

September 2016

nawmp.wetlandnetwork.ca

HabitatMatters

2016 Canadian NAWMP Report



"Offshore Wind – Surf Scoters" from the 2016 Canadian Wildlife Habitat Conservation Stamp series.

Artist: Pierre Leduc, Stoneham (QC)



*North American Waterfowl
Management Plan*

*Plan nord-américain de
gestion de la sauvagine*

*Plan de Manejo de Aves
Acuáticas Norteamérica*

Table of Contents



1 About the NAWMP

2 National Overview

2 Accomplishments

3 Expenditures and Contributions

4 Special Feature –
A Year of Milestones

6 Habitat Joint Ventures

7 Pacific Birds Habitat Joint Venture

14 Canadian Intermountain Joint Venture

18 Prairie Habitat Joint Venture

24 Eastern Habitat Joint Venture

28 Species Joint Ventures

29 Black Duck Joint Venture

32 Sea Duck Joint Venture

34 Arctic Goose Joint Venture

36 Partners



About the NAWMP

The North American Waterfowl Management Plan (NAWMP or 'the Plan') 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 Plan engages the community of users and supporters committed to conservation and valuing waterfowl.

In 1986, the Canadian and American governments signed this international partnership agreement, laying the foundation for international cooperation in the recovery of declining

Mallards landing on water.
Ducks Unlimited Canada

waterfowl populations. Mexico became a signatory to the Plan with its update in 1994. As a result, the NAWMP partnership extends across North America, working at national and regional levels on a variety of waterfowl and habitat management issues.

Since the creation of the Plan, NAWMP 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, agricultural and public policies; integrating science and monitoring systems into planning; and delivering habitat programs. The results of these efforts are notable. Many waterfowl populations are substantially larger now than they were in 1986, and NAWMP partners have reached out to collaborate with other bird conservation initiatives.

In Canada, NAWMP partner activities are directed by public-private Joint Venture partnerships, which focus on areas or species of concern identified in the Plan. Each Joint Venture includes a range of partners from federal, provincial and local governments to conservation organizations. Implementation and Strategic Plans, developed based on the Plan'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 applied 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 manage and maintain their carrying capacity for wetland-associated migratory birds and other wildlife.

National Overview

Accomplishments by Habitat Joint Ventures (1986–2016)

20.0

Million acres of habitat secured

(8.1 M Hectares)

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

139.4

Million acres of habitat influenced

(56.4 M Hectares)

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

3.6

Million acres of habitat enhanced

(1.5 M Hectares)

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

11.7

Million acres of habitat managed

(4.7 M Hectares)

Involves activities that manage and maintain habitat carrying capacity for waterfowl and other wildlife.

Accomplishments by Habitat Joint Ventures (2015–2016)

104.6

Thousand acres of habitat secured

(42.3 K Hectares)

487.7

Thousand acres of habitat influenced

(197.4 K Hectares)

778.4

Thousand acres of habitat enhanced

(315.0 K Hectares)

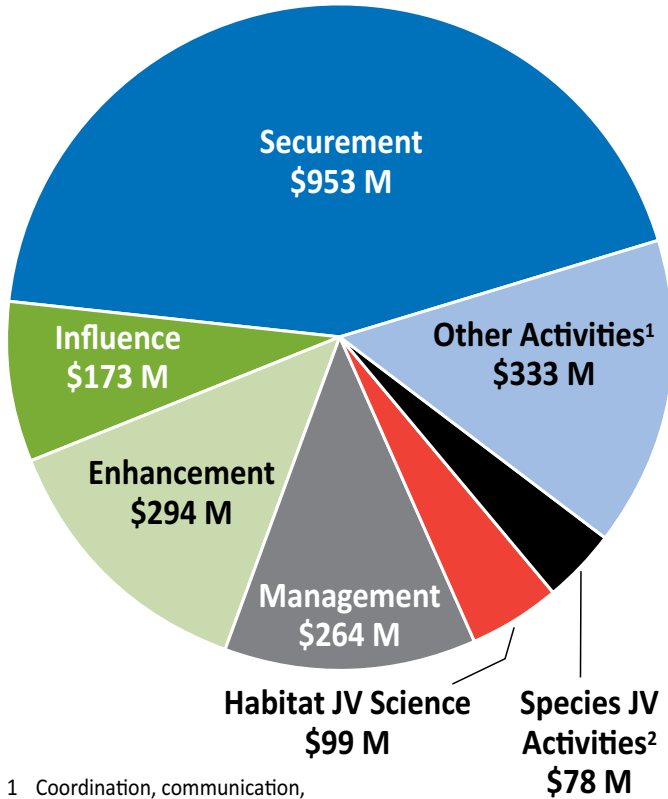
650.2

Thousand acres of habitat managed

(263.1 K Hectares)

Expenditures

By activity 1986 to 2016
(\$2,194 M CAD)



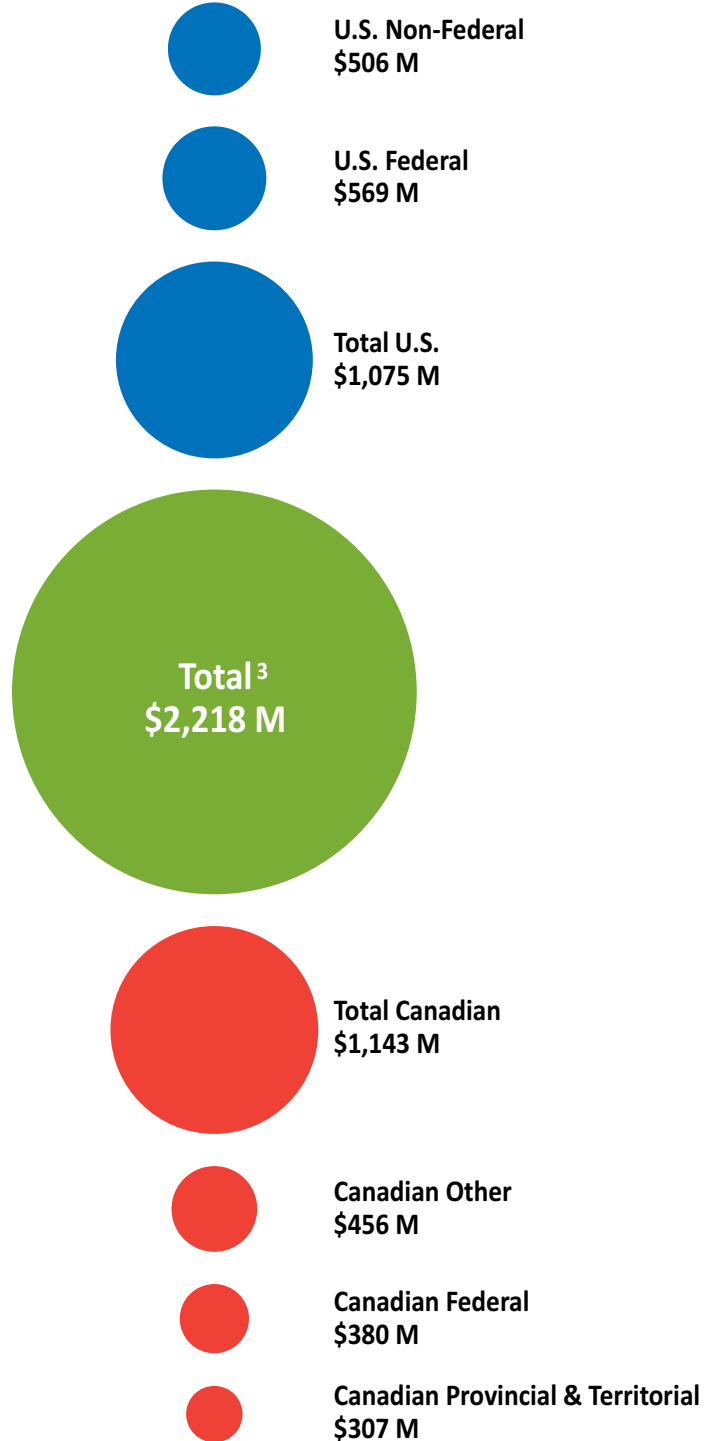
- 1 Coordination, communication, policy and crop damage
- 2 Banding, survey and research

The successful implementation of Canada's NAWMP program has been enabled by the continuous 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' 1989 *North American Wetlands Conservation Act* has been integral to the success and longevity of the Canadian program.

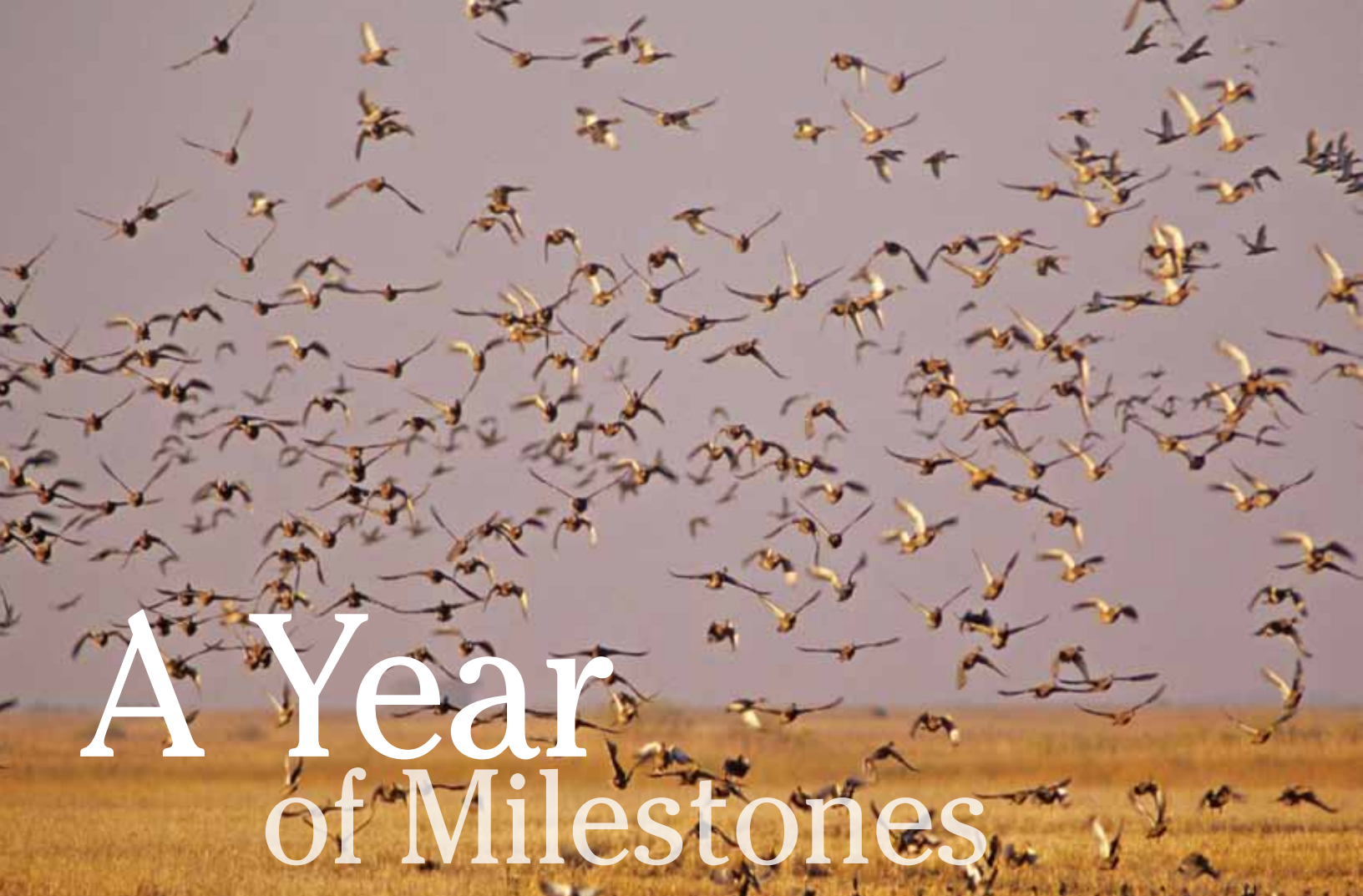
1986-2016 consists of the January 1, 1986 to March 31, 2016 time frame.
2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

Contributions

In support of the NAWMP in Canada 1986 to 2016
(\$2,218 M CAD)



³ Includes \$0.2 M in international contributions



Flock of Mallards.
Ducks Unlimited Canada

By the late 19th century, a conservation movement had begun and it would lead to one of the first international treaties on wildlife conservation.

NAWMP's 30th Anniversary and MBC's 100th Anniversary

The skies of North America were once filled with birds making their annual migrations between winter feeding and summer breeding grounds. Their numbers were plentiful enough to darken the skies, and they provided a seemingly endless bounty for new settlers. Presented with such an abundant resource, people hunted waterfowl and other bird species year round without limits or seasonal restrictions. At the same time, habitat such as wetlands, forests, coastlines, and grasslands were drained and cleared as human settlements expanded across the continent.

Eventually, the pressures upon migratory bird species led to disappearances. The Great Auk and the Labrador Duck went extinct in the 1880s, and the last Passenger Pigeon, "Martha," died in the Cincinnati Zoo in 1914. The problem was irrefutable, and dire.

By the late 19th century, a conservation movement had begun and it would lead to one of the first international treaties on wildlife conservation. Signed on August 16, 1916, the Migratory Birds Convention (MBC) between Canada and the United States was intended to regulate bird harvesting and "to ensure the long-term conservation of migratory birds." The MBC and subsequent legislation in both Canada and the United States established a framework for conservation that persists to this day.



Northern Pintail brood.
Ducks Unlimited Canada

A century after the Migratory Birds Convention was signed, nearly 400 species of migratory birds are protected in Canada under the *Migratory Birds Convention Act*.

In Canada, regulation under the 1917 *Migratory Birds Convention Act (MBCA)* put in place for the first time a framework for sustainable harvest of bird species.

Unfortunately, migratory bird species were not out of danger. North American migratory waterfowl populations plummeted to record lows, and the waterfowl conservation community recognized that an international partnership was needed to facilitate the recovery of declining waterfowl populations. Wetland habitat, critical to waterfowl survival and breeding, was disappearing at an alarming rate. Drainage for agriculture, urban infrastructure, and other human developments damaged or destroyed over 50% of the original wetlands in the continental United States and resulted in the loss of 30–70% of wetlands in Canada (NAWMP, 1986).

Working together, Canadian and American scientists developed a new conservation strategy for waterfowl. On May 14, 1986, this conservation strategy, known as the North American Waterfowl Management Plan (NAWMP), was signed by the U.S. Secretary of the Interior and the Canadian Minister of the Environment, launching the foundational NAWMP partnership upon which hundreds more would be built.

2016 marks important milestones for North American migratory bird conservation. This year, the Migratory Birds Convention celebrates its 100th anniversary, while the North American Waterfowl Management Plan celebrates its 30th anniversary. These milestones give us an opportunity to reflect on the North American conservation community's ability to rise to challenges, honour the many founders and supporters, and celebrate the numerous accomplishments of the conservation community.

A century after the MBC was signed, nearly 400 species of migratory birds are protected in Canada under the MBCA. Ninety-two Migratory Bird Sanctuaries provide safe refuge for migratory birds, and seven Joint Venture partnerships protect millions of hectares of habitat for migratory birds across Canada. Most waterfowl populations are considered healthy. Species like the Trumpeter Swan have been brought back from the edge of disappearance, and recovery efforts are underway for many other migratory bird populations considered at risk under the *Species at Risk Act*.

Despite the many accomplishments, the mission continues. Habitat continues to be lost or compromised in the face of the ever-constant agricultural and urban development across North America. Even with record highs, waterfowl populations cannot be sustained without continued habitat conservation. Going forward, it is critical that we adapt programs to meet the challenges of increasing demands from human development. NAWMP and MBC partners must continue to work together to broaden partnerships and leverage public awareness to ensure the conservation of migratory waterfowl and other bird species for future generations.



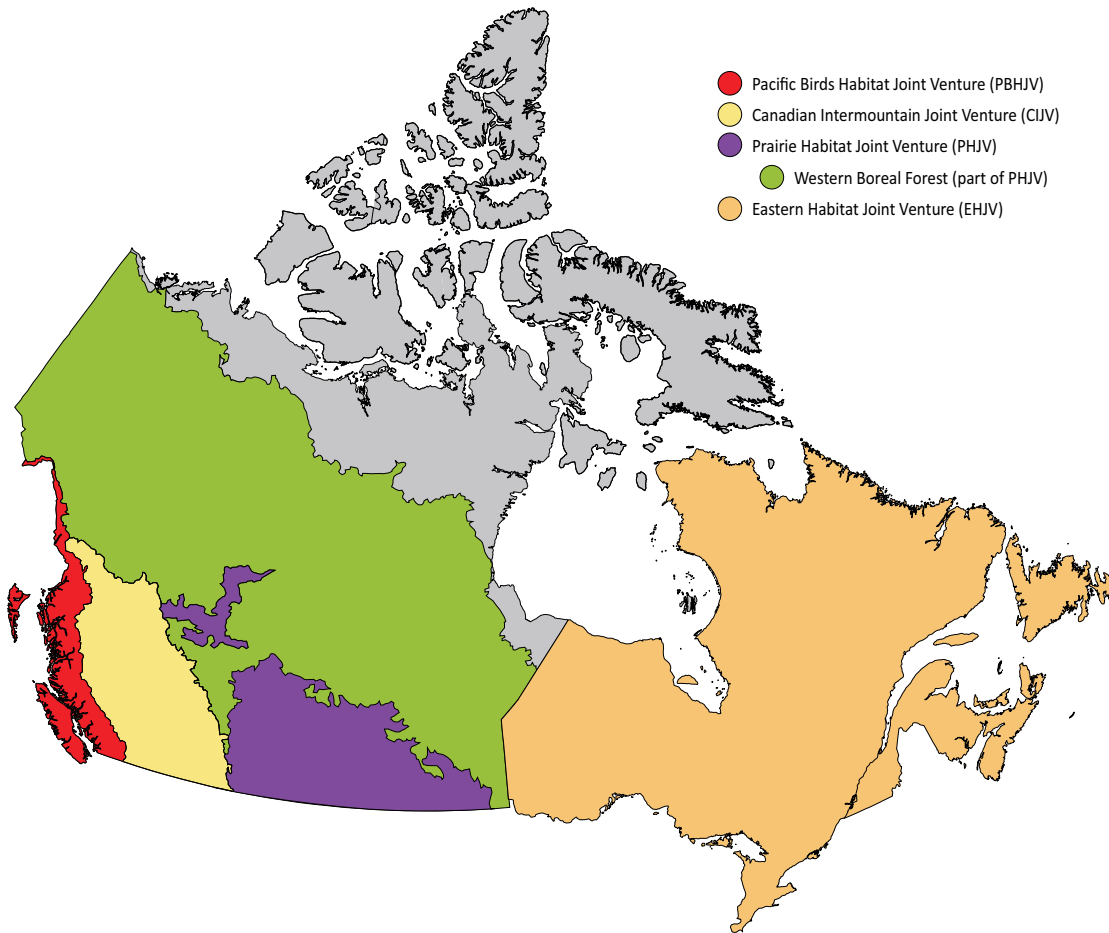
Reference

North American Waterfowl Management Plan:
A Strategy for Cooperation. May 1986.
Available at nawmp.wetlandnetwork.ca/publications

Habitat Joint Ventures

Frye Island Nature Preserve, New Brunswick.
Nature Trust of New Brunswick

The Canadian portions of the Habitat Joint Ventures integrate planning, science, governance, partnerships and management to achieve 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

Clayoquot Island Preserve, British Columbia.
Nature Conservancy of Canada



www.pacificbirds.org

The PBHJV is an international Joint Venture that includes portions of British Columbia (BC), Alaska, Washington, Oregon, California, and Hawaii. The BC coastline has over 440 estuaries, which are a focus of many PBHJV programs due to their food-rich combination of 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. 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 BC coast. The Fraser River Delta in southern BC supports the highest density of wintering waterfowl in Canada. Key species in the BC portion of the Joint Venture include the Wrangel Island Snow Goose (nearly half the population), the Pacific Coast's Trumpeter Swan (half the population), American Wigeon, Cackling Goose, and Western High Arctic Brant.

The Pacific Birds Habitat Joint Venture (PBHJV or 'Pacific Birds'), is an international Joint Venture, and its activities within Canada are coordinated by a British Columbia (BC) Steering Committee that includes representatives from its major active partners. This report highlights a variety of recent projects in the BC portion of the Joint Venture.

Preserving Clayoquot Island

Clayoquot Island in the traditional territory of the Tla-o-qui-aht First Nations lies near Tofino in the entrance to Clayoquot Sound, off the west coast of Vancouver Island, BC. Also known as Stubbs Island, it was the site of the earliest fur-trading post on the west coast of Vancouver Island, in the mid-1800s. Today, Clayoquot Island is within the protected area of the Clayoquot Sound UNESCO (United Nations Educational, Scientific and Cultural Organization) Biosphere Reserve, a globally-significant ecological area.

The donated portion, now called the Clayoquot Island Preserve, spans 93 acres (38 hectares) of mixed old growth and mature second growth Coastal Western Hemlock forest, along with a substantial stretch of ocean front.



Salmon River Estuary, British Columbia.

Tom Reid

The island was purchased in 1990 by Susan Bloom, who set about protecting it from further development and allowing the forested parts of the island to flourish as natural habitat. Bloom has now donated the wild portion of the island to the Nature Conservancy of Canada (NCC) to see it kept as a nature preserve in perpetuity. The donated portion, now called the Clayoquot Island Preserve, spans 93 acres (38 hectares) of mixed old growth and mature second growth Coastal Western Hemlock forest, along with a substantial stretch of ocean front. The island's beaches and intertidal areas support two habitats targeted for conservation: coastal sand dunes and eel grass beds. Great Blue Heron, Black Oystercatcher, and Pacific Geoduck are some of the wildlife that can be found in the area. Clayoquot Island is an important migratory stopover for the hundreds of Brant Geese that feed and rest on the sandspit in the early spring.

"From the very first time I visited and then became the owner of Clayoquot Island, my goal has been to protect the island from any more development, to preserve it in its natural wild state, and to remove years and years of accumulated human garbage and refuse," said Bloom. "My recent lifetime goal is to see that this beautiful land, steeped in Canadian history, be placed into safe conservation hands and cared for in perpetuity. The Nature Conservancy of Canada has a sterling reputation in the field of land protection and I am delighted that they have accepted this responsibility and are now the owners of the largest wild portion of the island."

Funding to support this project was provided by the Government of Canada through the Natural Areas Conservation Program. Additionally, Ms. Bloom made a significant contribution to the long-term stewardship and management funding for the preserve. A portion of this project was donated under the Government of Canada's Ecological Gifts Program, which provides enhanced tax incentives for individuals or corporations who donate ecologically significant land.



Clayoquot Island Preserve is an important spring stopover site for Brant geese.

iStock



Male Bufflehead.
Ducks Unlimited Canada

“The ecological value of Clayoquot Sound is universally acknowledged, and we are extremely grateful to Susan Bloom for her commitment to ensuring the long-term conservation of Clayoquot Island,” said Linda Hannah, BC Regional Vice President of NCC. “The coastal forest, wetland bogs, and sand dune beaches on Clayoquot Island are thriving today because of the conservation vision of Ms. Bloom. The Nature Conservancy of Canada is honoured to take on the ongoing conservation management of the most ecologically sensitive portion of this historic island.”

Protecting a coastal wetland habitat

In July 2015, The Nature Trust of British Columbia acquired 193 acres (78 hectares) in the Salmon River estuary near Campbell River on the east coast of Vancouver Island. This new acquisition complements the adjacent 266 acres (108 hectares) already secured by The Nature Trust of British Columbia and its partners since 1978.

The Salmon River estuary is the only significant area of coastal wetland habitat located on the relatively steep and rugged 155-mile (250-km) stretch of coastline from Campbell River to the network of estuaries on the Quatsino lowlands on



Salmon River, British Columbia.

Karen Barry

northern Vancouver Island. This strategic location provides habitat to numerous species of fish and wildlife, including Great Blue Heron, Marbled Murrelet, Northern Pygmy Owl, Roosevelt Elk, migratory waterfowl, and eight species of salmonids. All five species of Pacific salmon are found in the river: Coho, Chinook, Chum, Pink, and Sockeye. Anadromous Steelhead, Cutthroat Trout, and Dolly Varden Char are all present, as well as resident trout and other native fish species.

“The Salmon River supports a rich diversity of fish and wildlife along with spectacular natural beauty,” said Jasper Lament, CEO of The Nature Trust of British Columbia. “This Vancouver Island conservation treasure is both a tribute to The Nature Trust of British Columbia’s proud history and a wonderful gift to future generations.”

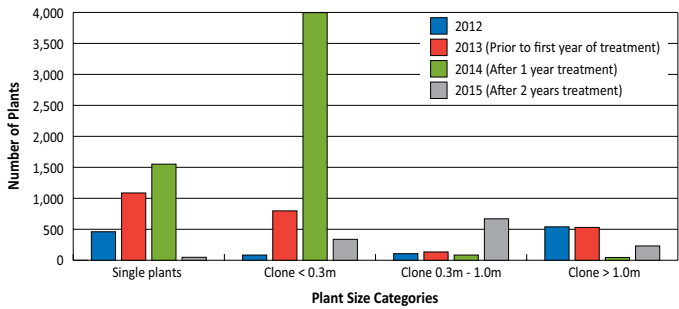
Major funding was provided by the Habitat Conservation Trust Foundation and the Fish and Wildlife Compensation Program. Additional support was provided by the Campbell River Salmon Foundation, Barnet Rifle Club, Steelhead Society of BC, Kingfishers Rod and Gun Club, Ducks Unlimited Canada (DUC), Totem Fly Fishers, Parksville-Qualicum Fish and Game Association, BC Federation of Fly Fishers, Victoria Fish and Game Protective Association, and individual donors from across BC.

“The Salmon River project is the latest purchase of conservation land made possible through the contributions of the anglers, hunters, guide outfitters and trappers of BC,” said Brian Springinotic, CEO of the Habitat Conservation Trust Foundation. “The securement of this high-value habitat will benefit a variety of species, as well as providing additional recreational opportunities.”

The Salmon River estuary is the only significant area of coastal wetland habitat located on the relatively steep and rugged 155-mile (250-km) stretch of coastline from Campbell River to the network of estuaries on the Quatsino lowlands on northern Vancouver Island.

Eradicating an invasive marine plant

For over a decade, PBHJV partners have been involved in efforts to eradicate the invasive marine plant *Spartina anglica*. It was first detected in 2003 in the Fraser River estuary, BC, which is a wintering and staging hotspot for shorebirds and waterfowl. The Fraser River Delta estuary has international recognition as a wetland of international importance (Ramsar), for shorebirds (Western Hemisphere Shorebird Reserve Network), and as an Important Bird Area (Bird Life International). To respond to the habitat quality threat presented by *Spartina*, the BC Spartina Working Group was formed, a multiagency collaborative effort to detect and eradicate the plant from BC’s shores.



Changes in *Spartina* abundance in the mudflat on the northern half of Roberts Bank, BC for 2012–2015.

Environment and Climate Change Canada



A large *Spartina* plant growing on Roberts Bank.

Matt Christensen



Cackling Goose.

Catherine Jardine

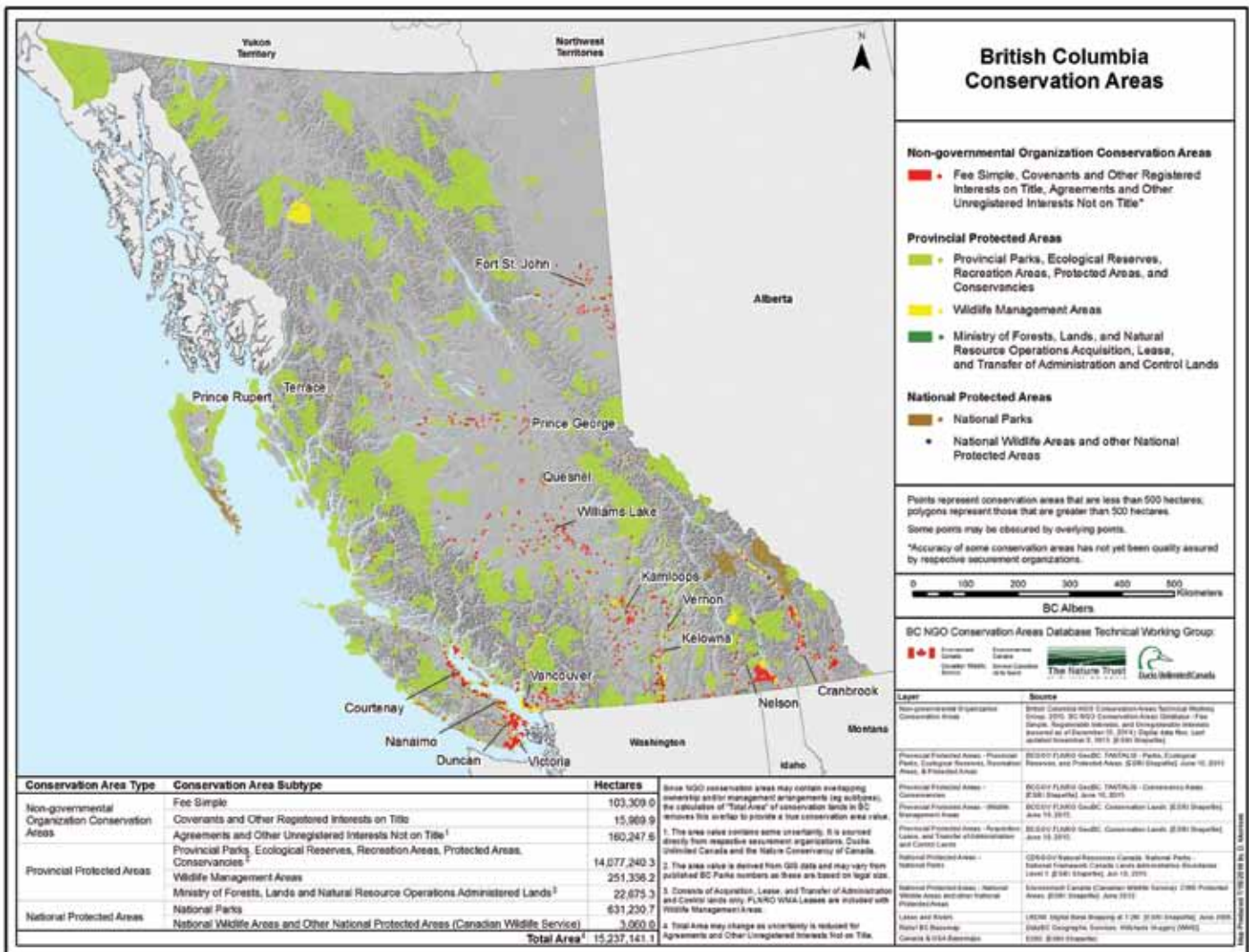
Spartina was already a significant concern for PBHJV partners on the US side of the border, where they found the plant would convert important mudflats and eelgrass beds into a monoculture with little ecological value. Widespread eradication efforts using herbicide treatments in Washington State had positive results with a return of shorebirds and waterfowl. Because the use of herbicides in the marine environment was previously not allowed in Canada, PBHJV partners in the US assisted BC partners with manually removing the plant, but these efforts were not successful.

PBHJV partners such as DUC and BC Ministry of Environment worked with their US counterparts, local First Nations, and provincial and federal regulators to seek approval for use of herbicides on this plant. For this process they drew on extensive research and best practices developed in Washington and California. In 2013, federal approval was received for the trial use of a specific herbicide in the Fraser River estuary, specifically along the shores of Boundary Bay and Roberts Bank.

Three years of treatment have been conducted (2013, 2014, and 2015) with larger *Spartina* patches being treated with herbicide and smaller ones still removed manually. The above diagram shows numbers of single and larger *Spartina* plants for two years prior to herbicide treatment and two years with treatment. Further results from both manual and herbicide control measures are expected in late 2016.

Developing a conservation areas database

The last project highlighted this year is one that has involved both PBHJV and Canadian Intermountain Joint Venture (CIJV) partners, namely, The Nature Trust of British Columbia, DUC, and the Canadian Wildlife Service at Environment and Climate Change Canada. These partners assembled a working group to collaborate on the British Columbia Nongovernmental Organization Conservation Areas Database. The Land Trust Alliance of British Columbia and NCC provided additional project coordination. The working group spent several years developing a comprehensive, standardized inventory of BC's non-governmental (private) conservation areas.



The conservation areas of nearly forty conservation organizations are included in the GIS database and amount to 393,945 acres (159,424 hectares; see map). Combined with provincial and federal protected areas in BC, the land area designated for conservation purposes in the province is approximately 37 million acres (15 million hectares), about 16% of BC's total land area. The partners use the information in the database to help track progress toward meeting Joint Venture goals, coordinate land management of neighbouring conservation areas, and identify strategic opportunities for new conservation areas.



These projects showcase a sample of the diverse projects being undertaken in the BC portion of the PBHJV. Much work remains, so the Joint Venture partners will continue to address knowledge gaps about priority species and habitats, as well as seek improved habitat program delivery through policy and new partnerships.

For more information, contact Tasha Sargent, Pacific Birds Habitat Joint Venture Coordinator, (604) 350-1903, tasha.sargent@canada.ca.

Pacific Birds Habitat Joint Venture Contributions (\$CAD)

	2015-2016	Total (1991-2016)
Total	2,155,958	205,683,549

Accomplishments (Acres)

	2015-2016	Total (1991-2016)
Secured	6,740	135,806
Enhanced	32,978	127,650
Managed	3,045	127,935
Influenced	22,472	6,779,733

Secured, enhanced and managed acres are not additive.

2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

1991-2016 consists of the January 1, 1991 to March 31, 2016 time frame.

Northern Pintail.
Catherine Jardine

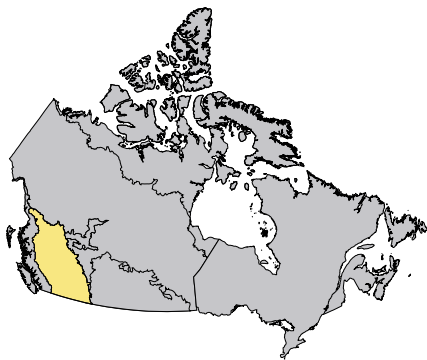




Canadian Intermountain Joint Venture

The SRL-K2 Ranch lands border the west side of Windermere Lake, British Columbia.

Nature Conservancy of Canada



www.cijv.ca

With an area of 123.5 million acres (50 million hectares), the CIJV covers portions of British Columbia and Alberta. The CIJV encompasses a diverse landscape of grasslands, dry and moist coniferous forests, riparian areas and wetlands, alpine tundra, and even pocket desert, with 24 breeding waterfowl species. The JV's estimated 1.45 million birds represent 70% of BC'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.

The Canadian Intermountain Joint Venture (CIJV) partners continue to work on a variety of projects to maintain and restore traditional distributions of waterfowl in North America, as well as address habitat conservation for all bird species. With many of the wetlands in interior British Columbia (BC) being at the bottom of valleys or at low to mid elevations, they are particularly vulnerable to development pressures and other land uses. The CIJV partners frequently achieve conservation goals for these important habitats by working with landowners on stewardship projects and on land securement through covenants. This year's highlighted projects include excellent examples of how private landowners, local governments, and conservation organizations are working together to conserve all bird species in the Joint Venture's land area.

Protecting valley-bottom lands in the Columbia Valley

A conservation-minded couple has partnered with the Nature Conservancy of Canada (NCC) to protect, through a conservation covenant, 11,192 acres (4,529 hectares) of mixed forest, grasslands, and wetlands on their Columbia Valley ranch in BC's East Kootenay region. Bob and Barb Shaunessy are the owners of SRL-K2 Ranch, a working cattle ranch that dates back to 1898. Since purchasing the ranch in 2003,

the Shaunessys have been replanting streambanks, restoring streambeds, deactivating old logging trails, and fencing out sensitive areas from cattle, as well as maintaining active ranching operations. Today, the land supports not just cattle, but a whole suite of wildlife including such waterfowl species as Barrow's Goldeneye, Hooded Merganser, Mallard, and Ruddy Duck, which use wetlands on the property for foraging and breeding habitat.

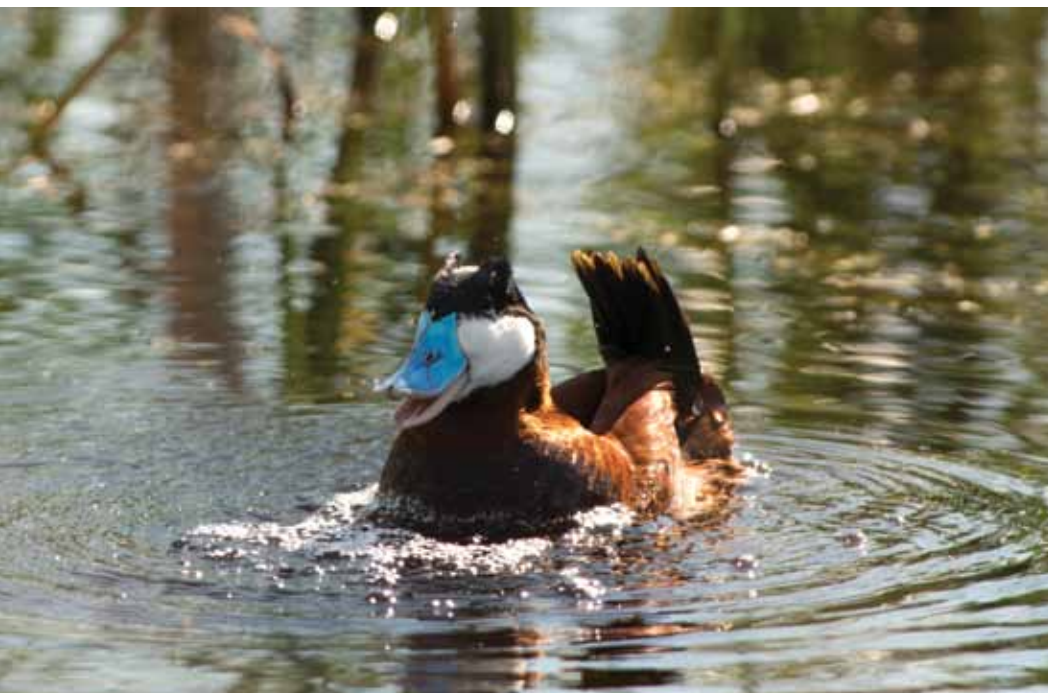
"Ever since purchasing the ranch we have been committed to restoring and conserving this land," said Bob Shaunessy. "As the oldest working cattle ranch in the Columbia Valley, the SRL-K2 Ranch deserved to be restored to her former glory. We are delighted that our partnership with the Nature Conservancy of Canada means that this property will remain intact over the long term."

The conservation covenant, held by NCC, protects the ranch lands from the significant ecological threats of subdivision and development. SRL-K2 Ranch is located on the west side of Windermere Lake and borders two protected areas (The Nature Trust of BC's Hoodoo-Hofert property and Windermere Lake Provincial Park). Therefore, the SRL-K2 Ranch Conservation Project protects much of Windermere Lake's west side from development pressures that have significantly altered the ecology of its east side. NCC will continue to work closely with the Shaunessys to enhance the conservation value of the lands and support the habitat needs of the wildlife that rely on this area for feeding and breeding.



Hooded Merganser.
Ducks Unlimited Canada

The project was funded through *North American Wetlands Conservation Act*, the Government of Canada's Natural Areas Conservation Program, the Columbia Basin Trust, and the Regional District of East Kootenay, as well as receiving considerable financial, strategic, and visionary contributions from Bob and Barb Shaunessy. "The SRL-K2 Ranch conservation covenant is now the largest covenant that the Nature Conservancy of Canada holds in BC," said Nancy Newhouse, Senior Director



Ruddy Duck.
iStock

Today the [ranch] supports not just cattle, but a whole suite of wildlife including such waterfowl species as Barrow's Goldeneye, Hooded Merganser, Mallard, and Ruddy Duck, which use wetlands on the property for foraging and breeding habitat.



Barriow's Goldeneye pair.
Ducks Unlimited Canada

of Conservation for NCC in BC. “We are very grateful to be working with Bob and Barb Shaunessy to realize our shared commitment to creating a conservation legacy on these valley-bottom lands.”

Partnering with agricultural producers

Environment and Climate Change Canada (ECCC) is working with agricultural producers across Canada on a pilot project aimed at species at risk and their habitat on agricultural lands. In BC, the Species at Risk Partnerships on Agricultural Lands (SARPAL) program is designed to encourage producers to undertake voluntary stewardship measures with the goal of protecting two migratory bird species at risk (Yellow-breasted Chat and Lewis' Woodpecker) and their habitat in ways that benefit both the species and the producer. Both of these species are priorities for conservation in the all-bird CIJV and the benefits of their conservation will also benefit other bird species.

In BC, ECCC is supporting partner organizations to work with producers to maintain or enhance bird habitat. The BC Cattleman's Association is working with ranchers to implement beneficial management practices such as erecting exclusion fencing around riparian areas and installing off-stream watering features. These activities can protect important riparian habitat while improving cattle health and promoting even grazing. SARPAL provides funds for materials, planning, and project expenses, while technical experts from ECCC provide support.

One participant in the initiative in 2015 was the Fossen Ranch in Rock Creek, BC. Their project involved moving and replacing 1.2 miles (2 km) of existing fence and installing a gravity trough to manage cattle distribution around a stand of mature cottonwoods used by bird species at risk. “Our ranch is improving with more feed and grass for cows and wildlife,” said Doug Fossen. “Great programs like this allow us to do more with our resources.”

Revitalizing Chilanko Marsh

In 2015, Ducks Unlimited Canada (DUC) began replacing critical elements of a project that started at Chilanko Marsh over 30 years ago. Chilanko Marsh, located 135 km west of the town of Williams Lake in the BC interior, is one of the largest open-water wetlands in the relatively dry area of the Chilcotin Plateau. As such, it is one of the few suitable breeding habitats in the region and an important rest area for migratory waterfowl. The marsh attracts substantial numbers of breeding and migrant ducks including Mallard, Blue-winged Teal, Lesser Scaup, Ruddy Duck, Bufflehead, Canvasback, and Canada Goose among many others, as well as associated marsh waterbirds and shorebirds. Along with the wetland, the adjacent uplands provide habitat for numerous birds and mammals.



Chilanko Marsh on the Chilcotin Plateau of interior British Columbia.
Ducks Unlimited Canada

The 2015 re-design will ensure the project continues to meet waterfowl goals, while reducing long-term maintenance and using materials that extend beyond a 30-year lifespan.



Aerial view of Chilanko Marsh, British Columbia.

Ducks Unlimited Canada

The Chilanko Marsh project area covers 2,180 acres (883 hectares) of wetland and adjacent upland habitat. The project area includes private land that was acquired by DUC and The Nature Trust of BC in 1982 and Provincial Crown land that was designated as a Wildlife Management Area in 1987. Between 1982 and 1987, DUC enhanced the wetlands to address waterfowl limitations by installing water control structures, fish passages, and fencing.

The 2015 re-design will ensure the project continues to meet waterfowl goals, while reducing long-term maintenance and using materials that extend beyond a 30-year lifespan. Improvements included replacing water control and fish passage structures and constructing new fencing on the property.

The project received funding from multiple sources including the *North American Wetlands Conservation Act*, ECCC, Fisheries and Oceans Canada, Habitat Conservation Trust Foundation, and BC Ministry of Forests, Lands and Natural Resource Operations.



The CIJV area presents unique conservation challenges due to the diversity of habitats, growing human population, and land development pressures. However, the CIJV partners have worked closely together to further the NAWMP goals in this area, and they will continue to work toward improving habitat conditions for all birds, as well as other wildlife species.

For more information, contact Tasha Sargent, Canadian Intermountain Joint Venture Coordinator, (604) 350-1903, tasha.sargent@canada.ca.

Canadian Intermountain Joint Venture Contributions (\$CAD)

	2015-2016	Total (2003-2016)
Total	4,603,591	58,918,657

Accomplishments (Acres)

	2015-2016	Total (2003-2016)
Secured	300	352,473
Enhanced	18,563	185,075
Managed	47,879	735,162
Influenced	0	50,906

Secured, enhanced and managed acres are not additive.

2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

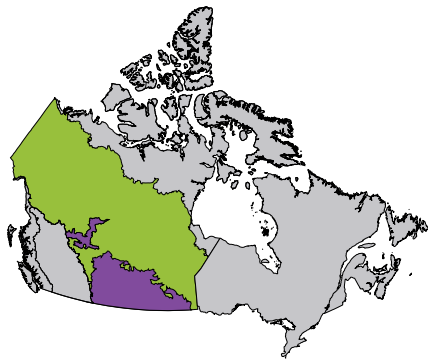
2003-2016 consists of the January 1, 2003 to March 31, 2016 time frame.



Prairie Habitat Joint Venture

New protected areas near Lake Winnipegosis, Manitoba's third largest lake, provide habitat for waterfowl and endangered species such as this Piping Plover.

Ducks Unlimited Canada



www.phjv.ca

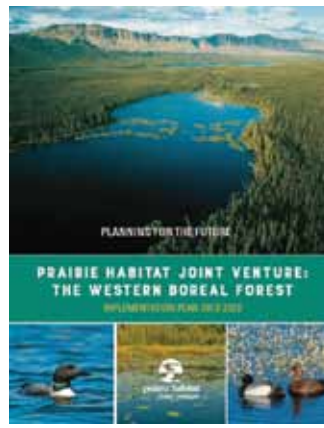
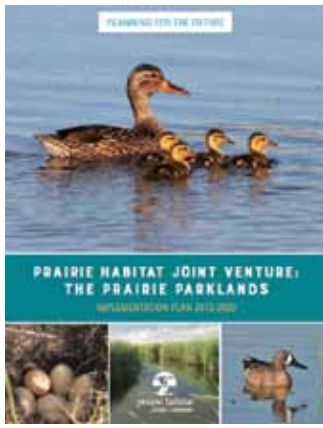
The PHJV encompasses 158.4 million acres (64.1 million hectares) in the traditional area of prairie and aspen parklands. It includes Alberta, Saskatchewan, Manitoba and the Peace-Parkland Region of British Columbia (BC). The PHJV also covers the western boreal forest (WBF), which covers parts of BC, Alberta, Saskatchewan, Manitoba, the Yukon and the Northwest Territories. The WBF contains a range of wetland types from small prairie potholes to marshes and bog systems.

Together, the Prairie-Parkland and WBF regions of Canada provide habitat for most North American duck species. They also provide habitat for hundreds of priority species identified during the Bird Conservation Region planning process. For example, the WBF has 57 priority species of non-game birds and 30 boreal specialists. Linkages among habitats and species are highlighted in the Prairie-Parkland and WBF Implementation Plans.

This year marks the 30th anniversary of both the North American Waterfowl Management Plan (NAWMP) and the Prairie Habitat Joint Venture (PHJV). The commitment of the PHJV partnership remains as strong and vibrant as in the early days, as noted at the NAWMP International Plan Committee's assessment of the JV in the summer of 2015, where all PHJV partner agencies participated with 18 partner representatives in attendance.

At that meeting, the PHJV partners were excited to showcase the then draft PHJV Implementation Plan 2013–2020, which has now been finalized. It has two components: the Prairie Parklands and the Western Boreal Forest. The habitat objectives identified in the Implementation Plan will help the PHJV and NAWMP achieve the following goals by 2020:

- Restore 384,000 acres (155,000 hectares) of habitat.
- Retain 684,000 acres (277,000 hectares) of habitat.



- Ensure an additional ~ 3,000 hatched nests annually (of the five dabbling duck species combined).
- Assess PHJV impacts on shorebirds, water birds, and landbirds.
- Examine restoration and protection of special wetlands and large marshes.
- Build public support for conservation.

These goals are ambitious; they will be achieved through the continued strength and sustained commitment of our partnership, and with a common vision—for waterfowl, the environment, and people.



Many successful projects have been undertaken in the PHJV, including those highlighted below.

Saskatchewan: Salinity problems? Just add water!

Over 15 years ago, Dale Rhinas, a farmer from west of Yorkton, Saskatchewan, cleared and trenched a large wetland. Initially, the low-lying area grew good crops, but over time it became less productive. A higher water table in recent years meant salinity was a real problem. Rhinas decided to restore the water to its original level and convert over 25 acres (10 hectares) to perennial forage. “We were tired of seeding acres that were unproductive and costing us money,” he explained. Restoring the wetland and converting the area to grass makes good financial sense and, with added incentive from the Assiniboine Watershed Stewardship Association (AWSA) and Ducks Unlimited Canada (DUC), Rhinas said it was a “no-brainer.”

Jesse Nielson, manager of the AWSA, commented that, “restoring wetlands can make both ecological and economic sense, and the Rhinas project is a great demonstration of this. Not only are we going to get the natural benefits of the wetland, but with the incentive payment, plus the ability to hay this area, it’s now also a more productive use of the marginal land from an economic point of view.”

Kylie McRae of DUC explained that, “salinity never disappears so it must be managed. Perennial forages can utilize salts in the soil more effectively than annual crops. Stabilizing the surface water levels by restoring the wetland will help manage salinity as well.”

Alberta: Conservation across a vital landscape

The Rachel Agnes Hayes Conservation Lands are an integral piece in a mosaic of protected properties in the Buffalo Lake Moraine, a central Alberta NAWMP priority landscape with remarkably rich habitat. “The Buffalo Lake Moraine is well known as a production area for almost every species of breeding waterfowl in Alberta,” said Bob Thomson, a conservation specialist with DUC. Buffalo Lake Moraine was a NAWMP First Step Project established in 1988 and is at high risk of habitat loss due to rural subdivisions, road construction, and other types of development.

Salts have accumulated on the surface of Dale Rhinas’ land. The drained wetland will be restored and soil surrounding it planted with a salinity-tolerant forage blend.

Ducks Unlimited Canada

The Nature Conservancy of Canada (NCC), in partnership with the Canadian government’s Natural Areas Conservation Program, U.S. Fish and Wildlife Service (under the *North American Wetlands Conservation Act*), and many other organizations, purchased the properties that make up the Rachel Agnes Hayes Conservation Lands in two phases, totaling 1,154 acres (467 hectares). Dr. Marie Tremblay, Senior Director of Conservation for NCC’s Alberta Region, explained that the properties are part of the larger Buffalo Lake Moraine Stewardship Project, which “is made up of several properties acquired over the years and covers about 2,200 acres (890 hectares) in total.” In addition, 10 other quarter sections in the immediate vicinity are lands conserved through collaboration by NCC, DUC, and several other non-government organizations (NGOs).

“The habitat continuity around the Rachel Agnes Hayes project is one of the largest intact NGO-protected areas in Alberta,” said Thomson. It is a key part of travel corridors for wildlife like moose, elk, and deer, and waterfowl love this area because of the density and diversity of wetlands. In many parts, there are over 100 wetland basins per square mile (260 per square km), which translates to very high breeding pair densities.

“This is a great example of conservation through effective partnerships,” said Tremblay. We’re building a really impressive block of conservation lands thanks to all our partners.”



Carp being excluded from Delta Marsh.

C. Meuckon, Manitoba Sustainable Development

Manitoba: Restoring Delta Marsh

One of the world’s largest marshes, covering 73 square miles (190 square km) along the southern shore of Lake Manitoba, was in trouble. Long-treasured for its hunting opportunities, which have attracted the rich and famous—including the Duke of York, Roy Rogers, and Clark Gable—and locals alike, Delta Marsh’s health steadily declined over the last 50 years. To stop this trend and restore the traditions offered by this important area, something had to be done.

A number of factors contributed to the marsh’s decline, including invasive species such as hybrid cattail and the highly destructive common carp. “The water is full of carp,” said Dr. Gordon Goldsborough, Associate Professor of Biological



Restoring wetlands can make both ecological and economic sense. Not only are we going to get the natural benefits of the wetland, but it’s now also a more productive use of the marginal land from an economic point of view.

Canvasbacks are common at Delta Marsh, Manitoba, and receive direct benefit from its recovery.

Ducks Unlimited Canada



The Peel River Watershed Land Use Plan has protected millions of acres in the Yukon including large areas of wetlands above the Arctic Circle.

Ducks Unlimited Canada

Sciences at the University of Manitoba, “but they are not the only problem. There has been runoff from the surrounding landscape and development around the edge of the marsh, and all this has had a major effect on it.”

Beginning in 2013 and through investments from NAWMP partners including DUC, the Province of Manitoba, the Manitoba Habitat Heritage Corporation, Delta Waterfowl Foundation, Wildlife Habitat Canada, and the Government of Canada, carp exclusion structures have been erected on channels connecting the marsh to Lake Manitoba. Since that time, a dramatic recovery has been observed. “Our experiments in small areas within the vast Delta Marsh have shown remarkable recovery within a few weeks of excluding carp, similar to findings at marshes around the Great Lakes,” said Goldsborough.

DUC is currently leading a multi-year, two-phase initiative to restore the ecological health of Delta Marsh for the enhancement of fish and wildlife habitat. “We are seeing a response in the vegetation and water quality that we haven’t seen in years,” said Rick Andrews of DUC. “It is such an extraordinary, positive change that I think we are well on our way to restoring the marsh to a healthier ecosystem for all Manitobans.”

Western Boreal Forest

Over 15.8 million acres (6.4 million hectares) of the Yukon’s boreal region have been set aside for protection as a result of final land claim agreements between the Canadian government and various First Nations. Five areas are represented by a combination of land use plans (Peel Land Use Plan), habitat protection areas (Lewes Marsh, Ddhaw Ghro, and Tagish Narrows), and a park (Kusawa Park)—each protected by a federal Order-in-Council.

Over 15.8 million acres (6.4 million hectares) of the Yukon’s boreal region have been set aside for protection as a result of final land claim agreements between the Canadian government and various First Nations.



The beginning of the Yukon River, locally known as Lewes Marsh, is an important spring staging location where Trumpeter Swans are often spotted.

Ducks Unlimited Canada

In Manitoba, approximately 234,000 acres (94,700 hectares) of boreal forest have also been protected. The Manitoba government designated the Red Deer Lake Wildlife Management Area and an expansion of the Lake Winnipegosis Salt Flats Ecological Reserve within its protected areas network. Wetlands in this region flow into Lake Winnipegosis, one of Manitoba’s great lakes, and provide many environmental benefits, including filtering runoff that helps keep lakes and river systems healthy. The government also established an additional 58,662-acre (23,740-hectare) Wildlife Management Area to uphold the area’s wildlife values. These protected areas provide essential environmental benefits to waterfowl and other important wildlife like the federal *Species at Risk Act* listed endangered Piping Plover and threatened Woodland Caribou.

In addition to making significant contributions of information for the Yukon and Manitoba conservation of boreal forest, DUC has helped the PHJV advance their influence (extension) activities with industry working in the boreal forest, such as a guide for building wetland-friendly roads in Canada’s northern forest. DUC hosted a Wetland Best Management Practices Workshop attended by industry, regulators, and other stakeholders, completed wetland mapping in the Boreal Plains Ecoregion of Saskatchewan and Alberta, and is conducting science-based research to better understand how industrial use of the boreal forest influences waterfowl populations.



These projects highlight some of the exciting work taking place in the PHJV as it enters its fourth decade of productive partnerships to achieve the NAWMP goals of restoring and conserving waterfowl habitats.

For more information, contact Deanna Dixon, Prairie Habitat Joint Venture Coordinator, (780) 951-8652, deanna.dixon@canada.ca.

Prairie Habitat Joint Venture – Prairie Parklands Contributions (\$CAD)

	2015-2016	Total (1986-2016)
Total	42,075,635	1,184,286,972

Accomplishments (Acres)

	2015-2016	Total (1986-2016)
Secured	69,331	6,854,582
Enhanced	723,574	2,709,706
Managed	426,250	8,866,835
Influenced	459,528	6,000,156

Secured, enhanced and managed acres are not additive.

2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

1986-2016 consists of the January 1, 1986 to March 31, 2016 time frame.

Prairie Habitat Joint Venture – the Western Boreal Forest Contributions (\$CAD)

	2015-2016	Total (1986-2016)
Total	7,639,778	133,765,788

Accomplishments (Acres)

	2015-2016	Total (1986-2016)
Secured	11,678	11,250,454
Enhanced	0	0
Managed	0	0
Influenced	8,106,728	53,526,503

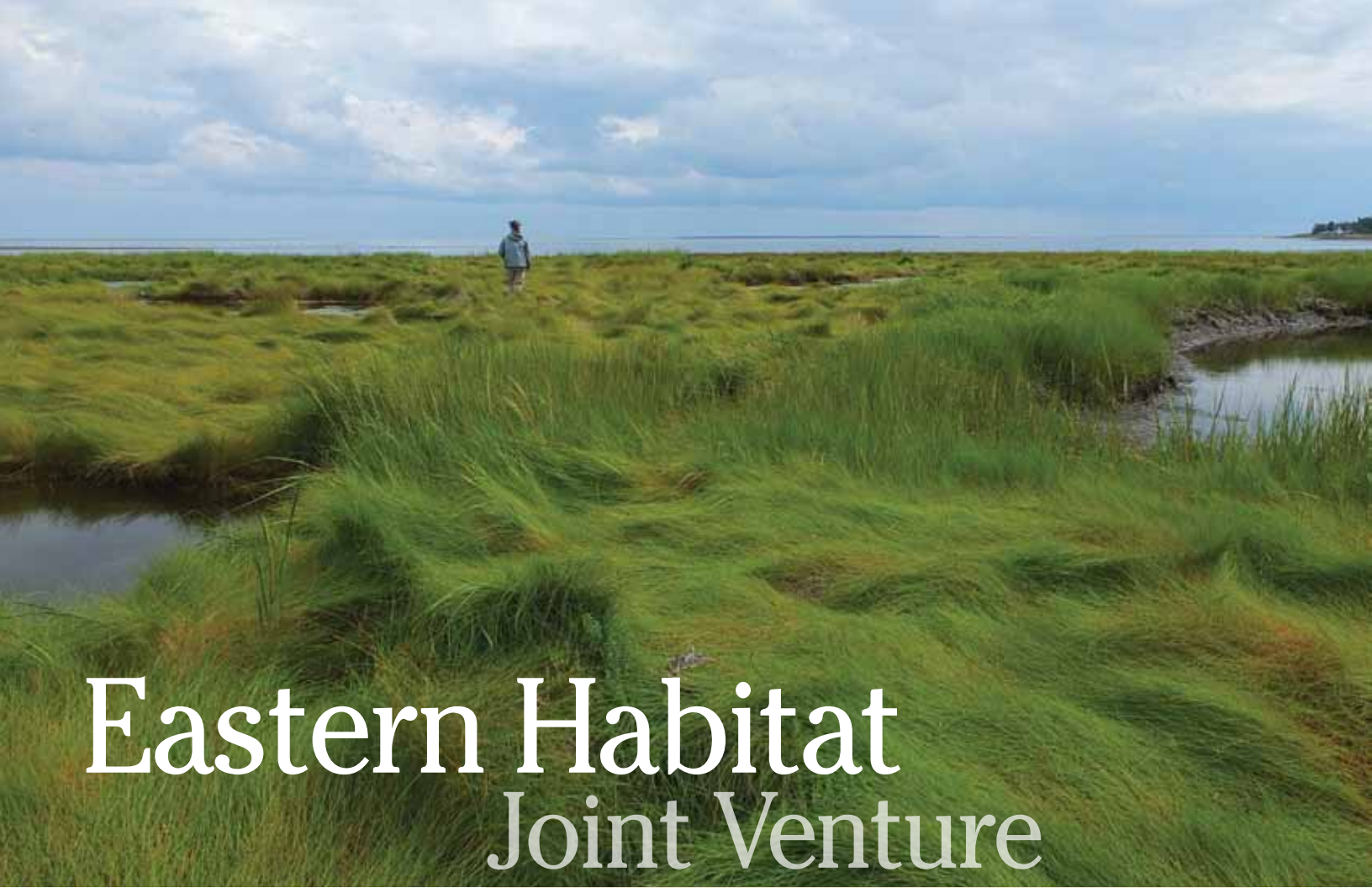
Secured, enhanced and managed acres are not additive.

2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

1986-2016 consists of the January 1, 1986 to March 31, 2016 time frame.



Mallard hen with her brood.
Ducks Unlimited Canada



Eastern Habitat Joint Venture

Joseph Allain Nature Preserve, New Brunswick.

Nature Trust of New Brunswick



www.ehjv.ca
www.pche.ca

The EHJV contains 780 million acres (315 million hectares) spanning Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador. The EHJV supports 30% of Canada's wetlands, including more than 120.8 million acres (48 million hectares) of fresh and tidal wetlands. Important habitats include coastal bays and salt marshes, lakeshore marshes, floodplain wetlands and boreal forest wetlands. The JV has 13 priority waterfowl species: American Black Duck, Mallard, Ring-necked Duck, Common Goldeneye, Common Eider (3 races), Green-winged Teal and Canada Goose (5 populations). The habitat within the EHJV supports 95% of the continental population of American Black Duck and 80% of the southern race of Common Eider. The Atlantic and North Atlantic populations of Canada Goose breed exclusively within the EHJV.

The Eastern Habitat Joint Venture (EHJV), the eastern Canada delivery arm of the NAWMP, encompasses one third of Canada's landmass and nearly two thirds of its human population. The EHJV has been actively securing, enhancing and managing wetland and associated upland habitat throughout the provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador since 1989.

The habitat conservation projects and related initiatives undertaken by the partnership have not only contributed to the conservation of eastern Canada's rich biological diversity but to North America's overall biodiversity.

Mallard in flight.
Ducks Unlimited Canada



Project locations.



This year's report highlights a variety of projects undertaken by EHJV partners throughout New Brunswick (NB).

Giving new life to an old marsh

For almost 10 years, Lakeside Marsh in Fredericton, NB, lay dormant under 12 feet (3.5 metres) of infill. Located near a subdivision, the 1.5-acre (0.6-hectare) wetland had been slated for development until the New Brunswick Department of Environment learned of the project and asked the developer to stop. Some of the fill was removed, but a lot of it was left in the marsh until Ducks Unlimited Canada (DUC) conservation specialist Kassandra Paillard found out about it.

Paillard wanted to see how a wetland that hadn't functioned as a wetland for nearly a decade would spring back to life. So, after pitching the idea to New Brunswick's Provincial Technical Review Committee (the provincial body that approves wetland restoration projects). Paillard, with funding from DUC's wetland conservation policy program, hired a contractor and started digging in July 2015. If the experiment at Lakeside was successful, it would show how other previously infilled wetlands could also be restored.

"I really didn't know how deep the fill was going to be," said Paillard. "You think, well, there was a wetland under there somewhere. Then we started to see the change in soil where the wetland's old greasy clay layer started. Until we reached that, we had our fingers crossed."

Having reached the clay—the critical sticky soil layer that holds water—they terraced the bottom in three tiers leading to the deepest point in the marsh, where the water empties into a bog. Because of the existing seedbank from the bog and nearby protected forested wetlands, marsh plants quickly started to creep into the restoration site. Fredericton got a heavy rainfall one night while Paillard and the crew were still working on the project, and she came back the next morning to find a Mallard and an isolated sandpiper making themselves at home.

One of the best things about the project, though, according to Paillard, is that it's going to showcase the importance of wetland conservation. "Regenerating the growth there is going to take a while," she said. "This project is going to show people how quickly you can destroy a wetland, but how long it takes for it to come back." DUC plans to install educational signage in the area.

As soon as Paillard described what she had planned for the wetland project, the developers were on board, and they've now signed a 30-year conservation agreement with DUC.

Conserving coastline habitat

In 2015, the Nature Trust of New Brunswick (NTNB) announced completion of the conservation of ecologically significant coastal lands along two of New Brunswick's distinct coastlines.

To the southwest, along the Bay of Fundy, which is known for having the most dramatic tidal range in the world, the first was Frye Island Nature Preserve. It includes the southern portion of the island and a number of smaller islands that are connected at low tide, totalling 415 acres (168 hectares). This coastal wilderness was protected through a partnership with Connors Bros. Clover Leaf Seafoods Company.



Aerial view of Frye Island Nature Preserve (in foreground) and the community of Back Bay (upper left), New Brunswick.

Nature Trust of New Brunswick

With regenerating Acadian forest, sea cliffs, rocky beaches, and salt marshes, Frye Island has been identified by NTNB as an Environmentally Significant Area for migratory birds and contains Provincially Significant Wetlands. Bird species observed during baseline monitoring included Wood Duck, American Woodcock, Mallard, Common Merganser, Cormorant, and many other waterfowl, seabirds, shorebirds, songbirds, and raptors.

Across the province to the northeast, along the Miramichi Bay within the Gulf of St. Lawrence, the other property acquired was the Joseph Allain Nature Preserve in the village of Neguac, NB. The habitat protected in this 22-acre (9-hectare) nature preserve includes upland forest, barrier beach, salt marsh, and bog. A large portion of it is recognized as Provincially Significant Wetland. Many Great Blue Herons frequent the area and other bird species likely to be found include Northern Pintail, Common Goldeneye, Osprey, and Common Merganser.

The Joseph Allain Nature Preserve adds to other conservation efforts in the region, including several Important Bird Areas (IBAs), nearby lands conserved by the Nature Conservancy of Canada, and the Portage Island National Wildlife Area just 3.7 miles (6 km) offshore. Together, these areas protect habitat for waterfowl and shorebirds that depend on this coast for feeding and nesting.

Protecting an estuary and salt marsh

Located 12 miles (19 km) west of Saint John, NB, in one of the most biologically productive natural settings in Atlantic Canada, Musquash is one of the last fully functioning estuaries in the Bay of Fundy. For generations, the stunning scenery surrounding the lower Bay of Fundy has drawn vacationers to its coastal islands and cobble beaches. Many birds, including American Black Duck, Common Eider, Red-breasted Merganser, and Broad-winged Hawk, nest and rear their young there. The Musquash Estuary also contains the largest salt marsh in the outer Bay of Fundy; more than 85% of salt marshes around the Bay of Fundy have been lost through dyking, draining, and development since European settlement.



Cormorant.

Nature Trust of New Brunswick

Regenerating the growth [in the wetland] is going to take a while. This project is going to show people how quickly you can destroy a wetland, but how long it takes for it to come back.



Lakeside Marsh in Fredericton, New Brunswick.
Ducks Unlimited Canada

The Nature Conservancy of Canada (NCC) has been working at the Musquash Estuary since 2001 and has protected 4,243 acres (1,717 hectares) by conserving 21 properties through purchase or donation. In 2006, the estuary was designated as Canada’s sixth Marine Protected Area and New Brunswick’s first. The designation, through the Fisheries and Oceans Canada, ensures the protection of Musquash under *Canada’s Oceans Act*. However, this designation does not impact the salt marsh or lands above the high-water mark, making the protection of private and public lands surrounding the estuary by EHJV partners a vital part of protecting the marine systems.

In October 2008, NCC lands at Musquash became the first private lands to be placed under New Brunswick’s *Protected Natural Areas Act*, protecting the Musquash Estuary Nature Preserve from future mineral claims, subsurface exploration, and development.

NCC is currently fundraising to secure nearly 1,000 acres (400 hectares) of additional land surrounding the Musquash Estuary. These future projects will protect salt marsh along the Musquash River, as well as Acadian forest and freshwater wetlands.

The coast of the Bay of Fundy is a critical part of the Atlantic Flyway. The remote location and position of the outer Musquash Estuary provide excellent habitat for migratory sea ducks, particularly Black Scoter, White-winged Scoter, Surf Scoter, and Common Eider. Shorebirds and warblers also frequent the coast and headlands of the estuary during migration.



The New Brunswick projects highlighted here touch on some of the many exciting projects EHJV partners are doing throughout the JV’s jurisdiction, as they work to address the habitat objectives in the EHJV 2015–2020 Implementation Plan.

For more information, contact Tania Morais, Eastern Habitat Joint Venture Coordinator, tania.morais@canada.ca.

Eastern Habitat Joint Venture Contributions (\$CAD)

	2015-2016	Total (1989-2016)
Total	23,707,883	540,258,848

Accomplishments (Acres)

	2015-2016	Total (1989-2016)
Secured	16,522	1,446,727
Enhanced	3,229	608,811
Managed	173,075	1,935,809
Influenced	5,673	72,997,597

Secured, enhanced and managed acres are not additive.

2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

1989-2016 consists of the January 1, 1989 to March 31, 2016 time frame.



The Musquash River, New Brunswick, showing the salt marshes along the river just before it opens into the estuary.

Ron Garnett



Species Joint Ventures

Trumpeter Swans.
Catherine Jardine

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.



Black Duck Joint Venture

Female and male black ducks.

Christian Marcotte



www.blackduck.cmi.vt.edu

The BDJV includes Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador and 14 eastern U.S. states. The American Black Duck can be found in saltwater marshes, brackish and freshwater impoundments, riverine and estuary marshes, woodland wetlands, shallow lakes, and boreal bogs. Black ducks use the Mississippi and Atlantic Flyways.

One of the primary goals of the Black Duck Joint Venture (BDJV) is to support research focused on factors affecting populations of the American Black Duck (hereafter black duck) in North America. Since the Joint Venture was established in 1989, studies have been funded on breeding habitat ranging from remote Canadian boreal areas to eastern Canada and from Maine to southern Chesapeake Bay. Over the past several years, however, the JV's research efforts shifted and were primarily directed toward gaining a better understanding of black ducks on their wintering grounds.

A leading hypothesis suggests that waterfowl populations may be limited during the non-breeding season by food (energy) availability. Wintering ground research done in recent years aimed to quantify the effect of energy availability and weather conditions on black duck home range, habitat use, and survival. To accomplish these studies, a coordinated effort was undertaken between the BDJV and the U.S. Atlantic Coast Joint Venture (ACJV; acjv.org) to address specific questions. A direct result of this collaboration was the identification of priority sites for protection and restoration on the wintering grounds.

Looking north to the breeding grounds

With a clearer understanding of the needs for black ducks on the wintering grounds, BDJV research has returned to breeding ground ecology. Despite earlier studies, our understanding of the factors influencing reproductive success across much of the black duck range is incomplete. In addition, the forested landscape important

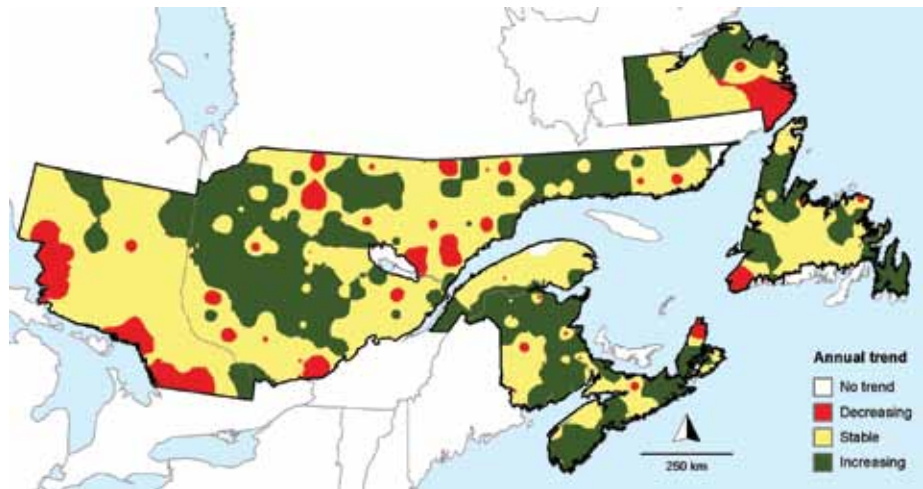
to breeding black ducks is both vast and remote in Canada, so conservation efforts in these areas have been limited to date. Given the recent successes experienced through the coordinated ACJV/BDJV efforts, a similar process was proposed for studying the Canadian breeding grounds, most of which lie within the Eastern Habitat Joint Venture (EHJV), which spans Ontario east to Newfoundland and Labrador.

At their November 2015 meeting, the BDJV Management Board agreed that a face-to-face meeting of Canadian BDJV and EHJV partners be convened to discuss information needs, data gaps, and potential projects to pursue in Canada. In addition to informing Black Duck Adaptive Harvest Management, an alliance between these JV's partners would also potentially facilitate strategic habitat conservation on the breeding grounds across the EHJV.

Identifying research needs

In March 2016, BDJV and EHJV partners met in Montreal, Quebec, for a two-day workshop to discuss research opportunities. Participants included academics, Ducks Unlimited Canada, Provincial biologists and researchers from Ontario and Quebec, the U.S. Fish and Wildlife Service, and habitat and waterfowl population biologists from the Canadian Wildlife Service.

The workshop participants agreed that research in support of future conservation actions must focus on Bird Conservation Regions 8 and 12, which are Boreal Softwood Shield and Boreal Hardwood Transition in central Ontario and Quebec. Several priorities were identified, including an effort to collate and



Population trend distribution (annual percentage change) of the American Black Duck during the helicopter-based waterfowl survey in eastern Canada, 1990–2003.

Canadian Wildlife Service

re-assess historic datasets in conjunction with contemporary data. This work might allow JV partners to identify factors influencing black duck breeding efforts where the greatest declines in population density have been observed (1990s to present). Other areas identified for further evaluation were the influence of an increased human footprint (in terms of both recreational use and industrial activity) and the potential role of North American Beaver in influencing the landscape and habitats used by black ducks.

As human development and encroachment into eastern forested landscapes continues, additional efforts will be required to ensure conservation of black duck populations in North America. Working together in this cross-JV partnership will deliver tangible conservation outcomes and provide insight into how Joint Ventures take action to maintain healthy black duck populations in perpetuity.

For more information, contact Tania Morais, Canadian Black Duck Joint Venture Coordinator, tania.morais@canada.ca.

Black Duck Joint Venture Expenditures (\$CAD)

	2015-2016	Total (1989-2016)
Banding	192,617	7,836,349
Research	33,450	1,705,097
Surveys	313,137	7,980,152
Conservation Planning	5,368	351,980
Communication & Education		18,600
Total	\$544,572	\$17,892,178

2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

1989-2016 consists of the January 1, 1989 to March 31, 2016 time frame.



Suitable watercourse for black ducks in the boreal forest, north-central Quebec.

Christine Lepage



American Black Duck in flight.
Christine Lepage



Sea Duck Joint Venture

Female Common Eider.

Tim Bowman, U.S. Fish & Wildlife Service



www.seaduckjv.org

The SDJV covers all of Canada and the United States and focuses on coastal waters for migrating and wintering ducks and boreal forest and tundra for nesting ducks. The JV includes all 22 recognized populations among the 15 sea duck 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.

When the Sea Duck Joint Venture (SDJV) was founded in 1998, even basic biological information was lacking for most sea duck species. The SDJV partnership set out to address key questions such as the scale at which sea ducks should be considered for management, the key limiting factors, the most important habitats for sea ducks, and the sustainability of current harvest. Although much has been learned, many knowledge gaps remain, including the relative importance of potential limiting factors.

Guiding documents

The SDJV is guided by two planning documents: a Strategic Plan with a five-year planning cycle (currently 2014–2018) and an Implementation Plan revised annually with a three-year planning cycle (currently 2016–2018). In 2015, the SDJV produced its first Strategic Communication Plan (currently 2015–2019). This plan will guide the communications efforts among SDJV staff, the Continental Technical Team, the Management Board, and other partners. The Communication Plan is focused on four SDJV goals:

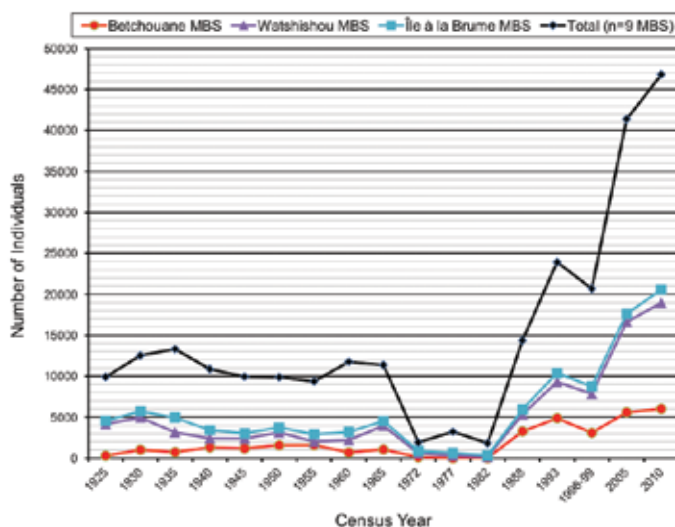
- Goal 1. The SDJV contributes to scientific information about sea ducks and their habitats, and ensures that this information is readily available and used by stakeholders.

- Goal 2. SDJV partners collaborate on research and monitoring to address gaps in sea duck conservation and management.
- Goal 3. SDJV priority actions are implemented to advance sea duck conservation and management.
- Goal 4. The SDJV is widely recognized as the leading conservation program for sea ducks and has a strong and informed constituency for sea ducks.

Notable communications efforts in 2015–2016 included a redesigned website and production of the first-ever SDJV newsletter, which will be produced annually and can be accessed on the website. The Spring 2016 edition of the SDJV newsletter gives news about the program as well as stories written by SDJV partners about their SDJV-supported work, from surveys to research to citizen science.

Census of Common Eider

Of the 15 species of sea ducks, arguably the best known to the Canadian public is the Common Eider, due in large part to it nesting in colonies on marine islands along the country's eastern and northern coasts from southern New Brunswick to the Yukon. Common Eider nesting colonies situated along the north shore of the Gulf of St. Lawrence, local hunting of adults, and the collection of eggs for consumption were likely all factors that influenced the decision to create nine federal Migratory Bird Sanctuaries (MBS) in this region in 1925, less than a decade after the Migratory Bird Convention was signed in 1916. The very year the sanctuaries were created, a census began of breeding seabirds, such as cormorants, razorbills, and Common Eiders within each sanctuary. The census is repeated approximately every five years, with the most recent in 2015.



The population of Common Eider nesting in Migratory Bird Sanctuaries of the North Shore of the Gulf of St. Lawrence, Quebec, from 1925–2010.

Data from Banque Informatisée des Oiseaux Marins du Québec (BIOMQ)



Male Common Eider.

Tim Bowman, U.S. Fish & Wildlife Service

This monitoring program has produced one of the longest datasets on the Common Eider. At individual MBS (those where nesting eiders were present at every census) and for all MBS combined, the size of the breeding population was relatively stable from 1925–1965, declined sharply for 1972–1982, and then showed a strong increase from 1982–2010 (2015 data not yet available).

Monitoring programs, especially long-term ones, are crucial for management of Common Eider and all sea ducks, as are continuing studies such as those supported by the SDJV to fill in information gaps on life history and factors affecting productivity and population changes.

For more information, contact Richard Cotter, Sea Duck Joint Venture Coordinator, (418) 648-7034, richard.cotter@canada.ca.

Sea Duck Joint Venture Expenditures (\$CAD)

	2015-2016	Total (1998-2016)
Banding		695,345
Research	81,720	8,371,631
Surveys	153,148	2,638,018
Conservation Planning	10,000	886,411
Communication & Education		44,504
Total	\$244,868	\$12,635,909

2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

1998-2016 consists of the January 1, 1998 to March 31, 2016 time frame.



Arctic Goose Joint Venture

Banding of White-fronted Geese.

Kiel Drake



www.agjv.ca
www.pcoa.ca
www.gansodelartico.com

The AGJV covers 924 million acres (374 million hectares) spanning North America and including other circumpolar countries. It focuses on 26 populations among seven species: Greater White-fronted, Emperor, Snow, Ross's, Brant, Cackling, and Canada Geese. Arctic geese use all four flyways.

The Arctic Goose Joint Venture (AGJV), one of the Joint Ventures initiated at the inaugural North American Waterfowl Management Plan (NAWMP) Committee meeting in 1986, has been instrumental in gathering, compiling, and communicating information about North American geese and their habitats. Several iterations of the AGJV Strategic Plan, most recently in 2016, reflect the continued progress this partnership has made to meet the high priority information needs for the continent's northern-nesting geese. To date, over 100 projects have been endorsed and funded with AGJV designated contributions.

A listing of publications resulting from AGJV efforts and AGJV-supported projects is substantial, with well over 400 publications identified. The AGJV has been especially active in addressing colony-nesting Snow and Ross's Geese, an initial NAWMP mandate, including issues of overabundance. Through a series of AGJV working groups and several publications, continental goose management regimes have been significantly influenced.

AGJV-supported projects and programs involve three main components: banding, surveys, and research. Following are a few examples of how AGJV-supported projects improve capabilities for managing North America's goose populations.

Banding

The AGJV supports banding operations across the Arctic, from Baffin Island to Alaska. From 1989–2015, more than 1 million geese from AGJV populations were banded. AGJV banding studies have provided information about timing of migration, recovery distributions, survival rates, population sizes, and harvest rates.

Neck bands continue to be used in some cases to provide mark and re-sight estimates of population size or to answer specific research questions. However, several studies found that neck bands affected the survival of geese, and as a result, most operational neck-banding was discontinued by 2007.

A reward band study conducted by AGJV partners from 2003 to 2005 provided the first quantitative assessment of band-reporting rates among goose hunters in North America. The resultant estimates of reporting rates have improved our understanding of harvest rates in geese and have also improved estimates of population size based on band recovery and harvest data.

Improved knowledge of goose distribution during migration and winter has led to amalgamation of several populations of geese from breeding areas that were formerly divided into smaller regional components, including midcontinent White-fronted Geese, midcontinent Cackling Geese, and midcontinent Lesser Snow Geese. Banding data have also been used to monitor changes in distribution of species like Ross's Geese, which have greatly expanded their range eastward over the past few decades.

Surveys

The AGJV has supported surveys conducted throughout northern Canada and the United States, including:

- Photo-inventory of Snow and Ross's Goose nesting colonies
- Greater Snow Goose spring staging survey

- White-fronted Goose fall survey in prairie Canada
- Helicopter surveys of Lesser Snow Goose colonies on southern Hudson Bay
- Videographic survey of Pacific Brant nesting colonies
- Aerial surveys of migratory birds in the Arctic
- Evaluation of high-resolution satellite imagery for surveying Snow Geese on Wrangel Island

Research

AGJV provides support for goose research that is important for improving the management of populations. Some examples include evaluation of:

- Goose harvest in Mexico
- Lesser Snow Goose productivity on Wrangel Island, Russia
- Greater Snow Goose productivity on Bylot Island, Nunavut
- Ross's Goose breeding ecology
- Vegetation characteristics, habitat alteration, and recovery in Arctic ecosystems
- Wintering habitat conditions (e.g., eelgrass availability)
- The role of Snow and Ross's Geese as carriers of avian cholera
- Impacts of habitat degradation caused by Snow and Ross's Geese on other species

AGJV-supported activities have resulted in refined population definitions, increased precision of monitoring efforts, and increased monitoring capacity and therefore have improved the ability of agencies to appropriately manage goose populations through tailored harvest regulations.

For more information, contact Deanna Dixon, Arctic Goose Joint Venture Coordinator, (780) 951-8652, deanna.dixon@canada.ca.

Arctic Goose Joint Venture Expenditures (\$CAD)

	2015-2016	Total (1991-2016)
Banding	776,108	14,878,870
Research	2,015,471	20,565,274
Surveys	91,703	10,232,251
Collar Observations		1,324,185
Management		272,992
Conservation Planning	47,800	607,486
Total	\$2,931,082	\$47,881,058

2015-2016 consists of the April 1, 2015 to March 31, 2016 time frame.

1991-2016 consists of the January 1, 1991 to March 31, 2016 time frame.



Canada Goose.
Richard Cotter

Partners



Common Eider flock.

Tim Bowman

Thank you to all our partners who contributed in 2015–2016:

Canadian Agencies

Acadia University
Agriculture and Agri-Food Canada
Alberta Environment and Sustainable
Resource Development
Alberta Fish and Game Association
Alberta Treasury
AltaGas Services Inc.
Amar Developments Ltd.
Anderson Exploration Ltd.
Apache Canada Ltd.
ARC Resources Ltd.
ArcticNet Inc.
Association of Sustainable Forestry
Atco Electric Ltd.
Atco Gas
Baytex Energy Ltd.
BC Hydro
Bluenose Coastal Action Foundation
Bonavista Energy Trust Ltd.
British Columbia Ministry of Environment
British Columbia Waterfowl Society
Calgary (City of)
Canada West Land Services Ltd.
Canadian Natural Resources Ltd.
Cavalier Land Ltd.
Cenovus Energy Inc.
Clean Annapolis River Project
Clearwater Fine Foods Inc.
Columbia Basin Trust
ConocoPhillips Canada
Crescent Point Resources Limited Partnership
Dalhousie University
Ducks Unlimited Canada
Duffy Foundation
Edmonton Community Foundation
Enbridge Inc.
Enbridge Pipelines Inc.
Environment and Climate Change Canada
Evolve Surface Strategies Inc.
ExxonMobil Canada Energy
Flagstaff (County of)
Fondation de la faune du Québec

Habitat Conservation Trust Foundation
HMA Land Services Ltd.
Imperial Oil Charitable Foundation
Imperial Oil Resources Ltd.
Indian and Northern Affairs Canada
Institute for Wetland and Waterfowl Research
Inter Pipeline Fund
J.D. Irving, Ltd.
James Richardson International
Kings County (Municipality of)
Landwest Resource Services Ltd.
Le Fonds québécois de la recherche
sur la nature et les technologies
Manitoba Conservation and Water
Stewardship
Manitoba Habitat Heritage Corporation
Medicine Hat (City of)
MGV Energy Inc.
Ministère des Forêts, de la Faune et des Parcs
Ministère du Développement durable, de
l'Environnement et de la Lutte contre les
changements climatiques
Mistik Management Ltd.
Natural Resources Canada - Polar Continental
Shelf Project
Natural Sciences and Engineering Research
Council of Canada
Nature Conservancy of Canada
New Brunswick Department of Environment
New Brunswick Department of Natural
Resources
New Brunswick Environmental Trust Fund
New Brunswick Regional Development
Corporation
New Brunswick Wildlife Council
New Brunswick Wildlife Trust Fund
Newfoundland-Labrador Department of
Environment and Conservation
Nexen Inc.
Northrock Resources Ltd. (Canada)
Northwest Territories Department of
Environment and Natural Resources
Nova Scotia Crown Share Land Legacy Trust
Nova Scotia Department of Agriculture

Nova Scotia Environment
Nova Scotia Federation of Agriculture
Nova Scotia Natural Resources
Ontario Ministry of Natural Resources
Pan Canadian Petroleum Limited
Paramount Energy Trust
Park Ridge Homes Ltd.
Parks Canada
PCL Construction Management Inc.
PENGROWTH CORPORATION
Prairie Land Consultants Inc.
Prince Edward Island Wildlife
Conservation Fund
Richardson Foundation Inc.
Rife Resources Ltd.
Rocky View (Municipal District of)
Roy Northern Land Service Ltd.
Saskatchewan Environment
Saskatchewan Water Security Agency
SaskPower
Scotiabank
Scott Land and Lease Ltd.
Shell Canada Products Ltd.
Signalta Resources Ltd.
Standard Land Company Inc.
Strathcona (County of)
TD Canada Trust
Tervita
The Asper Foundation
The Flanagan Foundation
The Gosling Foundation
The Harold Crabtree Foundation
The Nature Trust of British Columbia
The W. Garfield Weston Foundation
The Winnipeg Foundation
Thunder Bay Holdings Ltd.
Touchdown Land Consultants Ltd.
TransCanada Corporation
Trent University
Trident Exploration Corporation
Trilogy Energy Corporation
Turtle Mountain Conservation District
Twin Butte Energy Ltd.

United Way of Greater Toronto
 Université du Québec à Chicoutimi
 Université du Québec à Rimouski
 Vancouver International Airport Authority
 Weyerhaeuser
 Wildlife Habitat Canada
 Yellowstone to Yukon Conservation
 Initiative Foundation
 Yukon Department of Energy, Mines
 and Resources
 Yukon Department of Environment

U.S. Agencies

Alabama Department of Conservation
 and Natural Resources
 Alaska Department of Fish and Game
 American Friends of the Nature Conservancy
 of Canada
 American Museum of Natural History
 Anonymous Foundation
 Arizona Game & Fish Department
 Arkansas Game & Fish Commission
 Atlantic Flyway Council
 Bayer CropScience Inc.
 California Department of Fish & Wildlife
 Cargill Limited
 Central Flyway Council
 Connecticut Department of Energy &
 Environmental Protection
 ConocoPhillips Alaska
 Delaware Division of Fish & Wildlife
 Ducks Unlimited, Inc.
 Florida Fish & Wildlife Conservation
 Commission
 Georgia Wildlife Resources Division
 Hudson Bay Project



In the valley of the Ddhaw Ghro Habitat Protection Area in central Yukon, wetlands are common.

Ducks Unlimited Canada

Idaho Department of Fish & Game
 Indiana Department of Natural Resources
 Kansas Department of Wildlife & Parks
 Kentucky Department of Fish & Wildlife
 Resources
 Louisiana Department of Wildlife and
 Fisheries
 Louisiana Pacific Corporation
 Maine Department of Inland Fisheries
 & Wildlife
 Maryland Department of Natural Resources
 Massachusetts Division of Fisheries
 & Wildlife
 Michigan Department of Natural Resources
 Mississippi Department of Wildlife,
 Fisheries & Parks
 Mississippi Flyway Council

Missouri Department of Conservation
 National Fish and Wildlife Foundation
 Nebraska Games & Parks Commission
 Nevada Department of Wildlife
 New Hampshire Fish & Game
 New Jersey Division of Fish & Wildlife
 North Carolina Wildlife Resources
 Commission
 North Dakota Game & Fish Department
 Oceans North Canada
 Ohio Division of Wildlife
 Oklahoma Department of Wildlife
 Conservation
 Open Space Institute
 Pennsylvania Game Commission
 PEW Charitable Trusts
 Rhode Island Department of Environmental
 Management
 South Carolina Department of Natural
 Resources
 South Dakota Game, Fish & Parks Department
 Tennessee Wildlife Resources Agency
 Texas Parks & Wildlife Department
 The Nature Conservancy
 U.S. Fish and Wildlife Service
 U.S. Geological Survey - Alaska Science Center
 U.S. Geological Survey - Biological Resources
 Division
 University of Delaware
 University of North Dakota
 Utah State University
 Vermont Agency of Natural Resources
 Virginia Department of Game
 & Inland Fisheries
 Washington Department of Fish and Wildlife
 West Virginia Division of Natural Resources
 Wisconsin Department of Natural Resources

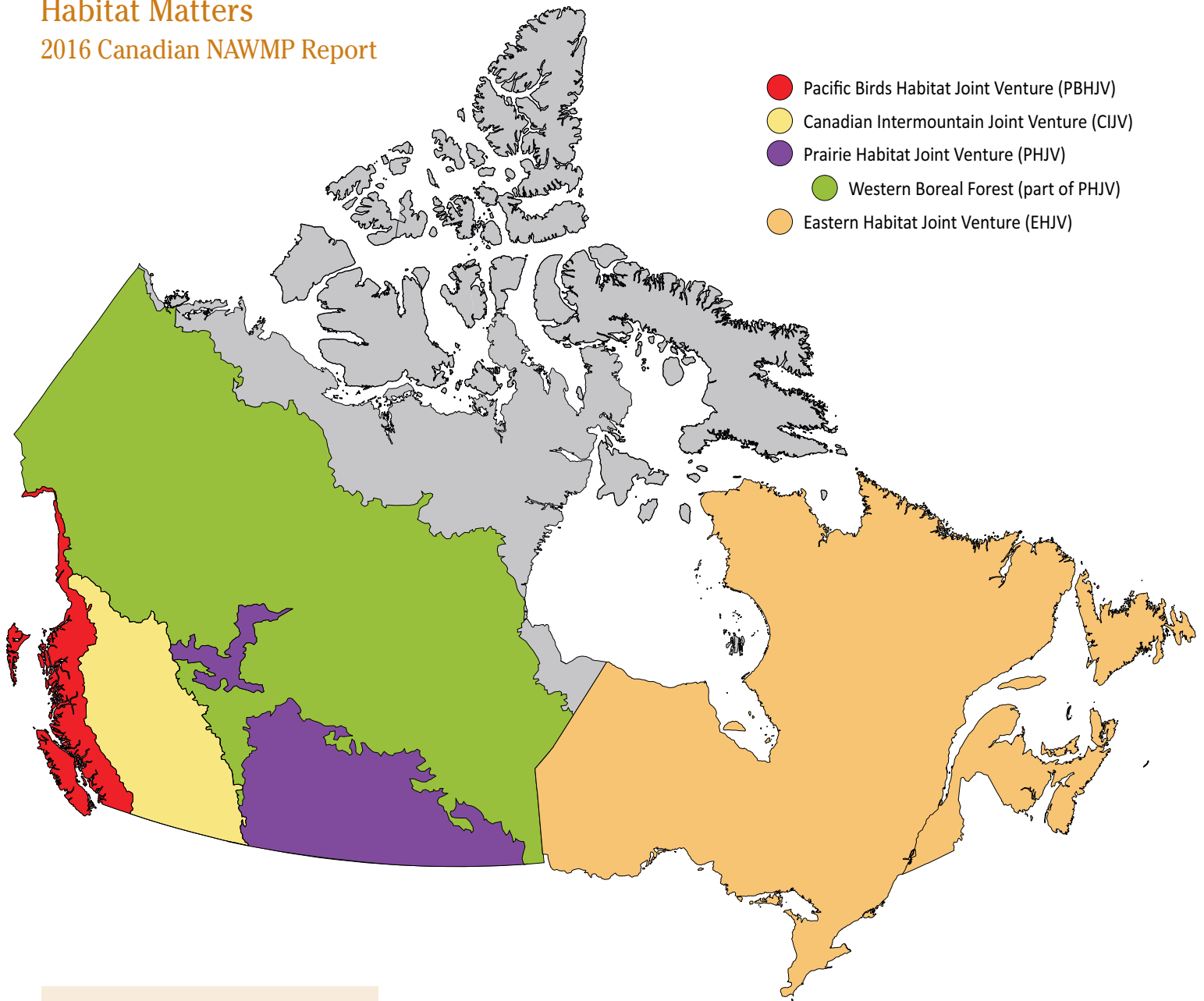


Great Blue Heron.

iStock

Habitat Matters

2016 Canadian NAWMP Report



- Pacific Birds Habitat Joint Venture (PBHJV)
- Canadian Intermountain Joint Venture (CIJV)
- Prairie Habitat Joint Venture (PHJV)
- Western Boreal Forest (part of PHJV)
- Eastern Habitat Joint Venture (EHJV)

Contacts

For information on NAWMP and NAWCA in Canada, or for additional copies:

NAWCC (Canada) Secretariat
Canadian Wildlife Service
Environment and Climate
Change Canada
15th Floor,
351 St. Joseph Boulevard
Gatineau, Quebec K1A 0H3
(819) 938-4030
ec.pnags-nawmp.ec@canada.ca

To view this publication electronically
nawmp.wetlandnetwork.ca

North American Wetlands Conservation Act Funding in Canada
nawcc.wetlandnetwork.ca

North American Bird Conservation Initiative
nabci.net

Map of Bird Conservation Regions
nabci-us.org/map.html