



Ducks Unlimited Canada: Transformative solutions for global biodiversity

When we unite to safeguard nature, positive outcomes follow. Water becomes cleaner, wildlife thrives, our well-being improves and communities flourish.

Amid the global biodiversity crisis, Ducks Unlimited Canada and partners are revitalizing threatened ecosystems through targeted habitat protection and restoration. We're delivering solutions to reverse species loss and foster greater understanding of nature's value. **Our approach is future-focused: safeguarding biodiversity through strategic, science-based conservation.**

Why is biodiversity important?

Biodiversity sustains healthy, productive ecosystems. In addition to animals and plants, it includes fungi and microorganisms that form the foundation of the food web, creating the balanced ecosystems essential for all life.

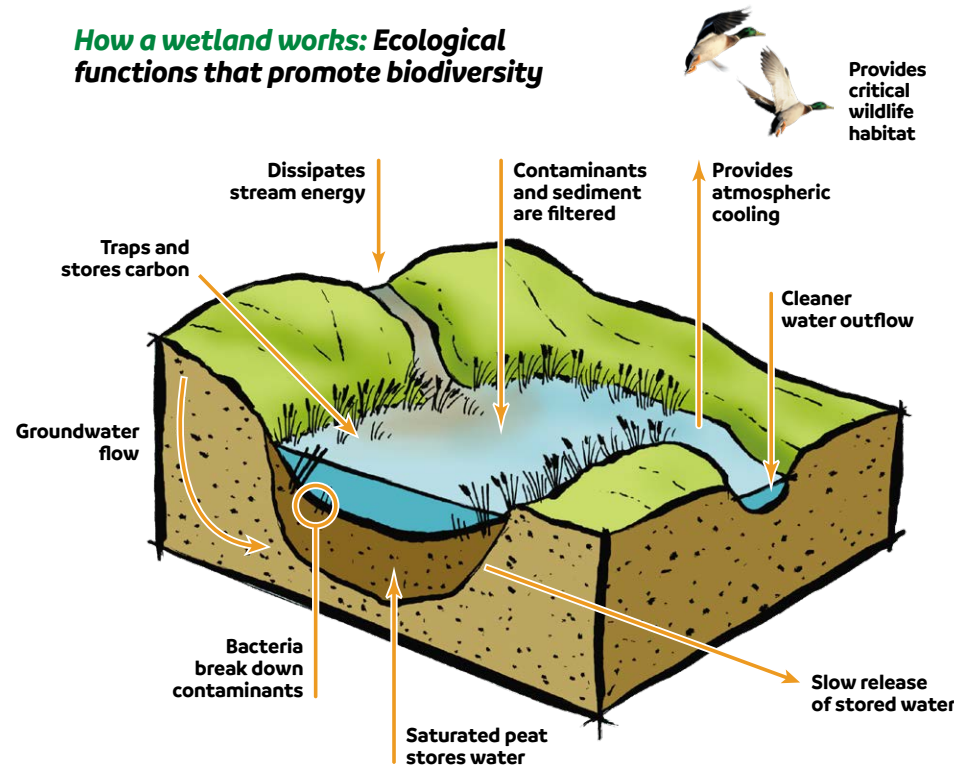
Biodiversity loss endangers the quality of our air, soil, water, food sources, access to medicine and resilience to extreme weather. Biodiversity is vital to both environmental and human health, yet the world's most biodiverse ecosystems are often the most at risk:

Wetlands – Home to nearly 40% of the world's species, Canada shelters a quarter of the planet's remaining wetlands. Yet, it's estimated that 80 acres of wetlands are lost daily in developed areas across the country.*

Grasslands – Temperate grasslands, including those in Prairie Canada, are the world's most endangered ecosystem, with over 70% of Canada's native grasslands already converted. This habitat loss has put more than 60 Canadian species at risk, making conservation efforts crucial.



How a wetland works: Ecological functions that promote biodiversity



* BASED ON 2016 DATA

What are the greatest threats to biodiversity?

Human-driven factors, such as population growth and overconsumption, are straining natural resources and reshaping our landscapes, putting immense pressure on biodiversity.



Habitat loss and degradation

When wildlife habitats are destroyed, they can no longer provide the essential food, water and shelter that species need to survive.



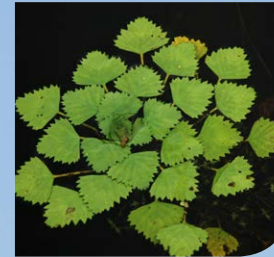
Climate change

Rising temperatures and increased extreme weather events are outpacing many species' ability to adapt, leading to sharp population declines.



Pollution

Contaminants in air, soil and water disrupt ecosystems and threaten the survival of species within them.



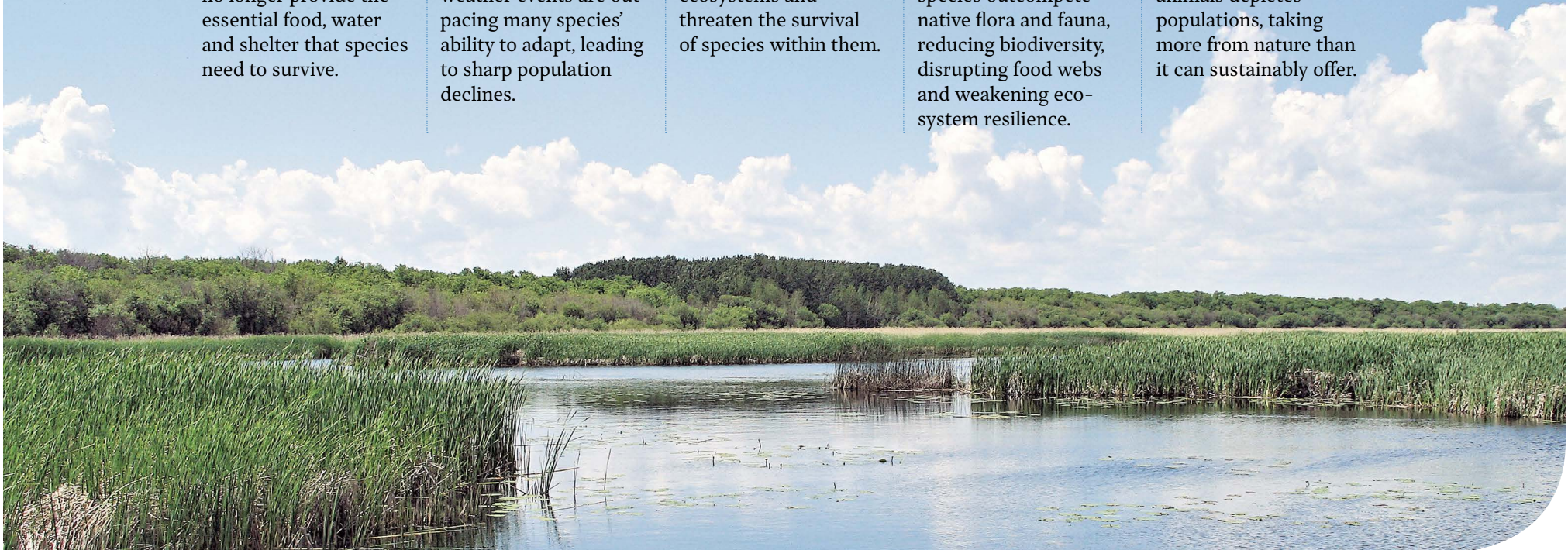
Invasive species

With no natural predators, invasive species outcompete native flora and fauna, reducing biodiversity, disrupting food webs and weakening ecosystem resilience.



Species over-exploitation

Excessive harvesting of wild plants and animals depletes populations, taking more from nature than it can sustainably offer.



What are the solutions?



Threats to biodiversity

Habitat loss and degradation

Pollution

Climate change

Species over-exploitation

Invasive species



Our approach

Addressing this complex issue requires an integrated approach, combining research, technology, education, advocacy, industry partnerships and large-scale conservation to tackle the biggest threats to biodiversity.



Our solutions

Landscape-level conservation: Implementing targeted programs to enhance biodiversity and strengthen ecosystem resilience

Research, technology and innovation: Generating and sharing insights to drive informed, data-based decision-making

Partnerships and collaboration: Engaging landowners, governments, industry, Indigenous Peoples and conservation groups to achieve shared goals and drive positive outcomes

Education, advocacy and community engagement: Empowering people to influence positive change



Ducks Unlimited Canada's approach to solving the biodiversity crisis

DUC is delivering solutions that work for nature and people. Our progress is taking place:



In the lab: Our science is uncovering the unique relationships between nature, wildlife, watershed health, biodiversity and more.



On the ground: Our conservation activities are making space for nature in working landscapes and urban centres.



In the classroom: Our education programs are preparing the next generation to tackle the conservation challenges of the future.



Alongside industry: Our team of experts is helping a wide variety of sectors address their environmental risks and opportunities.



In government chambers: Our advocacy shapes policies that promote sustainability and deliver optimal outcomes for people and wildlife.



Via new technology: Innovative tools are elevating our conservation efforts, enabling us to deliver cutting-edge solutions.

Our solution: Landscape-level conservation

A **continental approach**: Nature knows no borders, and neither do we. Ducks Unlimited organizations across North America have united to conserve 15 million acres of wetlands and habitats critical for hundreds of species that traverse international boundaries. In Canada, DUC is driving large-scale, landscape-level impacts to support species at risk and sustain healthy ecosystems.

13,575

HABITAT PROJECTS

6.2 million

ACRES CONSERVED

244 million

ACRES INFLUENCED

Targeted conservation delivers results

Data from the 2024 State of Canada's Birds report shows that since 1970, waterfowl populations have increased by 46 per cent and wetland bird populations have increased by 21 per cent—effectively demonstrating that informed wetland conservation efforts make a real impact.

Conserving our natural heritage

The Natural Heritage Conservation Program (NHCP) is a partnership initiative led by Ducks Unlimited Canada (DUC), the Nature Conservancy of Canada and

Wildlife Habitat Canada, supported by the Government of Canada. The program, launched in 2007, aims to conserve critical habitats across Canada and contribute to the national goal of protecting 30% of the country's lands and waters by 2030. The 2023-2024 impact report highlights the protection of over 800,000 hectares of land and mobilizing \$1 billion in matching funds since inception. DUC plays a key role as a delivery partner, leveraging science and partnerships to restore wetlands and promote sustainable land use practices, ensuring lasting conservation outcomes.



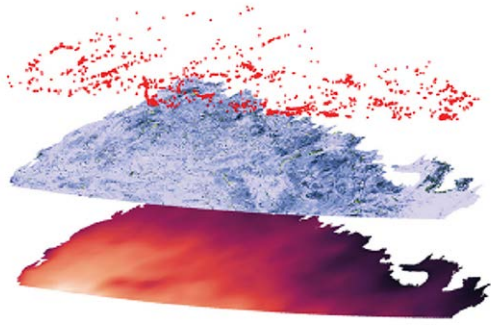


Our solution: Research, technology and innovation

Protecting natural habitats while maintaining economic and social values is a complex challenge. DUC addresses this through a science-driven approach led by world-class researchers. Our work informs industry guidelines and supports sustainable practices. We collaborate on wildlife monitoring projects, combat invasive species in aquatic ecosystems, and leverage cutting-edge technology for conservation. By gathering critical data and insights, we shape decisions that benefit biodiversity now and in the future — demonstrating a steadfast commitment to conservation.

Bottom line: DUC is leading conservation efforts to support biodiversity.





Mapping biodiversity

DUC's Prairie Biodiversity Mapping and Assessment Tool showcases the tool's impact on conservation. It reveals that sites under DUC conservation easements in the Prairies support 39% more species than adjacent unprotected areas. Developed through extensive research, the tool models 329 species using over 1.2 million observations, identifying biodiversity hotspots and helping land managers make data-driven decisions. The findings highlight how conserving natural habitats within agricultural landscapes can maintain biodiversity while supporting sustainable land use.

Sturgeon Bank sediment enhancement pilot project

The Sturgeon Bank sediment enhancement pilot project aims to restore tidal marsh habitats in the Fraser River estuary. By using sediment dredged from the Fraser River, this project helps rebuild marsh resilience, benefiting fish, waterfowl and local communities. It mitigates flood risk by using natural processes to strengthen coastal defenses and support the recovery of Chinook salmon, a key prey for the endangered Southern Resident Killer Whales. This initiative is a collaborative effort with Indigenous and conservation partners to restore ecological health in British Columbia.



Leveraging UAVs for precision seeding in the Prairies

DUC is at the forefront of using drone technology to revolutionize seeding practices in Canada's Prairies. Through the Agriculture Demonstration of Practices and Technologies (ADOPT) program, DUC has collaborated with the University of Saskatchewan and the Saskatchewan Forage Council to test aerial seeding with Unmanned Aerial Vehicles (UAVs). These drones are equipped with specialized seeding tools that can distribute seeds efficiently in wet, low-lying, or otherwise hard-to-access areas.

Early results from the ADOPT program indicate promising germination rates even in challenging terrains, making this technology a potential game-changer for sustainable land management. The precision offered by UAVs allows for restoration of natural habitats in marginal field areas, improving soil health, managing weeds and enhancing biodiversity. This initiative is transforming the way conservation practices are carried out by overcoming physical barriers and reducing time and resource constraints.

At several sites established in Saskatchewan, this project has already yielded valuable insights. DUC is now looking to expand the technology to other parts of the country, identifying areas where drone seeding can make the most significant impact on biodiversity conservation.

Defending against invasive species

DUC has joined forces with Agriculture and Agri-Food Canada and the University of Toronto to combat invasive Phragmites using two moth species, *Archanara neurica* and *Lenisa geminipuncta*. These species-specific biocontrol agents only feed on the invasive grass, reducing its dominance and allowing native plants to recover. Since their release in 2020, over 21,000 moths have been deployed across Ontario, showing promising results in suppressing this invasive species and improving wetland health and resilience.

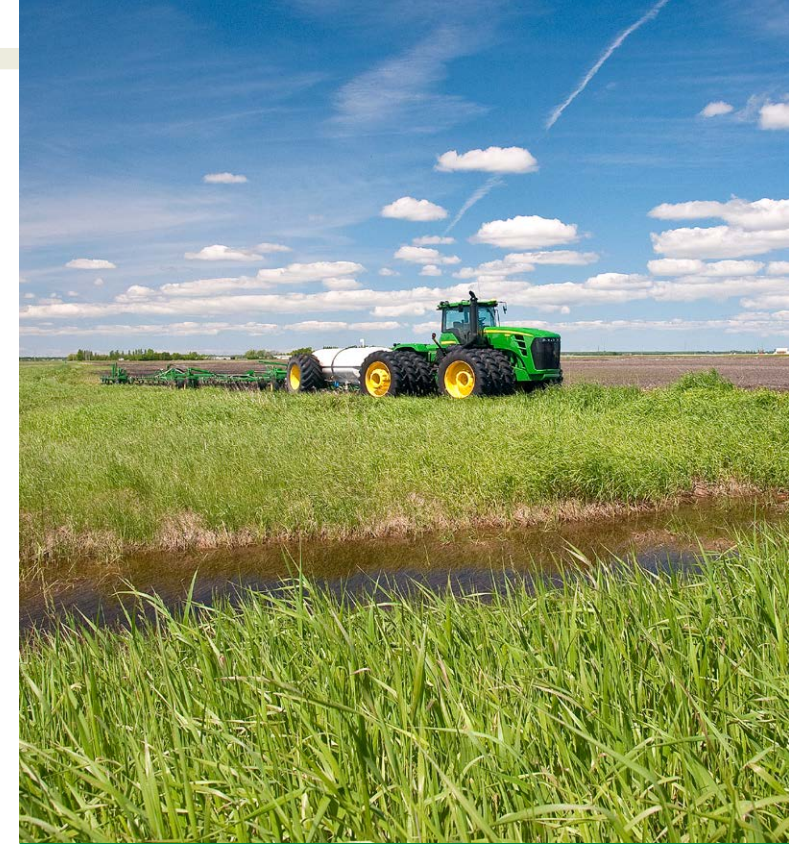
Our solution: Partnerships and collaboration

Nature-based solutions harness the power of ecosystems like wetlands to address climate impacts such as floods and droughts while offering safe habitats for wildlife. Wetlands play a crucial role in sequestering carbon and managing water quality and quantity, making them essential for climate resilience. DUC is a leader in delivering conservation solutions through strategic partnerships and innovative approaches. Our commitment is to safeguard what matters most by collaborating with diverse stakeholders to achieve measurable results and build resilient ecosystems:

Indigenous-led conservation: Two recent conservation initiatives are making strides in Canada's boreal forest. Swan River First Nation and DUC signed a three-year Memorandum of Understanding to advance boreal conservation in Treaty 8 Territory, integrating Indigenous knowledge with DUC's scientific expertise. Key projects include developing a wetland field guide and climate change modeling. In the Yukon, DUC launched the *Yukon Wetland Field Guide*, created with Indigenous knowledge holders and the Yukon Government, providing valuable insights and fostering stewardship of vital wetland ecosystems.

Sustainable agriculture: Farmers and ranchers need balanced resources like water, grass and healthy soil to thrive. DUC's diverse conservation programs offer incentives, knowledge, technology and tailored solutions that empower agricultural families to farm in harmony with nature—supporting both productivity and sustainability.

Industry partnerships: We collaborate with business leaders and work with industry to help minimize environmental impacts and incorporate nature-based solutions into development plans, enabling them to achieve their sustainability goals.



Supporting biodiversity on the margins

Producers who participate in DUC's Marginal Areas Program in Alberta, Saskatchewan and Manitoba are incentivized to convert unproductive cropland into a more biodiverse state by planting perennial forage. From a conservation point of view, perennial cover equals habitat. Areas of forage increase diversity on agricultural landscapes and are used by a variety of bird and mammal species, as well as being beneficial to pollinating and predatory insects. Participating producers receive a seed blend of perennial species that improves the value of the forage stand specifically for native pollinators, which in turn support agro-ecosystems.

A group of approximately 15 people, including students and adults, are hiking through a lush green field. They are wearing various outdoor gear like backpacks, hats, and jackets. The background features a dense line of green trees under a bright blue sky with scattered white clouds. The overall scene conveys a sense of outdoor education and community engagement.

Our solution: Education, advocacy and community engagement

The future of conservation is in good hands thanks to the thousands of students and educators who participate in our education programs. They are bringing new ideas, energy and perspectives to how we approach today's conservation challenges. We're proud to be invited to the table with federal, provincial and municipal officials from every political stripe to share our conservation experience and help inform policies that contribute to economic prosperity and environmental sustainability. Our networks of staff, volunteers and supporters are creating positive environmental impacts within their communities that can transcend borders and ripple across North America.

Going green

DUC is a member of the Green Budget Coalition, a consortium of leading environmental organizations advocating for federal budget recommendations. These proposals aim to address the climate and biodiversity crises while enhancing the quality of life for all Canadians.



Empowering youth through wetland education

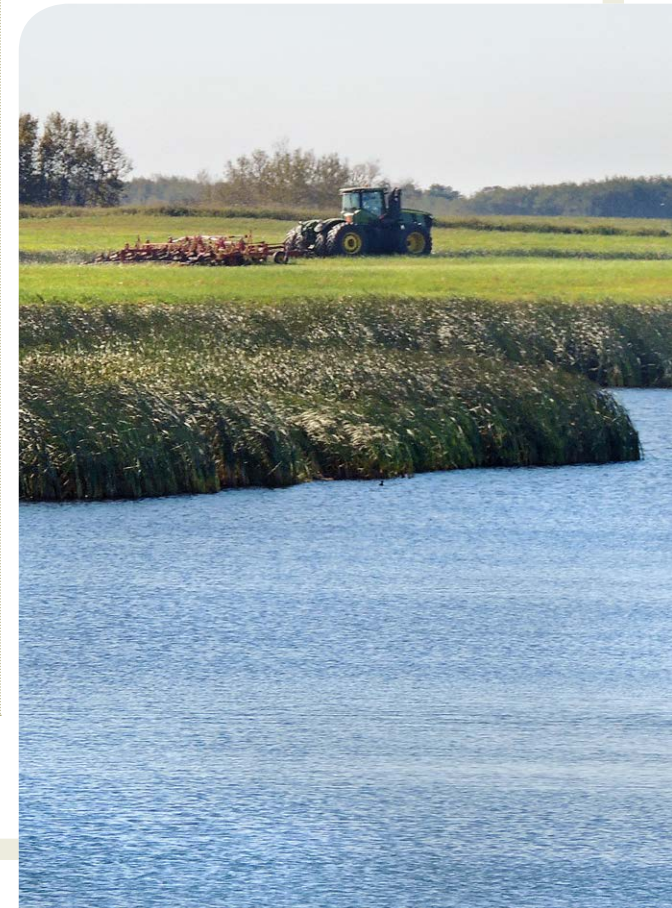
DUC's Wetland Centres of Excellence (WCE) program engages and empowers youth through hands-on nature experiences. This national network of 28 schools and community partners enables students to lead wetland projects and participate in mentorship and outreach. Many participants have gone on to pursue conservation-related post-secondary education, highlighting a promising future for wetland conservation in their capable hands.

Leveraging expertise to sustain nature and support the economy

More than half of the global economy relies on nature, making its preservation crucial for societal well-being. DUC contributes its science-based conservation expertise in wetlands, grasslands and forests to the Taskforce on Nature-related Financial Disclosures (TNFD) Forum. As an early adopter and member, DUC helps organizations address environmental risks and opportunities, responding to significant threats posed by extreme weather, biodiversity loss and climate change. Together with our partners, we are advancing this vital initiative.

Advancing agriculture policy

In collaboration with key agricultural partners, DUC has developed a policy framework designed to enhance ecological benefits while boosting the sector's global competitiveness. This framework focuses on four critical areas: mitigating climate change impacts, preserving biodiversity, promoting sustainable practices and increasing resilience on Canadian farms and ranches.



We are focused on the future

Healthy ecosystems and thriving biodiversity are essential for our health, our economy and our future. Ducks Unlimited Canada is a world leader that's been conserving and restoring wetlands and other habitats for the last 86 years. We're conservation partners, researchers, educators and advocates who are protecting biodiversity with every acre we save.

Learn more about our approach and our progress at ducks.ca/biodiversity

