September 2024

nawmp.wetlandnetwork.ca

HabitatMatters

2024 Canadian NAWMP Report

"Proud Pair – Buffleheads" from the
2024 Canadian Wildlife Habitat Conservation Stamp series.

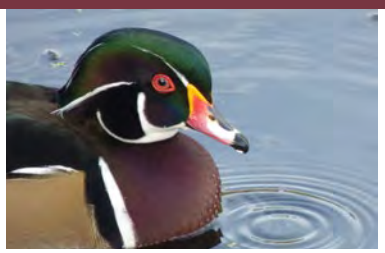
Artist: DJ Cleland-Hura

North American Waterfowl Management Plan

Plan nord-américain de gestion de la sauvagine

Plan de Manejo de Aves Acuáticas Norteamérica

Table of Contents









We acknowledge that the lands on which the North American Waterfowl Management Plan is implemented in Canada are the traditional, treaty and unceded territories of First Nations, Inuit and the Métis Nation. It is with respect and gratitude that we acknowledge these peoples, their stewardship and their deep connections to where we live, work and gather.

About the NAWMP

The North American Waterfowl Management Plan (NAWMP) is an international partnership to restore, conserve and protect waterfowl populations and associated habitats through management decisions based on strong biological foundations. The ultimate goal is to achieve abundant and resilient waterfowl populations and sustainable landscapes. The NAWMP engages the community of users and supporters committed to conserving and valuing waterfowl and wetlands.

In 1986, the Canadian and U.S. governments signed this partnership agreement, laying the foundation for international co-operation in the recovery of declining waterfowl populations. Mexico became a signatory to the NAWMP with its update in 1994. As a result, the NAWMP partnership extends across North America, working at international, national and regional levels on a variety of waterfowl, habitat management and people issues.

Since the NAWMP's creation, its partners have worked to conserve and restore wetlands, associated uplands and other key habitats for waterfowl across Canada, the United States and Mexico. The partners have had wide-ranging influence: shaping land-use and public policies, integrating science and monitoring systems into planning, and delivering habitat programs. The results of these efforts are notable. Many waterfowl populations have increased substantially since 1986, and NAWMP partners continue to collaborate with other bird conservation initiatives.

Common Goldeneye.
Sean Feagan, Nature Conservancy of Canada

In Canada, NAWMP partner activities are directed by public–private Joint Venture partnerships, which focus on areas or species of concern identified in the NAWMP. Each Joint Venture includes a range of partners, from federal, provincial and local governments to conservation organizations. Strategic and Implementation Plans, developed based on the NAWMP's goals as well as on pressures specific to the Joint Ventures, form the basis of each Joint Venture's programs and individual projects.

Terminology used in this report

Securement
The protection of wetland and/or upland habitat through land title transfer or binding long-term (minimum 10-year) legal agreements with a landowner.

Influence
Direct actions taken by landowners, land managers or conservation agencies that protect or enhance wetland or associated upland habitats without legal or binding agreements. These direct actions result in land-use changes.

Enhancement
Actions carried out on wetland and/or upland habitats to increase their carrying capacity for wetland-associated migratory birds and other wildlife.

Management
Activities conducted on secured wetland and/or upland habitats to maintain their carrying capacity for wetland-associated migratory birds and other wildlife.

National Overview

Wood Duck.
Marcel Gahbauer

Accomplishments (1986–2024)

24.1 million

acres of habitat secured
(9.8 million hectares)

Involves the protection of habitat through land title transfer or binding legal agreements with landowners (10-year minimum).

236.4 million

acres of habitat influenced
(95.7 million hectares)

Involves direct actions that protect or enhance habitat without legal or binding agreements. These actions result in land-use change.

4.3 million

acres of habitat enhanced
(1.7 million hectares)

Involves actions that increase habitat carrying capacity for waterfowl and other wildlife.

Accomplishments (2023–2024)

526.5 thousand

acres of habitat secured
(213.1 thousand hectares)

21.5 million

acres of habitat influenced
(8.7 million hectares)

413.0 thousand

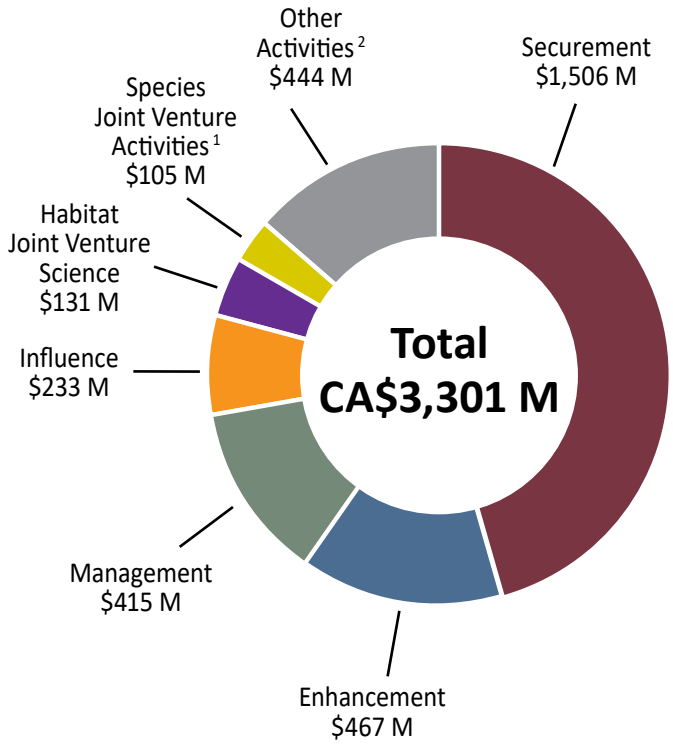
acres of habitat enhanced
(167.1 thousand hectares)

Note: Managed acres are no longer reported in *Habitat Matters* to avoid redundant data, as all managed acres occur on secured land.

1986–2024 consists of the January 1, 1986, to March 31, 2024, time frame. 2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.

Expenditures

By activity (1986–2024)



1 Banding, survey, research, observation and management.

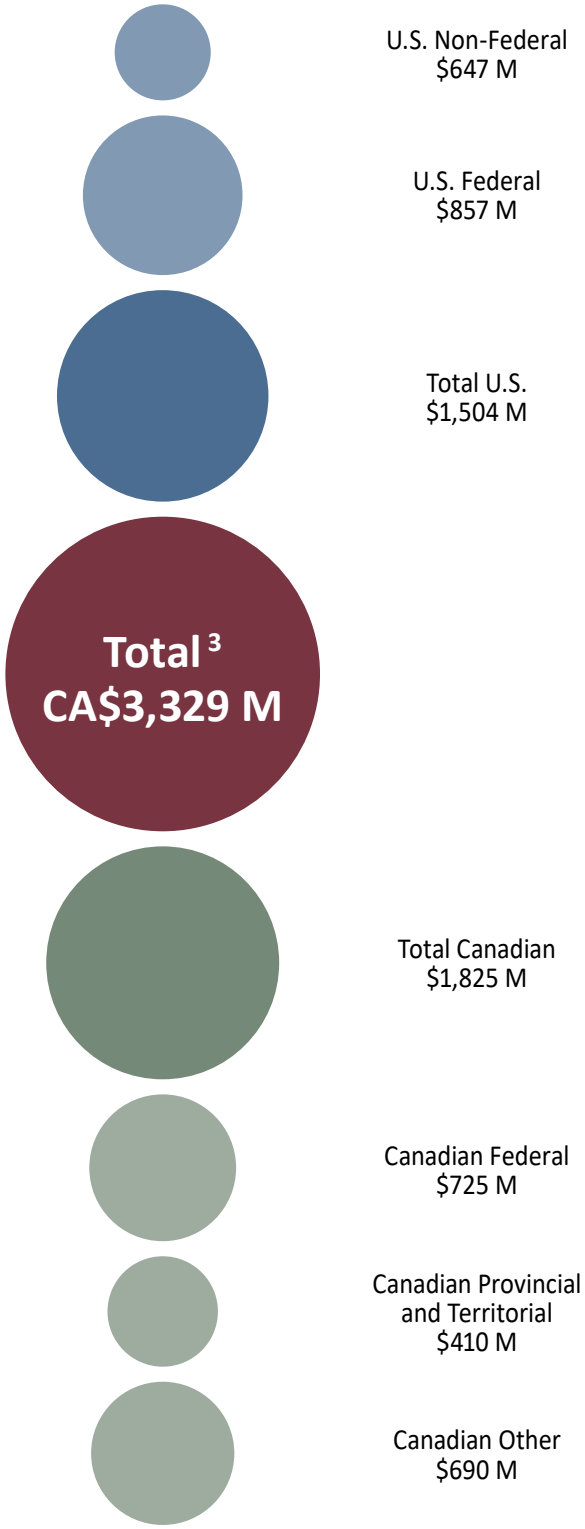
2 Coordination, communication, policy, crop damage and compensatory mitigation.

The successful implementation of Canada's NAWMP program has been, and continues to be, enabled by the support of partners in both Canada and the United States, including federal, provincial/territorial and state governments, non-governmental organizations and individuals. In particular, funding received under the United States' *North American Wetlands Conservation Act* remains integral to the success and longevity of the Canadian program.

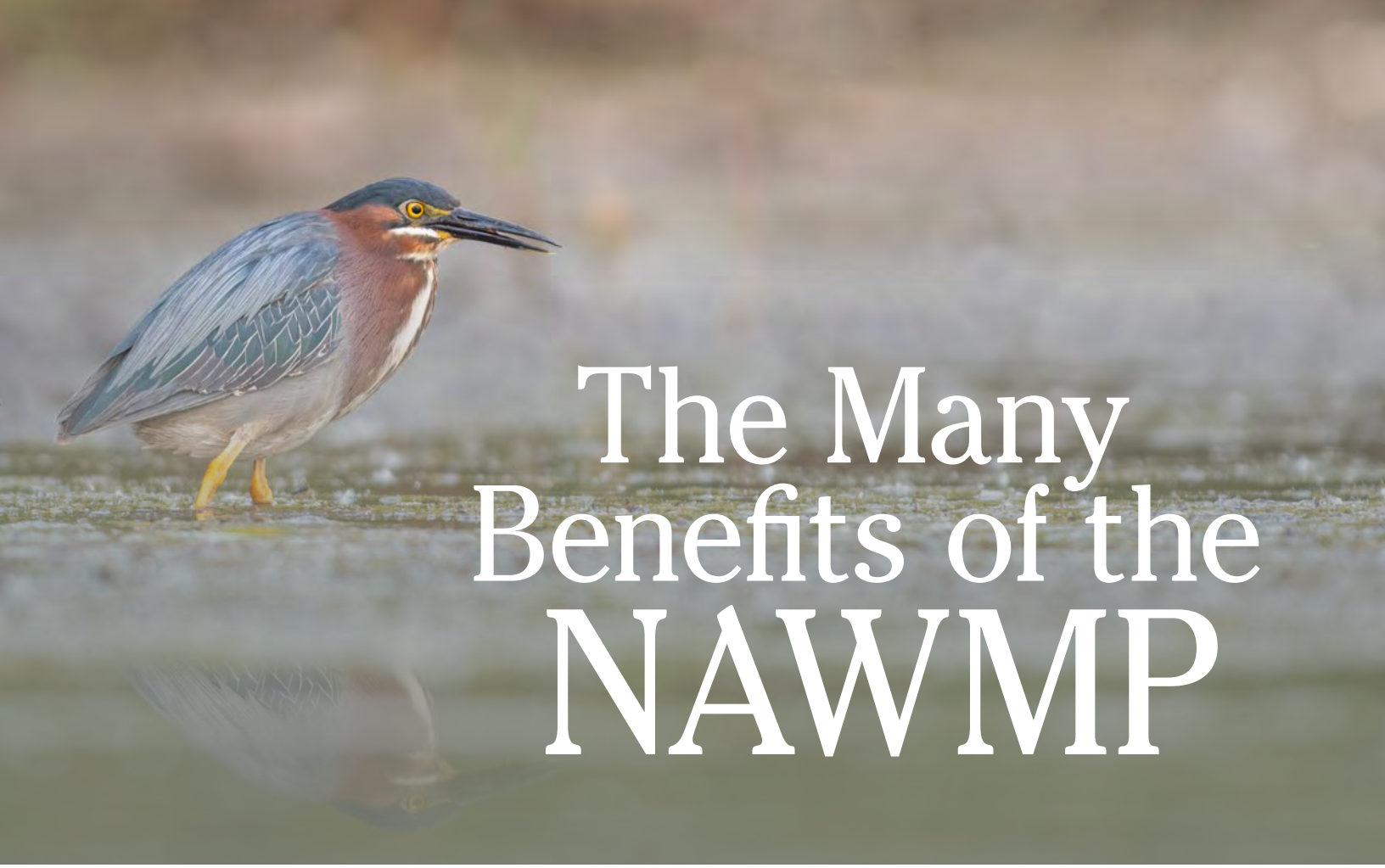
1986–2024 consists of the January 1, 1986, to March 31, 2024, time frame.

Contributions

In support of the NAWMP in Canada (1986–2024)



3 Includes $0.31 M in international contributions.



The Many Benefits of the NAWMP

Green Heron.
Jean-Maxime Pelletier

As stated in its name, the North American Waterfowl Management Plan (NAWMP) focuses on ducks, geese and swans. The NAWMP has made tremendous contributions to recover waterfowl populations, but it is important to remember that waterfowl do not live in isolation. They are part of ecosystems shared by a multitude of other organisms, which have also benefited from decades of NAWMP work. As we describe successful conservation initiatives that have improved life for waterfowl, we want to highlight how the NAWMP provides benefits for other species. And we can't forget that protecting and restoring wetlands and associated uplands benefits humans too. It improves our lives by providing places to recreate (hunt, fish, bird-watch, hike and enjoy the outdoors), creating jobs and supporting the economy. Wetlands reduce the extremes of water flow, reducing floods by absorbing excess water and mitigating droughts by releasing water slowly. Healthy wetlands improve water quality by filtering pollutants, contribute to climate change mitigation by storing carbon and act as buffers to the effects of a changing climate.

> The NAWMP is ahead of the curve. It has been contributing to Canada's biodiversity goals for four decades and will continue to do so into the future.

The NAWMP's decades of contributions to biodiversity

Canada, along with 195 other countries, is a Party to the United Nations Convention on Biological Diversity (CBD). In December 2024, Parties to the CBD adopted the Kunming-Montreal Global Biodiversity Framework (KM GBF), which contains global goals and targets to halt and reverse biodiversity loss and put nature on a path to recovery. As its contribution to these ambitious targets, Canada has developed the 2030 Nature Strategy, which includes a pledge to restore 30% of degraded ecosystems and conserve 30% of the country's land, waters and seas by 2030.

The NAWMP is ahead of the curve. It has been contributing to Canada's biodiversity goals for four decades and will continue to do so into the future. Through its conservation partners, the NAWMP addresses threats to biodiversity by implementing key activities such as land securement and restoration of wetlands and uplands, which in turn maintains and enhances ecosystem functions and services that will benefit both people and nature.

This year's *Habitat Matters* highlights projects across the country that are conserving and restoring waterfowl populations at the same time as they are preventing biodiversity loss and benefiting other species, including humans:

- In the Eastern Habitat Joint Venture, the Nature Conservancy of Canada recently acquired a parcel of land in the Great Jacques-Cartier Bog in Quebec. The bog is a feature that attracts nature-loving hikers and cyclists, who come to enjoy the Vélopiste Jacques-Cartier/Portneuf, a regional cycling path. The bog also provides invaluable ecological services. It is a carbon sink. It also absorbs substantial volumes of water to prevent flooding and filters water that flows into nearby rivers.
- In the Prairie Habitat Joint Venture, the Nature Conservancy of Canada is working with community members and students from the Waywayseecappo First Nation Off-Campus School to hold land stewardship field events at the Marco property, near Riding Mountain National Park in Manitoba. These activities, and new tools developed by the Black Duck Joint Venture, Birds Canada and Ducks Unlimited Canada to monitor the number of people who visit publicly accessible wetlands each year, will help measure progress under goal three of the NAWMP: increasing the numbers of conservationists and citizens who enjoy and actively support waterfowl and wetlands conservation.
- By monitoring goose populations, the Arctic Goose Joint Venture can determine when there are too many geese in fragile arctic and subarctic habitats. Researchers can suggest management techniques to regain balance and protect other species that share the habitat.

As these examples demonstrate, the NAWMP supports work to protect waterfowl populations that contributes to the conservation of complex and fragile ecosystems and their species. The benefits flow to people who live near and far.

A long-term partnership

One of the NAWMP's long-term partners is Wildlife Habitat Canada (WHC). Since 1985, WHC has provided over CA$64 million for more than 1,650 habitat conservation, conservation networking and research projects across Canada. Money for these grants comes from sale of the Canadian Wildlife Habitat Conservation Stamp (the Stamp). Each year, WHC invites Canadian wildlife artists to participate in a national wildlife art competition. A jury selects one artwork featuring a waterfowl or migratory gamebird in its habitat as the Stamp image. Hunters buy the Stamp to validate their migratory gamebird hunting permit. Collectors and other conservationists also purchase the Stamp and associated lithographic prints to support WHC. In the 2024–2025 grant year, WHC will continue its contribution by supporting partners in another 26 conservation projects across Canada. WHC will work with the four Canadian Habitat Joint Ventures as they strive to achieve NAWMP goals and objectives.

To learn more about Wildlife Habitat Canada, the Stamp or WHC grant programs, please visit *www.whc.org*. This program is offered with the financial support of Environment and Climate Change Canada.

Wetland in Saint-Marc-du-lac-Long, QC, conserved in collaboration with Fondation de la faune du Québec.

Wildlife Habitat Canada

Canada's Ecological Gifts Program: Securing Private Land for Conservation since 1995

Like the NAWMP, the Ecological Gifts Program (EGP) has a goal of protecting wildlife habitat, including habitat for migratory birds and species at risk. Protecting ecologically sensitive land plays a vital role in the fight to halt and reverse biodiversity loss. Protecting land also helps to sequester carbon, a key method of tackling climate change.

Thanks to the terms of the *Income Tax Act* of Canada and the Quebec *Taxation Act*, the EGP enables individuals and corporations to donate ecologically sensitive land or a partial interest in land—such as an easement, covenant or servitude—to environmental charities or a government body. In return, the donors receive enhanced tax benefits, including exemption from capital gains tax. American citizens owning land in Canada may also be eligible to donate their property under the program. Many ecological gifts include wetlands and associated uplands, such as Alberta's McIntyre Ranch in the Prairie Habitat Joint Venture, and the Clayoquot Island Preserve in the Pacific Birds Habitat Joint Venture.

In 2025, the EGP will celebrate its 30th anniversary! Since 1995 more than 1,900 ecological gifts have been made across the country, at a value of CA$1.3 billion. More than 250,000 hectares of land, including wetlands, shorelines, forests and grasslands, have been protected in perpetuity for future generations.

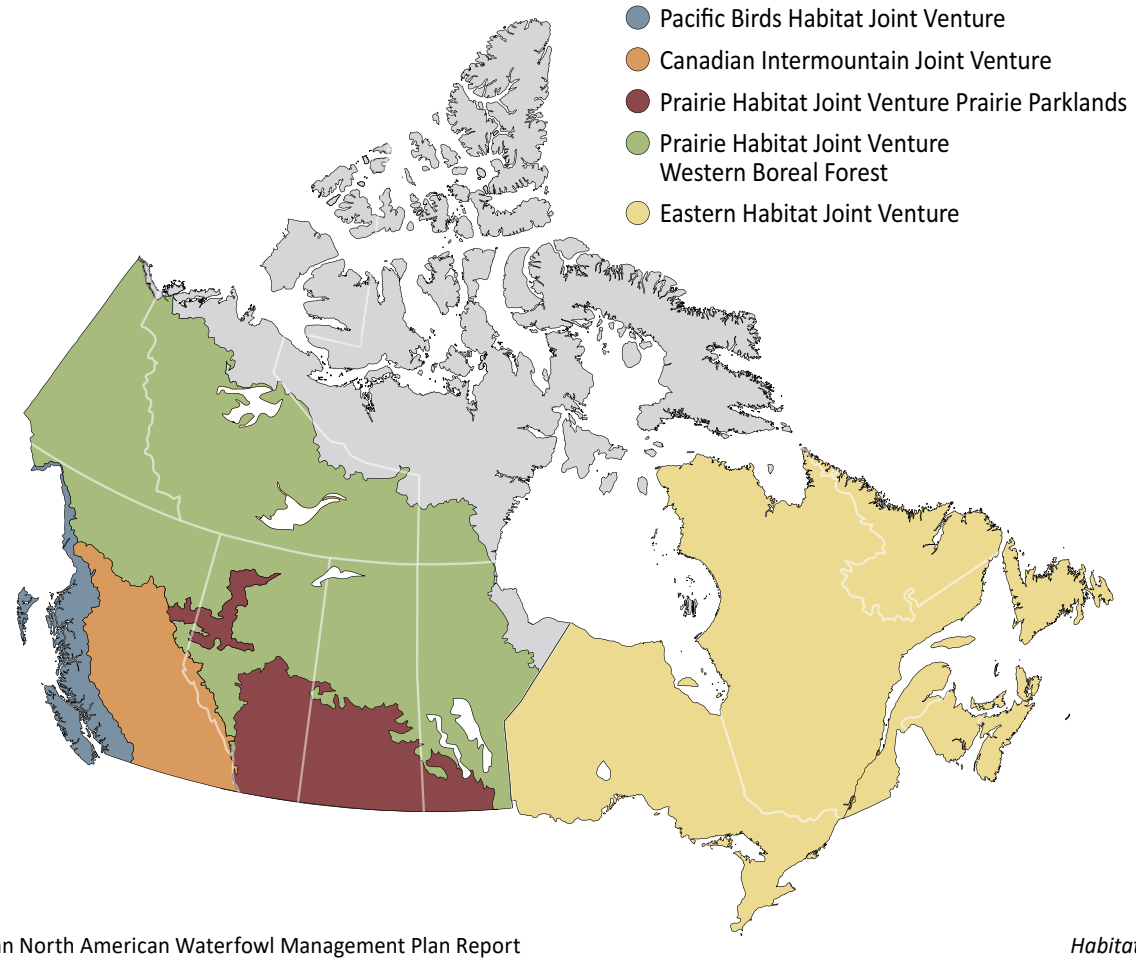
Many of these ecological gifts have been projects financially supported by governments, such as the U.S. Fish and Wildlife Service through the *North American Wetlands Conservation Act*, and Environment and Climate Change Canada through the Natural Heritage Conservation Program. For details please visit *canada.ca/ecological-gifts*.

Prairie wetland, southeast Alberta.
Marcel Gahbauer

Habitat Joint Ventures

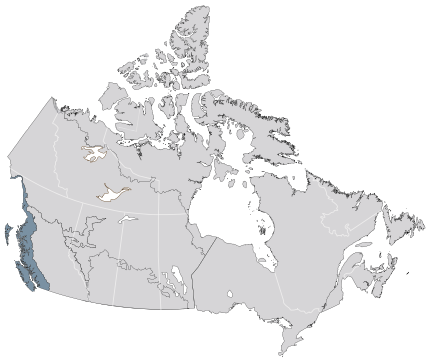
Labrador string bog.
Marcel Gahbauer

The Canadian Habitat Joint Ventures integrate planning, science, governance, partnerships and management to achieve the NAWMP goals in Canada through a programmatic approach. A science-based Implementation Plan is created to address local, regional and continental goals. Joint Venture partners actively research, monitor and evaluate waterfowl populations and deliver habitat conservation programs at a regional level.



Pacific Birds Habitat Joint Venture

Sturgeon Bank panorama.
Ducks Unlimited Canada



www.pacificbirds.org

The Pacific Birds Habitat Joint Venture (PBHJV) is an international Joint Venture that includes portions of British Columbia (B.C.), Alaska, Washington, Oregon, California and Hawaii. The B.C. coastline has over 440 estuaries, which are a focus of many PBHJV programs because of their food-rich tidal wetlands and adjacent floodplains. Near urbanized areas, floodplains have often been highly modified and converted to intensive non-forage agricultural crops, resulting in the loss of considerable natural habitat and food supply for wildlife. Throughout the PBHJV, 40 species of ducks, swans and geese occur regularly at various stages of their life cycles, and an estimated one million waterfowl winter along the B.C. coast. The Fraser River Delta in southern British Columbia is the only Canadian Important Bird and Biodiversity Area designated as "in danger" by BirdLife International. This delta supports the highest density of wintering waterfowl in Canada. Key species in the B.C. portion of the Joint Venture include the Wrangel Island Snow Goose (nearly half the population), the Pacific Coast Trumpeter Swan (half the population), American Wigeon, Cackling Goose and Western High Arctic Brant.

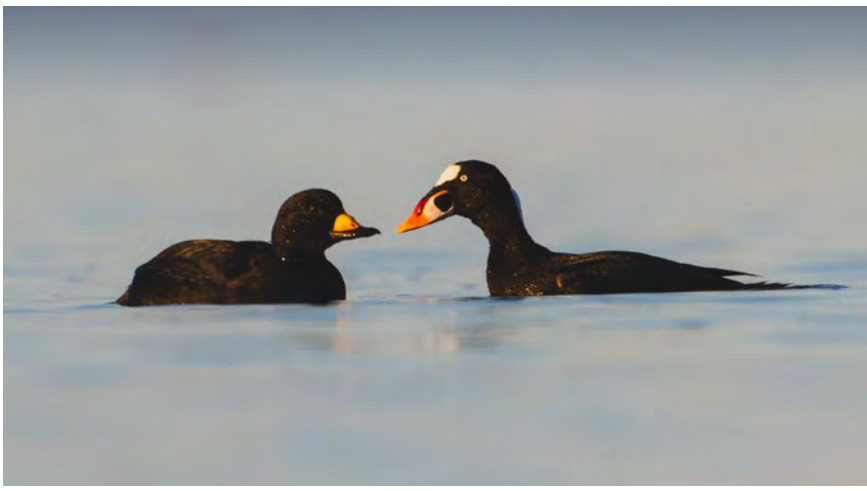
Several recent projects show how work supported by PBHJV and focused on waterfowl has spillover benefits to other birds, fish, amphibians, reptiles, mammals and humans. Conservation and restoration projects in the Fraser River and its estuary will mitigate flooding and preserve salmon spawning and feeding habitat. And a recently published research study focused on the B.C. coast shows that developing a large, uninterrupted network of protected areas maintains habitat connectivity not only for waterfowl but for other bird species too.

The importance of protected areas

The Pacific Flyway is a major north–south bird migration route that extends from Alaska to Patagonia. B.C.'s Pacific coast is a crucial part of the flyway. With over 15,500 miles (25,000 km) of shoreline, it offers valuable habitat for many species, whether they are making a stop on their way farther north or south, or wintering

in B.C. In early 2024, researchers from Mount Allison University, Birds Canada and Environment and Climate Change Canada published a study in *Global Change Biology* (*onlinelibrary.wiley.com/doi/10.1111/gcb.17178*) on how migratory birds were using protected areas along the B.C. coast.

The team used a 20-year data set collected by the B.C. Coastal Waterbird Survey, a community/citizen science program led by Birds Canada. The data helped the team understand regional declines and shifts in habitat use by many waterbird species that winter along the B.C. coast. Researchers found that recently protected areas (established between 1999 and 2019) contributed significantly to the occupancy and community stability of dozens of wintering waterbirds, including priority waterfowl species such as Greater Scaup, Northern Pintail, White-winged Scoter and Long-tailed Duck. These protected areas were often set up by land trusts or collaborations between First Nations and governments focused on wildlife conservation and cultural preservation. In contrast, protected areas established before 1999, many in and around the Salish Sea, often had less focus on waterbird conservation and were open to recreational activities. These areas have experienced some of the greatest declines in bird use, even more so than many unprotected regions.



Male Black Scoter (left) and male Surf Scoter (right).

Kris Cu

The study also showed that certain bird groups shifted farther north or to cold-water fjords. These were primarily cold-tolerant species, long-distance migrants and species higher in the food chain (those that eat shellfish and fish as their primary prey). At the same time, herbivores and warm-tolerant species seemed to be moving from south of the U.S.–Canada border northward into the Salish Sea. This suggests that older established protected areas are still important for waterbirds. They serve as stepping-stone habitats, helping stabilize populations from farther south as they move north and into Canadian coastal waters.

In light of these findings, the researchers noted that it's important to improve conservation-oriented management in older protected areas of the Salish Sea, while also expanding protection along the north-central B.C. coast and fjords, which the data show are becoming important habitats for many waterbirds.

> Conservation measures implemented to meet the goals of the NAWMP are also benefiting other waterbird species.

It's not just wintering waterfowl that are responding positively to these protected areas. Many other PBHJV priority bird species, such as Great Blue Heron, Western Grebe and Western Gull, are using the protected areas, showing that conservation measures implemented to meet the goals of the NAWMP are also benefiting other waterbird species. Developing a large, uninterrupted network of protected areas along the flyway will help maintain habitat connectivity as species shift northward.

Conserving an exceptional aquatic habitat

The Fraser River is known as British Columbia's most productive river system, supporting a multitude of flying, wading and swimming species, including the five species of Pacific salmon. The 50-mile (80 km) stretch of river between Mission and Hope is known as the Heart of the Fraser because of its exceptional aquatic habitat.

Carey Island is located amid some of the Fraser River's most important aquatic habitat.

Fernando Lessa

Carey Island's seasonally flooded gravel beds are important spawning habitat for threatened White Sturgeon.

Fernando Lessa

Silt and gravel swept downstream from the B.C. Interior collect here, creating extraordinarily productive spawning grounds.

In March 2024, the Nature Conservancy of Canada conserved Carey Island, which is situated in the middle of this section of the Fraser. Conserving the island has long been a priority for organizations and First Nations that are working to protect the Lower Fraser Valley's fish habitat.

Carey Island, near Chilliwack, is one of the few areas that has retained its natural, undeveloped shorelines, allowing its seasonally flooded side channels and gravel bars to fill with water during the spring snowmelt. Chinook, Pink and Sockeye Salmon have all been documented in the waterways around and throughout the 612-acre (248-hectare) island. Adult fish make use of the spawning grounds in the gravelly riverbed, while juveniles seek refuge in the calmer, seasonally flooded portions of the island. The gravel beds here are also some of the most important spawning habitat for White Sturgeon, designated as threatened under Canada's *Species at Risk Act* (SARA).

Waterfowl species known to use the waters around Carey Island include Mallard, Snow Goose, Lesser Scaup, Canada Goose, Cackling Goose, Bufflehead, Long-tailed Duck, Trumpeter Swan and American Wigeon. Great Blue Heron, Bull Trout, Northern Red-legged Frog and Western Painted Turtle, listed as threatened under SARA, are among the other species found in the area.

As the most populous region in British Columbia, the Lower Mainland is under immense pressure from development. More than 90% of the Fraser River's shoreline between Hope and the Salish Sea has been altered through diking, ditching and other modifications, leaving little undisturbed habitat for fish and other aquatic species. This also prevents the river from expanding into its natural floodplain and affects the resilience of the river's ecosystems. Carey Island itself has a history of small-scale farming, though pockets of mature cedar and Douglas Fir remain. The conservation of the island will prevent further land conversion and ensure that the shorelines remain intact. This will allow for proper maintenance of water quantity and quality, protect against rising sea levels and floods, and ensure habitat continuity.

> The conservation of the island will . . . allow for proper maintenance of water quantity and quality, protect against rising sea levels and floods, and ensure habitat continuity.

NCC is exploring opportunities to collaborate with the Pelólxw Tribe, which is actively working to restore the resilience of aquatic habitat within the Heart of the Fraser. The Pelólxw Tribe includes the Cheam, Sqwá and Kwaw-kwaw-a-pilt First Nations.

Reviving Sturgeon Bank: A new vision for marsh restoration

Sturgeon Bank is one of six components of the Fraser River Estuary, British Columbia's largest estuary and a key stop on the Pacific Flyway. Millions of waterfowl, including American Wigeon, Northern Pintail, Mallard and Brant, stop here on their migration journey. Many stay to winter in the area, while others feed on the rich variety of insects and plants found in the estuary's mudflats and tidal marshes before continuing their flight. Forty-seven species of shorebirds, as well as Great

Blue Herons, Trumpeter and Tundra Swans, Lesser Snow Geese and dabbling ducks, spend time in Sturgeon Bank, along with hundreds of thousands of migrating and wintering waterfowl and raptors. The five major species of Pacific salmon and over 27 non-salmonid fish species use the area for passage, food, shelter and acclimatization to salt water.

The Sturgeon Bank tidal marsh has undergone a drastic reduction in area over the past 40 years, shrinking by approximately 30%. In part this is due to the removal of sediment from the estuary. Each year, the Fraser River is dredged to accommodate shipping navigation. Historically, the sediment was deposited offshore. The loss of this sediment, and the resulting decline in area, raises significant concerns about the future health of the marsh and the ecosystem services it provides, including protection against storm surges and extreme weather events, and combating sea-level rise.

The Sturgeon Bank Sediment Enhancement Pilot Project aims to reclaim lost ground, restoring the marsh to its former footprint, supporting biodiversity and enhancing climate resilience and flood protection.

Led by Ducks Unlimited Canada, the project uses new techniques to replenish the marsh's sediment. By strategically depositing material dredged from the Fraser River, the project seeks to simulate natural sedimentation processes, fostering the regeneration of the marsh ecosystem.

In February 2023, crews transferred 388,470 cubic feet (11,000 cubic metres) of mostly larger-grained sand from the Fraser River to the foreshore of Sturgeon Bank. In 2024, a 4,600-foot (1.4 km) pipeline transported 141,250 cubic feet (4,000 cubic metres) of finer-grained silt from a nearby barge after it was dredged from a local marina. The total deposit of 529,720 cubic feet (15,000 cubic metres) of sediment would fill six Olympic-sized swimming pools.

Ongoing monitoring will help determine the effectiveness of this innovative solution to marsh recession. If successful, the project could be expanded within the Fraser River Estuary and beyond, benefiting not only waterfowl but also fish, other wildlife and the surrounding communities.

For more information, please contact Andrew Huang, Pacific Birds Habitat Joint Venture Coordinator, (604) 350-1913, andrew.huang@ec.gc.ca.

Great Blue Heron.
Steven McGrath

A temporary pipeline deposits reclaimed sediment dredged from the Fraser River onto Richmond's Sturgeon Bank, which is experiencing recession and is threatened by the impacts of rising sea levels.
Nathan Vadeboncoeur

Contributions (CA$)

	2023–2024	Total (1991–2024)
Total	$19,670,545	$297,019,882

Accomplishments (Acres)

	2023–2024	Total (1991–2024)
Secured	406	142,069
Influenced	34,081	6,671,576
Enhanced	1,423	205,497

Secured and enhanced acres are not additive.
2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.
1991–2024 consists of the January 1, 1991, to March 31, 2024, time frame.

Canadian Intermountain Joint Venture

Six Mile Slough in the Creston Valley, B.C.
Ducks Unlimited Canada

www.cijv.ca

With an area of 123.5 million acres (50 million hectares), the Canadian Intermountain Joint Venture (CIJV) covers portions of British Columbia (B.C.) and Alberta. The CIJV encompasses a diverse landscape of grasslands, dry and moist coniferous forests, riparian areas and wetlands, alpine tundra and even a pocket desert, with 24 breeding waterfowl species. The Joint Venture's estimated 1.45 million birds represent 70% of British Columbia's and roughly 4% of Canada's breeding waterfowl population. The CIJV supports roughly one-quarter of the world's breeding population of Barrow's Goldeneye, along with significant breeding populations of Mallard, Hooded Merganser and Ruddy Duck.

Acquisition and restoration projects supported by the CIJV invariably sustain many non-waterfowl species of birds, mammals, reptiles and amphibians, including many listed as threatened, endangered or of special concern under Canada's *Species at Risk Act* (SARA). Projects that restore wetlands, such as the one on Marion Creek described here, also enhance access to healthy fresh water for nearby communities and help address drought conditions that are likely to worsen with climate change.

An addition to the Wycliffe Wildlife Corridor

> The Wycliffe Wildlife Corridor–Wycliffe Prairie project protects habitat for waterfowl and for other birds, mammals, reptiles and amphibians.

As part of ongoing efforts to conserve and steward important wildlife habitat in the Wycliffe Wildlife Corridor, The Nature Trust of British Columbia (NTBC) has completed the Wycliffe Prairie acquisition project in the Wycliffe Wildlife Corridor. This project protects habitat for waterfowl and for other birds, mammals, reptiles and amphibians.

Wycliffe Prairie is 445 acres (180 hectares) of gently rolling grassland with shallow gully pockets of coniferous forest and aspen copses, rocky outcrops, wetlands, lakes and riparian ecosystems. The land is in the East Kootenay region near the town of Kimberley and is within the traditional territory of the Ktunaxa Nation. It is also part of a Regionally Significant Wildlife Area, identified by CIJV partners, that is particularly important for waterfowl, waterbirds and other wildlife that rely on wetlands.

The parcel is adjacent to NTBC's existing 900-acre (364-hectare) Wycliffe Wildlife Corridor Conservation Complex and provides a new grassland linkage to the 3,580-acre (1,449-hectare) multi-partner Wycliffe Corridor Conservation Complex. The Conservation Complex provides important habitat for waterfowl, including Green-winged Teal, Mallard, Redhead, Bufflehead, American Wigeon, Northern Shoveler, Canada Goose and Ruddy Duck.

The Long-billed Curlew (North America's largest shorebird, of special concern under SARA) has been observed on Wycliffe Prairie, and there are 148 acres (60 hectares) of critical habitat for Lewis's Woodpeckers (threatened) at this site. Other birds that have been seen near the conservation area include Barn Swallow, Common Nighthawk, Williamson's Sapsucker and Olive-sided Flycatcher, all listed as threatened, endangered or of special concern under SARA.

Wycliffe Prairie contains extensive winter range for ungulates, including Mule Deer, White-tailed Deer and Elk. Also found here is high-quality habitat for the American Badger, considered endangered under SARA. Western Toad and Western Painted Turtle, both of special concern under SARA, may occur in the area.

The Wycliffe Wildlife Corridor–Wycliffe Prairie acquisition has been financially supported by Environment and Climate Change Canada (ECCC), the U.S. Fish and Wildlife Service (USFWS) through the *North American Wetlands Conservation Act* (NAWCA), Habitat Conservation Trust Foundation, the Kootenay Wildlife Heritage Fund and the Hammond Family, the Yellowstone to Yukon Conservation Initiative, the Rocky Mountain Naturalists, Southern Guides (Guide Outfitters Association of BC), Tony Paine and Susan Collacott, and the Coyne Family.

Ruddy Duck.

Sean Feagan, Nature Conservancy of Canada

Wetland in Wycliffe Prairie.

Julian Zelazny, The Nature Trust of British Columbia

Restoring wetlands for myriad species

Restoring wetlands for ducks almost invariably provides benefits for other species as well, including humans. This is demonstrated by the Nature Conservancy of Canada's (NCC's) restoration of the Marion Creek wetland on NCC's Thunder Hill Ranch in the Upper Columbia River Valley, near Canal Flats. In the mid-1960s, the naturally occurring streams and wetlands were artificially altered for agricultural irrigation, and the soil was compacted. These modifications lowered the groundwater table, and wetlands and riparian areas dried out. This damaged habitat for fish, amphibians and burrowing species and allowed invasive species such as burdock, thistle and knapweed to take hold.

Restoring wetlands for ducks almost invariably provides benefits for other species as well, including humans.

NCC is working with Fisheries and Oceans Canada, the B.C. government, Rewilding Water and Earth (a heavy-equipment contractor and wetland restoration specialist) and a team of fisheries specialists from the Columbia Headwaters Aquatic Restoration Secwépemc Strategy to return the stream to its historic channel and

Mallard.

Jean-Maxime Pelletier

Restoration crews hold a meeting on the banks of Marion Creek.

Virginia Hermanson, Nature Conservancy of Canada

restore the natural hydrology of Marion Creek. The restoration project will create new ponds of varying shapes and depths. The ponds will be connected by a constructed stream channel and will mimic the beaver-created ponds that were historically present on the landscape. Logs and rocks will be added to provide habitat for aquatic invertebrates and amphibians, including the Western Toad, a species of special concern both federally and provincially. Compacted soil will be loosened to allow native shoreline plants to take root and restore habitat for burrowing species like Columbian Ground Squirrel and American Badger.

Reconstructing these wetlands, plus additional uplands and riparian areas, will provide connectivity and habitat for an important population of Westslope Cutthroat Trout, a species of special concern under SARA; generate habitat for waterfowl, including American Wigeon, Green-winged Teal, Mallard, Ring-necked Duck, Canada Goose and Bufflehead; and enhance access to healthy fresh water for nearby communities. The project will also improve upland moisture content and slow the flow of water, reducing erosion, providing filtration and retaining water for slower release into the later summer and fall. This will help address concerns that drought conditions in the watershed will worsen with climate change.

Adding a piece to the conservation puzzle

The Ferguson Lake Conservation Area was established in 1990 when it was donated to NTBC. Now NTBC has protected the adjacent Ferguson Lake–Wetlands, 318 acres (129 hectares) of private land with wetland ecosystems and extensive mature to old riparian forest along Ferguson Creek, which flows into Ferguson Lake.

The project is near Prince George in a Regionally Significant Wetland Area within the traditional territory of the Lheidli T'enneh First Nation. The area is particularly important for waterfowl, waterbirds and other wildlife that rely on wetlands.

Ferguson Lake–Wetlands provides vital habitat for several waterfowl and shorebird species, including Hooded Merganser, Bufflehead and sandpipers. Other species observed in nearby Ferguson Lake include Canada Goose, Common Loon, Common and Barrow's Goldeneye, Common and Red-breasted Merganser, Great Blue Heron, Greater Yellowlegs, Green-winged Teal, Mallard, Ring-necked Duck, Sandhill Crane, Snow Goose and Trumpeter Swan.

Ferguson Lake–Wetlands provides vital habitat for several waterfowl and shorebird species, including Hooded Merganser, Bufflehead and sandpipers.

The Western Toad (of special concern under SARA) has been observed in the new conservation area, and two bird species, Barn Swallow and Evening Grosbeak, which are listed respectively as threatened and of special concern under SARA, have been observed within half a mile (0.8 km) of the property. Ferguson Creek is also a fish-bearing stream and has historically contained Burbot, Chinook Salmon, Longnose Dace, Northern Pikeminnow and Rainbow Trout.

With the addition of the Ferguson Lake–Wetlands, the total contiguous conservation area will be 395 acres (160 hectares). It links provincial Crown land to the north and

Wetland near Ferguson Lake.

Julian Zelazny, The Nature Trust of British Columbia

south, forming a natural corridor for species including Moose, Elk, deer, Canada Lynx, Black Bear and Grizzly Bear. The latter is another species of special concern under SARA.

The Ferguson Lake–Wetlands acquisition has been financially supported by ECCC, the USFWS through NAWCA, the Lightburn Family, Wheaton Precious Metals, the Wood Brothers and the Wesik Family Foundation.

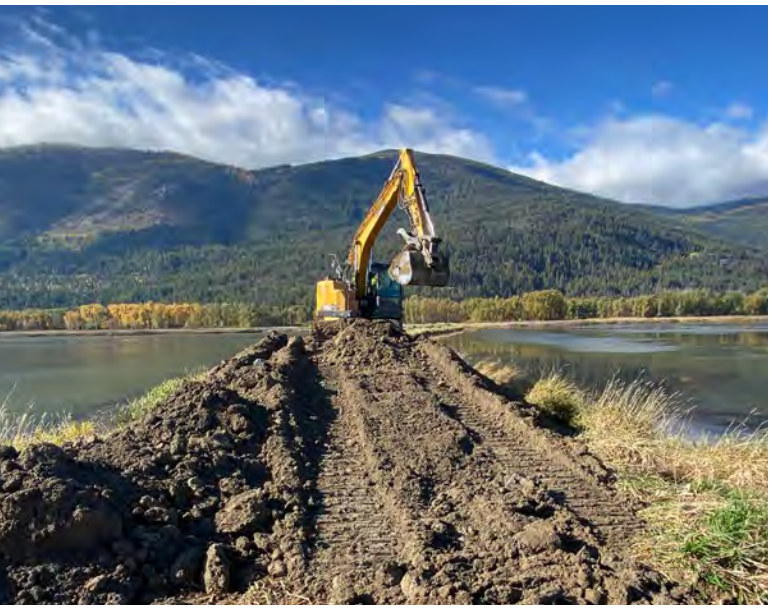
Reviving Six Mile Slough: A wetland restoration success in B.C.

The Creston Valley Wildlife Management Area (CVWMA), 17,300 acres (7,000 hectares) of rich wetland habitat, lies nestled between the Selkirk and Purcell mountain ranges near Creston, B.C. This vital ecological zone encompasses nearly 20% of the Kootenay River floodplain. It serves as a top B.C. breeding ground for waterfowl. Mallards, Gadwalls and Redheads are among the duck species breeding here, alongside significant populations of Canada Geese. Depending on conditions, between 500 and 1,500 pairs of ducks breed on the complex in any given year.

> Six Mile Slough is a designated Ramsar Site and Important Bird Area, as well as an Important Amphibian and Reptile Area.

In 2023, Ducks Unlimited Canada (DUC), in partnership with the Creston Valley Wildlife Management Authority, restored Six Mile Slough, a crucial habitat for local wildlife and waterfowl. Six Mile Slough, with 3,114 acres (1,260 hectares) of wetlands surrounding it, is a designated Ramsar Site and Important Bird Area, as well as an Important Amphibian and Reptile Area.

To address challenges associated with aging infrastructure, DUC removed six water control structures and breached internal dikes to create larger wetland



compartments. New water controls were installed for future water management, ensuring the slough can support its diverse array of wildlife.

The agreement between DUC and Creston Valley Wildlife Management Authority underscores DUC's commitment to wetland conservation. Ecological and cultural considerations come into play for projects like this, including archaeological surveys to ensure any discovered historic artifacts are addressed, and salvage of reptiles, amphibians or fish found within the work zone. The Management Authority supports permits for this process, and provides funding through the Columbia Basin Trust.

The CVWMA is a biodiversity hotspot, home to myriad species, including the Northern Leopard Frog (classified as endangered under SARA) and the Forster's Tern (a priority species in ECCC's Northern Rockies Bird Conservation Region). The CVWMA is also a critical stopover for thousands of migratory birds, second only to the south coast in terms of migration use, with aerial surveys recording up to 50,000 waterbirds in a single day.

By re-establishing water flow and improving habitat conditions, the project ensures the continued survival of numerous species and maintains the ecological integrity of this internationally recognized wetland.

For more information, please contact Andrew Huang, Canadian Intermountain Joint Venture Coordinator, (604) 350-1913, andrew.huang@ec.gc.ca.

Contributions (CA$)

	2023–2024	Total (2003–2024)
Total	$12,080,620	$126,846,451

Accomplishments (Acres)

	2023–2024	Total (2003–2024)
Secured	1,029	365,728
Influenced	0	50,865
Enhanced	882	207,244

Secured and enhanced acres are not additive.

2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.

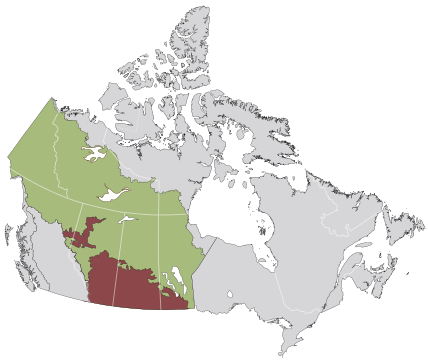
2003–2024 consists of the January 1, 2003, to March 31, 2024, time frame.

Infrastructure is improved at Six Mile Slough in the Creston Valley, B.C.

Ducks Unlimited Canada

Prairie Habitat Joint Venture

The Kowbel property in Manitoba.
Ducks Unlimited Canada



www.phjv.ca

The Prairie Habitat Joint Venture (PHJV) delivery area covers two distinct biomes in western Canada—the Prairie Parklands and the Western Boreal Forest (WBF)—and supports approximately 50% of North American breeding waterfowl. One of the continent's first priority landscapes under the North American Waterfowl Management Plan, the PHJV Prairie Parklands encompasses 158.4 million acres (64.1 million hectares) of prairie and aspen parklands in Alberta, Saskatchewan, Manitoba and the Peace Parkland Region of British Columbia. The WBF, which covers parts of British Columbia, Alberta, Saskatchewan, Manitoba, Yukon and Northwest Territories, has been acknowledged under the NAWMP as second only to the Prairie Pothole Region as an important waterfowl breeding area. The PHJV contains a range of wetland types, from small potholes to marshes and bog systems.

Together, the Prairie Parklands and WBF regions of Canada provide habitat for most North American duck species. They also provide habitat for hundreds of priority species identified in the Bird Conservation Region plans. The Prairie Parklands and WBF Implementation Plans highlight linkages between habitats and species.

Across the prairies, the PHJV's conservation programs provide benefits for people and wildlife as well as waterfowl. This might take the form of a "living classroom" for young people out on the land, research into grazing management for farmers and ranchers, a network of wetlands and forests for wildlife, or flood protection and clean water for local residents. These and other benefits are described below.

Prairie Parklands

Manitoba: Connecting community and conservation

Creating a bond between people and wetlands, grasslands and wildlife is an important aspect of PHJV outreach.

Marco Island in Manitoba.
Nature Conservancy of Canada

Habitats that support large and diverse assemblages of waterfowl have the added benefit of serving as "living classrooms," where students and youth volunteers are given the opportunity to learn from the land. To this end, the Nature Conservancy of Canada (NCC) is partnering with young people to build meaningful relationships with future generations, inspire their careers and conservation plans, and form connections that help maintain habitat quality.

Habitats that support large and diverse assemblages of waterfowl have the added benefit of serving as "living classrooms," where students and youth volunteers are given the opportunity to learn from the land.

An example can be found on the Marco property, just south of Riding Mountain National Park. Over 40 acres (16 hectares) of swamps, marshes and other wetlands anchor this diverse and picturesque landscape. NCC has worked with community members and students from the Waywayseecappo First Nation Off-Campus School to hold land stewardship field events at the property. This includes many hours of habitat restoration work and translates to thousands of dollars of in-kind volunteer work in support of wetland conservation.

Approximately 60 miles (100 km) south of the Marco property, partnerships between landowners and local organizations create a link between the community and conservation priorities. A particular focus is research that connects the cattle industry with best practices for habitat management.

Ducks Unlimited Canada (DUC), with contributions from the *North American Wetlands Conservation Act* (NAWCA), Environment and Climate Change Canada's (ECCC's) Nature Smart Climate Solutions Fund, and the Manitoba Conservation Trust, has worked to ensure that the Kowbel property, three quarter-sections located north of Brandon, has been protected by land acquisition. A variety of cereal and oilseed crops were produced on this site over the last century, and numerous wetlands were drained by previous owners to improve equipment access and increase arable acres. Since the DUC acquisition, 17 prairie pothole wetland basins—19.9 acres (8.1 hectares)—have been restored, and 183.2 acres (74.1 hectares) of intact wetland, meadow and aspen forest protected. An additional 262.5 acres (106.2 hectares) of cultivated land is now in perennial grassland cover.

The Kowbel property is next to another DUC property (640 acres/259 hectares) that is currently used by Manitoba Beef and Forage Initiatives (MBFI) to research innovative grazing management. DUC plans to let MBFI expand its operations to include the Kowbel lands. This will improve field-scale research that supports livestock producers, who are crucial for retaining and restoring both grassland and wetland habitat.

Saskatchewan: If you build it, they will come

A wetland basin that was drained 100 years ago has become home to a diversity of wildlife once more.

The Hannotte Project—named for the former owner of the first three parcels purchased—is in the prairie pothole country of east-central Saskatchewan. The project is an excellent demonstration of how conservation outcomes can be achieved through key partnerships. Ditch-plug restoration techniques provided by DUC, combined with six conservation agreements from five separate landowners, resulted in the largest wetland restoration of its kind in Saskatchewan. A total of 80 acres (32 hectares) of existing wetland and 380 acres (154 hectares) of grassland nesting cover were protected, and over 260 acres (105 hectares) of prairie wetland restored and conserved. In addition to the biodiversity benefits, the project will provide significant flood water storage and nutrient removal services for the surrounding area. Shorebirds, ducks and Canada geese with days-old goslings were all spotted foraging and resting in newly restored wetland habitat.

The Hannotte Project, just after spring thaw (top) and a few weeks later (bottom).

Ducks Unlimited Canada

The Hannotte Project makes it clear that landowner participation and contributions from partners such as ECCC and the U.S. Fish and Wildlife Service through NAWCA are key to the success of major conservation projects.

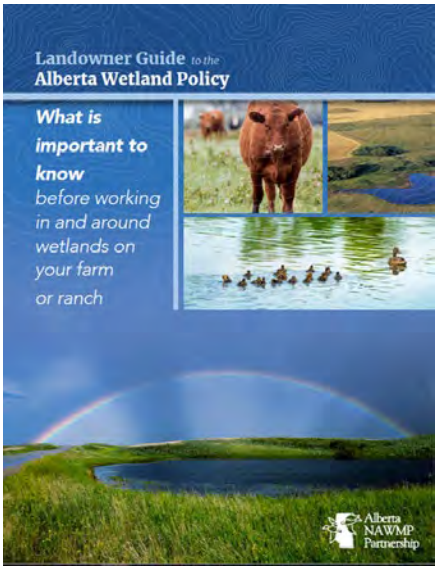
Alberta: Landowners and the Wetland Policy

Alberta has nearly 4 million acres (1.6 million hectares) of wetlands in the Prairie Pothole Region. Having an effective policy for wetlands ensures there will be fresh, clean, sustainable water resources into the future.

"Agricultural producers manage the vast majority of wetlands within the settled area of the province," said Tracy Scott of DUC. "The bottom line is, if we want to achieve successful implementation of Alberta's Wetland Policy, we need to engage directly with the folks who manage these lands." Scott is chair of Alberta NAWMP's Policy Committee and a member of the Management Committee.

"In many ways, rural landowners are implementers of the Wetland Policy, so understanding how the policy relates to their own situation is key," Scott explained. "A little-known fact is that rural landowners are also the primary recipients of wetland replacement fees paid under the Wetland Policy. That is, landowners receive payment for voluntary wetland restoration."

In addition to the biodiversity benefits, the project will provide significant flood water storage and nutrient removal services for the surrounding area.



The *Landowner Guide* can be found online (*abnawmp.ca* or *wetlandsalberta.ca*).

Alberta NAWMP Partnership

The Alberta NAWMP Partnership has developed a new guide to the Wetland Policy for landowners. Scott said, "The *Landowner Guide* brings information from all three documents—the *Water Act*, Water Ministerial Regulation and the Wetland Policy—together in one place in a format that is accessible for landowners and focuses on questions landowners ask."

Using funding from Canadian NAWMP sources, Alberta NAWMP gathered input from partner agencies like Alberta Environment and Protected Areas, DUC, ECCC, NCC and Alberta Agriculture and Irrigation. Feedback on drafts came from agricultural groups like Team Alberta Crops, Alberta Beef Producers and the Agri-Environmental Partnership of Alberta.

Beaver Hills easement a haven of biodiversity

Alberta's Beaver Hills, a PHJV priority landscape, is a haven of biological wonders. The area features an archipelago of aspen forests surrounded by interconnected wetlands. There are also numerous provincial and national protected areas.

This includes a recent addition called Moose Pasture, a quarter-section of land near Elk Island National Park that was purchased by local biologists. The property provides crucial migratory and breeding habitat for waterfowl, and for species like Horned Grebe, Western Toad and Yellow Rail that are of special concern under Canada's *Species at Risk Act*. Moose Pasture supports a plethora of invertebrate life, as well as plant life such as Coralroot Orchids, and aquatic macrophytes like Water Arum. It is also home to the site's namesake: Moose.

> The significance of Moose Pasture's preservation extends beyond its borders.

A conservation easement was created to preserve the Moose Pasture property. A combination of work from NCC land securement staff, a private donation from the landowners and a NAWCA grant ensured that conservation and stewardship would exist in perpetuity.

The significance of Moose Pasture's preservation extends beyond its borders, contributing to broader conservation efforts in the Beaver Hills. It complements existing protected areas like Elk Island National Park and the Beaverhill Lake Heritage Rangeland Natural Area, forming a cohesive network to ensure this important area of the province remains connected for wildlife.

Moose Pasture, Alberta.

Sean Feagan, Nature Conservancy of Canada

Aerial view of the Seal River Estuary, Manitoba.
Government of Manitoba (Frank Baldwin)

Western Boreal Forest

Seal River Watershed integral to waterfowl diversity

The Seal River Watershed, located in an Adhesion to Treaty No. 5 in northern Manitoba, is a landscape of forests, wetlands, lakes, streams and rivers that flow eastward more than 200 miles (320 km) from near the Saskatchewan border to Hudson Bay. At 12 million acres (nearly 5 million hectares), it is one of the largest remaining ecologically intact watersheds in the world.

In January 2024, representatives from the Seal River Watershed Alliance—including Sayisi Dene First Nation, Northlands Denesuline First Nation, Barren Lands First Nation and O-Pipon-Na-Piwin Cree Nation—gathered with the minister of Environment and Climate Change Canada and representatives from the Government of Manitoba to sign a Memorandum of Understanding. They agreed to formally work together on a feasibility assessment to establish an Indigenous Protected and Conserved Area (IPCA) in the Seal River Watershed.

Black Scoters.
Ducks Unlimited Canada

To better understand the abundance and diversity of waterfowl in this region, surveys were completed to assess waterfowl populations. From 2013 to 2015, DUC partnered with Oceans North to conduct waterfowl surveys in the Seal River estuary Area of Special Interest, including the Knife River Delta. These built on surveys previously conducted by the Manitoba government. Aerial surveys of breeding waterfowl included approximately 19 million acres (over 7.7 million hectares) of boreal, tundra and coastal landscapes of northern Manitoba. Moult and fall migration surveys were also carried out between the town of Churchill and the Manitoba-Nunavut border.

> Indigenous protection and caretaking measures . . . provide a significant continental benefit to waterfowl, as well as to other wildlife, water and the people who rely on the watershed.

These surveys found a high density and very high diversity of waterfowl, comparable to the densest and most diverse surveyed areas on the continent. This included significant densities of Black Scoters (a species considered near threatened by the International Union for Conservation of Nature), considerable numbers of scaup and Northern Pintail—noteworthy because these populations have experienced considerable declines—and several species outside their predicted ranges.

With support in part from the PHJV, the DUC National Boreal Program has been collaborating with the Seal River Watershed Alliance since 2018, working to support the Sayisi Dene First Nation's goal to permanently conserve the Seal River Watershed as an IPCA. Additionally, the PHJV has used waterfowl science and habitat modelling to identify areas of high conservation value in the boreal region, contributing support to IPCA establishment. Indigenous protection and caretaking measures in the Seal River Watershed continue to provide a significant continental benefit to waterfowl, as well as to other wildlife, water and the people who rely on the watershed.

For more information, contact Dave Kostersky, Prairie Habitat Joint Venture Communications Chair, d_kostersky@ducks.ca.

Prairie Parklands Contributions (CA$)

	2023–2024	Total (1986–2024)
Total	$84,803,563	$1,699,718,610

Accomplishments (Acres)

	2023–2024	Total (1986–2024)
Secured	135,873	8,701,915
Influenced	149,272	7,974,322
Enhanced	407,725	3,146,046

Secured and enhanced acres are not additive.

2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.

1986–2024 consists of the January 1, 1986, to March 31, 2024, time frame.

Western Boreal Forest Contributions (CA$)

	2023–2024	Total (1986–2024)
Total	$9,841,570	$197,983,584

Accomplishments (Acres)

	2023–2024	Total (1986–2024)
Secured	0	12,091,184
Influenced	21,212,727	143,339,957
Enhanced	0	107

Secured and enhanced acres are not additive.

2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.

1986–2024 consists of the January 1, 1986, to March 31, 2024, time frame.

Breeding pair of Black Scoters.

Ducks Unlimited Canada

Eastern Habitat Joint Venture

A view of Haley Lake through the forest.
Nature Conservancy of Canada

www.ehjv.ca
www.ehjv.ca/fr

The Eastern Habitat Joint Venture (EHJV) covers 780 million acres (315 million hectares), spanning the provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador. The EHJV supports 30% of Canada's wetlands, including more than 120 million acres (48 million hectares) of freshwater and tidal wetlands. Important habitats include coastal bays and salt marshes, lakeshore marshes, floodplain wetlands and boreal forest wetlands. The EHJV has six priority waterfowl species—American Black Duck, Mallard, Wood Duck, Common Goldeneye, Barrow's Goldeneye and Common Eider (subspecies *dresseri*)—as well as 16 non-waterfowl priority bird species, including waterbirds, shorebirds and landbirds. The habitat within the EHJV supports 95% of the continental population of American Black Duck (black duck) and 80% of the Common Eider subspecies *dresseri*.

Wetland restoration and securement are not just good for waterfowl. The projects described here also provide flood relief for nearby communities, are carbon sinks that help mitigate climate change, offer a refuge for other bird species as well as endangered plants and animals, and provide a haven for humans who love nature.

O'Neill wetland creation

In 2022, Ducks Unlimited Canada (DUC) partnered with the O'Neills, new owners of a formerly abandoned farm property, to create an 18.9-acre (7.6-hectare) wetland. The property is located in a DUC target area in Ontario's Gananoque River Watershed. DUC began an initiative to increase the ecological diversity of the property, which is secluded from traffic disturbance and already frequented by a large number of birds.

To retain water on site, DUC constructed an earthen berm to redirect an existing watercourse into a basin, with contouring to provide optimal variable depths. A spillway controls the water level, redirecting excess water over the berm so it doesn't flood the road or adjacent properties. Large rocks (riprap) are situated along the

The earthen berm and spillway, with riprap to prevent erosion.

Ducks Unlimited Canada

Trumpeter Swans in the O'Neill wetland.

Ducks Unlimited Canada

spillway to prevent erosion and failure of the berm. Once the project has naturalized, the goal is to create a hemi-marsh system, with 50% open water and 50% emergent vegetation.

> At least 30 different bird species have been recorded using the wetland. Within the first few weeks, researchers were already seeing a variety of waterfowl, including Mallard, Pintail, black duck and Trumpeter Swan.

Since completion of construction, at least 30 different bird species have been recorded using the wetland. Within the first few weeks, researchers were already seeing a variety of waterfowl, including Mallard, Pintail, black duck and Trumpeter Swan, both feeding at the property and staying on for breeding. Killdeer, Caspian Tern and various sandpipers can be seen at the edge of the wetlands. In a relatively short time, the property has become an eBird hotspot, a location where birds are known to congregate and birders can regularly visit to see rare birds.

To further help with conservation efforts, the O'Neills, who use half the property to grow soy and corn, have committed to delaying their harvest to provide a longer undisturbed breeding window for the birds.

The project was made possible thanks to a partnership with the O'Neills through DUC's landowner partnership program, with additional funding from the Ontario Soil and Crop Improvement Association, Environment and Climate Change Canada (ECCC), the Ontario Ministry of Natural Resources and Forest, the *North American Wetlands Conservation Act* (NAWCA) and the Association of Fish and Wildlife Agencies (AFWA).

Wetlands of the Great Jacques-Cartier Bog.
Nature Conservancy of Canada

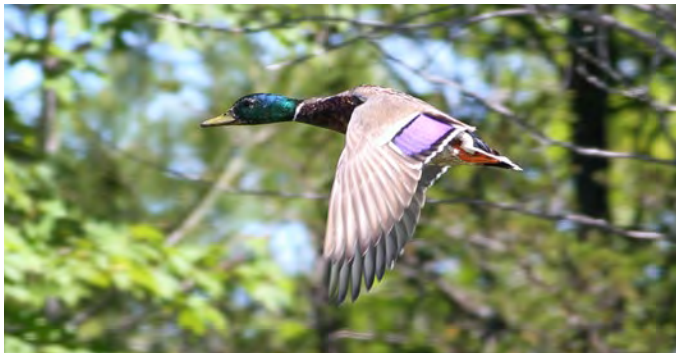
Great Jacques-Cartier Bog wetland acquisition

The Nature Conservancy of Canada (NCC) recently acquired a 494-acre (200-hectare) parcel of land in the Great Jacques-Cartier Bog, located 25 miles (40 km) northwest of Quebec City in Quebec's Capitale-Nationale region. The bog is one of the last great peatlands in southern Quebec that is still relatively undisturbed by human activity. This acquisition brings the total peatland conserved by NCC in the region to more than 740 acres (300 hectares), just over 60% of the total peatland in the area.

> The bog is one of the last great peatlands in southern Quebec that is still relatively undisturbed by human activity.

The bog wetlands are home to several waterfowl species, including Mallard, Wood Duck, Canada Goose, and black duck. It is also home to at-risk plant and animal life. Two rare orchid varieties, the Rose Pogonia and the Southern Twayblade, find refuge in the area, among other rare wetland plants. Moreover, the Great Jacques-Cartier Bog supports Bank Swallow, Wood Turtle, Smooth Green Snake and Hoary Bat, all threatened, vulnerable or likely to be so designated under federal or provincial legislation. Farther-ranging animals like Black Bear, Moose and White-tailed Deer also benefit from the bog's proximity to nearby natural areas, including Parc national de la Jacques-Cartier, Station touristique Duchesnay and Marais du Nord. The Quebec Ecological Corridors Initiative has noted that the Great Jacques-Cartier Bog is situated in a vital zone of connectivity.

Mallard.
Mike Dembeck



Beyond its value as a haven for wildlife, the bog is an attractive feature for nature-loving hikers and cyclists. They come to enjoy the Vélopiste Jacques-Cartier/Portneuf, a regional cycling path. The bog also provides invaluable and beneficial ecological services. Peatlands are carbon sinks, which contribute to climate change mitigation. The bog absorbs substantial volumes of water during heavy precipitation, protecting neighbouring communities from flooding. It also acts as a water filter, improving the quality of water that flows into the Jacques-Cartier River and the Rivière aux Pins, to the south and north, respectively.

The Université du Québec à Montréal is carrying out a major study in the region concerning carbon capture and climate change. Of particular interest is mapping and quantifying carbon in peatlands. This will show how peatlands are "born" and developed, their role in offsetting carbon emissions and their function in land-use planning.

Wood Duck with ducklings.
Sean Feagan, Nature Conservancy of Canada

Funding for the acquisition came from NAWCA, ECCC, Intact Financial Corporation and the Government of Quebec.

Canada Geese.

Kelly Warren, Ducks Unlimited, Inc.

Haley Lake Nature Reserve acquisition

In 2022, the NCC purchased a 1,502-acre (608-hectare) tract of land on Haley Lake in southern Nova Scotia, near Port L'Hebert. The parcel is in the UNESCO Southwest Nova Biosphere Reserve and in a designated Important Bird Area. It borders the federal Haley Lake Migratory Bird Sanctuary and the provincial Port L'Hebert Nature Reserve, with three other Migratory Bird Sanctuaries nearby: Port L'Hebert, Port Joli and Sable River. This acquisition brings NCC's conservation land on Nova Scotia's south shore to 3,954 acres (1,600 hectares).

Haley Lake is a freshwater lake, visited every fall by more than 1,000 birds, including Canada Goose and black duck, from nearby saltwater estuaries and harbours. A small colony of Great Blue Heron nests on two rocky ledges of the lake.

> Haley Lake is a freshwater lake, visited every fall by more than 1,000 birds.

The land surrounding the lake features healthy Acadian (Wabanaki) forest, coastal barrens, freshwater wetlands, lake shoreland and a section of brook. The forest contains Black Spruce, Red Maple, Red Oak and Balsam Fir. Several important lichens thrive here, including Boreal Felt Lichen and Vole Ears Lichen, both listed as endangered under Canada's federal *Species at Risk Act* (SARA); Black-foam Lichen, which is threatened under SARA; and Blue Felt Lichen, Nova Scotia's provincial lichen and of special concern.

Haley Lake is in the Kespukwitk/Southwest Nova Scotia Priority Place, one of 11 Priority Places for Species at Risk across Canada. NCC has partnered with the Kespukwitk Conservation Collaborative (which includes the Mi'kmaq First Nation, other Indigenous groups and non-government organizations) to protect at-risk species and conserve biodiversity in Kespukwitk. The Haley Lake Nature Reserve acquisition was funded by ECCC, NAWCA, the Government of Nova Scotia, and private donors.

The diverse habitat of the Haley Lake Nature Reserve.

Jaimee Morozoff

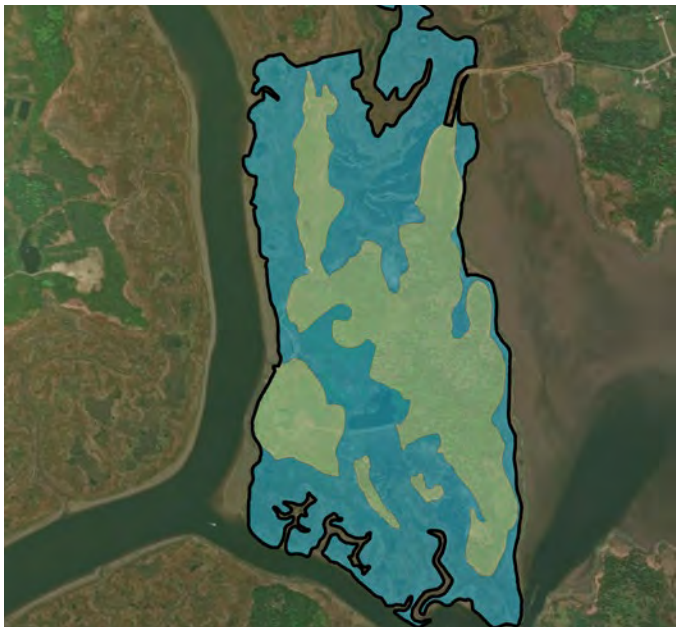
Beveridge Road salt marsh acquisition

In October 2023, DUC acquired a 257-acre (104-hectare) former dairy farm in Yarmouth County, Nova Scotia, between the Chebogue River and Melbourne Lake. The property is made up of approximately 58% wetlands, including both salt-marsh and freshwater wetlands, and 42% uplands, consisting of former farm fields and mature, mixed-woodland forests.

When the farm was up for sale, the Nova Scotia Department of Environment and Climate Change identified it as a valuable fall migration habitat for a variety of bird species. The property is located just a few miles from two other established conservation lands, the Melbourne Lake Game Sanctuary and the Tusket Islands Wilderness Area. Melbourne Lake is an eBird hotspot. Several bird species of conservation concern have been observed in and around the salt marsh, including Blue-winged Teal, Lesser Yellowlegs, Red Knot, Barn Swallow, Bobolink, Willet, Cape May Warbler and Canada Warbler.

Salt marshes like those found on the property act as important bulwarks against climate change. Salt marshes are excellent carbon sinks, capturing and storing atmospheric carbon dioxide. They also protect coastlines by naturally buffering against storm surges and coastal erosion. They can even slow flooding in coastal areas, giving excess water time to be absorbed into the soil. The Beveridge Road salt marsh acquisition is exceptionally valuable in that the area also has salt marsh migration potential: as rising sea levels cause salt marshes to disappear, low-lying uplands may become new salt marshes.

Acquisition of the parcel was made possible with funding from NAWCA, ECCC and AFWA.



A satellite photo of the project area. Wetlands are shown in blue; uplands are in green.

Ducks Unlimited Canada

The Beveridge Road acquisition is exceptionally valuable in that the area also has salt marsh migration potential: as rising sea levels cause salt marshes to disappear, low-lying uplands may become new salt marshes.

Canada Warbler.

Jean-Maxime Pelletier

For more information, please contact Kristina Hick, Eastern Habitat Joint Venture Coordinator, (778) 903-5084, kristina.hick@ec.gc.ca.

Contributions (CA$)

	2023–2024	Total (1986–2024)*
Total	$92,129,169	$878,898,118

Accomplishments (Acres)

	2023–2024	Total (1986–2024)*
Secured	389,193	2,796,410
Influenced	152,448	78,338,707
Enhanced	2,971	716,391

Secured and enhanced acres are not additive.

2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.

1986–2024 consists of the January 1, 1986, to March 31, 2024, time frame.

* Includes first-step projects completed from 1986 to 1988, before the formal recognition of the EHJV in 1989.

Emperor Goose.
Chris Nicolai

Species Joint Ventures

Harlequin Duck.

Sean Feagan, Nature Conservancy of Canada

Species Joint Ventures are international in scope, spanning North America and including circumpolar countries. These Joint Ventures focus on critical science needs to inform the management of over 20 species (50+ populations) and their related habitats. Additionally, research directed through the Species Joint Ventures addresses questions for other bird species that share the habitats.

Arctic Goose Joint Venture

White-fronted Geese.
Dana Kellett

Plan conjoint des OIES DE L'ARCTIQUE
ARCTICGOOSE Joint Venture

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www.pcoa.ca
www.ganso delartico.com

The Arctic Goose Joint Venture (AGJV) covers 924 million acres (374 million hectares) spanning North America and circumpolar countries on other continents. It focuses on 24 populations among seven species: Greater White-fronted, Emperor, Snow, Ross's, Brant, Cackling and Canada Geese. Arctic geese use all four North American flyways and the Western Atlantic Flyway of Europe. Since inception, the scope of the AGJV has aligned with the NAWMP Waterfowl Habitat Areas of Geographic Concern, and the AGJV supports work in all the important arctic and subarctic areas identified for the NAWMP.

The AGJV was initiated in 1986 with the goal of improving the understanding and management of North American geese. At that time, researchers had limited knowledge of population status, demography and distribution for many goose species and populations. The mixing of some populations on wintering areas further complicated their assessment and management. AGJV needed to coordinate research and funding contributions from multiple agencies and jurisdictions to improve monitoring and management of northern-nesting goose populations.

Most population objectives for geese continue to be derived from management plans prepared and approved by the four Flyway Councils that manage waterfowl on the major North American migration routes (Atlantic, Mississippi, Central and Pacific). Common elements of these plans include descriptions of populations based on their shared breeding and wintering ranges, population status and objectives, monitoring and harvest management strategies, and research needs.

> NAWMP objectives for geese have evolved as understanding has improved over time.

NAWMP objectives for geese have evolved as understanding has improved over time, and the AGJV has helped communicate changes to management plans and facilitate needed research. In some cases, research findings have led to changes in population descriptions/ranges and monitoring approaches.

Most goose populations have increased since the NAWMP was established. Much of this population growth has been attributed to abundant agricultural food supplies, establishment of sanctuaries and protected areas, and historically conservative

policies for harvesting geese. Several goose populations have grown to the point that their numbers cannot be regulated through hunting. Expanded management tools, such as spring hunting, can help regulate growth when populations are small enough for increased hunting to have an impact. The decline in the number of hunters is also a concern. Fewer hunters means already overabundant populations could grow larger. As well, hunters make important contributions to the programs that monitor goose populations by reporting bands on harvested geese and participating in harvest surveys.

Overabundant populations create concerns about habitat. Record-high numbers of geese can damage fragile arctic and subarctic habitats, where management options are limited. Large goose populations can also harm neighbouring species, including other waterfowl species, through increased risk of disease transmission and competition for food on wintering areas.

Population objectives for geese must continue to provide a balance between maintaining populations that support liberal hunting opportunities for licensed hunters and Indigenous harvesters, as well as viewing opportunities, and ensuring that populations do not become overabundant, leading to impacts on natural habitats and sympatric species, or conflicts with people and other interests. For nearly 40 years, AGJV's coordination and research efforts have improved the understanding of goose species and populations to allow effective objective setting and management that benefits geese, their habitat, neighbouring species and humans.

For more information, please contact Jim Leafloor, Canadian Co-Chair, AGJV Technical Committee, jim.leafloor@ec.gc.ca.

Expenditures (CA$)

	2023–2024	Total (1986–2024)
Banding	$564,215	$20,286,248
Research	$2,049,767	$28,849,501
Surveys	$148,301	$11,980,983
Collar Observations	–	$1,324,185
Management	–	$272,992
Conservation Planning	$60,594	$965,783
Communication and Education	–	$51,882
Total	**$2,822,877**	**$63,731,574**

2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.

1986–2024 consists of the January 1, 1986, to March 31, 2024, time frame.

Black Brant.
Chris Nicolai

Black Duck Joint Venture

Black Duck.
Sydney M. Collins

The Black Duck Joint Venture (BDJV) includes partners from the provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador and 14 eastern states. The American Black Duck (*Anas rubripes*; hereafter black duck) can be found in saltwater marshes, brackish and freshwater impoundments, riverine and estuarine marshes, swamps, shallow lakes and wetlands throughout the boreal landscape. Black ducks are mostly found in the Atlantic and Mississippi Flyways.

blackduckjv.org

Restored wetlands benefit black ducks, other wildlife, people and entire ecosystems. Monitoring wetland restoration outcomes is thus a major focus of the BDJV's efforts. Working with the Eastern Habitat Joint Venture (EHJV), the BDJV and its many partners have achieved countless, priceless benefits for all, with tremendous support from the NAWMP. However, these benefits are not always measured accurately. That's where new monitoring tools come into play.

> Restored wetlands benefit American Black Ducks, wildlife, people and entire ecosystems.

Birds Canada's Marsh Monitoring Program (MMP) is one of the main tools the BDJV and EHJV use to measure the success of wetland restoration projects. The MMP began in Ontario and the U.S. Great Lakes states in 1995 and was later expanded to include Quebec, British Columbia and the Prairie and Maritime provinces. This citizen science program has produced an impressive suite of science products that document the benefits of wetland restorations for marsh-breeding birds and frogs. However, the program has a few limitations. First, the MMP has never effectively monitored spring-migrating waterfowl, such as black ducks. This is because surveys occur too late in the season, after ducks have moved through. Second, the MMP has not been effective in monitoring some rare marsh-breeding species. These species often occur far enough away from point count survey stations that they go undetected. Finally, the program provides no information on public use of restored wetlands. Documenting use by spring-staging waterfowl, rare species, and humans would improve our knowledge of the effectiveness of restoration projects and help assess the full value of restored wetlands.

With support from Ducks Unlimited Canada (DUC) and the BDJV, Birds Canada has developed and designed and is now implementing an "enhanced" version of the MMP. The new Wetland Restoration Monitoring Protocol (WRMP) fills the gaps left by the MMP. The WRMP combines the MMP with aspects of five other monitoring protocols. These include a protocol that improves placement of counting stations to better represent entire wetlands; specialized protocols to detect King Rails, Least Bitterns and Western Chorus Frogs (all listed as threatened or endangered under Canada's *Species at Risk Act*); and eBird, which captures observations made in wetlands that are missed by point counts. The WRMP also records waterfowl pair and brood counts.

There is increasing interest in using large, broad-scale, open-access databases to track public use of green spaces. These could be citizen science datasets, like eBird and iNaturalist, or other sources, such as public cell phone data. The BDJV, with Birds Canada and DUC, is developing tools that will estimate the minimum number of people who visit publicly accessible wetlands each year, including how much time they spend in these locations. As estimates are based on open data, with no cost to acquire, it is easy to repeat the analyses, which means they could be used to track trends in use over time. If successful, this method will help measure progress under goal three of the NAWMP—increasing the numbers of conservationists and citizens who enjoy and actively support waterfowl and wetlands conservation—in wetlands where these measures are put in place.

For more information, please contact Kristina Hick, Black Duck Joint Venture Coordinator, (778) 903-5084, kristina.hick@ec.gc.ca.

Expenditures (CA$)

	2023–2024	Total (1986–2024)
Banding	$357,504	$10,056,421
Research	$72,437	$2,153,556
Surveys	$597,110	$10,727,046
Conservation Planning	$33,271	$524,583
Communication and Education	–	$80,428
Total	**$1,060,322**	**$23,542,034**

2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.
1986–2024 consists of the January 1, 1986, to March 31, 2024, time frame.

Increasing numbers of citizen scientists enjoy wetlands restored by NAWMP partners and contribute valuable wildlife observations.

Karla Falk

Sea Duck Joint Venture

Common Eiders in Labrador.
Emile David

www.seaduckjv.org

The Sea Duck Joint Venture (SDJV) encompasses all of Canada and the United States. It focuses on coastal waters for migrating and wintering sea ducks and on boreal forest and tundra for nesting sea ducks. North American sea ducks include 22 recognized populations among 15 species (tribe Mergini): Common Eider, King Eider, Spectacled Eider, Steller's Eider, Black Scoter, White-winged Scoter, Surf Scoter, Barrow's Goldeneye, Common Goldeneye, Bufflehead, Long-tailed Duck, Harlequin Duck, Common Merganser, Red-breasted Merganser and Hooded Merganser. As a group and depending on the season, sea ducks use all four flyways.

In eastern North America, the Common Eider is a valuable species, traditionally harvested for subsistence and recreation. However, the population of the American subspecies of Common Eiders has been declining rapidly across the southern parts of its breeding range, and the winter distribution has shifted dramatically. In response, the Canadian Wildlife Service and Ducks Unlimited Canada, with federal, state, provincial, academic and NGO partners, have set up a research project focused on these long-lived marine coastal sea ducks. The project is funded in part by the SDJV and the Eastern Habitat Joint Venture under the NAWMP.

Beginning in 2021, a research team deployed Argos satellite transmitters in adult female eiders in major breeding areas. The goal is to understand the structure of their population and the connections between their breeding and wintering areas, to track the differences in body condition of breeding and non-breeding female eiders, and to look for changes in habitat across the eiders' range. This information will not only give insight into population dynamics but will also be used to inform harvest regulations and marine planning and protection.

Over the past three years, the team tagged 231 adult females in major breeding areas in Maine, New Brunswick, Nova Scotia, Newfoundland, southern Labrador and the St. Lawrence Estuary in Quebec. The tags will provide real-time locations of the birds for two to three years after attachment.

In the past, most American Common Eiders bred in coastal areas between central Labrador and Massachusetts and wintered between Newfoundland and New York. However, recent tracking data show consistent and widespread declines in local eider abundance throughout the entire Gulf of Maine and surrounding ecosystems, from Nova Scotia to Massachusetts. In a 2023 article for *Avian Conservation and Ecology*, Sarah Gutowsky and her team noted that this suggests a large-scale shift away from the centre of traditional eider wintering areas.

The changes in eider distribution are thought to be caused by the rapid warming of ocean waters from the Gulf of Maine north to Labrador. Warmer ocean temperatures change the distribution and quality of the eider's preferred prey species like blue mussels. Warmer temperatures also allow invasive species, such as green crabs, to disrupt marine ecosystems and food webs. The eiders seem to be shifting their range north to follow their preferred food resource.

The research team worked with videographer Emile David to produce videos about the project. The videos can be viewed on the SDJV website (*seaduckjv.org/where-have-all-the-eiders-gone*).

NAWMP funding allows the SDJV to establish the kind of partnerships needed to begin a large-scale project like this. The NAWMP's support of the SDJV has also led to further collaboration with Indigenous partners to forge a new path in conservation. This project is a prime example of how species- and habitat-focused migratory bird Joint Ventures working together with the network of partners supported by the NAWMP can accomplish large-scale conservation.

For more information, please contact Margaret Campbell, Sea Duck Joint Venture Coordinator, (867) 334-5379, margaret.campbell@ec.gc.ca.

Breeding pair of Common Eiders.

Emile David

Expenditures (CA$)

	2023–2024	Total (1998–2024)
Banding	–	$695,345
Research	$737,883	$14,413,831
Surveys	–	$3,630,006
Conservation Planning	–	$1,040,515
Communication and Education	$39,225	$217,740
Total	**$777,108**	**$19,997,437**

2023–2024 consists of the April 1, 2023, to March 31, 2024, time frame.
1998–2024 consists of the January 1, 1998, to March 31, 2024, time frame.

NAWMP funding allows the SDJV to establish the kind of partnerships needed to begin a large-scale project like this.

Scott Gilliland (Acadia University) at the wheel, en route to an eider colony on Grey Island in southwestern Nova Scotia to tag and release breeding female Common Eiders.

Emile David

Partners

Common Eiders.

Emile David

Thank you to all of our partners who contributed financially in 2023–2024:

Canadian Agencies

Alberta Environment and Protected Areas
Alberta Sport, Recreation, Parks and Wildlife Foundation
ATB Financial
AV Group
BC Hydro
Birds Canada
British Columbia Field Ornithologists
British Columbia Ministry of Agriculture and Food
British Columbia Ministry of Environment and Climate Change Strategy
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Delta Agricultural Society
Echo Foundation
Environment and Climate Change Canada
Fisheries and Oceans Canada
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Nova Scotia Habitat Conservation Fund
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Weston Family Foundation
Wheaton Precious Metals Corporation
Wildlife Habitat Canada
Yellowstone to Yukon Conservation Initiative Foundation

Yukon Department of Energy, Mines and Resources
Yukon Territorial Government

U.S. Agencies

Alabama Department of Conservation and Natural Resources
Alaska Department of Fish and Game
American Friends of Canadian Nature
Arizona Game and Fish Department
Arkansas Game and Fish Commission
Atlantic Flyway Council
Boreal Songbird Initiative
California Department of Fish and Wildlife
Central Flyway Council
Colorado Parks and Wildlife
Colorado State University
Connecticut Department of Energy and Environmental Protection
Delaware Division of Fish and Wildlife
Ducks Unlimited Inc.
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
Idaho Department of Fish and Game
Illinois Department of Natural Resources
Indiana Department of Natural Resources
Iowa Department of Natural Resources
Kansas Department of Wildlife and Parks
Kentucky Department of Fish and Wildlife Resources
Louisiana Department of Wildlife and Fisheries
Maine Department of Inland Fisheries and Wildlife
Maryland Department of Natural Resources
Massachusetts Division of Fisheries and Wildlife
Michigan Department of Natural Resources
Minnesota Department of Natural Resources
Mississippi Department of Wildlife, Fisheries and Parks
Mississippi Flyway Council
Missouri Department of Conservation
Montana Department of Fish, Wildlife and Parks
Nebraska Game and Parks Commission
Nevada Department of Wildlife
New Hampshire Fish and Game Department
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North Dakota Game and Fish Department
Ohio Division of Wildlife
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Oregon Department of Fish and Wildlife
Pacific Flyway Council
Pennsylvania Game Commission
Rhode Island Department of Environmental Management
South Carolina Department of Natural Resources
South Dakota Game, Fish and Parks
Tennessee Wildlife Resources Agency
Texas Parks and Wildlife Department
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U.S. Fish and Wildlife Service
U.S. Geographical Survey—Western Ecological Research Center
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Utah Division of Wildlife Resources
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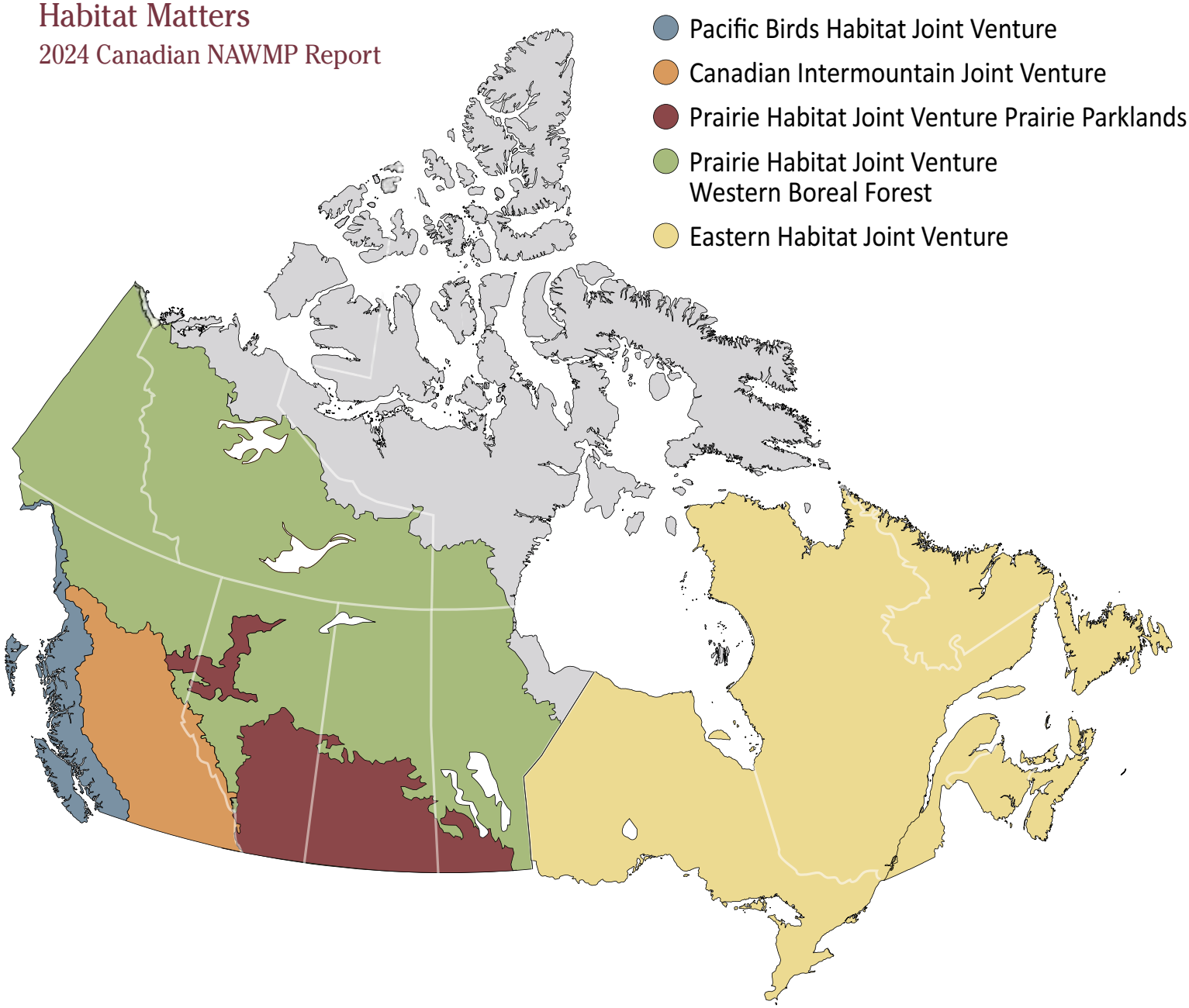
Virginia Department of Wildlife Resources
Washington Department of Fish and Wildlife
West Virginia Division of Natural Resources
Wisconsin Department of Natural Resources
Wyoming Game and Fish Department

Snow Geese on Bylot Island.

Olaf Jensen



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***North American Wetlands Conservation Act* Grants in Canada**
fws.gov/service/north-american-wetlands-conservation-act-nawca-grants-canada

North American Bird Conservation Initiative
nabci-us.org

Map of Bird Conservation Regions
nabci-us.org/resources/bird-conservation-regions