions of Golden-winged Warbler conservation. Nearly 40 professionals attended the workshop, including the NY DEC's new Young Forest Initiative team and staff from various land trusts in NY and VT.

The SLVP is helping land trusts to achieve their goals of expanding land conservation and stewardship efforts and increasing community support for this important work throughout the region. Here is what two SLVP land trust representatives are saying about the benefits of this collaborative:

“This partnership has been a great way for organizations, like Thousand Islands Land Trust, to stay on top of the latest conservation issues. It has helped us to build our capacity for completing sophisticated habitat restoration initiatives and has created not only a local focus for Golden-winged Warblers and shrubland species, but has also connected us regionally into Vermont. It has also given us a chance to assess our land trust lands and select sites appropriate for shrubland management in order to increase available habitat for these struggling species, making our existing habitat restoration efforts for birds more robust. By working together, we are raising awareness about shrubland species and helping to educate other land managers and private landowners to also join in this effort to have a big impact for a small bird and its associated species and wildlife.”  
— *Sarah Walsh, Thousand Islands Lands Trust*

“Our collaboration with the Cornell Lab and NY Audubon through the SLVP has provided the Indian River Lakes Conservancy with a wealth of professional expertise and on-site guidance that has greatly enhanced our ability to productively manage our land for the benefit of future generations. Most significantly, it has heightened our appreciation for the importance of managing the successional stages of growth on those lands to support the widest possible range of native biodiversity, especially those species like the Golden-winged Warblers that are suffering from the loss of suitable shrubland habitat.”  
— *Mark Scarlett, Indian River Lakes Conservancy*

Private landowners and land trusts in the St. Lawrence Valley can take great pride in their ongoing stewardship of the Golden-winged Warbler—their work is restoring important habitat for this and other species of conservation concern and protecting a landscape rich in birds and other wildlife for generations to come.

For more information, contact Sara Barker at [sb65@cornell.edu](mailto:sb65@cornell.edu) or visit the following resources:

[Golden-winged Warbler Status Review and Conservation Plan, Regional Golden-winged Warbler Best Management Practices, and Habitat Guides](#), [the GWWA Conservation Strategy](#), [GWWA Resources for Landowners and Land Managers](#), or the [Golden-winged Warbler Working Group](#).



A Cornell Lab of Ornithology biologist discusses young forest habitat suitable for Golden-winged Warblers at the Grand Lake Reserve during the St. Lawrence Valley Partnership Habitat Management Workshop. / Ashley Dayer

## Birds as Charismatic Champions for Regional Conservation Partnerships

*Bill Labich, Senior Conservationist, Highstead Foundation*

Across New England and eastern New York, conservation organizations, agencies, and communities are banding together to meet the needs of landowners interested in protecting their land from development and managing their forests for cleaner water, more wood, and better bird and wildlife habitat. These collaboratives, called Regional Conservation Partnerships (RCPs), work with landowners to achieve conservation and stewardship on a landscape scale.



Postcard for a Woods Forum focused on birds and bird habitat to engage landowners in conservation and stewardship of their woodlands. / Highstead Foundation

RCPs are informal networks of private and public organizations and agencies that develop and implement a shared conservation vision across town and, sometimes, state and international boundaries. They vary in size and scope but share a desire to increase the pace and coordination of their conservation activities. Forty-four RCPs cover more than 25 million acres or 60 percent of New England. These networks are playing an increasingly important role in achieving large landscape conservation by helping groups work across sectors and boundaries to achieve more of their objectives.

The stakes are high. New England is one of the most forested regions of the country, and these vast forests provide clean air and water, wildlife habitat, climate change mitigation, and flood resilience. They also provide local communities with healthy outdoor recreation, local wood, fuel, jobs, and more. However, the

[2010 Wildlands and Woodlands \(W&W\)](#) vision documented that the resurgence of New England's forests had peaked and that every state in the region is now experiencing net annual forest loss. W&W calls for doubling the pace of conservation to protect the area's irreplaceable forests. Much of the forest loss occurring today is from development and fragmentation within the landscape of small private land ownerships that characterize the region.

Since the first RCP was established in 1994, birds have been a charismatic champion for collaborative large landscape conservation. The first RCP developed in New England was the Great Bay Resource Protection Partnership. The partnership initially came together to support conservation action in the 43,000-acre Great Bay Focus Area, which the Atlantic Coast Joint Venture identified as significant migratory waterfowl habitat in the North Atlantic Flyway. More than 80 percent of all waterfowl that winter in New Hampshire's coastal areas are found in Great Bay. Partners leveraged significant federal funding with state, municipal, and private dollars to conserve 109 properties spanning 6,100 acres of critical waterfowl habitat and important recreational resources.

The [RCP Network](#), supported by [Highstead Foundation](#), was founded in 2012, to provide networking opportunities, research on how RCPs succeed, and targeted technical and fundraising assistance. The RCP Network collaborates with partners that may not be members of an RCP but appreciate interacting with multiple partnerships through the Network. These regional partners, like the North Atlantic Landscape Conservation Cooperative, state and federal agencies, universities, and foundations, support RCPs in advancing the pace and practice of conservation at different scales in New England and eastern New York.

In 2014, six RCPs completed a six-state landowner outreach initiative with one regional partner, the North East State Foresters Association (NEFA). Over 50 state foresters and land trust and conservation professionals worked together in three priority inter-state landscapes to learn how to encourage more landowners to conserve and manage their land. RCP members identified conservation focus areas and reached out to landowners

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using the Sustaining Family Forest Initiative's [Tools for Engaging Landowners Effectively](#). Funded by a grant from the U.S. Forest Service, the project gradually developed a focus on bird conservation.

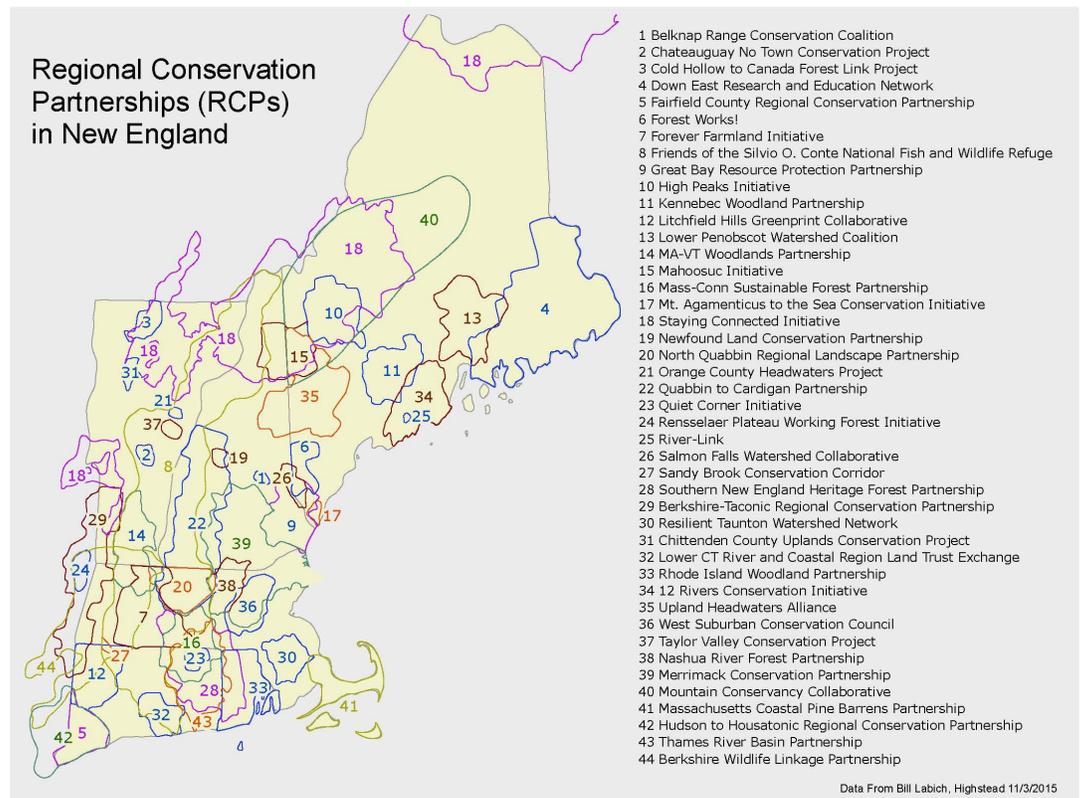
For example, Audubon Vermont's *Foresters for the Birds* program motivated a lot of conservation groups such as Franklin Land Trust and the Housatonic Valley Association to work on bird conservation and engage with foresters more directly. Both foresters and land trust staff were interested in new ways to connect with landowners, and liked the idea that timber and bird habitat management can go hand in hand. Audubon groups in Vermont and Massachusetts developed management guides for bird habitat and trained foresters to assess and enhance woodlands for birds such as Wood Thrush, Scarlet Tanager, and Black-throated Blue Warbler. The NEFA initiative spread *Foresters for the Birds* and similar assessment programs to New York, Massachusetts, Connecticut, New Hampshire, and Maine. [Learn more about the NEFA initiative.](#)

After learning about the NEFA initiative at the annual RCP Network Gathering, other land trust leaders moved to advance their own landowner outreach efforts using birds and cross-boundary collaboration.

For example, the Fairfield County RCP formed the Hudson to Housatonic Conservation Initiative (or H2H) in partnership with Westchester (NY) Land Trust, Mianus River Gorge, and the Housatonic Valley Association. H2H (now an RCP), also funded with support from the U.S. Forest Service, has enabled more than three dozen land trusts and other groups to coordinate where and how they engage woodland owners in 13 multi-town focus areas. These priority landscapes stretch west to east between the two rivers and from the Great Swamp in Dutchess County to Long Island Sound. The land trusts want landowners to join them in conserving woodland bird habitats that are resilient to climate change and help protect drinking water. They plan to partner with Audubon groups, train citizen scientists as bird ambassadors, and have these leaders invite landowners to plant and conserve native habitats for resident and migratory birds.

By engaging landowners in forest conservation activities, coordinated through RCPs at the landscape scale, land trusts across New England and eastern New York are making huge strides in securing a hopeful future for woodland birds and their habitats. The annual 2015 RCP Gathering took place on November 18th at the Crowne Plaza Hotel in Nashua, NH – [learn more here.](#)

For more information, please contact Bill Labich at [blabich@highstead.net](mailto:blabich@highstead.net)



## Sea Change: Redrawing the Map of San Francisco Bay

*Julian Meisler, Baylands Program Manager, Sonoma Land Trust*

The San Francisco Bay Estuary is the largest estuary on the west coasts of North and South America. More than one million resident waterfowl and shorebirds depend on its varied habitats while at least a million more migrate to or through it. While significant, these bird numbers are reduced from historic times when the expanse of tidal marsh was far greater. Approximately ninety percent of the bay's marshes were lost between 1850 and 1960, and thus many birds dependent on the marshes for foraging and breeding, like the threatened California Black Rail and endangered Ridgway's Rail, have suffered severe population declines.



Sears Point, before restoration, as seen from the San Francisco Bay.  
/ Stephen Joseph

Over the last few decades, however, interest in marsh restoration has taken root. It began small, with projects rarely exceeding a few hundred acres at best, but has recently included multiple projects nearing or exceeding 1,000 and even 10,000 acres. Such large projects require intense planning and permitting and carry price tags in the tens of millions of dollars. Understandably, only large government agencies are able to see through the long timelines required.

Unfortunately, the timeframe to get this work done is relatively short. A new report, [\*The Baylands and Climate Change\*](#), prepared by over 200 scientists and government officials, urges a redoubling of restoration efforts in advance of rising seas, more severe storms, and, in the case of San Francisco Bay, a declining sediment supply that is the building block of new marshes. Ramping up restoration will require that

private organizations step up their efforts in conserving and restoring the bay.

Some groups have already begun. Sonoma Land Trust (SLT), a small, non-governmental organization working to conserve the lands and waters of Sonoma County, California, has been invested in northwestern San Francisco Bay shoreline conservation and restoration since the mid-1980s. It has protected more than 7,000 acres of diked baylands (reclaimed tidal wetlands) and uplands directly adjacent to the Bay.



Sears Point under construction. Nearly six miles of channels were excavated and over 500 marsh mounds built. / Robert Janover

One of SLT's greatest conservation achievements began in 2003, when a plan to build a Las Vegas-style casino on the shoreline lit a fire under the conservation community. Not only would such a development permanently alter the region's rural character, it stood in the face of every major conservation plan for the Bay. The proposed site was entirely within the historic Bay margin—the area once part of the bay but reclaimed for agriculture, industry, and other development. SLT and partners, such as the San Francisco Bay Joint Venture, worked to convince the project proponents, a local Native American tribe, that this proposal would be at odds with conservation initiatives. The efforts were rewarded not only with the tribe relinquishing its right to purchase the site but it also donated its purchase option valued at \$4.2 million.

Over the next two years, SLT raised a total of \$20 million to buy the property and, conveniently, the one next door. Collectively the 2,327-acre site is known as Sears Point. Unique among nearly all shoreline conservation

properties, Sears Point extends deep into the adjacent uplands reaching elevations of nearly 400 feet. Some nine miles of riparian corridors traverse its grasslands, willow groves, and broad plains of seasonal wetlands to connect upland to Bay.

The purchase set in motion a ten-year effort to plan, permit, and fundraise for a large-scale restoration known as the Sears Point Restoration Project. The nearly 1,000-acre portion slated for tidal wetland restoration housed farm buildings, hay fields, and an upland game bird hunting club. The plan was to remove all the human built structures, create some new and innovative natural features to hasten the evolution of the new marsh, and then to breach the century-old levee to bring back the tides.

SLT hired some of the best minds in the Bay to design a project that incorporated lessons learned from previous projects and anticipated sea level rise (<https://www.youtube.com/watch?v=C7KCslWsqSE> for more information about the project). Five years into the process, SLT partnered with Ducks Unlimited (DU) to bring its experience and expertise to the project.

Closely following the original design, SLT and DU built a new 2.5-mile levee, whose gentle slopes would not only serve a necessary flood protection role, but also provide high tide refugia for marsh wildlife during extreme tides and storm surges. The levee was built with soil dug on site during the excavation of six miles of new channels. Over 500 “marsh mounds” were built within the site to break up wind waves that might prevent tidally borne sediment from settling out of the incoming bay waters—sediment that will be needed to raise the site more than six feet to reach marsh plain elevation, the elevation at which vegetation grows. These were but a few of the construction activities leading up to October 25, 2015, when the historic levee was finally [breached](#).

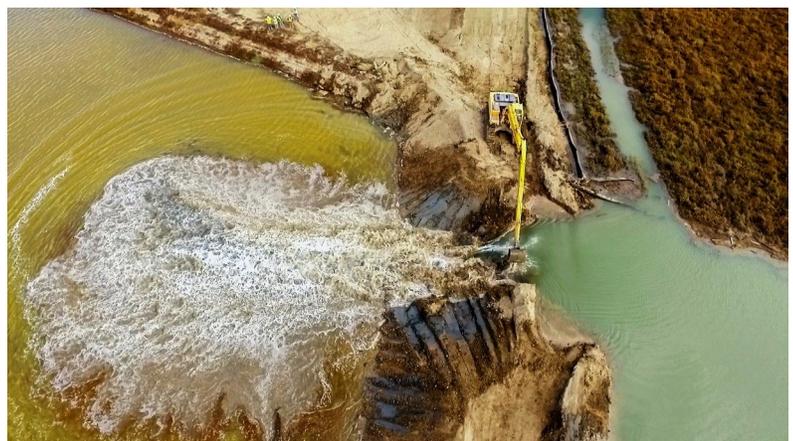
Birders flocked to the site and emails to SLT looked like this: “There are huge numbers of shorebirds, including stilts, avocets, curlews, etc., etc. The same goes for gulls. The wintering ducks have not arrived but there were a few Mallards, pintails and shovelers. There were also egrets, herons, cormorants, lots of Killdeer and pipits. A few raptors were also around. In short, this is going to be a wonderful place for shorebirds, waterfowl and waders.”

In the weeks that followed, the ducks arrived. And in years, the marsh will begin to emerge, giving home to rails and other marsh-dependent wildlife—all resulting from the work of a single small land trust. Nationwide more than 1,700 land trusts like SLT have protected 37 million acres—an area roughly the size of all the New England states combined. The cumulative effect of this work is tremendous. The Sears Point Restoration Project is but one example of what local organizations can do to meet global challenges.

For more information, contact Julian Meisler at [julian@sonomalandtrust.org](mailto:julian@sonomalandtrust.org).



Sears Point Levee breach./ Corby Hines



Aerial shot of Sears Point Levee breach./ Eric Carpenter and Micheal Heumann

## Trusted Partnerships ~ Treasured Landscapes

*Maria Whitehead, Director of Landscape Projects, The Nature Conservancy; Sharon Richardson, Executive Director, Audubon South Carolina; Jamie Rader, Manager of Conservation Programs, Ducks Unlimited/ South Atlantic Field Office; Breck Carmichael, Special Assistant to the Director, South Carolina Department of Natural Resources; Craig Watson, South Atlantic Coordinator, Atlantic Coast Joint Venture*

Woven together like a sweetgrass basket, the maritime woodlands, marshes, cypress swamps, historic rice fields, and longleaf pine forests define the Lowcountry landscape of coastal South Carolina. As Aldo Leopold wisely stated, “There are two things that interest me: the relation of people to each other, and the relation of people to land.” His statement epitomizes the three key ingredients that lead to successful and effective conservation: outstanding natural resources, exceptional partnerships, and a strong conservation ethic.



Bald Cypress swamp forest on Sandy Island, South Carolina. / Tom Blagden, The Nature Conservancy

First, South Carolina has outstanding natural resources deserving of conservation. The state ranks third among all 50 states in its acreage of coastal wetlands and fifth in lowest percentage of wetland loss. Its vast network of riverine wetlands and upland hardwoods is interconnected to the coastal marshes, and provides places where wildlife thrives and people recognize the value of “working” lands. These working lands produce food, fuel, and fiber in the larger rural landscape, and inspire an appreciation as vast as the resources themselves.

Second, South Carolina has outstanding partnerships. These partnerships take the form of task forces for the ACE Basin, South Lowcountry, and Winyah Bay Focus Areas of coastal South Carolina. Task forces are groups of conservation-

minded people that meet regularly to discuss issues and projects, coordinate efforts, and seek out funding. They provide a critical framework for collaboration, bringing together many organizations to leverage each other’s strengths and assets. These partnerships know that public lands need to be complemented and connected by private protection efforts to meet the daily and seasonal needs of birds, accommodate future habitat shifts due to climate change, and provide healthy ecosystem functions at the landscape level. In South Carolina, the vast majority of these lands are held by individual families or private timber companies. So by working alongside public land partners, private individuals and organizations are proving essential to securing and buffering South Carolina’s conservation landscape.



Prothonotary Warbler is a Partners in Flight Watch-list species of southeastern wooded swamps / Craig Watson

And, finally, the third major asset: the strong conservation ethic of most South Carolinians. Private landowners engaged in conservation see an opportunity to boost their local economies by protecting and managing natural resources. This vision starts with a landowner’s sense of community and identity. Lowcountry landowners, whose ownership of these treasured spaces spans centuries, have voluntarily limited activities on their properties with permanent conservation easements enabled through the land trust community. Conservation easements are essential tools for preserving the aesthetic, cultural, recreational, and ecological value of rural landscapes while allowing for the continuation of traditional uses like farming, hunting, and timber management.

Take for example a 4,000-acre conservation easement in Georgetown County that was donated to Wetlands America Trust in October 2007 (3,612 acres) with an addition in August 2015 (376 acres). This easement is within Arcadia Plantation, a 7,600-acre holding that was once part of seven

prosperous rice plantations established in the 1700s and 1800s. The permanent protection of this coastal tract provided valuable matching funds for other projects funded by several federal grant programs—perpetuating further investment in conserving other coastal habitats of value. Habitat types on the property include a diversity of longleaf pine flatwoods, non-tidal swamp forests, non-tidal wet hardwood forests, tidal forested wetlands, abandoned rice fields, and freshwater-reserve impoundments. These habitats support populations of many high priority species, including Wood Stork, Swallow-tailed Kite, Painted Bunting, Prothonotary Warbler, American Black Duck, Northern Pintail, and Roseate Spoonbill—a relative newcomer to the South Carolina Lowcountry.

Throughout South Carolina, hundreds of similar conservation easements are held by private land trusts and linked with public lands to create a conservation estate that has been recognized throughout North America and beyond. As recently as 2014, conservation partners in South Carolina received the [North American Migratory Bird Joint Venture Conservation Champion award](#). Partners on this award-winning project included [The Nature Conservancy](#), [Ducks Unlimited](#), [Audubon South Carolina](#), [South Carolina Department of Natural Resources](#), [U.S. Fish & Wildlife Service](#), and a large number of private land trusts throughout the Lowcountry (see box). Developed through the Atlantic Coast Joint Venture's South Atlantic Migratory Bird Initiative ([SAMBI](#)), this South Carolina collaboration has involved over 300 partners who have leveraged more than \$90 million with more than \$385 million in matching funds to conserve nearly half a million acres since its inception in 1999. Using easements on private lands to leverage funds and stimulate partnerships to protect habitat across landscapes has become a model for conservation throughout North America.

As the private land conservation representatives of coastal South Carolina, we are committed to working with our treasured partnerships to secure the future of our natural and human communities by building on successes of the past. As landowners and holders of conservation easements, we share a vested interest in the landscape's wildlife and human inhabitants and look forward to working alongside a growing community of landowners and other conservation partners who share this place. Our commitment to the integrity of South Carolina's treasured landscapes will ensure that the wealth of benefits society derives from our state's natural resources will continue for generations to come.

For more information, contact Craig Watson at [craig\\_watson@fws.gov](mailto:craig_watson@fws.gov).



Painted Bunting is a U.S. Fish and Wildlife Service Bird of Conservation Concern. / Kinard Boone, U.S. Geological Survey

#### Lowcountry Land Trusts

Edisto Island Land Trust  
 Beaufort County Open Land Trust  
 Lowcountry Open Land Trust  
 Ducks Unlimited  
 The Nature Conservancy  
 Pee Dee Land Trust  
 Congaree Land Trust  
 Lord Berkeley Land Trust  
 East Cooper Land Trust



Roseate Spoonbill. / Craig Watson

## BirdReturns: How Big Data and Farmers Are Protecting the Pacific Flyway in California

Mark Reynolds, Lead Scientist, California Migratory Bird Program, The Nature Conservancy and Brian Sullivan, eBird Project Leader, Cornell Laboratory of Ornithology

Protecting migratory birds is one of the greatest conservation challenges in a changing world. Ancient flyways extend thousands of miles, some across entire hemispheres, and span critical phases in the annual life cycle of many species. The challenge is made greater by poor information about species' movements and habitat availability, a lack of efficient and adaptable conservation tools, and the high cost of implementation at meaningful scales.



Aerial view of flooded rice fields with snow geese. / Drew Kelly, The Nature Conservancy

Recently, however, the availability of large-scale data from citizen science and remote sensing is improving our ability to develop effective conservation strategies for bird migrations. Working in partnership with [Cornell Lab of Ornithology's eBird program](#), [The Nature Conservancy](#) has developed precision science tools to guide the creation of temporary bird habitat on farmland in California when and where birds need it most. Combining big data analytics and community outreach, we have partnered with over 100 farmers to create more than 30,000 acres of high quality seasonal bird habitat—a cost-effective way for farmers to help protect the Pacific Flyway.

Each fall through spring, California's Central Valley supports millions of waterfowl, shorebirds, and wading birds. They stop to rest and feed during their long migration south from arctic and sub-arctic breeding areas to overwintering areas in California, western Mexico, and South America. With over 95 percent of the Valley's historic wetlands converted to cities and cropland, migratory birds traveling along this part of the Pacific Flyway must depend on only a small network of refuges and protected areas as well as agricultural lands for habitat. Moreover, these birds often face major habitat deficits each winter.

But purchasing and managing the hundreds of thousands of acres of wintering habitat these birds need would literally cost billions of dollars. How can conservationists protect this much habitat in a highly productive agricultural region where permanent protection is so expensive? Conservationists at the Conservancy came up with an innovative answer: a market-based approach in which farmers are paid to create temporary wetland habitat during critical periods for the birds.

Beginning in spring of 2014, the Conservancy's [BirdReturns program](#) paid Central Valley farmers to create "pop-up" wetlands by flooding their rice fields during February and March, and September through October—times when the bird habitat deficit is greatest.

To pinpoint where and when migratory waterbirds most need habitat, the Conservancy used crowdsourced data from eBird, an online database of bird observations developed by the Cornell Lab of Ornithology. Birders around the world have shared over 250 million observations in eBird, and data scientists at Cornell use this information to create predictive models of bird species occurrence and abundance throughout the year. Conservancy scientists coupled the information about bird migration patterns with satellite data on water availability developed in collaboration with Point Blue Conservation Science to estimate the locations and timing of greatest habitat need in the Central Valley.

Next, the Conservancy used a reverse auction to invite rice farmers to submit bids reflecting costs associated with flooding their fields with a few inches of water during these critical periods. Think of a reverse auction as similar to

soliciting multiple bids from potential contractors for getting work done on your house. The homeowner puts together a scope of work, solicits bids, and chooses a contractor based on some combination of factors, including price and quality. Finally, based on estimates of the amount of habitat needed, pricing, and potential habitat quality of bids, The Conservancy determined which bids to accept. Each farmer received the price they bid. Just as with the contracting example, the lowest price didn't always win, but it was a key criterion. As one farmer put it at one of the Conservancy's initial meetings, "You want us to grow birds like we grow rice. We know how to do that." Yes, that's it exactly.

BirdReturns is focused on providing shallow water—less than 4 inches in depth—habitat for shorebirds. To evaluate the effectiveness of the program, Conservancy staff have monitored over 5,000 individual points on fields with over 700,000 birds observed, more than 250,000 of which were shorebirds. Over 50 species of waterbirds used BirdReturns fields between September and March. Shorebird species that used BirdReturns fields in greatest numbers include Long-billed Dowitcher in the fall and Dunlin in the spring.

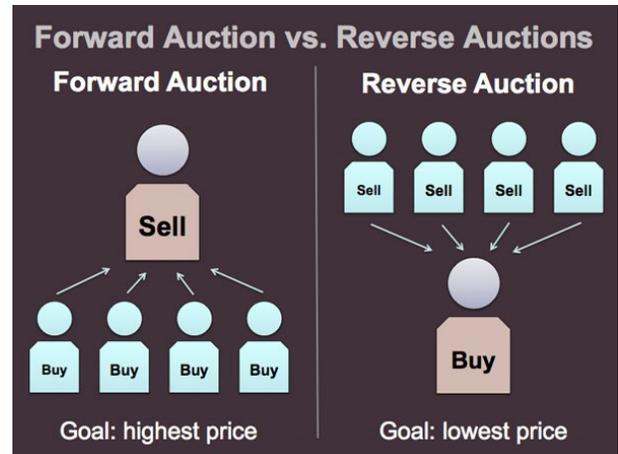
Preliminary results comparing BirdReturns fields with non-program "control" fields are promising. Staff have found that shorebird densities on BirdReturns fields can hold 30-50 times more shorebirds than non-program fields. For Dunlin, spring BirdReturns fields provided habitat for an estimated 20 percent of birds in the entire Valley.

The BirdReturns approach to sourcing habitat allows a great deal of flexibility and adaptability; it doesn't commit landowners to conserve a property in perpetuity. Add to this the simple fact that the whole system is dynamic: migration routes and the locations of bird-friendly farmland naturally shift due to annual differences in weather, market conditions, and many other factors. So, habitat acquired or permanently protected through a conservation easement may not be as important from one year to the next. A reverse auction, coupled with nearly real time data on when and where birds need habitat, gives conservationists an adaptive management tool to efficiently and effectively target habitat.

BirdReturns is an economical approach to conservation that allows scarce conservation dollars to go farther and be more successful. It's also a great way to partner with farmers who may not want to permanently commit to using their farmland for conservation. Because the reverse auction tool is so flexible, staff can adjust the program to reflect changes in agriculture and migrations. And if we do get something wrong, it is only temporary—very different than purchasing the wrong property.

We believe BirdReturns is an evolution of working lands conservation, which is an area of particular interest among conservationists who are challenged to conserve wildlife in a human-dominated world. BirdReturns' results show that renting habitat can be a highly effective conservation tactic that complements permanently protected areas that already exist in most landscapes. BirdReturns is a rare win for both birds and farmers. And it allows conservationists to use limited funds in the most efficient way possible.

For more information, contact Mark Reynolds at [mreynolds@tnc.org](mailto:mreynolds@tnc.org). Acknowledgements: The authors wish to thank Sandi Matsumoto, Lisa Park, Paul Spraycar, Greg Golet and the many members of the Conservancy who worked on BirdReturns as well as collaborators at the Cornell Lab of Ornithology, the California Rice Commission, and Point Blue Conservation Science.



Eric Hallstein



From left, Conservancy employees Eric Hallstein and Mark Reynolds discuss BirdReturns with rice farmer Doug Thomas. / Drew Kelly, TNC

## Audubon's Important Bird Areas: Partnering with Land Trusts to Protect Priority Landscapes

*Connie Sanchez, Director, Important Bird Areas Program, National Audubon Society; Jim Brown, Five Valleys Audubon Habitat Committee Chair; Kristin Hall, Conservation Manager, Audubon Minnesota; Jillian Liner, Director of Bird Conservation, Audubon New York; Jeanne Barrett Ortiz, Program Manager, Landscape Conservation, Audubon Pennsylvania; Iliana A. Pena, Director of Conservation, Audubon Texas; Amy Seaman, Associate Director of Conservation, Montana Audubon; Loren Smith, Executive Director, Buffalo Audubon Society; Melanie A. Smith, Conservation Science Director, Audubon Alaska*

[Important Bird Areas \(IBAs\)](#) are places that are vital to birds and represent a roadmap for protecting birds throughout their life cycle—during breeding, wintering, and migration. Since the program in the United States began about two decades ago, IBAs have served as the foundation for many of Audubon's conservation efforts, including national flyway and state initiatives of the National Audubon Society (NAS) and Audubon chapter efforts. Now totaling over 2,800 in the U.S., with more than 700 recognized as globally important, IBAs have been identified in all 50 states and encompass over 400 million acres (see map on page 18). These sites join a worldwide network of 12,000 IBAs scientifically identified through the coordination of [BirdLife International](#).



Aerial view of Kittatinny Ridge, Pennsylvania, a global IBA and premier raptor migration corridor in the northeastern U.S. Valleys on either side are characterized by mixed farmland and small, rural communities. / PA Department of Conservation and Natural Resources, Bureau of Forestry

A [2014 analysis](#) of the U.S. IBAs network by the NAS reveals that 45 percent of these lands are unprotected and only 25 percent of the terrestrial IBA area is managed for biodiversity, highlighting the need for increased protection of these significant sites. As IBAs encompass a mix of private and public lands and an array of habitats and threats, including overarching threats related to climate change ([Audubon's Birds and Climate Change Report](#)), NAS relies on a variety of strategies and diverse partnerships to mitigate these threats and conserve critical habitats.

Audubon is working to engage communities and other local partners in championing their favorite places. It has helped build a stewardship network of over 230 groups actively monitoring, planning, restoring, advocating, and more across 400 Important Bird Areas nationwide, with numbers growing each day.

Many land trusts are among these groups that share the goal of long-term land protection. A 2009 survey of the IBA network highlighted collaborations with land trusts in sixteen states. Activities range from land acquisitions, easements, and joint land management, to monitoring, supporting volunteers, and education initiatives, to planning and mapping efforts. In a [2014 study of land trusts](#) by the Cornell Lab of Ornithology, 41 percent of land trusts surveyed indicated that they used Audubon's IBA data for bird information in recent years.

Audubon is conducting a re-assessment of land trust partnerships across the IBA network. This will include a detailed survey of IBA program staff and partners and reports from Audubon chapters along with spatial analyses highlighting conservation opportunities. For example, the below case studies highlight Audubon's wide range of collaborative conservation efforts with land trusts in six states.

*Highlights of Land Trust Collaborations.* In New York, [Buffalo Audubon Society](#) teamed with [Western New York Land Conservancy](#) to purchase and protect approximately 45 acres of rare forested wetland with diverse birdlife within the [Niagara River Corridor](#), a Global IBA threatened by sprawl and invasive species. This effort led to the creation of the North Tonawanda Audubon Preserve, which helps keep rainwater out of the combined sewer

system of the community and is used as a resource for students from the local school district and visitors from across the region. Buffalo Audubon also has supported the Conservancy in identifying ecologically, culturally, and geologically significant properties along the Niagara Escarpment, which led to the purchase of the largest privately-owned, undeveloped parcel along the Niagara River, the Stella Niagara Preserve.

For over a decade, [Audubon New York](#) and [Finger Lakes Land Trust \(FLLT\)](#) have been partnering to protect several IBAs in the Finger Lakes region. For example, FLLT has incorporated IBAs into its planning process when acquiring lands and easements, and an Audubon representative sits on the FLLT Land Conservation Committee. Over the years, FLLT has purchased land or easements on over 25 parcels within or adjacent to IBAs. They have also hosted private landowner workshops to discuss protection and management options benefitting priority birds.

Through the [Kittatinny Coalition](#), co-led by [Audubon Pennsylvania](#) and the [Appalachian Trail Conservancy](#), partners are working to form a continuous greenway along the [Kittatinny Ridge](#), a Global IBA supporting Cerulean Warbler and Bald Eagle, threatened by energy development, sprawl, invasive plants, and climate change impacts. With support from the [PA Department of Conservation and Natural Resources](#), Audubon Pennsylvania and [The Nature Conservancy](#) conducted a “connectivity analysis” to identify gaps between protected lands, revealing over 700 “top tier” parcels totaling over 100,000 acres as areas to target for conservation. Partners are now reaching out to landowners to inform them of options for protecting and conserving their land.



Long-billed Curlew on Katie Prairie Conservancy Preserve in Texas, recognized as a global IBA with more than 20,000 acres of protected lands that are home to more than 300 bird species. / Steve Gast

Supported by a grant from the Lessard-Sams Outdoor Heritage Council, [Audubon Minnesota](#) and [Minnesota Land Trust](#) have teamed up to protect and restore 590 acres of significant habitat on private lands within five IBAs located in priority areas identified by the [MN Prairie Conservation Plan](#). The IBAs are [Glacial Ridge](#), [Goose Lake Swamp](#), [Agassiz National Wildlife Refuge](#), [Thief Lake](#), and [Kittson-Roseau Aspen Parkland](#). Minnesota Land Trust will coordinate and manage the acquisition of 450 acres to be completed by 2017. Audubon Minnesota will develop the land management prescriptions for secured easements and work to restore 140 acres of prairie and wetlands on public or private land.

In Montana, [Five Valleys Audubon Society](#) has collaborated with [Five Valleys Land Trust](#) and the [City of Missoula](#) on several projects focused on private lands conservation, including two projects at [Clark Fork River-Grass Valley Important Bird Area](#), a Continental IBA supporting Lewis’ Woodpecker and other priority species. Bird surveys by Five Valleys Audubon at these sites documented substantial breeding populations of Long-billed Curlew, Bobolink, and a diversity of other species. These results have helped Five Valleys Land Trust secure funding for easements through the Natural Resources Conservation Service and the Open Space Bond fund of Missoula County, and have helped partners make a case for land protection purchases at several locations.

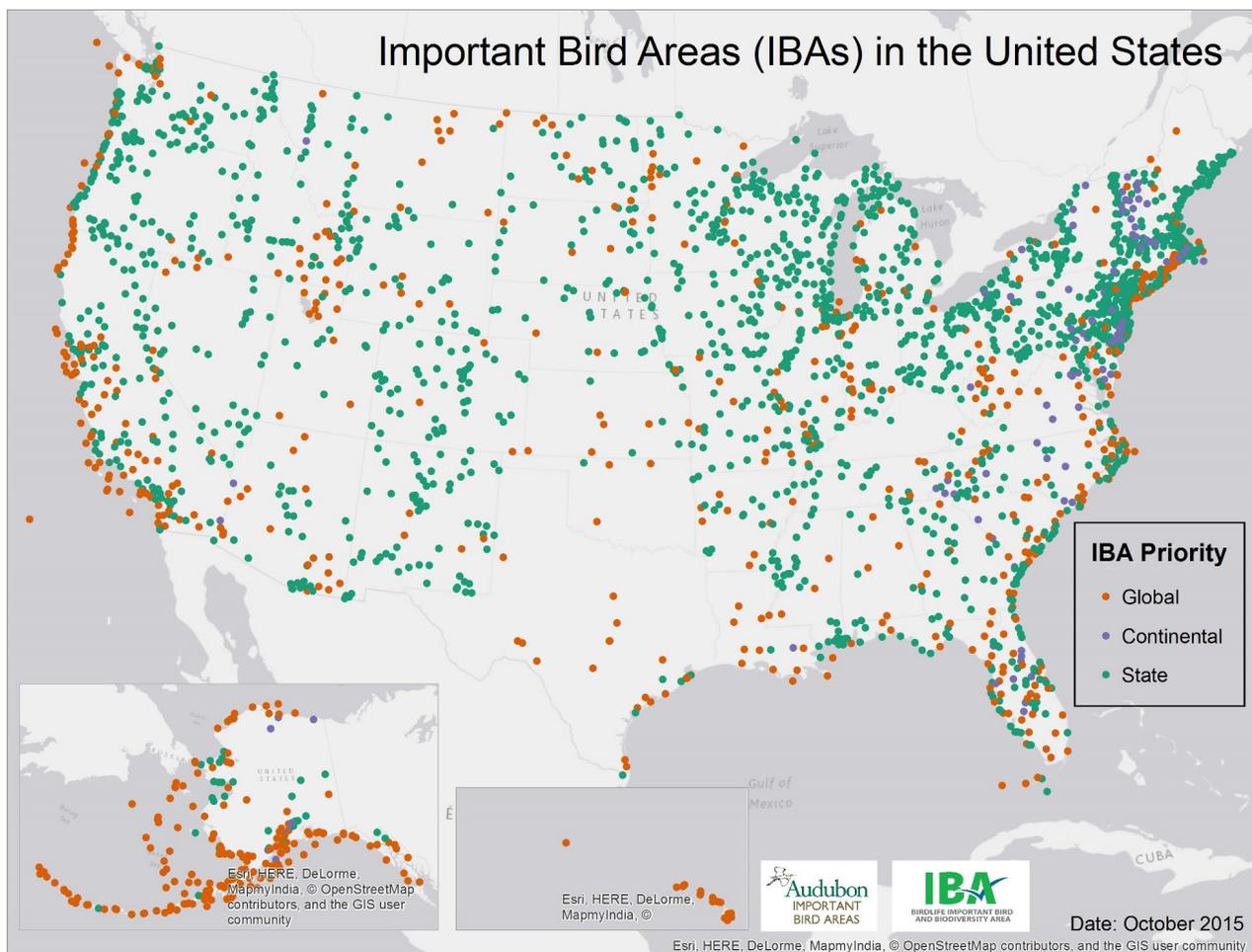
[Audubon Alaska](#) has collaborated with [Kachemak Heritage Land Trust](#), federal agencies, municipal groups, and others to mitigate the effects of rapid urbanization and habitat fragmentation on the Kenai Peninsula Lowlands in Alaska. This area includes five IBAs—[Swanson Lakes](#), [Kenai River Flats](#), [Kasilof River Flats](#), [Anchor River](#), [Fox River Flats](#)—and a mix of boreal, riparian, coastal, estuarine, and wetland habitats. To foster a decision-making process that is collaborative and effective, partners need access to landscape data to help them determine shared priority areas and how time and money should be spent. Audubon Alaska thus developed a web-based [Kenai Mountains to Sea Conservation Decision-Support Tool](#) that creates an efficient process to help organizations work together to identify spatial priorities given priority species and resource amounts. Partners have used the tool

to identify and fund land conservation projects—work that was presented at the annual, national Land Trust Rally in October 2015 in Sacramento, California.

In the face of the rapidly expanding Houston, Texas metropolitan area, [Katy Prairie Conservancy](#) is coordinating with [Audubon Texas](#) to protect 30,000 to 50,000 acres of coastal prairie habitat within the [Katy Prairie Preserves System Important Bird Area](#). With two key additions in 2014, Katy Prairie Conservancy surpassed 20,000 acres under protection with over 66 percent in direct ownership and the remainder under private land conservation easements or in public ownership. In addition, the Conservancy has conducted outreach programs to increase public awareness of this iconic landscape, which once covered the coastal regions of Texas and Louisiana. It has hosted and led various research projects and carried out long-term monitoring of the site to illustrate its significance to birds and other wildlife. The Katy Prairie Conservancy, a nonprofit land trust, is currently seeking Land Trust Accreditation.

Audubon chapters have collaborated with local land trusts on a host of bird conservation activities, from land purchases and easements to bird monitoring and spatial planning, to landowner workshops and decision support tool development. As it dives deeper into its assessment of land trust partnerships across the IBA network, Audubon expects to uncover more success stories, more opportunities for collaboration with land trusts, and a better understanding of its collective efforts in private lands conservation for birds and other wildlife.

For more information, contact [Connie Sanchez](mailto:csanchez@audubon.org) at [csanchez@audubon.org](mailto:csanchez@audubon.org).



## Land Trusts are for the Birds: Using Bird Focal Species to Inform Planning and Stewardship

*Geoffrey Geupel, Director of Emerging Projects and Programs, and Bonnie Eyestone, Partner Biologist, Rangeland Watershed Initiative, Point Blue Conservation Science*

Conservation of private working lands is a growing priority for many, including participants of the North American Bird Conservation Initiative. Lands that are protected from development and intensive agricultural uses can provide many important ecosystem services, including sequestering carbon, capturing rain water, and enhancing biodiversity. Birds are economically relevant and make excellent cost-effective indicators of biodiversity. Moreover, managing habitat for birds helps maintain healthy landscapes and a livable planet.

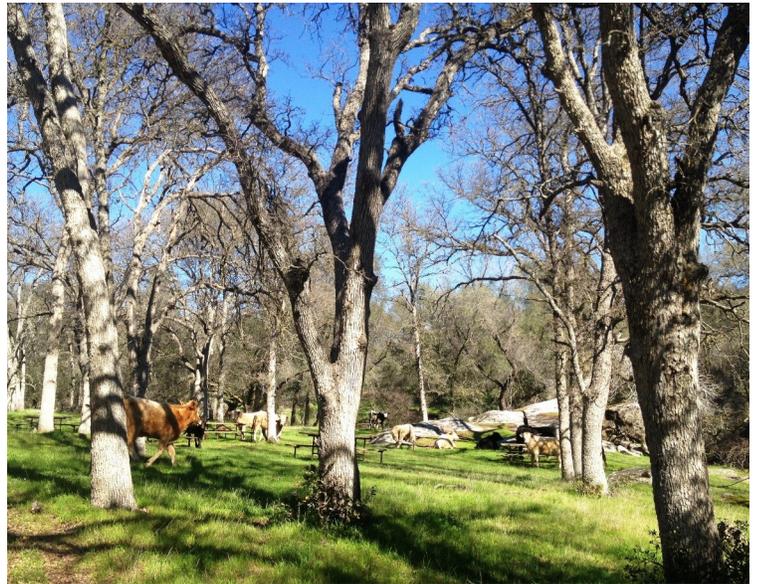
In the last few decades, land trusts have done a remarkable job of acquiring and protecting natural areas from development, and many land trusts now recognize the need to move from acquisition to stewardship. Holistic ranch planning is required to engage landowners in good stewardship that protects ecosystem services in a rapidly changing climatic environment.

Over the last 3 years, Point Blue Conservation Science (Point Blue) has directly engaged over 395 ranchers and 9 different land trusts, and helped carry out conservation measures on over 300,000 acres of rangeland. This conservation work has involved prescribing 43 different conservation practices, from fencing for prescribed grazing systems to riparian plantings for improved wildlife habitat.

Effective management planning has to include the needs of the landowner (often a board in the case of land trusts) and the grazing lessee who manages the land. Most importantly, planning must identify those beneficial practices that meet the objectives of all interested parties. After being carried out, these practices should be evaluated and modified as needed—an approach often called adaptive management, which is the foundation of good land stewardship.

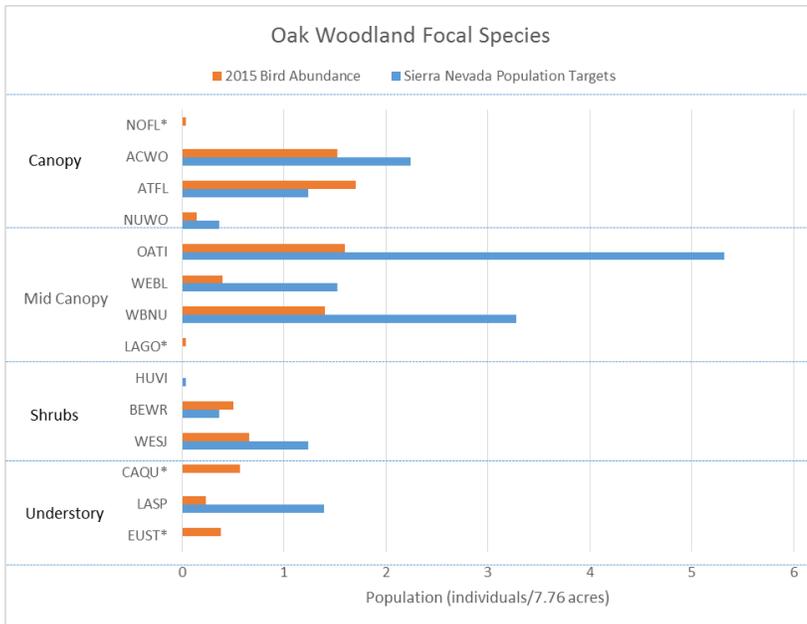
Following the footsteps of other non-government organizations, notably Pheasants Forever and The Bird Conservancy of the Rockies, Point Blue recently started a program that is hiring “partner biologists” to assist private landowners in carrying out climate-smart conservation practices. Through an ongoing partnership with the Natural Resources Conservation Service (NRCS), Point Blue has placed 14 partner biologists in California NRCS Field offices to work with ranchers, land trusts, and the local community. As part of the program, partner biologists are required to monitor the effectiveness of the practices prescribed. The monitoring focuses on ecological function such as water infiltration, soil bulk density and carbon, vegetation, and biodiversity using birds.

Monitoring bird focal species before and after project implementation has been extremely useful in guiding conservation for private landowners and land trusts. Focal species are indicators or umbrellas for other species or represent important habitat features or processes (see <http://www.pointblue.org/our-science-and-services/conservation-tools/resources-by-audience/planning-tools/> for complete list of focal species by habitat). Bird information is easy and relatively inexpensive to obtain either by conducting simple surveys or using online resources such as eBird or the Avian Knowledge Network (<http://ebird.org/content/ebird/>; <http://www.avianknowledge.net>).



Yearling cattle graze in outdoor classroom/picnic area on McKenzie Preserve's oak woodland. / Bonnie Eyestone

For example, the Sierra Foothill Conservancy owns and manages a 2,000-acre preserve in Fresno County, California with conservation goals for oak woodlands that include using grazing to enhance biodiversity and ecosystem health. Figure 1 shows the results of efforts to monitor birds and associated vegetation of this habitat.



The number of oak woodland focal species detected in the 2015 breeding season is compared to regional population targets that have been established for the Sierra Nevada Foothills. The population targets are based on what is expected for a healthy, diverse oak woodland. Note that the four-letter codes use the first two letters of the individual species' common name (see legend below figure).

Results suggest that important primary cavity nesters (birds that excavate their own holes) such as Acorn Woodpecker and Nuttall's Woodpecker, which live in the canopy, are present but are falling short of population targets. This indicates that mature oaks, which provide cavity sites, and Foothill Pines and older oaks, which are acorn granary or storage trees, are available; however, bird numbers may be down because of a poor acorn crop during the current multi-year drought. Secondary cavity-nesting species (those that use holes excavated by other species) such as Oak Titmouse and Western Bluebird populations may be facing nest predation and competition with European Starling.

**Bird Species Codes**

- NOFL - Northern Flicker
- ACWO - Acorn Woodpecker
- ATFL - Ash-throated Flycatcher
- NUWO - Nuttall's Woodpecker
- OATI - Oak Titmouse
- WEBL - Western Bluebird
- WBNU - White-breasted Nuthatch
- LAGO - Lawrence's Goldfinch
- HUVI - Hutton's Vireo
- BEWR - Bewick's Wren
- WESJ - Western Scrub-jay
- CAQU - California Quail
- LASP - Lark Sparrow
- EUST - European Starling

Figure 1. Oak Woodland focal species detected in 2015 breeding season compared to regional population targets for healthy oak woodlands. Species organized by habitat layers. Species with asterisks have no established population targets.

In general, the 14 oak woodland focal species are distributed across McKenzie Ranch but mostly use areas with the most canopy cover as well as the riparian area. The east side of the property is west facing and has greater canopy cover and thus greater focal species richness. Using ArcGIS, Point Blue mapped focal species abundance and distribution to identify areas that would benefit from specific habitat improvements and those where the current management practice is providing high quality wildlife habitat (see map on Page 21).

The results of these efforts led to the following management recommendations, which were incorporated into a grazing management plan for the Sierra Foothill Conservancy's McKenzie Ranch:

- Use rotational grazing annually based on plants' phenology in order to promote a diverse and healthy understory.
- In areas where oak woodland species are at low density, improve the understory and shrub layers by allowing for ample rest periods in grazing rotation; continue protection of blue oak seedlings; create brush piles to provide immediate understory cover; and maintain shrubs in high densities.
- Manage for a mosaic of tree canopy covers; retain large, mature and acorn producing oaks and those trees that are actively being used as granary trees or cavity trees, including snags and downed wood.
- Create a separate riparian pasture by fencing to rotate grazing and improve riparian bird focal species.
- Continue monitoring and adapt management to achieve goals and objectives.

These management recommendations also formed the foundation of a conservation grazing plan that was funded by the Environmental Quality Incentives Program (EQIP) in the 2014 Farm Bill. The EQIP is a voluntary program that provides financial and technical assistance to agricultural producers for up to ten years. Monitoring will continue to determine the effectiveness of these practices for the focal bird species. Results from this year have already shown an increase in Lark Sparrows.

Point Blue is confident that by encouraging land trusts and other private landowners to carry out these habitat management practices, California’s rangelands are becoming better able to retain water, produce forage for livestock, sequester carbon, and conserve biodiversity—to keep the land healthy and productive for birds, other wildlife and people.

For more information, contact Geoff Geupel at [ggeupel@pointblue.org](mailto:ggeupel@pointblue.org) or Bonnie Eyestone at [beyestone@pointblue.org](mailto:beyestone@pointblue.org). For information about Sierra Foothill Conservancy, visit [sierrafoothill.org](http://sierrafoothill.org).

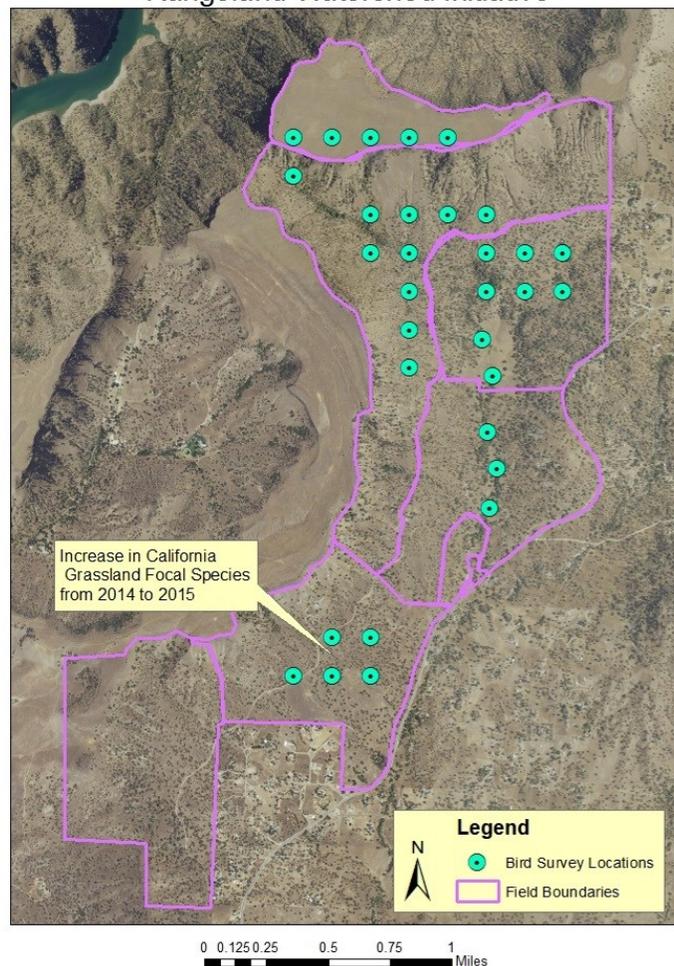


Since 80 percent of California’s oak woodlands are privately owned, land trusts can play a crucial role in the conservation of species like the Oak Titmouse, a Partners in Flight Watchlist species. / Tom Grey



Acorn Woodpeckers have complicated social systems and spend large amounts of time storing acorns in granary trees. / Gary Kramer

### McKenzie Preserve Rangeland Watershed Initiative



## Land Trusts Making a Difference in the Pacific Birds Habitat Joint Venture

Lynn Fuller, Outreach and Education Specialist, Pacific Birds Habitat Joint Venture

The Pacific Birds Habitat Joint Venture spans a wide geography that includes all of Hawaii and Alaska, and the coastal and western areas of British Columbia, Washington, Oregon and northern California. It encompasses all or part of six Bird Conservation Regions, and its migratory bird species use at least eight flyways. As a result, land trusts within the Joint Venture work in a variety of ecological and cultural contexts. About fifty land trusts work within the Joint Venture area, including some national or regional entities such as the Conservation Fund and The Nature Conservancy that conserve or hold land. Pacific Birds has had close relationships with many of these land trusts, and their local habitat projects are key to maintaining healthy bird populations on a larger scale.



Nu'u Pond on the island of Maui is part of a landscape-scale network of coastal protected areas that provides important habitat for several endangered waterbirds, including Hawaiian Coot, Hawaiian Goose, and Laysan Teal. / Dawn Jernail

The [Hawaiian Islands Land Trust](#) (HILT) is in a unique position to help with Hawai'i's numerous endangered or threatened species. The state's birds are faced with habitat issues such as invasive species, disease, and predators, and time is running out for many of its endemic birds. One example of land trust work that directly benefits endangered birds is on the Nu`u Preserve on Maui. With federal, state, and private funds, HILT purchased the 82-acre preserve, which contains a six-acre wetland in need of restoration. HILT and partners have been removing invasive plants, limiting predators,

and recently built and installed floating nest platforms for the endangered `alaeke`oke`o (Hawaiian Coot) and the ae`o (Hawaiian Stilt). HILT staff are observing the birds' behavior and waiting to see if the birds will nest on the platforms and, if not, what modifications are needed to encourage nesting. The wetland also provides an important stopover point for these waterbirds as they travel between wetlands on central Maui and the island of Hawai'i.

Protecting the forest canopy is one strategy to conserve Hawaiian forest birds, many of which are in steep decline. One such effort, the [Kipuka Mosaic Project](#), is bringing together landowners, HILT, and other groups to protect small oases (Kipuka) of intact forest canopy between Hawaii Volcanoes National Park and the Hilo Forest Reserve near the town of Volcano. This will preserve the ability of native birds, insects, and plant seeds to travel and propagate along the southern flanks of Mauna Loa. [Endangered forest birds](#) such as the `Piwi, 'Apapane, `Amakihi and 'Elepaio will ultimately benefit from this project, as well as similar forest conservation projects throughout the islands.

[Alaska's land trusts](#) have collectively conserved more than 40,000 acres, a large accomplishment in a relatively new state that is mostly in federal and state ownership. In fact, land trusts in Alaska have undergone significant growth in recent years in both their service areas and their capacities. The land trusts have made a concerted effort to conserve unprotected lands in urban areas, available lands adjacent to conserved areas, and private lands in remote areas. Several of Alaska's land trusts use specific site and bird abundance information such as Audubon's Important Bird Areas, traditional ecological knowledge, and other bird occurrence and habitat data to help evaluate and prioritize lands for conservation.

[Land trusts in British Columbia](#) have successfully conserved and restored lands through Ducks Unlimited Canada, the Nature Conservancy of Canada, and the Nature Trust of British Columbia. In 2014, the Crown

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Land Securement Partner Program (CLSP), administered by the Nature Trust of British Columbia, secured 388 acres on Vancouver Island to be added to the new Quatse Estuary Wildlife Management Area (WMA). The estuary and associated uplands provide habitat for about 100 bird species, including critical wintering habitat for waterfowl and waterbirds within the Pacific Americas flyway. In addition to the national and provincial trusts, there are more than twenty smaller, local land trusts that serve the southern coast and island communities of BC.

Within the Joint Venture's geography in Washington, Oregon, and California, land trusts have collectively preserved several hundred thousand acres of habitat for wildlife, as well as for agricultural, recreational and cultural values. Conservationists recognize the important role land trusts can play in wildlife conservation and community stewardship. For example, on San Juan Island, the American Bird Conservancy and the Ecostudies Institute have been working with the [San Juan Preservation Trust](#) to re-introduce Western Bluebirds in oak habitat. The Trust has taken on a large outreach role with this project, helping to convey to the public the importance of imperiled oak ecosystems for Western Bluebirds and other species. The Western Bluebird is a priority species that has suffered population declines due mainly to habitat loss and the concomitant loss of nesting cavities. The re-introduction program is not only helping to increase the population but is also inspiring new conservation opportunities and bringing new partners to the Trust. You can learn more about the program on the [Ecostudies Institute website](#).

One large land trust that has had a 25-year partnership with the Joint Venture is the Columbia Land Trust, which works within the Columbia River Basin in Washington and Oregon. The Land Trust has conserved more than 28,000 acres of wetlands, coastal estuaries, woodlands, forests, and other habitats in the Columbia River Basin and has restored thousands of these acres, benefiting many species of wildlife, including priority waterbirds, raptors, and Neotropical migratory landbirds. In 2015, the Land Trust received substantial funding from the National Coastal Wetlands Conservation Grant Program to protect 400 acres of declining coastal wetlands, riparian areas, and conifer forest on the Long Beach Peninsula between the Pacific Ocean and Willapa Bay, in addition to wetlands in the Chinook River Estuary—all in southwest Washington. Bird species that will benefit from this project include the threatened Snowy Plover and Streaked Horned Lark, and the Trumpeter Swan.

[The Center for Natural Lands Management](#) is another large land trust that works in both Washington and California and focuses on the inclusion of endowment funds as an important component of land acquisition agreements. This land trust manages over 80 preserves, protecting sensitive and imperiled species and their habitats in perpetuity through science-based land stewardship. The Center's South (Puget) Sound Program is engaged in long-standing efforts to protect vulnerable lands and species, including prairies, oak woodlands, and key freshwater systems.

Land trusts within Pacific Birds Habitat Joint Venture are making a huge positive impact for bird conservation. Between the bigger trusts working on multiple, large-scale projects, and the smaller trusts collectively protecting many high value sites, the benefits to migratory birds are enormous. Not only are acres being conserved in perpetuity, but the associated outreach and stewardship will result in long-term benefits to birds, biodiversity, and local communities. The Joint Venture applauds all of their efforts!

For additional information, contact Lynn Fuller at [lynn\\_fuller@pacificbirds.org](mailto:lynn_fuller@pacificbirds.org). You can also learn more by visiting: [Washington Association of Land Trusts](#), [Oregon Coalition of Land Trusts](#), [California Council of Land Trusts](#), and [Land Trust Alliance British Columbia](#).



The Long Beach Peninsula in Washington, where land trusts have worked to conserve important coastal lands. / Lora Leschner

## For the Benefit of Bird Habitat: Working with Local Ranchers in Colorado

*Erik L. Glenn, Executive Director, Colorado Cattlemen's Agricultural Land Trust and Tammy VerCauteren, Executive Director, Bird Conservancy of the Rockies*

The Colorado Cattlemen's Agricultural Land Trust ([CCALT](#)) was founded in 1995 by the membership of the Colorado Cattlemen's Association to serve as a local conservation option for Colorado's ranching families. Since its founding, CCALT has partnered with 240 families to permanently conserve more than 450,000 acres of productive agricultural land, wildlife habitat, and open space throughout Colorado.



Landowner Lee Rooks and Erik Glenn of CCALT discuss conservation options for the Rafter 26 Ranch in Chaffee County. / Alyssa Street, CCALT

[Bird Conservancy of the Rockies](#) (formerly Rocky Mountain Bird Observatory) has been working to conserve birds and their habitats through science, education, and land stewardship since 1988. Bird Conservancy works closely with partners—including landowners—to identify and carry out conservation solutions. It has a network of biologists and rangeland ecologists who provide information on wildlife habitat, conservation opportunities, and financial assistance for habitat enhancement and protection. To date it has enhanced more than 700,000 acres in Colorado, Wyoming, Nebraska and Mexico for the benefit of grassland, aridland, and wetland bird species as well as other wildlife, including native fish, while also enhancing the bottom line for agricultural production.

For more than a decade, CCALT and Bird Conservancy have worked together to advance conservation efforts

that benefit birds and their habitat. Collaboration between the two organizations has included partnering on landowner workshops and providing support for grant proposals. As Bird Conservancy of the Rockies is not a land holding organization, partnering with CCALT—and having them share their knowledge and resources with landowners regarding conservation easements—has helped provide a broader conservation toolbox for landowners to draw from. As landowners get involved in conservation practices on their land, they want to learn and do more for longer term conservation solutions—this is where partnering with CCALT helps move them further along in the conservation and protection spectrum.

CCALT has secured several grants from state lottery dollars to protect land and Bird Conservancy has provided letters of support that capture the bird conservation values of these easements. Using its monitoring data, and the Partners in Flight [Species Assessment Database](#) and [Colorado State Wildlife Action Plan](#), the Bird Conservancy communicates what priority species will benefit from the land being enrolled in a conservation easement, which helps in its ranking for funding. As with any natural resource conservation opportunity, collaboration amongst individuals and organizations is key to developing successful solutions.

Looking to the future, CCALT and Bird Conservancy of the Rockies are eager to expand their partnership for the benefit of both organizations and their respective stakeholders and to improve the overall efficiency of delivering “on the ground” conservation throughout Colorado. For example, Bird Conservancy's stewardship staff plans to collaborate with CCALT staff in working with landowners to conserve their properties. As CCALT engages landowners in conversations regarding conservation easements, the two organizations will collaborate as needed to tap each other's organizational expertise to help inform, monitor, develop, and implement conservation plans. Where appropriate the Bird Conservancy's biologists and rangeland ecologists will enhance the conservation values of lands put under easement through habitat improvements funded by the Farm Bill and other conservation programs.

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As an example, some ranches that enroll into conservation easements may benefit from alternate grazing practices, development of alternate water sources, fence marking, or native seed plantings. Staff biologists will develop a conservation plan and use Farm Bill and other partner funds to financially support these habitat improvement projects thus further enhancing the conservation values of the easement with benefits to both the producer and wildlife.

CCALT also plans to partner with the Bird Conservancy on training programs. For instance, Bird Conservancy staff will train CCALT staff to better utilize the Rocky Mountain Avian Data Center, which is part of the Avian Knowledge Network, to improve their access to and understanding of bird information. Both organizations believe that these trainings will help improve success on National Fish and Wildlife Foundation and Great Outdoors Colorado grants, as proposals will be better linked to state and regional conservation plans and better quantify expected bird and other wildlife outcomes of land conservation and protection efforts. This will also help projects developed for Farm Bill funding score more competitively.

We also look forward to joint fundraising and conservation initiatives, including collaborative proposals to the Migratory Bird Joint Ventures and Natural Resources Conservation Service's Regional Conservation Partnership Program, that combine our expertise in conservation planning, habitat enhancement, and land protection. The results will be more funded projects with even better private land conservation and protection strategies.

Bird Conservancy of the Rockies has been a catalyst in starting the conservation conversation with producers throughout Colorado, and CCALT has an outstanding reputation for working with landowners to conserve lands that have significant benefits for wildlife. Together we can help landowners keep doing what they do best—managing land—and the habitat and wildlife flourishing for generations to come.

For more information, contact Tammy VerCauteren at [tammy.vercauteren@birdconservancy.org](mailto:tammy.vercauteren@birdconservancy.org).



Landowner workshop conducted by CCALT in the Wet Mountain Valley.  
/ Alyssa Street, CCALT



Landowner Ken Adler in northwest Colorado, visits with USFWS biologist Bob Timberman and Brandon Miller of Bird Conservancy of the Rockies about habitat enhancement opportunities on his land for Sage Grouse conservation. / Seth Gallagher, Intermountain West Joint Venture/Pheasants Forever

## Wings Over Western Waters

Marie McCarty, Executive Director, Kachemak Heritage Land Trust

In 2011, the Executive Directors of the [Land Trust of the Upper Arkansas](#) in Salida, Colorado, and [Kachemak Heritage Land Trust](#) in Homer, Alaska, Andrew Mackie and Marie McCarty, met to discuss how they could work together across the West to further local and national bird conservation goals. From this initial conversation, the [Wings Over Western Waters](#) initiative was born and led to a multi-partner meeting in Salt Lake City in 2013, after the National Land Trust Alliance annual conference. This meeting included 16 western land trusts, representatives of the Pacific Coast (now Pacific Birds Habitat) and Intermountain West Joint Ventures, Audubon, Partners in Flight, Rocky Mountain Bird Observatory (now Bird Conservancy of the Rockies), and the Land Trust Alliance.



Kenai Lake is a large zig-zag-shaped lake on the Kenai Peninsula, which is home to an abundance of birds and other wildlife. / DC SL

Partners designed the Wings initiative to bring science to on-the-ground conservation efforts by fostering partnerships that focus on landscape-scale conservation for priority bird species. This initiative will help local and regional land trusts across the West use science and spatial analyses to better target their conservation efforts, and has received funding from the Intermountain West and the Pacific Coast Joint Ventures (Pacific Birds), U.S. Fish and Wildlife Service's Coastal Program, the Mountaineers Foundation, Charlotte Martin Foundation, Land Trust of the Upper Arkansas, and Kachemak Heritage Land Trust. Below are just two examples of the kinds of projects that Wings is working on.

used to identify the statewide needs and successes of Alaskan land trusts for conserving priority bird habitats. Through this work Audubon will create broad-scale maps that show priority parcels for bird conservation on Alaska's Kenai Peninsula using the following spatial layers:

- Land trust service areas
- Existing conservation lands: federally protected, easements, fee simple
- Land trust priority areas, if feasible
- Audubon's Important Bird Areas (IBAs)
- Watchlist and priority species lists from national and state bird conservation plans

Audubon will also work with KHLT staff on a pilot project to develop a protocol for assessing parcels based on the value of their bird habitats. Land trusts can use this protocol for prioritizing and managing sites. The pilot will include creating customized lists of species of concern that may be encountered on parcels and types of priority habitats to watch for. Specific activities include:

- Develop bird checklists for existing conserved KHLT parcels
- Create a guide for how to identify Watchlist species habitat
- Conduct an analysis of habitat types to identify areas most likely to have high bird diversity
- Conduct a finer scale analysis of bird survey data to identify core areas within IBA focus layers
- Integrate improved bird habitat layers into a collaborative project on the Kenai Peninsula, titled *Kenai Mountains to Sea*

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The North American Bird Conservation Initiative (NABCI) is a coalition of organizations and partnerships dedicated to advancing integrated bird conservation in North America.

The vision of NABCI is to see populations and habitats of North America's birds protected, restored, and enhanced through coordinated efforts at international, national, regional, state, and local levels, guided by sound science and effective management.

The goal of NABCI is to deliver the full spectrum of bird conservation through regionally based, biologically driven, landscape-oriented partnerships.

The All-Bird Bulletin is the news and information-sharing publication of the U.S. NABCI Committee. <http://www.nabci-us.org>

For subscription or submission inquiries, contact the Editor, Roxanne Bogart, U.S. Fish and Wildlife Service, 413-253-8582 or [Roxanne\\_Bogart@fws.gov](mailto:Roxanne_Bogart@fws.gov). To download back issues, visit <http://www.nabci-us.org/allbirdbulletin.htm>.

The All-Bird Bulletin publishes information on infrastructure, planning, science, funding, and other advancements in the field of integrated bird conservation and management. For submissions, include author's name, organization, title, and contact information. Pictures are welcome but not necessary.

Through these partnership efforts, the Wings Over Western Waters initiative will increase bird conservation in Alaska using a model we hope to share with land trusts in the Lower 48 states. *For more information, please email [marie@kachemaklandtrust.org](mailto:marie@kachemaklandtrust.org) or [andrenjmackie@ltua.org](mailto:andrenjmackie@ltua.org).*



Partners in Flight lists Wilson's Warbler as a Common Bird in Steep Decline due in large part to degradation and loss of primary breeding habitat—western riparian woodlands. / Nick Hajdukovich, U.S. Fish and Wildlife Service



Trumpeter Swan on Potter Marsh at the southern end of Anchorage Coastal Wildlife Refuge. Nearly driven to extinction in the 1900s, Trumpeter Swan populations are on the rise. As a result of aggressive conservation. / Beth Peluso