Allagash Wilderness Waterway

A Natural History Guide

Lower Allagash River Below Allagash Falls

by
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Bureau of Parks and Lands
MAINE DEPARTMENT OF CONSERVATION

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Head of Allagash River below Churchill Dam

TO THE VISITOR

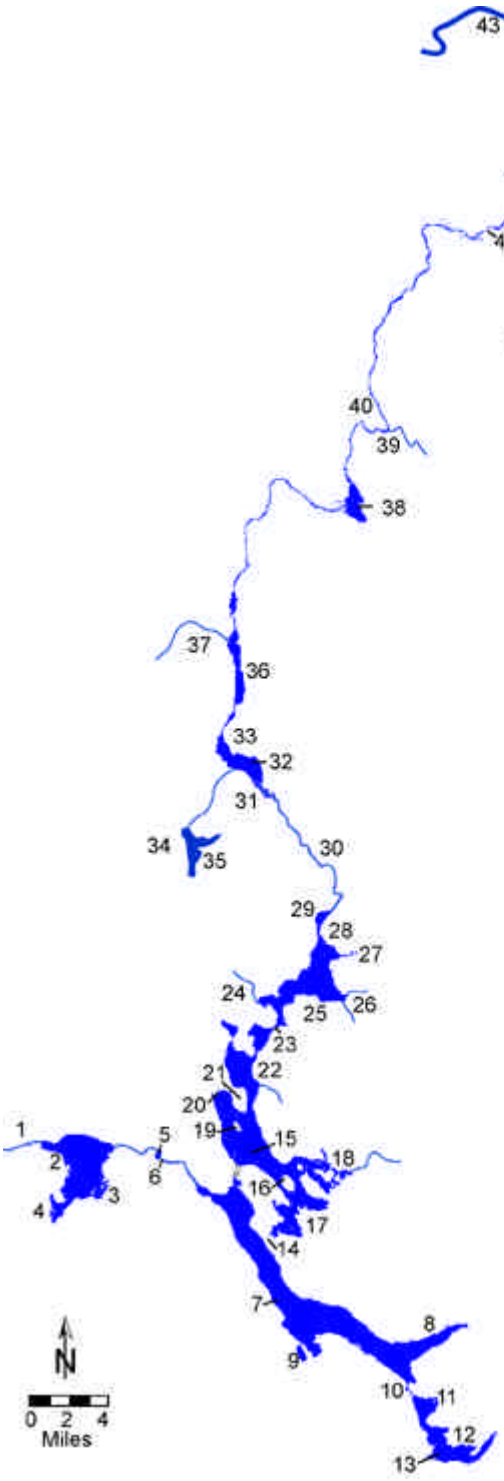
Welcome to the electronic version of Sheila and Dean Bennett's Natural History Guide to the Allagash Wilderness Waterway. We are very proud to offer this publication to you on line for the first time.

On behalf of Governor John Baldacci the Department of Conservation is moving ahead in providing valued information to you about our most valued natural resource areas. The Allagash Wilderness Waterway is indeed one of Maine's finest. As a frequent visitor to the Waterway over the past thirty years I can tell you that Dean and Sheila's Guide is invaluable as you move along this beautiful area in your boat or canoe.

Please feel free to email us here at DOC and tell us your thoughts on how we can make your experience in Maine's outdoors more rewarding and memorable. Thanks for your visit.

Patrick McGowan, Commissioner
Maine Department of Conservation

MAP KEY



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Mt. Katahdin casts its presence over Chamberlain Lake

INTRODUCTION

From the top of Mt. Katahdin, you can see the Allagash Wilderness Waterway stretching northward as far as the eye can see. This remote and isolated river corridor is perhaps the most diverse of our northeastern waterways. Brooks and streams wind through swampy forests of conifers and between ridges of northern hardwoods as they make their way to numerous takes and ponds and eventually to the river that draws its life from them all. Swift currents freshen ledges of colorful volcanic rocks and wash dark gray slates containing fossils of organisms that lived hundreds of millions of years ago in warm tropical seas -- a far cry from a region that is, today, one of the coldest in the northeastern United States. Annual temperatures average less than forty degrees Fahrenheit and the daily winter temperature, twenty degrees Fahrenheit. And it is wet here, too. Close to forty inches of precipitation fall each year, part of which produces an average of ten feet of snow in winter. Because of these conditions, the Allagash is a place that exhibits a variety of habitats for a myriad of plant and animal species. But perhaps more importantly, it is a place where you can still capture the essence of the great north woods and experience the feeling of an earlier, more primitive time.

THE LAND

Bedrock

Much of the Allagash region is underlain by 400-million-year-old Seboomook Slate, especially west and north of the big lakes. Some of the oldest rocks, perhaps as old as 500 million years, can be seen along the northeastern shore of Chamberlain Lake near the Arm of Chamberlain. Colorful volcanic rocks, more than 400 million years of age, appear along the west shore of Allagash Lake and in and around Smith Brook. Ancient igneous granitic rock, an unusual rock type in the region, makes up Priestly Mountain.

Fossils

Evidence of warm ancient seas can be found in the fossil record of the Allagash. Fossils discovered in ledges on the shores of Chamberlain Lake reveal old reef fragments, traces of corals, such as fans and honeycombs, and remnants of spongelike animals called stromatoporoids. The rock containing the fossils is pocked with holes from thousands of years of weathering, and in some of the holes you can see the distinctive pattern of the honeycombs.

Along the shores of Round Pond and Telos Lake are outcrops of Seboomook Slate with fossils of brachiopods and gastropods. The abundant brachiopods, also called lamp shells, are small marine invertebrates with two hinged shells or valves, similar in appearance to bivalved mollusks. The spiral-shelled gastropods, a class of mollusk, were present in the ancient seas as well. Fossils of brachiopods, crinoids (also called "sea lilies" because of their flowerlike forms), and corals have been found in the vicinity of Smith Brook. Reminder: Waterway rules prohibit the removal of anything; please leave fossils undisturbed for other visitors to see.

Ice Cave

You can find a cave near the west shore of Allagash Lake by following a trail from the Ice Cave Site on the shore of the inlet cove. From the top of a knoll, you can see the cave's major entrance. If you decide to crawl down into the cave, do so with caution. A small, steep, wet passage opens

Outcrop of tabulate coral fossils

into a large room about thirty feet down. Two tunnel-like crevices lead off from opposite sides of the room. Some explorers have reported finding ice in the cave during midsummer.

Glacial Features

Sometime between 25,000 and 21,000 years ago, a sheet of ice over a mile thick scraped and gouged its way across the Allagash region. By 10,000 years ago the glacier had receded from the state.

Today, you can see the effects of the glacier throughout the waterway. Scratches and grooves on outcrops, such as those on the flat ledge at the top of Little Allagash Falls, provide evidence of several major ice flows. At least two were in an east-southeast direction, but another flow was most unusual in that it took a northwesterly course. Evidence of the unusual flow is especially noticeable from Umsaskis Lake northward.

The departing ice sheet left the lakes reoriented and the hills and mountains reshaped, often with long, gradual northwestern slopes and steep, ledgy southeastern sides.

The ledges on the south side of the outlet of Allagash Lake are outstanding examples of glacial smoothing and shaping. The scratched and polished slate emerges ramplike and low-angled from the lake.

Meltwater streams from the receding glacier left a variety of deposits. As you travel the waterway, notice stream-side banks of stratified and sorted sands and gravels along the shores and glacial till -- boulders, cobbles, gravels, and finer materials left scattered across the landscape -- back from the shore.

THE WATERS

There are eight lakes and four ponds within the waterway, and well over a hundred tributary brooks and streams flow into them and the river. These flowing waters provide for the needs of many kinds of plants and animals and present fascinating opportunities for exploration. The big lakes above the river provide an extensive storage capacity that helps control the river's level. From an aesthetic point of view, perhaps the most beautiful and distinctive quality of these lakes and ponds is their undisturbed, forested shoreline. Views of Mt. Katahdin from many of the lakes further enhance the beauty of the area.

Allagash Lake is one of the most remote and beautiful lakes in the waterway. The lake covers 4,360 acres and spans three and one-half miles from its inlet to its outlet. It averages thirty-five feet deep; the deepest point is eighty-nine feet. The lake's waters are cold and well oxygenated, favoring cold-water fish. The north shore is shallow and sandy, inviting emergent aquatic plants as well as wading moose, deer, and great blue herons. Across the lake along the west shore are ledges of rough, colorful volcanic rock. To the east near the outlet, you will see an unusual shoreline edged by low glaciated ledges of Seboomook Slate. The slate forms the foundation and orientation for a number of small, sparsely-vegetated islands. These islands provide nesting opportunities for herring gulls and common terns. If you are fortunate, you may have the rare experience of seeing a Bonaparte's gull.

Glacial ledges, Allagash Lake

Allagash Stream is the major flow of water into and out of Allagash Lake. Above the lake, in its upper reaches, the stream cuts through sand and gravel left at the front of the retreating glacier. As it approaches Allagash Lake, the stream slows and meanders over alluvial terraces and flood plains. In spring, white and longnose suckers come up the stream from the lake to spawn. It is also a time when tiny brook trout, called fry, are about. Sometimes you can spot wood turtles sunning on old logs. In summer, you may see spotted sandpipers searching along the shores, ducklings feeding, and moose and deer congregating where the stream enters Allagash Lake. Blue flag and the pink blossoms of sheep laurel color the stream's edge.

From the lake, the stream flows about two and one half miles to **Little Round Pond**. Here the stream is youthful and vigorous, flowing over ledges and a boulder-strewn bed and between banks of swamp milkweed. Little Round Pond is a small, remote pond worthy of exploration. Northern white cedar dominates the northwest shoreline, while blossoms of northeastern rose and shrubby cinquefoil brighten the west shore in summer. At the outlet, the stream drops twenty feet over an outcrop of Seboomook Slate, forming **Little Allagash Falls**. Below the falls, the stream continues flowing over three ledges before leveling out. During the low water of summer, exposed gravel bars are crowded with large purple-fringed orchis, swamp candles, and tall meadow rue. As it approaches Chamberlain Lake, the stream slows, deepens, and widens. In the course of five miles from Allagash Lake, the stream has dropped ninety-three feet.

Little Allagash Falls

Chamberlain Lake is the largest lake in the waterway. Sudden winds and dangerous waves call for caution on this and the other big lakes. Like most lakes in the waterway, Chamberlain is cold, clear, well oxygenated, and deep, favoring cold-water fish that attract ospreys, eagles, loons, and gulls. Herring gulls nest on a small rocky island near the mouth of Leadbetter Brook. Remember to stay well away from nesting birds as parents are easily disturbed and nestlings and eggs are vulnerable if parents leave the nest. One of the best places to see wildlife around the take is the marshy inlet cove where Allagash Stream enters. At its southern tip, Chamberlain Lake narrows into a small thoroughfare that leads into **Round Pond** and **Telos Lake**. In 1857 the naturalist Henry David Thoreau visited the stands of red pine that grow on the dry northeastern shore of Telos Lake.

Eagle Lake, the second largest lake in the waterway, is 124 feet deep. Two major islands, Pillsbury and Farm, add to the lake's complex pattern. If you hike the scenic trail to the ledges on Pump Handle Peninsula, you will be rewarded by a spectacular view of Eagle Lake. You also will be able to look down on Russell Brook Beach, which makes a long, soft arc along the shore of Russell Cove. The sand, carried by Russell Brook to the lakeshore, forms a double-spit beach backed by a marshy lagoon.

Several other interesting brooks flow into Eagle Lake. Smith Brook enters the lake in a large cove by a sandy point at the lake's southeast end. Wildlife is especially plentiful here and moose, deer, loons, and ospreys are common. Upstream, the brook has several channels and

small backwaters, their surfaces broken by the pinkish outcrops of 400-million-year-old volcanic rock. Six miles north of Smith Brook, Soper Brook comes in on the east side of the lake. The brook's channel winds through a marshy cove and leads to a small waterfall. Snare Brook, which feeds into the smaller northern section of Eagle Lake, flows through a mile-long marsh. This marsh is worth checking in early morning or evening for wildlife. If you travel northward, you will leave Eagle Lake through a narrow channel and enter yet another Round Pond. Beyond, a thoroughfare fished by ospreys, eagles, and loons leads past Thoroughfare Brook to Churchill Lake.

Churchill Lake is the third largest lake. A special scenic attraction is Churchill Ridge. It rises four hundred feet above the lake's northern shore and adds to the lake's beauty, especially in September and October when the spectacular fall colors of the hardwoods reflect from the water. Pleasant Stream flows into Churchill Lake on its northeastern shore. Canoeable for a short distance, the stream closes in quickly to a more secluded, marshy area. In fall, migrating Canada geese and greater yellow-legs have been observed here. If you paddle or pole up the narrow stretch of riffles above the marshy cove, you will find

Moose tracks along the shore of Churchill Lake

that the stream winds quietly through a bog forest dominated by tamarack. Down the northern shore of Churchill Lake, in its northwestern corner, the fall season usually reveals a beautiful spit of sandy beach leading into **Heron Lake** at the head of the Allagash River.

Allagash River

From the big lakes, the Allagash River flows north sixty-two miles and drops more than three hundred feet in elevation before reaching the St. John River. The most turbulent section is below Churchill Dam, where the river drops nine feet per mile in a wild four-mile stretch called **Chase Rapids**. It was along here in December of 1901, that hunters made one of the last authenticated sightings of Maine's caribou herd.

Umsaskis Lake, at the base of Chase Rapids, is bordered on its western shore by steep ledges. Along this side, the mouth of Drake Brook offers the possibility of seeing a beaver. Across the lake, a ledge of weathered, metamorphosed sandstone juts out into the lake, and from it on a clear day you can see the top of Priestly Mountain two miles directly south. **Priestly Lake** sits in an isolated, irregular-shaped basin at the foot of this mountain. To get to Priestly Lake, follow a trail from the west shore of Umsaskis Lake.

A narrow channel provides passage from Umsaskis to **Long Lake**. On the east shore Glazier Brook has deposited sand and silt to form a long, marshy delta. Several miles down the west shore, a sand beach protrudes into the lake and a short distance beyond is the mouth of **Ross** or **Chemquassabamticook Stream**.

At the end of Long Lake, the river resumes its swifter flow. Spruce, fir, northern white cedar, and white birch, many festooned with long strands of beard lichen, crowd

Allagash Falls

the river's edge. Grassy pocket coves and thick clumps of alders indicate where small brooks enter the river. As you

near **Round Pond**, the river breaks into three channels. The backwater near the north channel is a special place for observing birds and other animals.

The river leaves the pond in a series of vigorous whitewater rapids, then after three miles, it turns to the southeast and soon passes an area where a tornado cleared a great swath in the forest on August 15, 1958. Farther along, large silver maples signal the mouth of **Musquacook Stream**, another major tributary. Bald eagles and ospreys are known to nest in the watershed of this stream and fish the nearby three-mile **Musquacook Deadwater**. Below the deadwater Five Fingers Brook enters, and the river continues to widen, gravel bars and low islands interrupting its flow.

Above **Allagash Falls**, the river separates into several channels, and the surrounding land takes on the low, flat appearance of the northern riverine forest. At Allagash Falls the river tumbles thirty feet over a series of drops created by upturned, thin-leaved slate. At the foot of the falls, the rock is polished and contoured with many potholes. Remote and spectacularly beautiful, this waterfall is a registered critical area.

Below the falls, large boulders, slate ledges, and low islands direct the river's channel. Silver maples, birches and balsam poplars line the shore. The waterway officially ends at the rapids of **Twin Brook Ledges** -- the last major outcrop of Seboomook Slate. The ledges are also registered as a critical area because of the rare plants that grow on them, namely New England violet and birds-eye-primrose. A few miles below, you will arrive at Allagash Village where the Allagash joins the St. John River.

WETLANDS

Wetlands are marvelous places to explore. Life in bogs and marshes exists in two worlds -- land and water -- and the result is an assortment of uniquely adapted living things.

Allagash Bogs

Bogs exist throughout the waterway where time and poor drainage have produced a mat of sphagnum moss where there once may have been a pond. If you find such a wetland in midsummer and the mat surrounds open water, look near the water's edge and you may find the

bright yellow flowers of horned bladderwort; the small, white blossoms of the spatulate-leaved sundew; and the

Rose Pogonia

vaselike pitcher plant. All obtain some of their nutrients by trapping and digesting insects. Equally interesting are the orchids. Two that you might find in summer's bloom include the beautiful rose-colored grass-pink, or calopogon, and the pink, perfumed rose pogonia, or snake-mouth. Near the edge of the bog, you may see black spruce trees advancing out onto the mat. Their wide, shallow root systems are suited to the upper mat where oxygen exists. Around the bog's perimeter there are often the rutted trails of deer and moose.

One interesting wetland that can be explored by canoe lies back from the shore of a deep cove near the foot of Allagash Mountain. Follow a narrow, shallow, slow-moving brook into a pool surrounded by a closing circle of sphagnum mosses and shrubs. in July along its edge, you will likely see the bright, pink blossoms of northeastern rose. Northern white cedar is the common tree on this bog's mat rather than black spruce. Be alert for animal life, for moose have been seen feeding here and eagles often perch on a large dead pine near the distant northern edge of the bog.

Umsaskis Meadows

Umsaskis Meadows is very different from the peatlands previously described. This wetland is more accurately called a marsh because of its continuous flow of water and grasslike vegetation. It is no accident that the marsh lies at the foot of Chase Rapids, for the river has been depositing sediment and building the wetland here since

glacial times. In summer you will find wild rice along with a variety of rushes, sedges, and grasses. A maze of channels among dense stands of speckled alder conceals the work of beaver and provides cover for bird life, including American bittern, great blue heron, pied-billed grebe, black duck, and common snipe.

Shore Habitats

The edges of lakes, ponds, and streams are characterized by moist soils and shallow waters. Common flowering plants are associated with several zones. Shore borderland plants include wild mint, marsh skullcap, water parsnip, spearwort, marsh speedwell, swamp candles, and larger blue flag. Emergent plants include common cattail, bur-reed, wild rice, wool grass and other sedges, pickerel weed, and arrowhead. Floating-leaved plants include water lilies, pondweeds, and water-smartweed, while submergent plants include waterweeds and bladderworts.

New England Violet, Twin Brook Ledges

FORESTS AND FLOWERS

Here in the Allagash region, the northern hardwood transition forest meets the boreal spruce-fir forest that sweeps across Canada and the top of the United States. Therefore, the forest types that dominate are spruce-fir (red spruce is more prevalent here than the more northerly white spruce) and northern hardwoods (maple, birch, and beech). In addition, there are pockets of aspen, areas of white and red pine, bog forests of black spruce and tamarack, swamps of northern white cedar, and

northern riverine species, such as silver maple and elm.

In the region of Allagash Lake and Allagash Stream, spruce and fir are dominant with some mixed hardwood. Cedar is also prevalent in swamps. Around the big lakes, the northern hardwoods increase. There are also three old-growth forests near the shores of Eagle Lake. Along the Allagash River, in addition to the spruce-fir and northern hardwood forest types, aspen and birch are more prevalent. And around Allagash Falls the northern riverine forest makes an appearance.

When you travel through the waterway, look for key, or indicator, plants -- the species that are usually abundant and commonly seen -- to determine which type of forest you are in. Each type of forest also contains indicator species of herbaceous flowering plants.

Spruce-Fir Forests

Trees and shrubs in this forest are hardy plants adapted to thin and nutrient-poor soils, acid conditions, shade, and cold temperatures. Balsam fir and red spruce are indicator trees. Other trees include white spruce, black spruce, northern white cedar, tamarack, eastern hemlock, white pine, red pine, jack pine, quaking aspen, bigtooth aspen, balsam poplar, white birch and red maple. Key shrubs include mountain maple, mountain ash, low-bush blueberry, elderberry, and sheep laurel. Most of the herbaceous species on the floor of the spruce-fir forest survive the cold temperatures and drying effects of winter by the insulating effects of snow. Indicator species include northern white violet, red baneberry, nodding trillium, one-sided pyrola, creeping snowberry, twinflower, bunchberry, Canada mayflower, goldthread, common wood-sorrel, clintonia, and starflower.

Northern Hardwood Forest

Trees and shrubs in this forest are those that grow in the warmer, drier, and better-drained soils of ridges and south-facing slopes, such as the Churchill Lake side of Churchill Ridge. Key trees include yellow birch, white birch, sugar maple, American beech, eastern hemlock, white pine, red pine, northern red oak, pin cherry, balsam poplar, and red spruce. Key shrubs include striped maple and hobblebush. Because deciduous trees predominate in this forest, more light generally reaches the forest floor. The soil is better drained, darker, richer, and less acid than that of the spruce-fir forest. In spring many of the wild flowers bloom early before the trees leaf out and close the canopy, thus reducing the available light. Key

species include painted trillium, goldthread, common wood-sorrel, pink lady's-slipper, and wild sarsaparilla.

Bog Forest

The bog forest is a pioneer forest of trees and shrubs adapted to wet, acid, and nutrient-poor soils. You can canoe into a bog forest above the mouth of Pleasant Stream. Trees that do well in this forest have the ability to generate new trees by sprouting roots from low branches and trunks as they are buried by the deepening bog mat. Key trees include black spruce, tamarack, and northern white cedar. Key shrubs include Labrador tea, leatherleaf, and sheep laurel. Soils in this type of habitat can vary greatly in wetness and richness. In richer, more fertile soils, you may find bunchberry, goldthread, and starflower. In more sterile soils, you would be more apt to find pitcher plant, sundews, cotton grass and other sedges, creeping snowberry, three-leaved Solomon's-seal, and orchids (such as rose pogonia, calopogon, and white fringed orchis).

Northern Swamp Forest

This forest can be found throughout the waterway; a good example lies along the trail to Priestly Lake. Trees and shrubs are adapted to a cool, damp, mossy environment. Key trees include northern white cedar, balsam fir, eastern hemlock, brown ash, red maple, white birch, tamarack, and black spruce. Key shrubs include high bush blueberry and red osier dogwood. You will find the species of plants on the floor of the northern swamp forest quite similar to those of the boreal forest. The herbaceous species include jewelweed, turtlehead, goldthread, starflower, jack-in-the-pulpit, and various orchids.

Northern Riverine Forest

This is a floodplain, lowland forest and is especially noticeable above Allagash Falls. Key trees include American elm, green ash, red maple, silver maple, and balsam poplar. Shrubs include speckled alder and red osier dogwood. The vine, virgin's bower, also grows here. Key herbaceous species include jewelweed, turtlehead, swamp milkweed, and various sedges.

Old-Growth Forest

Old-growth forests provide opportunities to go back in time and experience the character of the land as it may once have been before human disturbance. Generally such forests must be: free of evidence of logging or other disruption, of a sufficient size to constitute a forest, stable

in composition and structure, and dominated by climax species of old trees that have attained at least half of their potential longevity.

Eagle Lake Old-Growth Forest

Three old-growth forests, surveyed for Maine's Critical Areas Program, are near the shores of Eagle Lake. The largest is the Eagle Lake Old-Growth Forest (about one-hundred acres) and is near the eastern shore on a ridge opposite the southeast end of Pillsbury island. Here, some white pines are over three feet in diameter and up to one-hundred thirty feet high -- among the tallest pine trees in Maine. A few of these pines may have been growing in the late 1700s and were here when Thoreau canoed by them to Pillsbury Island in 1857. If you look carefully, there is one point in the lake where an eagle's nest is visible. If the nest is active, you should get no closer than one-quarter of mile from the nest to avoid disturbing the eagles.

Six miles down the lake at the Ziegler Site you will find another smaller stand of old-growth white pine that covers eight acres. The understory is composed of white, or sugar, maple, white birch, northern white cedar, and red spruce. The age of one of the sugar maples is estimated to be over one-hundred eighty years, and an increment boring of one of the pines showed it to be one-hundred twenty years old. The pines range in size from a little over two feet to two and one-half feet in diameter.

Across the lake on the Pump Handle Peninsula and behind a campsite by that name, you can find a stand of old-growth hardwood trees. You can easily reach it by

hiking the scenic trail leading up to the height of land. This is an even-aged stand of sugar maple and beech, averaging one-hundred twenty-five years in age. The largest maple is two and one-half feet in diameter and sixty-five feet tall.

NON-FLOWERING PLANTS

Non-flowering plants include ferns, clubmosses, horsetails, mosses, lichens, and fungi. These are spore-producing plants, a major feature distinguishing them from the seed-producing flowering plants. Although the non-flowering plants lack beautiful flowers, you will find that they are attractive and interesting in their own right. Following are some of the common non-flowering plants you are apt to encounter in the waterway.

Ferns are green plants with leaves, often called fronds, that resemble fiddleheads in spring before they unroll. Some that you might encounter are the following: sensitive fern, royal fern, ostrich fern, bracken fern, rusty woodsia fern, and common, or golden polypody, fern.

Clubmosses are perennial, evergreen plants with creeping stems that send up erect branches. Although small, they are much larger than the ordinary mosses they resemble. Three that you should look for on the forest floor are shining clubmoss, stiff or bristly clubmoss, and running pine, also called ground pine or ground cedar.

Horsetails are primitive plants related to ferns and clubmosses that grow in both wet and dry places near streams and in woods and fields in the waterway. As you would expect, their name is derived from their resemblance to a horse's tail. The stem of this plant is jointed with scalelike leaves growing in whorls. One of the most common horsetails you will find in the waterway is a brushy species called field horsetail.

Mosses are tiny green plants that grow on soil, rocks, and trees. You will usually find them in moist places, such as swamps and bogs. Some common mosses you will see in the waterway are sphagnum, or peat, mosses in bogs and swamps, haircap mosses on damp ground, and pin cushion mosses in moist woods on soil and decayed wood.

Lichens are a combination of an alga and a fungus. Some that you might find in the waterway are the

following: green map lichen (a crustose lichen that grows on rocks and ledges); lung lichen (a foliose lichen that grows on trees and resembles a lung); and old man's beard (a fructicose lichen that looks like a gray-yellow beard hanging from the dead branches of trees, especially coniferous trees).

Emetic russula in sphagnum moss with creeping snowberry

Fungi are organisms that lack chlorophyll and must obtain their food from dead matter or other living organisms. A fungus consists of fine threads, called hyphae, that grow underground or invade a host. The network of hyphae is called the mycelium. A mushroom is a fleshy part of the mycelium that produces spores. Mushrooms come in many shapes and sizes, from shelf, or bracket, fungi to puffballs. Some that you might find in the waterway are chantarelle, clubfoot clitocybe, fly agaric, and king boletus.

ANIMALS

Terrestrial or land species of animals tend to be those found in the boreal spruce/fir and northern hardwood forests. Aquatic species are found in a wide range of

living conditions, from acid bog to marsh, tiny brook to river, and small woodland pond to large take habitats.

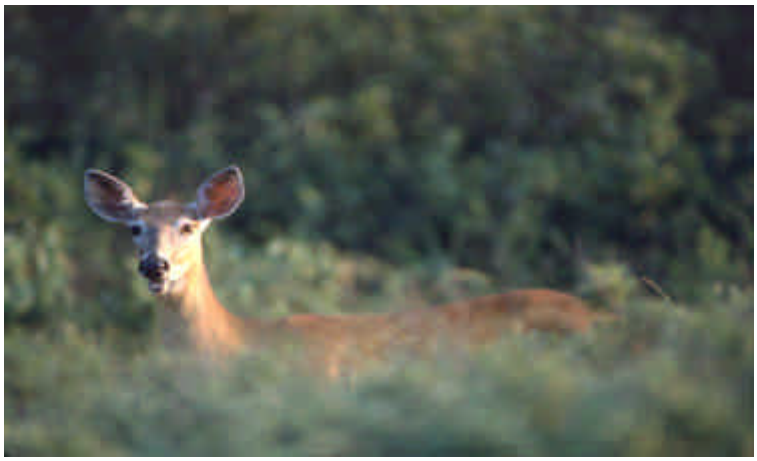
An animal is an herbivore (it eats plants), a carnivore (it eats meat), or an omnivore (it commonly eats both). Insect larvae, for example, eat leaves, grosbeaks eat seeds, and deer browse the buds of trees. Spiders, reptiles, amphibians, fishes, and many birds and mammals, however, eat meat. Omnivores include, for example, the raven and black bear.

The best time to see certain species of animals depends on their behavioral patterns. Some animals are diurnal; that is, they are more active during the daytime. Others are nocturnal and move about at night. During the winter season some remain active or spend prolonged periods in dens while others migrate.

The animals you will commonly find in the waterway are listed below along with information on where and when to look for them. Unless otherwise noted, all of these animals are active year-round.

Mammals

Beaver: streams, lake shores; mainly nocturnal.
Black bear. forests, swamps; nocturnal; winters in den.
Bobcat: throughout area; nocturnal.
Deer mouse: coniferous forests; nocturnal.
Eastern chipmunk: deciduous forests; diurnal; winters in burrow.
Eastern coyote: throughout area; mainly nocturnal.
Ermine: woodlands along water; mainly nocturnal.
Fisher: mixed forests; diurnal and nocturnal.



White-tailed deer, Round Pond, Allagash River

Gray squirrel: hardwood and mixed forests; diurnal.
Little brown myotis (bat): throughout area; nocturnal; hibernates.
Long-tailed weasel: open forests; mainly nocturnal.
Lynx: coniferous forests; mainly nocturnal.
Marten: coniferous forests; diurnal and nocturnal.
Masked shrew: damp forests; diurnal and nocturnal.
Meadow vole: wetlands, woods; diurnal and nocturnal.
Mink: aquatic areas; mainly nocturnal.
Moose: woods, aquatic areas; more active at dawn and dusk.
Muskrat: aquatic areas; mainly nocturnal.
Northern flying squirrel: mixed forests; nocturnal.
Porcupine: mixed forests; mainly nocturnal.
Raccoon: open woodlands near water; mainly nocturnal; stays in den during cold weather.
Red-backed vole: cool, damp forests; diurnal and nocturnal.
Red fox: throughout area; mainly nocturnal.
Red squirrel: coniferous forests; diurnal.
River otter: aquatic areas; mainly nocturnal.
Short-tailed shrew: forests, along streams; diurnal and nocturnal.
Snowshoe hare: forests; mainly nocturnal.
Star-nosed mole: mucky soils; diurnal and nocturnal.
Striped skunk: throughout area; mainly nocturnal; winters in den.
White-tailed deer: forests, edges, shores; tends to be nocturnal.
Woodchuck: edges of woods; diurnal; hibernates.

Birds

The Atlas of Breeding Birds in Maine, 1978-1983 (Maine Department of Inland Fisheries and Wildlife) lists over 120 birds in the waterway area in the following categories: confirmed breeding, probably breeding, or possibly breeding. Over three-quarters of these birds are listed as confirmed breeding. These are the ones you will most likely see during a summer visit to the waterway, and they are listed below. To assist you in looking for these birds, the habitats with which they are most commonly associated are identified using the following key: SF (spruce-fir forest), NH (northern hardwood forest), BW (bog-wetland), S (swamp forest), NR (northern riverine forest), MS (marsh-shoreline habitat), A (aquatic-lakes, ponds, streams). In addition, an asterisk (*) is used to identify those birds that are year- round.

White-throated sparrow, Phillsbury Island

Common loon: MS. A
American bittern: BW, MS, A
Great blue heron: MS, A
Canada goose: MS, A
Wood duck: S, NR, MS, A
American black duck: MS, A
Ring-necked duck: A
Common goldeneye: MS, A
Hooded merganser: MS, A
Common merganser: MS, A
Red-breasted merganser: MS, A
Osprey: A
Bald eagle: SF, A
*Northern goshawk: SF
Broad-winged hawk: SF
*Spruce grouse: SF
*Ruffed grouse: SF
Killdeer: MS
Spotted sandpiper: NR, MS
Common snipe: MS
Bonaparte's gull: A
Herring gull: A
Common tern: A
Ruby-throated hummingbird: SF
Belted kingfisher: NR, MS, A
Yellow-bellied sapsucker: *Red-breasted nuthatch: SF
*Brown creeper: SF, NH
Winter wren: SF
Golden-crowned kinglet: SF, NH
Ruby-crowned kinglet: SF
Veery: NH
Hermit thrush: SF, NH
Wood thrush: NH
Swainson's thrush: SF
American robin: SF, NH
Cedar waxwing: SF, NH
Solitary vireo: SF, NH
Red-eyed vireo: SF
Tennessee warbler: SF
Nashville warbler: BW
Northern parula: NH
Yellow warbler: S, NR, MS
Chestnut-sided warbler: SF
Magnolia warbler: SF
Cape May warbler: SF
Black-throated blue warbler: SF,NH
Black-throated green warbler: SF
Yellow-rumped warbler: SF, MS
Blackburnian warbler: SF
Bay-breasted warbler: SF
American redstart: SF, NH
Ovenbird: SF

SF, NH
*Downy woodpecker: SF, MS
*Hairy woodpecker: SF
*Northern three-toed woodpecker: SF
*Black-backed woodpecker: SF
Northern flicker: SF
*Pileated woodpecker: SF
Eastern kingbird: MS
Tree swallow: BW, MS
Bank swallow: NR
*Gray jay: SF
*Blue jay: SF
American crow: SF
*Common raven: SF
*Black-capped chickadee: SF, NH
Northern waterthrush: BW, MS
Mourning warbler: SF, NH
Common yellowthroat: BW
Canada warbler: SF, NH
Rose-breasted grosbeak: SF
*Evening grosbeak: SF
Savannah sparrow: MS
Lincoln's sparrow: BW
Swamp sparrow: BW, MS
White-throated sparrow: SF, NH
*Dark-eyed junco: SF, NH
Red-winged blackbird: MS
Rusty blackbird: BW
*Purple finch: SF, NH
*White-winged crossbill: SF
*Red crossbill: SF
*Barred owl: SF, NH, S, NR
*Great horned owl: SF, NH, BW, S, NR
*Northern saw-whet owl: SF, NH, S

Reptiles and Amphibians

The book, The Amphibians and Reptiles of Maine (Maine Agricultural Experiment Station Bulletin 838), provides information about the species of these creatures that may live in the waterway. Reptiles and amphibians are ectothermic, meaning that they cannot produce enough body heat to maintain constant high temperature levels. Due to the cold northern winters, relatively few are known to survive here. Cold temperatures slow chemical reactions and, if low enough, create ice that destroys cells.

Three reptiles are known to inhabit the region.

Wood turtle: woodland streams. This turtle has been seen in Allagash Stream above Allagash Lake as well as in Allagash River.

Garter snake: damp woodlands, lake shores, and other moist habitats. Two forms are present: the eastern garter snake and the maritime garter snake.

Northern ringneck snake: moist wooded areas with rocks, logs, and other cover. It is rare in northern Maine.

Fourteen amphibians are known to inhabit a variety of aquatic and moist habitats in the waterway.

Mink frog

Toads and Frogs

American toad: varied habitats.
Bullfrog: ponds and slow-moving waters.
Green frog: ponds, streams, shores.
Mink frog: ponds, streams, wet shores.
Northern leopard frog: ponds, grassy areas, and damp woodlands.
Northern spring peeper: varied woodlands near wetlands and ponds.
Pickerel frog: varied wet areas.
Wood frog: damp, shady woodlands.

Salamanders

Blue-spotted salamander: wooded areas.
Northern dusky salamander: brooks, small streams, and springs.
Northern two-lined salamander: edges of brooks and streams.
Redback salamander: coniferous and deciduous woods.
Red-spotted newt (adults): ponds and slow streams.
Spotted salamander: deciduous woods.

Fish

Fish in the Allagash Waterway are adapted to a cold water environment. The lakes are deep and tend to retain cold temperatures and oxygen in their bottom layers during the warm months of summer. The river and its

tributary streams are swift flowing and well oxygenated, and their beds provide varied habitat conditions. Native fish include the following:

Brook trout: favors spring-fed ponds, beaver flowages, cold-water lakes, and cool, oxygen-laden waters of rivers, streams, and brooks.

Lake trout: prefers cold, deep lakes with highly oxygenated conditions.

Lake whitefish: favors cold, deep lakes where it most often feeds on the bottom.

Round whitefish: found in cold, deep lakes, often in shallow waters.

Burbot (cusk): prefers cold, deep takes where it mainly feeds on the bottom.

White sucker: found in lakes, ponds, and streams in shallow waters at the bottom.

Longnose sucker: prefers cold, deep waters of lakes and ponds.

Invertebrates

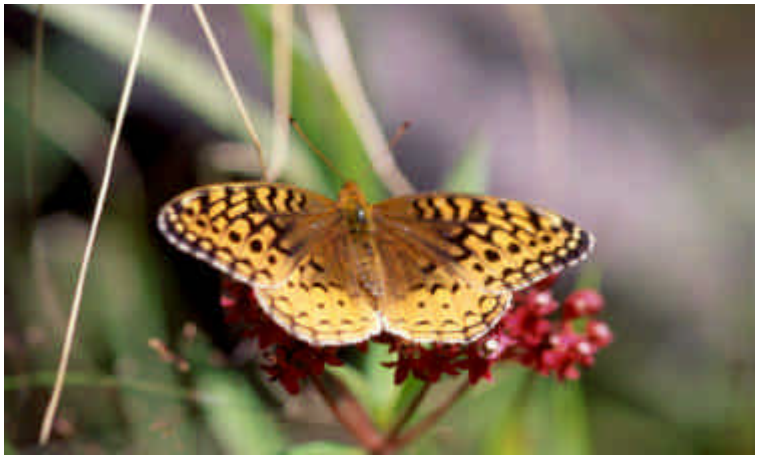
Although most of the animals listed in this guide are vertebrates (with skeletons inside of their bodies), the greatest number of animal species in the waterway, perhaps ninety per cent or more, are invertebrates -- animals without backbones. This group contains a wide collection of animals displaying an amazing variety of forms. Included are mollusks (snails, clams, mussels), insects, spiders, slugs, and worms. It is easy to overlook these creatures and miss the opportunity to appreciate their beauty, unique forms, and interesting behavior. We tend to focus on the large mammals and birds, which more easily attract our attention. But if you occasionally think small and look at the world close at hand, especially at the water's edge, you will find another intriguing array of life forms.

On the bottoms of shallow waters along the shores of lakes and streams, you might find freshwater mussels, resembling clams. Often their trails are visible in the bottom sediments where they move by use of a muscular foot. Occasionally, you might discover scattered piles of their empty shells where otter and other animals have feasted on them.

Caddisfly larvae, encased in cylinders made up of cemented grains of sand, leaves, and twigs, also live on the bottoms of streams and ponds.

In quiet waters, look for long-legged, thin-bodied water-striders, circle-swimming whirligig beetles, upside-down

backswimmers, and paddling waterboatmen.



Great spangled fritillary on a swamp milkweed

Flying above the water's surface, you may see newly hatched three-tailed mayflies, distinguished from the two-tailed stoneflies that hatch from larvae in fast streams. Slender-bodied dragonflies and needle-bodied damselflies also dart over the water, hunting for mosquitoes and other insects.

Many species of butterflies and moths also abound in the waterway. Swallowtail butterflies can be seen at times congregating or "puddling" on the shores around moist areas.

NATURAL CHARACTER OF THE WATERWAY

As you fall asleep to the cry of a loon or are awakened by the splashing of a feeding moose, please take a moment to appreciate the experience of the Allagash.

The Allagash offers not only adventure but also peace of mind.

The waterway has given itself to us and we must return the gift, not only to the river but to others who come to be comforted by it.

Our presence should be unfelt. Words should be spoken in soft tones so as not to bother others. Campsites should be left with limited sign of our activity.

Remember the wildlife, trees, and other living things are at home and should be respected and undisturbed.

The continuance of its natural character is a gift we can return to the Allagash.

The thoughts of
David Milligan, Allagash Ranger, 1990

Allagash Lake

REFERENCE

The following book is an indispensable reference for those who wish to know more about the unusual and beautiful natural qualities of the Allagash Wilderness Waterway and enjoy it from afar.

Bennett, Dean B. Allagash: Maine's Wild and Scenic River. Camden, Maine: Down East Books, 1994, 112p.
An exquisitely designed hardcover book providing the most detailed and comprehensive description available of the waterway's unique natural history along its entire hundred-mile-long corridor. Describes common species of plants and animals and geologic features. Profusely illustrated by the author with color photographs, maps, and detailed pen-and-ink drawings. Contains scientific names of species.

ABOUT THE AUTHORS

Sheila and Dean Bennett have canoed in the waterway together every year for over twenty years. They have also made numerous trips into the Allagash in fall, winter, and spring. Sheila has a Ph.D. in Biological Sciences and Dean, a Ph.D. in Resource Planning and Conservation. Both are faculty members in the University of Maine System.

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