Wetlands are incredible places. As a research scientist, I have dedicated my life’s work to understanding how these unique areas function, and the environmental and economic roles they play in our world.

A wetland is any area that holds water either temporarily or permanently. Some hold water year-round while others may only hold water for one or two months each spring. They may never completely dry out, known as sloughs, swamps, ponds or marshes.

More than just plants and animals, wetlands are tremendously productive ecosystems that provide a myriad of services to society worldwide. The annual value of the services provided by the planet’s remaining wetlands is estimated at several billion dollars.

In terms of the plants and animals they support, wetlands are among the most highly diverse and productive environments. From the bogs of the boreal forest to deep marshes full of amphibian life to shallow, duck-filled potholes in our rolling farm country, they are home to hundreds of different plant and animal species—including more than one third of Canada’s species at risk.

These areas are important nesting and summer destinations for migratory bird species such as ducks, geese, cranes, shorebirds and herons, which return every spring to raise their young. Wetlands also serve as year-round homes to animals such as insects, toads, turtles, frogs, snakes and rodents.

Wetlands bring balance to our natural environment. They are effective regulators of water, protecting the land in both drought and flood situations. In wet years, wetlands help reduce flooding by acting as sponges, capturing water and reducing flood peaks and volumes. During dry periods, wetlands ease the effects of drought by slowly releasing the water they’ve stored back into surrounding areas.

Wetlands also stabilize the soil, holding it in place and preventing erosion. Within that soil, they trap sediments, which helps create a rich, fertile habitat for plants and animals.

Wetlands are often referred to as the kidneys of the landscape. This is because the plants, bacteria and animals in a wetland filter the water, capturing nutrients like phosphorus, which contributes to potentially harmful algae blooms in our lakes. Wetlands also act as carbon and greenhouse gas sinks, storing a portion of what would otherwise be released into the atmosphere. And of course, when drained, the carbon that wetlands have accumulated over time is released back to the atmosphere.

Wetlands also contribute to the health of the environment, the plants and animals that depend on them, and the future health of the environment, the plants and animals that depend on them, and society as a whole. Thanks to research, we know enough now to understand that these important ecosystems need to be protected for the future health of the environment, the plants and animals that depend on them, and society as a whole.

Dr. Pascal Badiou is a research scientist with the Institute for Wetland and Watershed Research at Ducks Unlimited Canada.

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Wetlands are rich with an abundance of diverse plants and animals. Here are a few examples of the hundreds of different species – and their unique characteristics – that you might encounter in a Manitoba wetland.

MOOSE
The moose takes its name from an Algonquin word for “eater of twigs.” A typical summer diet for these giant mammals includes grasses and aquatic plants. Moose frequent shorelines of shallow lakes and marshes, feeding morning and evening on pondweeds or water lilies. Strong swimmers, they’ve even been observed to dive in search of succulent roots. Midday is spent resting in willow thickets.

MINK
Healthy wetlands often support eight or more mink per square kilometre. The best places to see them are in large marshlands or along lakeshores, rivers and streams. Mink are a semi-aquatic form of weasel that use waterways as travel paths, and as sources of food and shelter.

AMERICAN BITTERN
What’s that sound? This large bird produces gurgles that sound like a cross between a frog and water bubbles. It also camouflages itself by standing straight and swaying like a reed.

SNAPPING TURTLE
One of the world’s largest freshwater turtles can be found right here in Manitoba. The snapping turtle’s shell can reach 65 cm in length, as big as a large pizza. This mostly nocturnal wetland reptile lives up to its name; snapping turtles can be very aggressive, possibly because, unlike other turtles, they are unable to retreat inside their shells. The snapping turtle’s strong jaws and sharp beak can easily crush a small branch – or a human finger.

TOAD
Canadian and American toads breed and spend the summer in wet areas such as marshes. In the fall, they travel to dry upland areas where they dig their own burrows or use existing tunnels or natural crevices to protect themselves from freezing during the winter. When the weather warms up in spring, they dig their way to the surface and move back toward their breeding ponds.

WOOD DUCK
Considered by many to be the most beautiful of North American waterfowl, the wood duck is a perching duck that normally nests in cavities in trees. These birds typically pair up on their wintering grounds or on the return migration to their breeding grounds. Unlike most other ducks, wood ducks have sharp claws for perching in trees.

WHAT EXACTLY IS A WETLAND?
Depending on where you live, wetlands may be more commonly known as sloughs, ponds or marshes. The Canadian Wetland Inventory identifies five types of wetlands: Bogs: peat-covered wetlands (peatlands) which include sphagnum mosses, shrubs and black spruce. Fens: peatlands characterized by a higher water table and including plants like black spruce, tamarack, sedges, grasses and various mosses. Marshes: nutrient-rich wetlands that are periodically inundated by standing or slowly moving water. Vegetation includes cattails, reeds, rushes and sedges. Swamps: wetlands with standing or gently moving water, with dense coniferous or deciduous forest, or tall shrub thickets. Shallow/open water: small water bodies, or portions of wetlands and water bodies. These areas can also include the transition stage between lakes and marshes.

ON THE MOVE
Only some of Canada’s birds are migratory. Those that commonly come and go each year include waterfowl (such as ducks and geese), raptors (such as hawks and eagles), wading birds (such as cranes, herons, gulls, terns and shorebirds) and songbirds (such as warblers, blackbirds and thrushes). Many migratory birds fly thousands of kilometres before reaching their wintering grounds. It’s a risky journey — poor weather, lack of food, exhaustion and predators are just some of the dangers along the way. As a result, migrating birds have evolved, both physically and strategically, to deal with these challenges en route.

BUZZ OFF!
Although the standing water found in marshes and swamps is an ideal breeding ground for Manitoba’s infamous insects, large and healthy wetlands actually have very small mosquito populations — mainly because they’re full of other insects, amphibians, birds and fish that act as natural predators. To these species, mosquitoes aren’t pests — they’re lunch!
From the marsh to the dinner plate

Caitals: The multi-purpose plant

Caitals are one of the most versatile – and valuable – wetland plants in Manitoba. Their natural benefits include water filtration, animal habitat and flood protection. They can be turned into fuel, edible foods, and even used as food.

The next time you walk by or come through a marsh, take a moment to recognize how truly amazing its plant life really is.

Caitals are commonly used in fuel production and for other high-value energy products. The prairie version of the cattail (Typha domingensis) typically ranges in height from 1 to 2 metres and is easily identified by its elongated, flat leaves that end in a pointed tip. The flower head, which is produced in late July or early August, is dark reddish-brown and surrounded by a papery sheath. Once the seeds are mature, they are dispersed by the wind, and may be carried for great distances.

In Manitoba, the cattail is valued as a renewable energy feedstock and as a crop for the production of biofuels, such as ethanol and biodiesel. The cattail contains a high amount of cellulose, which can be used to produce bioethanol. The cattail is also used in the production of bioenergy, where it is harvested and converted into biomass fuel.

In addition to its energy potential, the cattail is also a valuable source of food. The cattail plant has been used for centuries as a source of food and a source of medicine. The cattail can be harvested in late July or early August, and the seeds are then collected and dried. The dried seeds can be ground into flour and used to make bread, cakes, and other baked goods.

The cattail plant is also a source of valuable medicinal compounds. The cattail is used to treat a variety of ailments, including skin conditions, respiratory problems, and digestive issues. The cattail is also used as a source of herbal medicine, and it is used to treat a variety of conditions, including fevers, colds, and coughs.

The cattail plant is also a source of valuable resources. The cattail is used to produce a variety of products, including cattail lip balm, cattail oil, and cattail condotherapy. The cattail is also used to produce a variety of other products, including cattail ink, cattail soap, and cattail candle.

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To learn more about the cattail plant and its uses, contact the Prairie Shore Botanicals at 204-664-3636 or visit their website at www.prairieshorebotanicals.com.

As a solid fuel, cattails are often on the menu when you think of natural gas, natural gas equivalent, or alternative fuel. Cattails are harvested with large-scale machinery, which can be used to produce a variety of products, including cattail lip balm, cattail oil, and cattail condotherapy. The cattail is also used to produce a variety of other products, including cattail ink, cattail soap, and cattail candle.

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Turning back the clock in Netley-Libau Marsh

Marlo Campbell

Wetland Reserve is a little-known ecological gem. Tucked beside Highway 59 on the north of Brokenhead Ojibway Nation (BON), the 1.39-acre wetland was established in 1996 to protect a diverse variety of plants, animals and other ecological services. It's also where, for generations, Indigenous communities have collected medicinal plants such as Seneca root, Labrador tea, says BON member Carl Smith. Smith is the chair of Debwendon, a non-profit organization founded in 2007 through a partnership between BON, Native Orchard Conservation Inc. and the Manitoba Model Forest. It was created to help preserve the area's unique ecosystem and the cultural practices that depend on it. Plans are to develop and maintain a 1.6-kilometre boardwalk trail that would allow people to visit the land of labrador tea, says BON member Carl Smith. Smith is the chair of Debwendon, a non-profit organization founded in 2007 through a partnership between BON, Native Orchard Conservation Inc. and the Manitoba Model Forest. It was created to help preserve the area's unique ecosystem and the cultural practices that depend on it. Plans are to develop and maintain a 1.6-kilometre boardwalk trail that would allow people to visit the land.