PLAYING THE LONG GAME

THE CENTER FOR CONSERVATION BIOLOGY

Annual Report 2025

CCB's

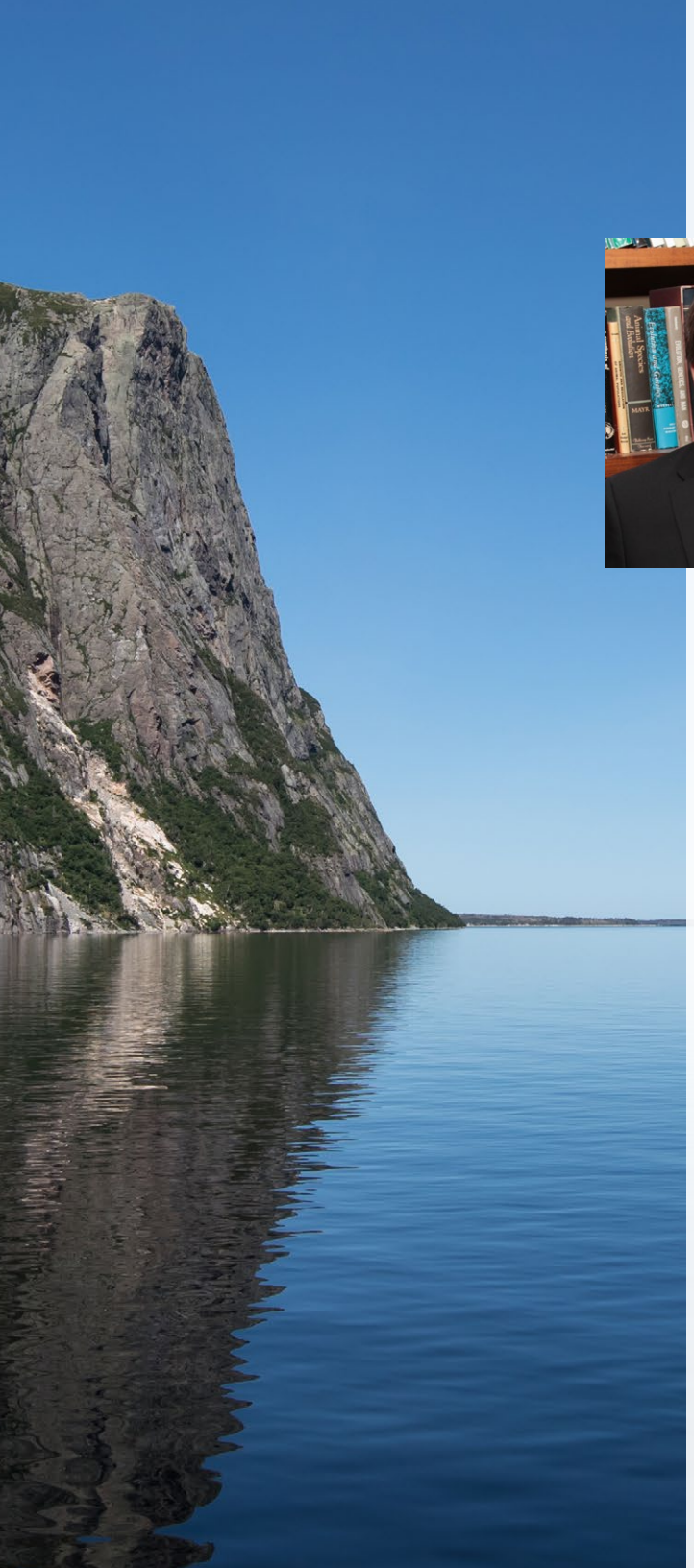
ONGOING MISSION

The mission of The Center for Conservation Biology, through all of its diverse programs, is to provide the global community with the information needed to drive thoughtful, science-based conservation, to educate and train the next generation of conservation scientists, and to make lasting contributions to the natural world through critical thinking, innovation, and ground-breaking research.

THE CENTER FOR CONSERVATION BIOLOGY

WILLIAM & MARY

(Front cover) Royal tern colony on a Chesapeake Bay island. CCB has worked with royals and other colonial waterbirds in Virginia since the 1970s. We have stood with these species for the long haul and continue to work toward insuring their sustainable future. *Photo by Bryan Watts*



A MESSAGE FROM THE DIRECTOR

Every day the pace of life seems to accelerate, and it feels like the world is coming to a boil. Social media feeds and short news cycles crash over us like waves. We often find ourselves lost in a mosh pit with everyone gyrating in random directions. Those of us who live within the conservation world recognize that progress does not fit within today's short attention spans, news feeds or flavors of the day. Restoring habitats or recovering species often requires generations to achieve. To be successful, we must filter out the day-to-day noise and focus on the long game.

Playing the long game means resisting the temptation to chase quick wins and aligning your efforts to achieve larger, more meaningful results that take time. The long game requires strategic thinking where we consider the long-term implications of our investments and recognize that consistent effort is more valuable than intermittent bursts. In a world obsessed with fast results and dependent on short grant cycles, playing the long game requires the courage and commitment to swim upstream when everyone else is swimming downstream. Short-term thinking leads to a lifetime of running in place. For many conservation problems, the long game is the only path that will produce the durability that lasting conservation requires.

The Center has worked on thousands of conservation problems with hundreds of species including several dozen where we have made multi-decade commitments to their future. The challenge of fitting a long-term project within a short-cycle world is that you must be innovative in arranging short-term objectives that together reach the longer endgame. Within this annual report, I highlight some of the challenges and strategies of operating bird conservation on a long time horizon.

Help us to win the long game.

Sincerely,

Bryan Watts

Bryan D. Watts
Mitchell A. Byrd Professor of Conservation Biology
Director, The Center for Conservation Biology

TABLE OF CONTENTS

Dunlin feeding on intertidal peat bank along the Virginia barrier islands. CCB conducted aerial surveys of shorebirds along the seaside of the Delmarva Peninsula for decades beginning in 1993. Unlike most of the migrant shorebirds, dunlin are temperate migrants and are the most abundant species during winter along the Delmarva. *Photo by Bryan Watts.*

IMAGINING SUCCESS

Unlike a gap year where the end goal is self-discovery and personal growth through new experiences, conservation programs are destination-driven. Conservation projects begin with a clear recovery objective. The objective may take decades or even generations to achieve. As with all long, complex journeys, an instructive initial process is prospection or imagining success. Prospection allows us to explore the art of the possible. What does success look like? What metrics will we use to know if we have achieved success? What techniques and resources will we need to employ? What are the appropriate milestones along the way? We work to visualize a road map for reaching conservation objectives.

Effective planning is a key component of the long game. Visualizing the objective and how to get there improves focus and efficiency. However, in this shape-shifting world our best laid plans must regularly be adjusted. Flexibility is another important consideration of the long game.

Whimbrel and short-billed dowitcher on mudflat. These two species are habitat mates during migration and on the winter grounds. CCB has worked with migrant shorebirds for more than three decades attempting to move the conservation ball down the field. *Photo by Bryan Watts.*

WHIMBREL

Shorebirds are declining on a global scale. Nearly 70% of the shorebird species using the Western Atlantic Flyway are experiencing population declines. The whimbrel is a large, highly migratory shorebird that breeds in arctic to sub-arctic latitudes and winters in the tropics. Populations that migrate along the Atlantic Coast make dramatic transoceanic flights that include single flights over 5,000 kilometers that often require more than five days nonstop to complete. Although these birds range over large distances throughout their annual cycle, they have very high site fidelity depending on the same marsh patches to refuel during migration, nesting on the same territory and wintering in the same location year after year.

The Long Game

CCB has worked with migrant whimbrels along the Delmarva Peninsula since 1994. After determining that staging birds had declined by 50% over the previous decade, CCB made the strategic decision to use satellite transmitters to determine where the birds were spending their annual cycle. Tracking information was used to identify factors likely contributing to demographic bottlenecks. A blueprint for conservation action was developed that has guided actions by CCB and the broader international conservation community. We are systematically moving through conservation priorities. We have focused on developing an education program for blueberry growers of Atlantic Canada, changing hunting policies in the Caribbean Basin and informing the placement of offshore wind projects. What began as a small investigation in Virginia has exploded into dozens of projects that have included dozens of partners throughout the annual range of this species.

(Top) Laura Duval tests the fit of a transmitter harness on a whimbrel. CCB developed the harness design currently used to track whimbrels throughout the world. *Photo by Bryan Watts.*

(Bottom) Fletcher Smith sets charges for a rocket net to trap migrant whimbrels in New Brunswick. CCB has tracked more than 80 whimbrels since 2008 to better understand their annual cycle and the threats they face. *Photo by Bryan Watts.*

Whimbrel trapping crew. Laura Duval (lft) and Mario Balitbit (center) work on banding gear while Alex Wilke (rt) monitors whimbrel traps. Tracking whimbrels throughout their annual cycle has allowed us to identify threats to the population and to prioritize these for mitigation. *Photo by Bryan Watts*.

High marsh in Chesapeake Bay dominated by saltgrass and saltmeadow hay. This is the historic nesting habitat of black rails within the region. Sea-level rise is squeezing this habitat out between the low marsh and the adjancent uplands.
Photo by Bryan Watts.

BLACK RAIL

The black rail is one of the most endangered bird species along the Atlantic and Gulf Coasts. Black rail populations have been declining in eastern North America for over a century resulting in a dramatic contraction of the breeding range, a reduction in the number of breeding sites within the core of the range, and a loss or decline of strongholds. The black rail requires a very narrow set of habitat conditions and has a very low tolerance for conditions outside of this range. Changes in land use and ongoing sea-level rise have rendered large swaths of previous habitat unsuitable. Black rail breeding populations will not persist in many areas without timely management action.

The Long Game

CCB began working with eastern black rails during the early 1990s and quickly became concerned about their disappearance from prominent locations. After failing to gain traction within the conservation community, we formally established the Eastern Black Rail Working Group in 2008 to publicize concerns and discuss conservation goals. In 2016, CCB produced a status assessment to support federal listing. We have conducted more than 8,000 surveys across five coastal states to better understand current distribution and the factors contributing to declines. In 2022, we produced a management guide that presents a strategic vision for how to move conservation forward and the management techniques that are available. What began with several people in a room has now grown into a range-wide movement including several hundred people from many agencies and organizations across the historic range.

(Top) Eastern black rail in marsh. Black rails are one of the most secretive and least known bird species in North America. From a distance they are just a black shape but close up they are exquisite. *Photo by David Siebel.*

(Bottom) Chance Hines measures black rail habitat in South Florida as part of an ongoing effort to understand habitat requirements and management opportunities. *Photo by Bryan Watts.*

MARSH BIRDS

Marshes provide a boundary between uplands and open water. Marshes export energy to surrounding waters, provide physical protection to uplands, filter contaminants washing from uplands and provide habitat for many bird species. Salt marshes support some of the most recognizable bird species of the coastal zone and species that breed in the highest portions of the marsh are some of the most threatened in North America. Black rails, Henslow's sparrows, sedge wrens, northern harriers and black ducks are all associated with vegetation in the marsh that is inundated infrequently. Declines in these species are both dramatic and ongoing.

The Long Game

CCB began working with marsh bird communities in 1992 in an effort to understand distribution and habitat requirements. The work progressed through a series of projects on area sensitivity, the impact of mammalian predators and the unique pressures experienced by high-marsh species. CCB included priority marsh birds in regional conservation plans produced in 1999 and 2013. As the urgency for finding solutions to mitigate the impact of sea-level rise on marsh habitat and its associated bird community has increased, it has become clear that the most practical solution is the facilitation of upslope marsh migration. CCB is currently focused on how and where to best facilitate the migration of marshes into the adjacent uplands and what habitat value recently formed marshes provide to bird populations.

(Top) Clapper rail walks through a salt marsh on the western shore of the Chesapeake Bay. Compared to the other marsh-nesting species, clappers continue to do well in the Chesapeake Bay despite ongoing sea-level rise. *Photo by Bryan Watts.*

(Bottom) Seaside sparrow. The seaside sparrow is the most abundant nesting bird within the salt marshes of the Chesapeake Bay. Seasides are able to nest throughout the marsh and so far have held up better than most of the other nesting species. *Photo by Bryan Watts.*

CCB survey boat on a marsh patch along the western shore of the Chesapeake Bay. CCB has conducted thousands of surveys in marsh patches within the Chesapeake Bay to assess habitat requirements and trends for the marsh-bird community.
Photo by Bryan Watts.


e Birds of Canada
Birds of Prey
OF THE WORLD
Birds of New Jersey
Birds of Mississippi

GOING ALL IN

Commitment is the single best indicator of success in many of life's pursuits, but particularly in conservation. When we meet with resource managers their likelihood of success becomes clear within minutes based on their level of commitment. It is one thing to sit down at the table but something entirely different to push all of your chips in on one hand. Going all in no matter what comes is the single best predictor of success in conservation. Like Sisyphus and the stone, if we repeatedly let up we will never reach the top. Long consistent effort toward a stated goal rather than spurts of activity wins the day and pushes a species to the finish line.

It is the unyielding commitment to see a program through to the end that leads to species recovery. Commitment is one of the most important components of the long game.

The A-team sitting in the CCB conference room with a stack of notebooks that contain 60 years of bald eagle survey data. Captain "Fuzzzo" Shermer (lft), Mitchell Byrd (center) and Bryan Watts (rt) flew the eagle survey together for 30 years tracking the population from 130 pairs to more than 1,100 pairs. *Photo by Bart Paxton.*

RED-COCKADED WOODPECKER

The red-cockaded woodpecker is endemic to the southeastern pine ecosystem. Highly specialized, the species requires old-growth, fire-maintained pine savannas. By 1970, changes in land use and silvicultural practices had reduced habitat by 99%. Classified as endangered on both the federal (recently downlisted to threatened) and state lists of imperiled species, this unusual woodpecker has required an intensive effort to shift its trajectory. Because Virginia represents the northern range limit, a concerted effort has been mounted to hold the conservation line. Protection of this species in Virginia reached a crisis in 2002 when only 2 breeding pairs and 14 individuals were known leading to a multi-pronged, multi-organization restoration effort.

The Long Game

CCB has been involved in work with red-cockaded woodpeckers since the beginning, more than 50 years ago. Mitchell Byrd conducted the first broad survey for the species in 1977. This initial effort was followed by studies of habitat use, annual monitoring and a systematic survey of habitat availability throughout the state. Purchase of the Piney Grove Preserve by The Nature Conservancy in the late 1990s was a watershed event for restoration in Virginia. CCB has managed the population on the preserve since establishment, including the translocation of birds into the site from donor populations to the south. CCB produced a state-wide management plan in 2010 that called for the establishment of a second recovery site and population targets as part of the national northern recovery unit. Today, Piney Grove supports 22 breeding groups including more than 100 individuals. Intensive habitat management has been the key to population growth. CCB helped the U.S. Fish and Wildlife Service to import birds into the Great Dismal Swamp to establish a second breeding population. Intensive habitat management has been the key to population growth.

(Top) Chance Hines carefully extracts a brood of woodpeckers from a nest cavity using a noose. CCB has worked intensively with the population within Piney Grove Preserve shepherding its recovery. The population has increased tenfold since 2000. *Photo by Bryan Watts.*

(Bottom) Brood of woodpeckers just after banding. All individuals within the population are individually marked so that they may be tracked over time. *Photo by Bryan Watts.*

Male red-cockaded woodpecker in the hand. CCB has worked with the Virginia population since the 1970s desperately working to prevent the loss of the population. We have worked on all aspects of recovery. *Photo by Bryan Watts.*

Mitchell Byrd with captive-reared falcon to be placed in hack box on Hawksbill within Shenandoah National Park for release. Looking on are Keith Watson (lft) from National Park Service and Amanda (Allen) Beheler (rt) William & Mary student. CCB released nearly 250 falcons in Virginia as part of the early restoration program. *Photo by Tim Wright*.

PEREGRINE FALCON

The peregrine falcon is one of the great fighter jets of the bird world capable of reaching very high speeds in pursuit of prey. By the early 1960s the peregrine population in eastern North America was extirpated, effectively eliminating the anatum race from the wild and elevating the species to endangered status on both federal and state lists. The primary cause of endangerment was low productivity due to DDT and like chemicals. The historic population in Virginia was estimated to include around 25 breeding pairs that were confined to the mountains and used open cliff faces and cut banks for nesting. Following an aggressive captive breeding and release program, Virginia documented its first successful nesting in 1982. The population has experienced a slow but steady recovery and has included 35 breeding pairs in recent years.

The Long Game

CCB has worked on peregrine falcon recovery every year since 1978. Along with many partners, CCB has been involved in all aspects of recovery as it has evolved over time. Because no wild stock remained in eastern North America, Cornell established a captive breeding program in the 1970s to produce young for release into the wild. Between 1978 and 1993, CCB released nearly 250 captive-reared falcons into Virginia via hacking in an attempt to establish a breeding population, first on the coast and then in the mountains. Since 2000, CCB has moved more than 250 wild-reared falcons from the coast to the mountains in an attempt to bolster the population within the historic range. We have established more than 70 nesting structures that have advanced population recovery. We have also investigated ecological questions within this emerging population including diet, dispersal, migration, longevity, contaminants, diseases and many others.

(Bottom) Young wild-reared peregrines in hack box on Franklin Cliffs in Shenandoah National Park. Since 2000 CCB has translocated more than 250 young falcons from the coast to the mountains in an effort to restore the historic mountain population. *Photo by Bryan Watts.*

(Top) Adult female peregrine incubating on the James River Bridge. CCB has worked with the Virginia Department of Transportation to manage falcons on bridges for 30 years. *Photo by Bryan Watts.*

BALD EAGLE

The bald eagle is one of those iconic species that has transcended its own biology to become a global symbol of freedom and strength. Beyond their public profile, bald eagles are top consumers and sensitive indicators for aquatic ecosystems. They are sensitive to contaminants within the food web, fluctuations in prey populations and human disturbance. Eagles suffered from a parade of insults culminating in the DDT era when populations reached all time lows by the early 1970s. Federal listing and a ban on DDT resulted in a dramatic recovery. Within the Chesapeake Bay bald eagle numbers have increased more than 50-fold from their recent lows. Recovery has been aided by regulatory protections and cooperation by the public.

The Long Game

CCB biologists are considered global experts on the bald eagle and have been committed to its recovery since well before CCB was established. Since the early 1990s, we have conducted more than 200 research projects focused on a long list of ecological, management and policy problems. We have worked on virtually all aspects of the species ecology and this work has changed how we manage populations. We have also investigated contaminants and disease exposure and provided outreach projects for the public. The annual Chesapeake Bay bald eagle survey was started in 1957 and CCB has conducted the survey since 1978. CCB biologists work with eagles annually and continue to be committed to their continued success.

(Top) Bald eagle bands. CCB has been banding bald eagles within the Chesapeake Bay since the late 1970s. Band recoveries and resights have helped to improve our understanding of demography and movement patterns. *Photo by Bryan Watts.*

(Bottom) Bart Paxton (lft) and Catherine Markham (rt) process a brood of bald eagles along the James River as part of a diet and growth study. CCB has worked on hundreds of eagle projects over the past 50 years to move conservation forward. *Photo by Bryan Watts.*

Second-year bald eagle with transmitter. CCB has tracked more than 150 bald eagles in a long-term effort to understand their requirements and to mitigate a wide range of mortality risks. We continue to be vigilant in order to detect emerging threats. ***Photo by Bryan Watts.***

Clutch of snowy egret eggs. The Center (and partners) has surveyed snowy egrets and other colonial waterbirds periodically since 1975 in order to track breeding distribution and population trends to inform management. ***Photo by Bryan Watts.***

COLONIAL WATERBIRDS

Colonial waterbirds are highly visible components of coastal avifaunas that share the unusual characteristic of nesting in dense assemblages. Within the Chesapeake Bay, 25 species of colonial waterbirds occur including herons, egrets, ibises, gulls, terns, skimmers, cormorants and pelicans. The result of nesting colonially is that these species typically breed in very few locations such that the loss of a few breeding areas may have profound consequences on a population level. Although the species have diverse ecologies and have varied diets, they all generally feed on aquatic prey and are considered good indicators of aquatic ecosystem health. Currently, the most significant threats to colonial waterbirds include human disturbance, predation, habitat loss, sea-level rise and contaminants.

The Long Game

CCB has worked with colonial waterbirds for 50 years. Within the Chesapeake Bay surveys of selected colonial waterbird colonies began in the 1940s and 1950s. In 1975 and 1976, the first systematic survey of heron and egret colonies was completed as part of an Atlantic Coast wide effort. In 1977, the first systematic survey of all colonial waterbird species was conducted as part of another large effort. Since these initial efforts, CCB has conducted surveys of the colonial waterbird community every several years in an effort to evaluate population trends and to provide information for ongoing management efforts. In addition to ongoing monitoring, CCB has conducted research on a wide range of ecological questions and has conducted strategic planning, direct management and public outreach efforts.

(Top) Brown pelican loafing and preening. Brown pelicans are one of the colonial waterbirds that have expanded their range north into Virginia in recent times. CCB has tracked their population expansion since they colonized the state. *Photo by Bryan Watts.*

(Bottom) Royal tern with juvenile menhaden. Within the mid-Atlantic region, royal terns appear to depend on menhaden to feed their young. CCB has worked to understand the ecology of many colonial waterbird species to help inform management. *Photo by Bryan Watts.*

AMPLIFYING SUCCESSES

Long journeys begin with small steps. For most conservation programs, large leaps early on come with high risks and failure may be hard to recover. Small projects help to establish footing and build momentum. Plant seeds – restore one small wetland, take a school group on a field trip, purchase a small refuge. Done well, small projects lead to larger more diverse initiatives, draw in new partners, attract funding and expand the scope of the program. Long projects are composites of many small projects that build on each other. When we lay down layer upon layer of projects over the years, we build a strong foundation that will carry the effort forward through time.

Early projects should be chosen strategically to serve as catalysts that will ignite projects to follow. Strategic staging catches fire and spirals outward from small beginnings to fuel a blaze. Forward momentum that progresses toward a stated objective is an important characteristic of the long game.

Osprey hatchling in nest on the York River. Ospreys have suffered a long parade of insults over the past several decades that have had population-level impacts. The current threat within the Chesapeake Bay is the lack of menhaden. Scores of young like this one have starved in nests in recent years due to the lack of menhaden. CCB continues our long commitment to this species. *Photo by Bryan Watts.*

Female osprey on the Rappahannock River. CCB remains vigilant about the impact of emerging issues on the Chesapeake Bay population. In recent years CCB has worked to understand the impact of menhaden shortages on the Bay-wide population. ***Photo by Bryan Watts.***

OSPREY

The osprey is an enduring symbol of the Chesapeake Bay and over the past three decades has become a global sentinel for environmental health. Ospreys are fish specialists that depend on fish to raise broods and to sustain themselves throughout their annual cycle. The Chesapeake Bay supports the largest breeding population of ospreys in the world, likely approaching 10,000 breeding pairs. Like other populations throughout the world, the Bay population declined by 80% during the DDT era, reaching a low in the early 1970s. Although ospreys have experienced a dramatic recovery in recent years, the world is a changing place and their high position in the food web calls for continued vigilance.

The Long Game

CCB biologists are considered global experts on the osprey and have been committed to its recovery since the population low in 1970. CCB biologists and graduate students have studied virtually all aspects of osprey ecology, including diet, growth, substrate use, dispersal, survivorship and migration. We have also executed many management projects including the testing of nesting platforms and restoration of populations in several states. In recent years, work has focused on the relationship between osprey and menhaden stocks and the implications of suppressed reproductive rates for the Bay-wide population. Many of the projects that CCB has conducted over the years have served as catalysts for osprey conservation elsewhere serving to magnify the results. In 2012, CCB launched OspreyWatch a global online project to collect demographic information and utilize ospreys as environmental sentinels.

(Top) Osprey bands. CCB has banded thousands of ospreys since 1970 throughout the Chesapeake Bay to better understand demographics, dispersal and winter distribution. *Photo by Bryan Watts.*

(Bottom) Bob Kennedy retrieving a young osprey from a snag for banding in 1971. Bob was a graduate student with Mitchell Byrd. Together they conducted some of the early status and productivity work during the height of the DDT era. *Photo by Mitchell Byrd.*

MIGRANT PASSERINES

The lower Delmarva Peninsula is one of the most significant migration bottlenecks in eastern North America where large numbers of birds become concentrated within a relatively small land area during fall migration. Migrants "fall out" in the early morning hours as they reach the mouth of the Chesapeake Bay and form a steep density gradient extending south to north within the lower 20 kilometers. For some species, densities are ten-fold higher near the tip compared to just 10 kilometers to the north. Migrants stopping on the lower Delmarva Peninsula are attempting to replenish their energy reserves before departing on their next leg of migration. Birds depend on dense cover for resting and insects and fruit to refuel. The conservation community can support these migrants by providing the resources they need within this critical landscape.

The Long Game

CCB has worked with migrant passerines on the lower Delmarva Peninsula for decades. In 1963, Fred Scott established a banding station at Kiptopeke. The station would run for more than 50 years, banding nearly 350,000 migrant passerines and would increase public awareness about the significance of the site. In 1992 CCB would begin one of the largest migration projects ever conducted, mapping tens of thousands of migrants staging on the peninsula. The focus of this study was to understand habitat requirements, passage times and distribution. Over the past 30 years, CCB would go on to conduct dozens of studies on migrants focused on migrant needs and how best to meet those needs through habitat management and acquisition. Both the banding effort and the initial migration study have attracted partners and amplified efforts leading to a robust community focused on protecting lands and managing habitat for migrants.

(Top)Jethro Runco releases a gray catbird after banding and weighing on the lower Delmarva. More than 350,000 migrant passerines were processed within this site during a 50-year period. The banding program collected vital information and increased public awareness about migrants. *Photo by Bart Paxton.*

(Bottom) Sarah Rosche (left) and Arianne Millet (right) measure fruiting plant density using a Robel pole. CCB has measured vegetation within thousands of locations within the lower Delmarva since 1992 to better understand habitat requirements. *Photo by Bart Paxton.*

Mourning warbler during migration. Passerines that migrate long distances between temperate and tropical latitudes must stop regularly en route to refuel. The Lower Delmarva Peninsula is a critical stopover site along the Atlantic Flyway. CCB has worked for decades to improve the quality of habitat for these birds. Small projects have been amplified through time to create large initiatives. ***Photo by Bryan Watts.***

American oystercatcher habitat on Watts Island within the Chesapeake Bay. Oystercatchers require high sand or shell habitat that is free from ground predators for nesting and populations of mussels, clams or oysters for feeding. Many of these areas within the Chesapeake Bay are eroding due to sea-level rise.
Photo by Bryan Watts.

AMERICAN OYSTERCATCHERS

The American oystercatcher is one of the most recognizable and interesting shorebirds along the Atlantic Coast. Once hunted to dangerously low numbers, they recovered only to experience the largest human migration to the coastal zone in history. The eastern population ranges from Nova Scotia south to Mexico. Their specialized diet of oysters, mussels, and clams restricts their distribution to the saltier waters of the outer coast. The habitats that they require for nesting are vulnerable to sea-level rise and human encroachment. Human disturbance has effectively rendered much of their former breeding range unsuitable. Oystercatchers congregate in large winter groups that are vulnerable to disturbance and habitat degradation. The population is now estimated to contain 11,000 individuals and is the focus of coordinated conservation efforts. Virginia supports the largest breeding population of any state.

The Long Game

CCB has worked with American Oystercatchers since 1980, investigating a wide range of ecological and management questions. Early studies focused on habitat use, productivity and causes of nesting failure. Alex Wilke has spearheaded population surveys, banding and nest monitoring. Band resight efforts have provided information on migration, dispersal and demography. Recent management efforts have focused on predator removal from selected barrier islands and how to mitigate sea-level rise. Early management success in Virginia has been a catalyst for efforts in other states. Concern for the species led to the establishment of the American Oystercatcher Working Group in 2001. The group now includes dozens of biologists from throughout the range and holds annual meetings focused on population recovery.

(Top) Alex Wilke with young oystercatcher on the Virginia barrier islands. Alex has monitored oystercatcher productivity and distribution along the island chain for more than 20 years. *Photo by Amanda Smith.*

(Bottom) American Oystercatcher foraging on a bed of ribbed mussels, one of their favorite foods in Virginia. The use of field readable bands has allowed for a coast-wide effort to better understand demographics and movement patterns. From small beginnings, oystercatcher work has grown year over year into a large integrated conservation effort. *Photo by Bryan Watts.*

IPSWICH SPARROW

The Ipswich sparrow is a geographically isolated subspecies of the savannah sparrow. The breeding range of the form is restricted to Sable Island off the coast of Nova Scotia, Canada where it nests in dune and heath habitat. The global population is estimated to be 6,000 individuals. The Ipswich is a true coastal sparrow, spending its entire life cycle in dune habitat along the Atlantic Coast. The primary winter range of the Ipswich sparrow includes coastal barriers and beaches from North Carolina north to New Jersey with the highest densities occurring in Virginia. Habitat for this specialized sparrow is threatened by sea-level rise, coastal erosion and human-related disturbance on beaches.

The Long Game

CCB has worked with Ipswich sparrows on the winter grounds since 2011. Early work focused on the density and distribution across multiple coastal states. Work since this initial effort has focused on habitat use, home range size, diet, impact of coastal development and site fidelity. We have worked collaboratively with Canadian efforts on the breeding grounds with a focus on building an integrated population model. Our initial work with this population has increased the public profile of this unique form and is driving a groundswell of interest throughout the range. Our hope is that heightened interest will improve how dune systems are managed for wildlife.

(Top) Wild dune habitat on Metompkin Island in Virginia. This along with the vegetated hind dune is the classic winter habitat of the Ipswich sparrow. *Photo by Bryan Watts.*

(Bottom) Amy Whitear with antenna and receiver on Assateague Island tracking an Ipswich sparrow with transmitter. CCB used transmitters to study habitat use and home range during winter. *Photo by Laura Duval.*

Two Ipswich sparrows along the Virginia barrier islands. Simple survey work by CCB on this habitat specialist has gained momentum and attracted attention throughout the conservation community. Our hope is that interest will increasingly result in better dune management. ***Photo by Bryan Watts.***

INSTITUTIONAL PARTNERS 2025

Advanced Conservation Strategies
Aluminum Company of America
American Bird Conservancy
American Eagle Foundation
American Wind Wildlife Institute
Arizona Bird Conservation Initiative
Atlantic Coast Joint Venture
Audubon North Carolina
Audubon South Carolina
Audubon Louisiana
Avian Research and Conservation Institute
Bird Studies Canada
BirdsCaribbean
Boreal Songbird Initiative
Brooks Bird Club
Buck Island Ranch
Canadian Wildlife Service
Carmeuse Lime & Stone, Inc.
Center for Coastal Resources Management
Chesapeake Bay Bridge Tunnel Authority
Chesapeake Bay Foundation
Chesapeake Conservancy
Coastal Conservation Alliance
Coastal Virginia Wildlife Observatory
Colorado State University
Conserve Wildlife New Jersey
Cornell Laboratory of Ornithology
Cube Hydro Carolinas
Cyrus Company
Dalhousie University
Delaware Division of Fish and Wildlife
Delaware Natural History Museum
Discover the James
Dominion Energy
EA Engineering
EDM International
Environment Canada
Exelon Corporation
Florida Audubon
Florida Fish and Wildlife Conservation Commission
Friends of Dragon Run
Friends of Rappahannock River
George Mason University
Georgia Dept of Natural Resources
Georgia Ornithological Society
Georgian Bay Osprey Society
Gomez and Sullivan Engineers
Good Shepherd Fund
Gulf Coast Bird Observatory
Hampton Roads Bird Club
Idaho Bird Observatory
Illinois Natural History Survey
Institute for Integrative Bird Behavior Studies
International Osprey Foundation
James River Association
Kentucky Dept of Fish and Wildlife Resources
Kissimee Prairie Preserve
Kleinschmidt Associates
Laramie Audubon
Little Egg Foundation
Louisiana Fish and Wildlife
Low Country Institute
Luck Stone Corporation
Maine Dept of Inland Fisheries and Wildlife
Maine Natural History Observatory
Manomet, Inc
Martha's Vineyard Raptor Research
Maryland Dept of Natural Resources
Maryland-National Capital Park
Maryland Ornithological Society
MathScience Innovation Center
Michigan Audubon
Michigan Dept of Natural Resources
Michigan Natural Features Inventory
Microwave Telemetry, Inc
Midstream Technology, LLC
Midwest Coordinated Bird Monitoring Partnership
Mississippi Museum of Natural Science
Mississippi State University
Mount Allison University
Movebank
National Aeronautics and Space Administration
National Audubon Society
National Fish and Wildlife Foundation
National Park Service
New Hampshire Audubon
New Jersey Audubon
New Jersey Conservation Foundation
New Jersey Division of Fish and Wildlife
Norfolk Southern Corporation
North Carolina Wildlife Resources Commission
Northern Neck Audubon Society
Northern Virginia Conservation Trust
Ohio Dept of Natural Resources
Oklahoma State University
Operation Osprey
Osprey Watch Alliance
Panama Audubon

Parks Canada
Partners in Flight
Pennsylvania Game and Fish Commission
Progress Energy
Richmond Audubon
Richter Museum of Natural History
Rockbridge Bird Club
Rockingham Bird Club
Santa Rosa Ranch
Smithsonian Institution
Smithsonian Tropical Research Institute
Solertium Corporation
South Carolina Dept of Natural Resources
Southern Company
Southern Illinois University
State University of New York
Tennessee Ornithological Society
Texas Parks and Wildlife
The Carolina Bird Club
The Nature Conservancy
The Peregrine Fund
The Wildlife Center of Virginia
Theodore Roosevelt Conservation Partnership
Toronto Ornithological Club
United States Army Corps of Engineers
United States Coast Guard
United States Dept of Agriculture
United States Dept of Defense
United States Fish and Wildlife Service
United States Forest Service
United States Geological Survey
Universidad de La Pampa, Argentina
University of Connecticut
University of Delaware
University of Georgia
University of Maine
University of Maryland
University of Moncton
University of Queensland
University of Rhode Island
University of Virginia
Virginia Academy of Science
Virginia Aquarium
Virginia Coastal Zone Management Program
Virginia Dept of Conservation and Recreation
Virginia Dept of Environmental Quality
Virginia Dept of Mines, Minerals and Energy
Virginia Dept of Transportation
Virginia Dept of Wildlife Resources
Virginia Institute of Marine Science
Virginia Marine Resources Commission
Virginia Master Naturalists
Virginia National Estuarine Research Reserve
Virginia Osprey Foundation
Virginia Outdoors Foundation
Virginia Saltwater Sportfish Association
Virginia Society of Ornithology
Vulcan Materials Company
West Virginia Dept of Natural Resources
West Virginia University
Whitaker Center
William & Mary
Williamsburg Bird Club
Williamson Ranch
Wisconsin Bird Conservation Initiative
Woods Hole Group, Inc
Xponent 21, Inc

(Back Cover) Sunrise on the lower Chesapeake Bay. Being out on the water day after day during the field season has its benefits. CCB has been committed to fieldwork throughout the Western Hemisphere for decades. *Photo by Bryan Watts.*

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