TRAIL GUIDE

SELF-GUIDED INTERPRETIVE TRAIL

Sugarloaf Cove

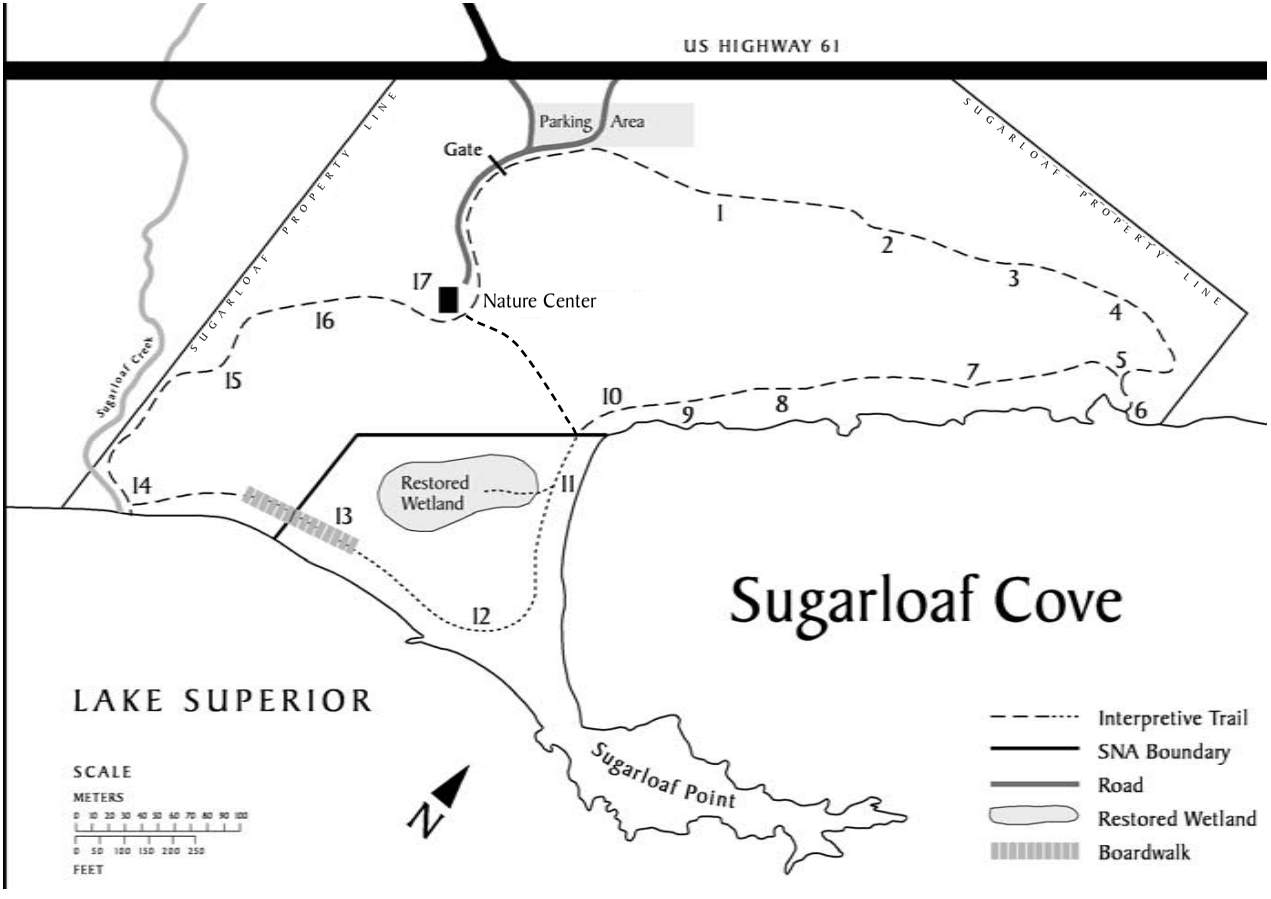
Welcome to Sugarloaf Cove

Sugarloaf Cove is a 34-acre site located on the North Shore of Lake Superior, approximately 4 miles southwest of the town of Schroeder, Minnesota. The site was purchased by the State of Minnesota in 1988 to preserve its unique geological, biological, and cultural resources and make them available for educational purposes. Approximately 7 acres of the site have been designated as a State Scientific and Natural Area (SNA). The remaining 27 acres belongs to Sugarloaf: The North Shore Stewardship Association. Sugarloaf was organized under the name Sugarloaf Interpretive Center Association (SICA) in 1992 to protect the Sugarloaf Cove and provide a public interpretive forum. In 2005, SICA changed its name and mission statement to better reflect a broader mission and scope for the organization. Sugarloaf is a membership supported non-profit organization. We hope you will become a member.

Please take time to enjoy the self-guided interpretive trail. The trail is approximately one mile long.

A leisurely walk on the entire trail, using this guide to help you, will take approximately one hour.

TRAIL MAP


US HIGHWAY 61
Parking Area
Gate
Nature Center
SUGARLOAF PROPERTY LINE
SUGARLOAF PROPERTY LINE
Sugarloaf Creek
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Restored Wetland
Sugarloaf Cove
LAKE SUPERIOR
Sugarloaf Point
N
SCALE
METERS
0 10 20 30 40 50 60 70 80 90 100
0 50 100 150 200 250
FEET
Interpretive Trail
SNA Boundary
Road
Restored Wetland
Boardwalk

GUIDELINES

Please help us to protect Sugarloaf Cove by following these guidelines:

- Leave nothing more than footprints behind as evidence of your visit.
- Only foot traffic is allowed. No motorized vehicles, no snowmobiles, no horses, no bicycles.
- Please walk quietly—many interesting birds and mammals live here. You'll see more of them if you visit quietly and listen to the sounds around you.
- Please walk carefully—the ground is uneven, and it can be very slippery when wet, especially on the rocks.
- Please do not remove rocks, plants, flowers, seeds, driftwood, or animals from the site.
- Camping and/or campfires are NOT allowed at Sugarloaf Cove.
- Pets are not allowed within the Scientific and Natural Area. Outside the SNA, please keep dogs on a leash, and clean up any droppings.
- The trail does not extend to Sugarloaf Point because the vegetation on the Point is very fragile. Please help us protect it by not walking out to the Point.

BACKGROUND

The Many Sides of Sugarloaf Cove

Throughout this trail guide, you will notice three symbols to guide your understanding of Sugarloaf Cove.

GEOLOGY– Sugarloaf Cove is an important geologic site with outstanding examples of the 1,100 million year old basaltic lava flows that form Minnesota's North Shore. Sugarloaf Cove also includes a beach of rounded pebbles and cobbles left behind at higher levels of Lake Superior and forming a rare North Shore tombolo.

ECOLOGY– Sugarloaf Point, which was an island before the tombolo built up to connect it to the mainland, hosts a relatively undisturbed Upland White Cedar forest, which was once common along the North Shore. Now, Sugarloaf managers are restoring this and other native forest habitats throughout the Sugarloaf site.

HUMAN HISTORY– Most of the cultural features at Sugarloaf Cove remain from a pulpwood rafting operation that was run by Consolidated Papers, Inc., from 1943 to 1971. Root cellars, metal mooring rings, and boom logs are all reminders of this operation.

SELF-GUIDED
INTERPRETIVE
TRAIL

1

PINE PLANTATION

You are standing in a plantation of red pine trees. The red pine *(Pinus resinosa)*, also called the Norway pine, is the state tree of Minnesota. Take a closer look at the needles on one of the trees—they are about 4-6 inches long, and you will almost always find two needles bundled together. Older red pines, with their thick bark, are tolerant of fire and can grow to be over 100 feet tall. Notice that these trees are all about the same size and they have been planted in rows. When Sugarloaf Cove was used for the pulpwood rafting operation from 1943 to 1971, thousands of logs were stockpiled in this area, which was known as the Upper Landing. After the paper company closed its pulpwood operation in 1971, a forester remained at the site until 1978. During this time, two red pine plantations were established. Why do you think they did this? Turn around slowly in a circle…do you see any other types of trees in the plantation? If you do, where do you think they came from? Were they planted along with the red pine?

As you continue, you will find other red pine plantations that are being actively restored to a more diverse state.

2

SIDE LOGS

The logs on the ground in front of you were part of the chute that carried pulpwood from the Upper Landing to the lake. These logs formed the sides of the chute; the thick metal cables were attached to notches in the logs to keep them in place. The rafting operation ended in 1971, so these logs have been lying here on the forest floor for at least 35 years. They are slowly decaying and becoming part of the soil. Notice the trees and shrubs that are growing on and around the logs. This area was entirely cleared of vegetation when the paper company used the site, so these plants are no older than that.

3

ALDER THICKET

You are now in the midst of a thicket of alder *(Alnus incana and Alnus viridis)*. Alders are a type of shrub that grows rapidly on disturbed ground. The small pine cone-like things at the top of the shrub are the female flowers that have gone to seed. Alder is an important early shrub in forest succession, adding nutrients like nitrogen to poor soils. In this area, Sugarloaf managers are working to restore native conifer forest species such as white cedar. This effort included a prescribed burn in this area in 2006. After the burn, white pine, white cedar and other seedlings were planted and cages were put around them to protect them from deer.

As you walk to stop #4, watch and listen for birds. In the spring this is a good place to look for warblers—tiny birds that are usually seen in thick foliage eating bugs and small worms.

4 

WEATHERING BEDROCK

Bedrock is what geologists call the solid rock that underlies the land that we live on. Bedrock is often completely hidden by soil and plants, but here along the North Shore of Lake Superior, the soil is thin in many areas because of Ice Age glaciation and much of the 1,100 million year old bedrock is visible. Look down at the ground that you are standing on and you will see an area that appears to be covered with gravel. If you look closely you will see that this gravel is made up of small pieces of crumbling bedrock. Water trapped in cracks in the bedrock expands when it freezes. During the winter and spring, the water freezes and thaws many times; this constant expansion breaks the rock apart—a process known as physical weathering. When the weathered bedrock is broken down into even smaller particles and mixed with dead plant material, it is called residual soil, an important ingredient for initial succession. Why do you think there is no soil in this small area?

5 

SCENIC OVERLOOK

From this spot you can enjoy the view of Lake Superior. In mid-summer, many native wildflowers can be seen blooming on this slope, including evening primrose and columbine. Now that you are out of the shelter of the trees, you may feel the cool wind blowing off the lake. Because of its immense size, the lake acts as a huge reservoir of heat energy that affects the climate of the surrounding area. In the spring and summer the lake stores the sun's heat, but because the water in the lake is so deep and the volume is so great, it takes most of the summer to warm the water. It doesn't reach its highest average temperature of 58°F until late August. The cool lake water acts as an air conditioner

and helps to keep the surrounding shorelands cool in the summer. During the winter, the lake slowly releases the energy it stored during the summer, which keeps the nearshore areas warmer than the inland areas until the lake starts to freeze over in January or February. During most winters, 40 to 95 percent of the lake is covered by ice. It only freezes completely once every 20 years. In the spring, as the strength of the sun's heat increases, the ice begins to melt, but the water does not warm up until after all the ice is melted. The average temperature of Lake Superior water in May is just 37°F. The plants and animals that live at Sugarloaf Cove must be able to adapt to this climate created by Lake Superior. The difference in air temperature over the water and over the land often causes fog, which creates a cool, moist environment along the shoreline for mosses, lichens, and arctic plants.

On the other side of the cove you can see Sugarloaf Point. The forest on Sugarloaf Point has not been disturbed for many years, and it contains a mixture of trees, shrubs, and other plants found only in north central and northeastern Minnesota. At the very end of the Point is a high knob of rock. The shape of this knob is similar to that of a typical loaf of bulk brown sugar that was sold in the 1800s—when English place-names were given to features on the North Shore.

OPTIONAL

6

ROCKY CLIFFS

Optional stop #6 is on the lakeshore at the bottom of the hill. If you wish to visit the rocky shoreline, carefully follow the short, steep trail to the left of the overlook bench, then return to the main trail, which heads southwest to stop #7.

At the shoreline you are standing on bedrock that is 1,100 million years old. This rock is called basalt, a name that indicates the texture and the chemical composition of the rock. Basalt forms as a result of volcanic eruptions, similar to the ones occurring in Hawaii and Iceland today, and it is the most common type of lava flow. The volcanic features preserved in the rocks at Sugarloaf Cove and elsewhere in the Lake Superior region tell geologists that the continent began to break apart here, a process known as rifting. As the continental rocks became thinner and fractured, molten lava, from beneath the earth's crust, erupted onto the surface. As the lava cooled, bubbles of gas were trapped in the hardening rocks. If you look carefully at the rocks you are standing on, you'll see these gas bubbles, which geologists call vesicles. Many are now filled with white minerals called zeolites. The zeolites formed later, when hot groundwater percolated through the solidified rock and deposited minerals in the vesicles—a process very similar to the way "hard" water can leave white rings of minerals in your sink and plumbing. Because these minerals are not part of the original rock, they are called secondary minerals. Vesicles that are filled with secondary minerals are called amygdules. Look around for other volcanic textures in the rock. Some plants seem to thrive in the cracks of the bedrock in harsh, exposed conditions like these. One of the most common is three-toothed cinquefoil *(Potentilla tridentate)*. It sports star-like flower white flowers in June.

When Consolidated Papers was using this cove to transport pulpwood across the lake, great booms were stretched across the mouth of the cove to contain the floating logs until they could be towed to Wisconsin. Can you find the iron rings that were used to attach the booms on this side of the cove?

7

LOG CHUTE

Although little physical evidence remains, it was in this area that the paper company constructed a chute to move logs from the Upper Landing to the cove. The chute was 80 feet long and about 10 feet wide. Pulpwood logs, which were stockpiled on the high ground above you, were dumped down this chute directly into the water. Once in the water, the floating logs were held inside the cove by storage booms until a large enough quantity was collected to fill a "raft", which was made up of several thousand logs that covered as much as 40 acres. Tug boats pulled the rafts 62 miles across Lake Superior to Ashland, Wisconsin, a trip that took between 72 and 120 hours. Typically, 6-8 trips were made to Ashland each summer.

8

NURSE LOG Stop here to examine the nurse log on the left side of the trail. A nurse log is a dead tree that has fallen to the ground and is slowly decaying. The decay process occurs as bacteria and fungi use enzymes to break down dead plant material and extract the nutrients, allowing them to seep back into the soil. For this reason bacteria and fungi are often called decomposers. As the tree decays, it forms a fertile garden where many plants—including mosses, flowers, and other trees—can sprout and grow. Look closely and you should be able to identify some of the plants growing on the nurse log. Please allow the decay to occur naturally; do not pull the nurse log apart.

9

ROCKY SHORELINE At this point you can leave the trail and head for the rocky ledges along the shore. When you reach the rocks, turn to your left, and walk carefully along the outcrop, looking for evidence that these rocks are large, basaltic lava flows. You should be able to find cracks that form the outline of six-sided columns (1-2 feet across) within the rock. These are called columnar joints. They form because as hot lava cools and solidifies, it shrinks, and when it shrinks, the rock has to break, creating these regular cracks in the rock. You might also be able to find a vein of secondary minerals (zeolites or calcium carbonate) that fill a fracture in the rock. See if you can find a flow contact, which is where one lava flow covered another lava flow. When basaltic magma is erupted it flows relatively easily and spreads out in a layer. The next pulse of lava flows over the older surface, resulting in layers of individual flows, stacked on top of each other, much like a stack of pancakes. Like cooking pancake batter, the gas bubbles in the magma rise to the top of each flow. This results in a flow top that has many gas bubbles, and a flow base that is much more massive and solid.

You can recognize the flow contact because the massive base of one flow rests on the vesicular (bubbly) top of the older flow. The holes left by the gas bubbles allow the vesicular flow top to erode more easily than the massive base; this differential erosion helps to accentuate the contact between the flows. You will see that the lava flow contact surface is not horizontal, though it originally was. It is tilted at about 10 to 15 degrees toward the lake. We can see this tilt all along the North Shore. The rocks were tilted while the continental rift was developing, as the crust was being pulled apart and more and more lava was erupted from below.

Look also for lichens growing on the rocks here. Although the bright orange lichen *(Xanthoria spp.)* is the most obvious, 34 different species of lichen have been found growing on these rocks. There are many other plants that call this harsh, rocky shoreline their preferred home, including shrubby cinquefoil *(Potentilla fruticosa),* three-toothed cinquefoil *(Potentilla tridentata),* ninebark *(Physocarpos opulifolius),* and harebell *(Campanula rotundifolia).* When you have finished exploring the shoreline, return to the main trail.

10

CONSOLIDATED PAPERS BUILDING SITE

Historic photos and maps indicate that Consolidated Papers, Inc. maintained at least fourteen different buildings at Sugarloaf Cove to support their pulpwood rafting operation. Many of these buildings were located here at the base of the hill, including an office, warehouse, and garage. As a major part of the Sugarloaf restoration, the buildings were all removed and either recycled or reused. The last building was removed in 1999; it was moved to Grand Marais. The root cellar in the hillside, which used to help feed dozens of people on the site for the summer, is the only major structure remaining and is used today for tool storage and protection of seedlings.

11

COBBLE BEACH

There is no official trail on the beach. Feel free to wander along, look at the rocks, and enjoy the lake. You are now within the boundary of the Scientific and Natural Area (SNA), so please be sure to walk gently. Take only pictures with you and leave only footprints behind. Please do not remove rocks, pebbles, or driftwood.

Part of the beach at Sugarloaf Cove is covered by well-rounded rocks of varied color and texture. Geologists define a cobble as a rounded rock that is between 2.5 and 10 inches in diameter, and because most of the rocks in this part of the beach fit this definition, this is often called the "Cobble Beach." Because the local bedrock is all dark gray basalt, we can conclude that many of the beach rocks were brought here by glacial ice. Because we know that rocks of these types are found only in areas to the north and northeast, they are indicators of which direction the glaciers came from. The rounding of the cobbles is a result of transport by glacial ice and especially the abrasive action of Lake Superior waves moving them back and forth across the beach. Notice the line of driftwood washed up high on the beach. This material was carried here by storm waves when the wind was blowing out of the northeast. Try to imagine the size of the waves that deposited this debris!

Help us keep this unique North Shore beach in its natural condition.

Rock and driftwood collecting, camping and campfires are NOT ALLOWED on the beach.

NATIVE PLANT RESTORATION PROJECT

The spur trail leads to a restored wetland ecosystem. Based on extensive research that assessed the types of soils and plants once present at Sugarloaf Cove, a large wetland and upland restoration project was conducted in 1999-2001. In order to recreate the type of plant communities that existed before the Consolidated Papers facility was built, fill material was excavated and ground contours were restored. Over 12,000 native trees, shrubs, flowers, and grasses were planted to restore the area. Native plants are identified as those present at the time of European settlement. The plants used in this project were either grown from seeds collected in the area or transplanted from nearby sites.

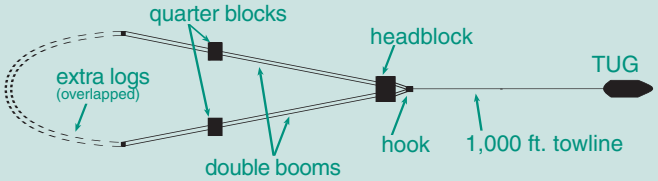
About 120 volunteers (including Cook County 4th and 5th grade students, Nature Conservancy members, and Sugarloaf members) helped with the project. Soil removed from the restoration area was used to recontour the hill where buildings had been located and to return the road to grade. Watch for changes in the plants growing in this area as the ecosystem matures. As you walk along the trail, notice the high fenced-in areas. These 8-foot high fences are meant to keep deer *out,* so that they cannot eat the tender seedlings inside. Deer especially like to eat northern white cedar in the late winter and early spring when other food is scarce.

To reach the next stop, walk two-thirds of the way along the beach, and watch carefully for a small arrow on a post, marking the continuation of the trail.

12

LOG RAFTS

From the cobble beach, follow the marked trail into the alder thicket. At stop #12 you see more evidence of the pulpwood rafting operation. These huge logs were headblocks and quarter blocks, which formed a platform for workers to stand on while changing cable ties when pulling a boom full of pulp.



CONSOLIDATED PULPWOOD RAFT

13

TOMBOLO

This low area that you are walking through is part of the tombolo. A tombolo is formed when sediment (usually gravel) is deposited by waves and currents on a shallow section of the lake bottom over thousands of years, ultimately connecting an island (Sugarloaf Point) with the mainland. Tombolos are rare along the Lake Superior shoreline, because there are few offshore islands and not many shallow area where sediment can accumulate. It was once a very wet area covered with a variety of wetland vegetation, but the paper company removed the plants and added gravel fill to most of the tombolo so

that it could be used for the pulpwood operation. After the paper company left the site, the alders and poplar trees that now surround you took over the tombolo, but some of the original wetland plants are gradually returning—for example in midsummer you might be able to find tall northern bog orchid *(Platanthera hyperborea)* blooming. Anytime of year, you will also notice the giant cow-parsnip *(Heracleum maximum*), with its one-foot wide leaves and round stalks up to 8 feet high.

14

MOUTH OF SUGARLOAF CREEK

This small stream along the western boundary of the Sugarloaf Cove property is one of many that drain the uplands surrounding Lake Superior. The amount of water in the stream varies greatly throughout the year. During spring snowmelt and heavy rain storms, the stream is swollen with water running off the land into Lake Superior. During dry periods, the stream shrinks to a quiet trickle. Observe the water as the stream enters Lake Superior— this is a very dynamic area. The gravel on the beach is constantly rearranged by the waves; as a result, the exact location of the mouth of the stream varies, depending on whether the lake or the stream has more power. At low flows, the stream water just filters through the gravel. The boulders along the shore were probably washed out of the local glacial deposits; notice their great variety of rock types. The rocky bed of the stream is all part of one large lava flow.

The land on the other side is privately-owned, so please do not cross the stream.

15

PLANTING DEMONSTRATION AND BEACH LINE

Nearly hidden on the forest floor are boom logs, left behind by the paper company and now decaying as new trees grow up around them. This forest is a major demonstration area for restoration of native conifer forests. You will notice a wide variety of fencing and planting techniques. Most of the fencing at Sugarloaf is done to protect young conifer trees from being eaten by white-tailed deer.

The primary trees species planted here in 2004 and 2005 are white pine, white spruce and white cedar. This was funded by the Minnesota Department of Natural Resources to help North Shore landowners learn how to restore their own North Shore coastal forest.

As you continue uphill from the boom logs, look for rounded pebbles on the ground. These pebbles are much better rounded than those in typical glacial deposits. Why do you think these pebbles are here, deep in the woods?

At the end of the Ice Age, ice remaining in the northeastern part of the Lake Superior basin prevented the water from draining through its traditional outlet. As a result, the water rose until it found higher outlets, establishing temporary lake levels that have left their mark on the landscape. This area was probably the beach at one stage, perhaps 8,000 years ago, with waves lapping up against the hillside in front of you. As you follow the trail up the hill, look for other evidence that this was once a beach.

16

BEACH TERRACE AND RED PINE DEMONSTRATION

You are now standing on an old beach terrace, about 60 feet above Lake Superior. It marks the temporary water level of Lake Superior at one stage during the melting of the last glacial ice sheet. Notice the rounded beach pebbles at the bottom of the wave-cut slope. Look out toward the lake to see the silhouette of the "sugarloaf" at the end of the Point. This is also a good place to look for birds in the birch trees on the slope.

Now look at the red pine plantation. Just like the pine plantation of stop #1, these trees were planted after the paper company closed the rafting operation in 1971. The trees have been thinned in a forestry education project for local high school students, to allow more sunlight to reach the forest floor and make it possible for other species to begin growing in the plantation. A few feet down the trail, stop and look at the cord of wood that has been built with the trees removed from the pine plantation. A "cord" of wood is defined as being four feet high, four feet wide and eight feet long. Cord is a common measurement in logging operations.

17

ROAD RESTORATION AND NATURE CENTER

When Consolidated Papers operated a pulpwood landing at Sugarloaf Cove, a road was built so heavy trucks could reach the Lower Landing. Sugarloaf managers, working with the DNR, decided to eliminate the road and all vehicular access

to the lakeshore in order to provide visitors with a Lake Superior shoreline that is relatively free from signs of human development. Much of the looser gravel now on the old road bed was the same gravel excavated from the Lower Landing to re-create the wetlands there. Plants used in the road restoration include bush honeysuckle, red osier dogwood, shrubby cinquefoil, aster, balsam ragwort, fringed brome grass, and meadow rue. Local students and volunteers planted numerous native conifers accustomed to dry rocky soil, including white pine and white spruce.

The Sugarloaf Cove Nature Center was constructed in 2000. This location was carefully chosen to allow visitors to see Lake Superior from the center while minimizing impacts to the shoreline. Well-hidden from both the highway and the lake, the simple structure was built with logs harvested from a sustainable red pine forest. The Nature Center serves as a location for educational displays, classes, programs, and picnics. This building, built by Senty Log homes of Grand Marais, was designed to be energy efficient, with in-floor, off-peak electrical heating and high R-value windows and doors, which were donated by the Andersen Window Company. The decking, donated by Aspen Research, is made from recycled sawdust and vinyl—waste products from window manufacturing.

SUMMARY The collection of living things and the physical environment where they live is called an ecosystem, or a community. The community of Sugarloaf Cove is very complex and is made up of many members: rocks, waters, plants, animals, and people. The day-to-day life of the community is determined by the constant interaction among living things and the physical environment. All ecosystems are dynamic—they are characterized by constant change. Within any ecosystem, all the members cause changes that affect all the other members.

Here at Sugarloaf Cove, the grassy openings, shrub thickets, and pine plantations are all reminders of the past activities of people. Even though people no longer live here, they are actively working to restore the natural condition of Sugarloaf ecosystem. The changes made to the land by people are recorded in the resulting changes that occur throughout the entire community of living things.

Thank you for visiting Sugarloaf Cove.

FLORA

Here are some of the plants that you might notice at Sugarloaf Cove...

TREES

Aspen	*Populus species*
Balsam Fir	*Abies balsamea*
Black Spruce	*Picea mariana*
Jack Pine	*Pinus banksiana*
Mountain Ash	*Sorbus species*
Mountain Maple	*Acer spicatum Lam.*
Northern White Cedar	*Thuja occidentalis*
Paper Birch	*Betula papyrifera*
Red Pine	*Pinus resinosa*
Tamarack	*Larix laricina*
White Pine	*Pinus strobus*
White Spruce	*Picea glauca*

SHRUBS

Alder	*Alnus species*
Bush Honeysuckle	*Diervilla lonicera*
Dogwood	*Cornus species*
Highbush Cranberry	*Viburnum trilobum*
Juneberry	*Amelanchier species*
Ninebark	*Physocarpos opulifolius*
Shrubby Cinquefoil	*Potentilla fruticosa*
Thimbleberry	*Rubus parviflorus*

FERNS

Cinnamon Fern	*Osmunda cinnamomea*
Interrupted Fern	*Osmunda clatoniana*

FLOWERS

Beach Pea	*Lathyrus japonicus*
Bedstraw	*Galium species*
Blue Bead Lily	*Clintonia borealis*
Bluebell/Tall Lungwort	*Mertensia paniculata*
Bunchberry	*Cornus canadensis*
Buttercup	*Ranunculus species*
Canada Mayflower	*Maianthemum canadense*
Columbine	*Aquilegea canadensis*
Common Blue Violet	*Viola papilionacea*
Cow Parsnip	*Heracleum maximum*
Downy Yellow Violet	*Viola pubescens*
Evening Primrose	*Oenothera biennis*
Goldenrod	*Solidago species*
Joe-pye Weed	*Eupatorium maculatum*
Large-leaved Aster	*Aster macrophyllus*
Marsh Marigold	*Caltha palustris*
Meadow Rue	*Thalictrum dasycarpum*
Nodding Trillium	*Trillium cernuum*
Three-toothed Cinquefoil	*Potentilla tridentata*
Twisted Stalk	*Streptopus amplexifolius*

FAUNA

Birds found at Sugarloaf Cove, either making homes, using the site for food or shelter, or simply passing through...

BIRDS

Alder Flycatcher
American Crow
American Goldfinch
American Redstart
American Robin
Bald Eagle
Black-capped Chickadee
Black-throated Green Warbler
Blue Jay
Canada Goose
Cedar Waxwing
Chestnut-sided Warbler
Chipping Sparrow
Common Loon
Common Merganser
Common Yellowthroat
Downy Woodpecker
Eastern Phoebe
Gray Catbird
Hairy Woodpecker
Herring Gull
Mourning Warbler
Nashville Warbler
Northern Flicker
Ovenbird
Purple Finch
Red-breasted Merganser
Red-eyed Vireo
Ring-billed Gull
Ruby-crowned Kinglet
Song Sparrow
Spotted Sandpiper
Swainson's Thrush
Veery
White-throated Sparrow
Wood Duck
Yellow-bellied Flycatcher
Yellow-rumped Warbler

Common animals found at Sugarloaf Cove...

TERRESTRIAL VERTEBRATES

Black Bear
Deer Mouse
Eastern Chipmunk
Masked Shrew
Meadow Jumping Mouse
Meadow Vole
Mink Frog
Moose
Northern Spring Peeper
Red Squirrel
Snowshoe Hare
Timberwolf
Western Chorus Frog
White-tailed Deer

MEMBERSHIP APPLICATION

Please enroll me as a member of Sugarloaf: The North Shore Stewardship Association in the category I have indicated.

NAME

ADDRESS

CITY

STATE ZIP

( )

AREA CODE PHONE #

E-MAIL

MEMBERSHIP CATEGORIES

- ☐ $ 25 Contributing
- ☐ $ 50 Supporting
- ☐ $ 100 Sustaining
- ☐ $ 500 Patron
- ☐ $ 1000 Benefactor
- ☐ $ _____ Other

☐ New ☐ Renew

Sugarloaf: The North Shore Stewardship Association

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THANK YOU!

COMMUNITY

PARTNERS

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