

WALK ON THE WILDSIDE

The Minnesota Conservation Federation

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Porcupines avoid predators with sharp defense

Many of Minnesota's mammals have defenses that help them avoid predators. The skunk has stink, the snowshoe hare has speed and the field mouse has stealth. But none of these defenses is quite as effective as the quills of a porcupine.

The porcupine can't run away from predators, because it is very slow. It can't leap away from predators or challenge a predator with sharp teeth. At first glance, the porcupine looks like it would be easy prey for a hungry predator, but looks can be deceiving. The porcupine carries everything it needs to be safe on its back.

A porcupine carries about 30,000 quills on its back. Each quill is equipped with sharp barbs. When a predator attacks a porcupine, the quills become embedded in their flesh and release from the porcupine's body. The barbs make it extremely difficult for a predator to remove the quills. If the quills remain embedded, they work their way deeper and deeper into the flesh, and can result in death.



The deadly nature of the porcupine's quills is no secret among Minnesota's predators. The only predator that commonly kills porcupines is the fisher, which is adept at quickly flipping the porcupine over and attacking its soft belly. If they are desperate enough for food, other predators such as bobcats, wolves and coyotes will also go after the porcupine. Bobcats often try to attack them in trees, while wolves and coyotes will try to attack the porcupine's unprotected face.

While the quills are an effective defense mechanism for porcupines, they can also be deadly to the porcupine. It is not uncommon for a porcupine to fall out of a tree and become stuck with its own

quills.

Rodent

Like mice and squirrels, the porcupine is a rodent. It is the second largest rodent in Minnesota, behind the beaver. An adult porcupine can weigh more than 30 pounds.

The porcupine's body is stocky and low to the ground. Its body appears gray to black in color. Each of the porcupine's quills has a white ring around it. A porcupine can live up to 18 years.

Foods

Like the beaver, the porcupine prefers woody foods. It depends heavily on trees such as maples, aspen, basswood and oak for its food. The porcupine will eat buds, leaves, needles, bark, branches and nuts from trees. It has long sharp teeth, similar to those of a beaver, which help it eat these woody foods. The porcupine will also eat grasses, herbs, raspberry stems and apples, among other foods.

Although you may spot a

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Mighty Miss

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The Mississippi River starts its journey in Minnesota and makes numerous changes along the way.
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At Lake Itasca, the Mississippi is so narrow, you can walk across it.

The Mississippi River flows from Itasca State Park in Northern Minnesota all the way to Louisiana and the Gulf of Mexico. Along its journey, the Mississippi changes dramatically through many different regions. This is true even in Minnesota.

In Minnesota, the Mississippi River can be divided into two distinct sections. The first flows from Lake Itasca to the Twin Cities. The second flows from the Twin Cities to the Iowa border.

The upper section is dramatically different from the lower section.

The Mississippi begins as a trickle in Itasca State Park. In fact, it is so narrow, you can walk across it without any trouble. As it leaves Itasca State Park, the Mississippi gradually gains momentum as it moves southward. However, the Mississippi is a much narrower and slower north of the Twin Cities.

This upper portion of the Mississippi River flows through

northern woods and farmlands, with relatively low banks, when compared to the steep limestone bluffs that line the river in southern Minnesota.

The uses of these two sections of the Mississippi are also different. In the northern part of the state, the river is used mainly for recreation, such as boating, canoeing and fishing. From the Twin Cities southward, transportation and industry depend heavily upon the river, although recreation such as boating and fishing are also important in the southern section.

North of the Twin Cities, there are very few significant tributaries to the Mississippi. A few lakes, along with small streams and small rivers feed the Mississippi.

Things change dramatically when the Mississippi reaches Minneapolis. There you can see the powerful St. Anthony Falls, the only waterfall on the entire length of the Mississippi. The river grows substantially in size at

Fort Snelling, where it meets with the Minnesota River. Through the Twin Cities, a series of locks and dams are found on the river. They harness the river's power and make it possible for barges and other boat traffic to move up and down the river.

When the river reaches Hastings, it meets the St. Croix River, growing still larger. Now the Mississippi becomes Minnesota's boarder with Wisconsin. High bluffs rise up along its banks. Locks and dams are common sights. The river is so wide it is difficult to imagine it is the same body of water that visitors walk across at Itasca State Park.

The bluffs grow higher as you move southward. At Lake City, the river becomes a lake, Lake Pepin, the widest portion of the river in Minnesota.

From there it continues south, gaining flow from dozens of tributaries, until it leaves the state at the Iowa border.

Fish stocking important for state fisheries

Stocking plays an important role in maintaining and improving the quality of Minnesota's fisheries, but it may not be as important as some anglers believe.

Roughly 25 percent of the state's 5,400 fishing lakes are regularly stocked with game fish such as walleyes, stream trout, muskies, or northern pike.

The most heavily stocked fish is the walleye. The state stocks more than 200 million walleye per year, in about 400 lakes.

Among other game fish, the Department of Natural Resources stocks brown trout, northern pike, and rainbow trout, along with lake trout, channel catfish, brook trout, and muskies.

To lesser degrees, the DNR also stocks other species such as tiger muskies, smallmouth bass, splake, crappies, bluegills, and largemouth bass.

Despite the millions of fish stocked annually by the DNR, most of the fish anglers catch in Minnesota are naturally produced fish.

In the state's 10 largest walleye lakes, for example, the fish anglers catch are naturally producing fish. Their populations are self-sustaining.

Although many anglers believe stocking is the key to maintaining the quality of the state's most popular lakes and rivers, the truth is that it does not.



Bodies of water with healthy, self-sustaining populations of fish are not generally targeted for stocking. Rather, lakes and rivers without quality spawning habitat or those with other special needs are the main focus for stocking.

The DNR also uses stocking to provide special or expanded angling opportunities. Examples include trout lakes and Twin Cities' muskie lakes.

If a body of water is targeted for stocking there are four sizes of fish that may be planted. They range from fry, which are newly hatched fish about one-third of an inch long, to adult fish, which are one year or older.

The decision on what size fish are stocked depends upon individual lake management. The DNR be able to successfully stock high numbers of fry in one lake, but high numbers of predators in another lake may cause a high mortality rate if it stocks fry, so it stock larger fingerlings.

The fish raised for stocking come from 22 state hatcheries.

There are five cold-water hatcheries for trout species, 14 seasonal hatcheries for walleyes, and three warm/cool water hatcheries used for walleye, muskie, channel catfish, and smallmouth bass.

Although the number of fish stocked annually by the DNR has not changed much in the last 20 years, there have been some changes in the fish stocked.

Some of the most significant changes in stocking over the last few decades have centered on the state's portion of Lake Superior.

During the span of a few decades, the DNR experimented with stocking non-native species such as the coho and Atlantic salmon, but those programs were dropped when they were found to be ineffective. For many years, DNR also stocked chinook salmon in Lake Superior, but that program was also discontinued due to change in focus in the management of the lake.

Right now the DNR is trying to maintain the traditional species or native species of fish, and does not believe it would be benefiting to introduce new species at this point.

Anglers who would like to learn more about the stocking statistics of individual lakes can find lake survey reports at the DNR's web site at <http://www.dnr.state.mn.us/lakefind/index.html>.

Partridge berries go by numerous names

The partridge berry goes by many names, but it remains the same tasty fruit no matter what you call it.

The partridge berry, also called lingonberry, cowberry, mountain cranberry, rock cranberry and fox berry, is a red berry that grows on a small plant that is typically only three to six inches high.

The wild partridge berry is native to Minnesota and much of North America, but the berries also are grown commercially, mainly for use in jams and jellies.

Partridge berries prefer a habitat of well-drained soil, but need a good supply of water to survive. They can grow in partial shade or



Partridge berries are small, red fruit that remain through winter.

direct sunlight.

The plant has tiny paired green leaves. The white flowers bloom in late spring or summer, usually in June or July. The four-petal flowers also are paired. When the

bright red berries form, they appear to have two eyes, because it takes two flowers to form one berry.

Unless removed by an animal, bird or human, the berries will remain on the plant through the winter, until the blooms begin to form again the following spring.

Native Americans used partridge berries to treat a variety of afflictions, including insomnia, rheumatic pain and fluid retention. Tea made from the leaves was used to hasten or ease childbirth. It is also said to have a calming effect on the nervous system.

Porcupines

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porcupine during the day, most of their feeding activity occurs at night. Interestingly, while most nocturnal animals move around at night to avoid predators, the porcupine prefers night for a different reason. When the sun goes down

and night arrives, the chemical composition of plant material changes. It is this chemical change that the porcupine seeks during its nightly meals.

One interesting characteristic of the porcupine is that it craves salt. Porcupines have been known to lick salt off roadsides and human tools, such as axes or ham-

mers. If you live in the northern or eastern half of the state, in a wooded or semi-wooded area, you may be able to attract porcupines by putting blocks of salt in your yard. Watch during the night for porcupines to visit your blocks of salt.

Learn more about the Minnesota Conservation Federation...

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542 Snelling Ave. #104, St. Paul, MN 55116

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