The Sugarloaf Interpreter

A Publication Of The
Sugarloaf Interpretive Center Association

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c/o 140 Engineering Building, College of Science and Engineering, University of Minnesota/Duluth, Duluth, MN 55812

TWIN POINTS/SUGARLOAF LAND EXCHANGE - PROPOSAL SUBMITTED TO DNR

In mid-February, SICA submitted a proposal to the State of Minnesota, via the DNR, to exchange a portion of SICA's recently acquired Twin Points property in Lake County for the state-owned Sugarloaf property in Cook County. The Scientific and Natural Area (SNA) at Sugarloaf may be expanded to include the cobble beach. "Iona's Beach" at Twin Points has been recently nominated for protection as an SNA. The land exchange would not include the SNAs, which would remain in the public domain under the protection of the SNA laws.

Before an exchange can be approved, both parcels of land must be appraised and surveyed, and public hearings will be held to allow for public comment. The process generally takes about a year.

Fund-raising continues on the Twin Points project, with over $400,000 of the $750,000 needed to pay for the acquisition in hand.

NEW SICA MEMBERSHIP INDUCEMENT

Membership in the Sugarloaf Interpretive Center Association continues to grow. With over 300 members now on board, the membership committee has announced a further inducement to prospective members with a minimum contribution of $25. It is the delightful book recently published by Howard Sivertsen, famed North Shore artist. The book is entitled *"Once Upon an Isle"* and recounts living on Isle Royale. It is free to new members of SICA.

SICA LCMR PROPOSALS

SICA has followed its first, highly successful (Note the insert which accompanies this issue.) LCMR project with two new proposals. SICA has proposed a project to demonstrate watershed concepts and develop an educational curriculum using research, interpretive materials, and examples from Sugarloaf. Barbara Liukkonen, a water resources education coordinator and SICA Board member, will be the project manager.

Also proposed is an in-depth study of the day-to-day lives and practices of Native Americans on the North Shore prior to European settlement. Board member Andrea Peterson, a former teacher at the Grand Portage Elementary School, a former Minnesota teacher-of-the-year, and a national teacher-of-the-year finalist, will be the project manager. The Cook County Historical Society and Norman Deschampe of the Grand Portage Band are joining SICA in this project.

- CALENDAR -

April 16 - Tues., 7 p.m. Introduction to Sugarloaf by Art Fenstad. Little Marais Community Center.

April 27 - Sat., Noon. North Shore Historical Assembly. Thunder Bay. Contact Rob Neff for info. 807-623-0801.

May 18 - Sat., 10 a.m. SICA Board of Directors. Hunter Building, Duluth.

May 24-26 - Fri.-Sun., Wolf Ridge spring weekend. Family events, fly fishing, birding, wild plant uses, wilderness first aid.

June 21-23 - Fri.-Sun. John Schroeder Days, Schroeder. Tour of Sugarloaf site, Sat., 2 p.m.

August 18 - Sat. Membership Annual Meeting. 10 a.m. Board, 11 a.m. Members

Oct. 2-3 - Wed.-Thurs., Members Lake cruise, Grand Portage to Thunder Bay and return.

SICA FORMS NEW COMMITTEES

The SICA Board has approved the formation of two new committees. A Speakers Bureau, led by Dr. Pershing Hofslund, will provide speakers on natural history and other topics related to the SICA mission to address public and private groups. If you are willing to share your expertise or know of an organization looking for an interesting public speaker, please call Dr. Hofslund at 218-525-5201.

The SICA Board also formed a committee charged with gathering and preserving the personal histories of the people who have shaped North Shore life and history. An interview with Iona Lind, which will appear in a future *Interpreter,* was the first project of the committee. SICA is searching for an experienced historian to direct the Personal History Committee. Call any SICA Board member with suggestions or to volunteer. B.J. Smith Kohlstedt (218-353-7414) is the new chair of the program committee.

NORTH SHORE LINES

The most recent edition of *North Shore Lines,* the official publication of the North Shore Management Board, featured a Twin Points update by former SICA president, Emily Andersen. SICA looks forward to working with the NSMB and its new chair, Paul Iverson, on the Twin Points Project.

CHANGES IN LEADERSHIP

Significant changes in leadership have occurred recently affecting North Shore affairs. Tom Bakk of Cook has replaced Representative Batagglia in the State House of Representatives. On the North Shore Management Board, Paul Iverson of Two Harbors has recently been elected chairman.

SICA Board member and Director of the Lake Superior Center, Bob Bruce, has accepted a position as a vice-president of Northland College in Ashland, WI. Bob will also serve as executive director of the Sigurd Olson Environmental Institute. As director of LSC Bruce raised $13 million of LSC's $31 million goal, achieved statewide support for the project, developed education and outreach program components, and gave direction to the concept and design of the exhibits. Bruce has been on the SICA Board since its inception. He served one year as treasurer.

NEW PUBLICATION

SICA will prepare an annual summary of its previous year's activities. The first of these summaries will be distributed to the membership at the annual meeting in August. The publication will enable SICA to inform the membership and to recognize the association's contributors.

SICA LAKE CRUISE TO CANADA ANNOUNCED

At the February 17 meeting of the Board of Directors it was announced that a two-day boat trip aboard Capt. Kollars' 150-passenger *Grampa Woo* will be scheduled for October 2 and 3, 1996. All interested are invited to attend. Of particular interest is the fact that a substantial portion of the tariff will be donated by the Kollars to SICA.

The itinerary provides a departure from Grand Portage at about 9 a.m. on October 2, with a cruise northeast up the Shore past the Witch Tree, through the Susie and Victoria Islands, reaching Thunder Bay in the evening for an elegant dinner and overnight stay in the Prince Edward Hotel. On the following day the return will take us through the Canadian Island Archipelago to Grand Portage. Lunch will be served on board each day, and dinner and breakfast at the Prince Arthur are included in the fee as is lodging.

The cost for the 2-day trip is $225 per person. More details will be forthcoming in the June issue of the *Interpreter.*

LCMR PROJECT FEATURED ON WORLD WIDE WEB HOME PAGE

Photographs and a description of SICA's LCMR project are a featured portion of the World Wide Web Home Page established and maintained by the Natural Resources Research Institute of University of Minnesota, Duluth. For Web users, here is the address (no period atend):
http://gp1.nrri.umn.edu/sugar/sugarloaf.html

ROGER TORY PETERSON ON THE CHICKADEE

"I have to add to my list of favorite birds, the chickadee. These spritely little birds, with their cheerful cries and black caps, are the charmers of the winter woods. Perhaps you know what I mean. After all, have you ever met a chickadee you didn't like?"

SICA RECEIVES CHALLENGE GRANT

A five year challenge grant of $25,000 per year has been received by SICA from the Andersen Foundation to cover operating, general office, and organizational expenses. It will match all funds up to $25,000. This puts SICA on a regular business-type footing for the next five years.

WINTER WONDERINGS AND WANDERINGS

By CARRIE ANDERSON, Interpreter, Superior National Forest, Tofte, MN

They're popping all around me. You've heard the sound. Sudden cracking like abbreviated thunder during frigid nights in mid-winter. But this is different, it's January, but broad daylight, not the deep of night. The cold blue sky looks farther away than usual as three feet of snow squeaks and crunches under the weight of my snowshoes. A chickadee flashes through my peripheral vision, drawing my attention...I stop to watch it, snug in my layers of wool and down. It took me just moments to don extra mittens, socks and a scarf before setting out into the bitter cold of -32 degrees F. For this busy chickadee, adapting is a matter of genes, generations of snow and cold survivors passing on their genetic recipe for winter survival. I wonder how it, and the other plants and animals of the boreal forest will manage to make it through the unusually long January cold snap. Are my winter habits anything like theirs?

The chickadee has moved on, and so I set forth again, lifting my snowshoes a few inches to clear the top layer of fluff. Of course there are those animals who have developed their own snowshoes. The hare, lynx, and gray wolf come to mind. My own snowshoes give me about four times the "snow floatability" of my boots. Big feet are great, and though I'm not born with them, I can certainly create my own. Not so for the deer, whose path I am just now crossing... Forming a trench a foot or more deep, this "deer highway" is well used. As I step across the path I suddenly find myself on firmer ground. Deer, whose narrow hoofed feet punch into the snow, would easily "belly out" were it not for paths. Following each other, they pack the snow, creating a sort of hard sidewalk which is easy to walk on. Without snowshoes, you can bet I would be following this well-worn trail myself. Some say these paths are so important to deer that they will not leave them even to travel an extra 10 feet for food when starving – it's just not worth the energy. Why don't they starve? With about 10,000 deer living near the shore of Lake Superior, you would think they would eat themselves out of a habitat.

Part of the answer lies in just slowing down. A deer's metabolism actually slows down enough that some biologists consider deer to be in a state of "walking hibernation" through the coldest part of winter. Woodchucks and chipmunks are true hibernators whose body temperatures lower to just above freezing. You could count their respiratory rate in minutes per breath, rather than breaths per minute. The black bear is in a more deep sleep in contrast. Its body temperature is usually in the 90 degree range, about 10 degrees colder than normal, and it may breathe as often as once per minute. Do I slow down in winter? You bet! My body seems to crave more sleep and "down time" – time to read and reflect.

My thoughts are interrupted by another sharp sound, this time the percussive tapping of a feeding, downy woodpecker. To my right and up a small tree on a small rise, I spot the bird, turning its head to listen for signs of life before continuing to peck at the old snag. It's one I've examined closely in the summer months, a long-gone balsam trunk standing almost bark-free about 10 feet tall. There is an amazing maze of beetle larva tracks peppered with small round holes at random. Many insects have migrated just a few inches into the tree, spending the winter as pupae or eggs. Other insects are underground, a balmy 20 degrees or more, even on the coldest night! Turtles, frogs, and salamanders are also just a short jaunt from their summer habitats, buried in the mud of the wetlands. My own short migration takes me from the summer deck to the woodstove for reading a good book. Some friends, like the neo-tropical relatives of the woodpecker, migrate a bit farther to escape the cold of winter.

And what about that snag? Unable to escape to the southwest, it endured, branches folding like an umbrella under the weight of new snow, springing back again as the snow melted or was blown off by the wind. An evergreen, the balsam fir's needles are exposed to winter's dry and frigid air. Waxy coatings on the leaves help the tree keep from losing too much precious water while thick sap keeps it from freezing. Deciduous trees such as the birch have another strategy. They lose their leaves, thereby conserving water. Herbs, grasses and wildflowers over-winter as seeds, tubers, or as with leatherleaf, as near-dormant evergreens. I take a long drink from my water bottle during this, Minnesota's driest season... Ahead I see my destination. It appears as a small snowy bump on the horizon, overlooking the lake. As I approach, I feel my cheeks start to numb in the sub-zero temperatures. I'll be glad to reach the quinzhee. It is a shelter I made a few days ago by piling snow in a mound about eight feet high. After it had settled several hours, I returned to hollow out a chamber about 4-1/2 feet high and 6 feet in diameter. Once inside, the small thermometer attached to my coat slowly rises to a few degrees above zero - balmy! Small mammals, such as mice, voles, and shrews, take advantage of the insulating value of snow just as I am. At ground level, the temperatures are usually at least 20 degrees above zero even when the air temperature is well below, as it is today. Their tunnels on the forest floor are well-protected from both the cold and predators.

Out the door of the quinzhee, Lake Superior is steaming, a good 60 degrees warmer than the surrounding air. Perhaps the great lake itself is a part of this winter adaptation picture. Like a great furnace, it warms the winter air near the shore, creating a climate of less snow and less extreme temperatures than just a few miles inland. The sun is getting lower on the horizon, sinking behind the ridgeline as I emerge from the quinzhee. The sky is clear - it looks like another cold night ahead. I'll sleep warm in my insulated home. My neighbors, the forest dwellers, will do fine as well.

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First Class
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Twin Points Support

Yes, I/we will help Sugarloaf Interpretive Center Association to keep Twin Points for public access with this gift to the Twin Points Purchase Fund.

$_____ is my/our total gift commitment to be paid as follows: $_____ is enclosed herewith.

$_____ is pledged as follows:

$_____, 19___

$_____, 19___

$_____, 19___

and/or: _____

$_____ is pledged through a gift of insurance, real estate, a trust or will provisions as follows: _____

_____

Name (please print) Signature Date

Spouse's Name (please print) Signature Date

Address City State Zip Home Phone

This gift can be matched by my employer.

Special gift designation if desired.

Make checks payable to Sugarloaf Interpretive Center Association and mail to SICA, c/o 140 Engineering Building, College of Science and Engineering, UMD, Duluth, MN 55812.

SICA Membership Application

I like the idea of interpretation and education on the North Shore. I certainly believe that the important Scientific and Natural Area of Sugarloaf Cove, Beach, and Point should be protected and not be endangered.

Please enroll me as a member of the Sugarloaf Interpretive Center Association in the category I have indicated. SICA is an educational, nonprofit 501 (c) (3) Minnesota corporation. Please send me, as a new or renewing member, my free copy of Howard Sivertson's *"Once Upon An Isle: The Story of Fishing Families on Isle Royale."*

Name _____

Address _____

City _____ State _____ Zip _____

Phone: _____ Date: _____

Membership Categories

_____ $5 Student/Senior

_____ $10 Individual

_____ $15 Family

_____ $25 Contributing

_____ $50 Supporting

_____ $100 Sustaining

_____ $500 Patron

_____ $1000 and up Benefactor

_____ Payment Herewith _____ Please Bill Me

Make checks payable to Sugarloaf Interpretive Center Association and mail to SICA, c/o 140 Engineering Building, College of Science and Engineering, UMD, Duluth, MN 55812. Memberships are annual and expire December 31, except those applications received after October 1. Thank you.

Sugarloaf Field Notes

Number 1 **Spring, March 1996**

The Sugarloaf Interpretive Center Association inventory of the geologic, biologic, ecologic, and cultural history features of the Sugarloaf site is at its midpoint. The first season's field work is complete, with many reports filed with SICA by the contracted scientists and historians. Additionally, the first overlay maps of information have been produced, using the GIS (Geographic Information System) computer software at the University of Minnesota Duluth's Natural Resources Research Institute. With the permission of the Legislative Committee on Minnesota Resources, our granting agency, SICA will disseminate reports on the inventory through a series of "*Field Notes*" in this and in upcoming *Interpreters*.

BREEDING BIRDS OF THE SUGARLOAF SITE

Preliminary Report Submitted By KENT MONTGOMERY, Duluth, MN

INTRODUCTION

During the summer of 1995, a project (funded by the Legislative Commission on Minnesota's Resources) was undertaken by the Sugarloaf Interpretive Center Association to survey the flora and fauna within the Sugarloaf site. The objectives of this portion of the project were to 1) inventory breeding birds within the Sugarloaf site; and 2) determine the associations between these birds and habitats within the Sugarloaf site.

Songbird populations within the Sugarloaf site provide an excellent opportunity to increase the public's awareness of birds and their habitat requirements. There has been much concern expressed recently over declines in neotropical migrant bird populations in North America. Possible reasons for these declines include habitat loss on both breeding and wintering grounds, fragmentation of habitats, and shifts in age distributions of forest types. Through interpretive programming at the Sugarloaf, the public may become more aware of the issues associated with the management of neotropical bird populations.

In this preliminary report, avian census results are presented along with breakdowns of census results by guild membership and habitat associations. During the remainder of this portion of the project, use of the Sugarloaf site by migrating and wintering birds will be documented, as well as collecting additional data on breeding bird populations.

METHODS

Birds were censused within the proposed Sugarloaf site June 11, 1995, from one-half hour before sunrise to three hours after sunrise. Weather conditions were optimal for censusing during this time; skies were clear and winds were calm. The observer was familiar with vocal and visual identifications of all potential species at the Sugarloaf site having conducted systematic censuses across northern Minnesota the previous four years.

Due to the relatively small area (< 16 ha), the entire site was systematically censused. Census methods consisted of walking areas of the Sugarloaf site and mapping the positions of any birds seen or heard on an aerial photograph. The census route, rate of travel, and duration were adjusted to provide a reasonable level of confidence that all singing birds were identified and accurately plotted. Following censusing, attempts were made to document breeding within the Sugarloaf site by locating nests and plotting them on the aerial photograph; opportunistic bird sightings (previously unidentified species) also were recorded at this time.

PRELIMINARY RESULTS AND DISCUSSION

One hundred and nineteen individual birds were identified representing 30 species (Table 1). Seventeen percent of these species (8% of individuals) are permanent residents (whose populations may be augmented during winter or summer), 57% (45% of individuals) are short-distance migrants (i.e. wintering in southern North America), and 47% of the species (72% of individuals) are long-distance migrants (wintering in the Caribbean, Central America, or South America) (Table 2). Total percentages of guild memberships total to greater than 100% since several species are represented in more than one migration guild.

Thirty-three percent of these species (25% of individuals) are ground nesting species (Table 2), 33% (48% of individuals) nest in the canopy, 30% of the species (50% of individuals) nest in subcanopy trees (mature trees not included within the canopy), saplings, and shrubs, 13% (4% of individuals) nest in cavities (primary and secondary cavity nesting), and 3% of the species (1% of individuals) nest on platforms or ledges; no nest parasites (Brown-headed Cowbirds) were recorded during the census.

Seven percent of the species (3% of individuals) feed on aquatic vertebrates (Table 2). 10% (4% of individuals) are omnivorous, feeding on small vertebrates, invertebrates, vegetation, and carrion. 3% (6% of individuals) feed on seeds. 3% (3% of individuals) feed on ground invertebrates. 10% (9% of individuals) feed on ground invertebrates and seeds. 7% (3% of individuals) feed on ground invertebrates and fruit. 30% (56% of individuals) feed on foliage invertebrates. 3% (1% of individuals) feed on flying insects taken during continuous flight. 13% (17% of individuals) feed on flying insects taken during sallying flights from a perch. 3% (3% of individuals) feed on foliage invertebrates and fruit. 3% (3% of individuals) feed on fruit. 3% (1% of individuals) feed on bark insects, and 3% (2% of individuals) feed on aquatic vegetation.

Fifty percent of the species (61% of individuals) were identified in northern hardwood habitats within the Sugarloaf site (Table 2). 17% of the species (36% of the individuals) were associated with alder habitats. 20% of the species (37% of the individuals) were associated with the mixed alder and red pine habitat. 7% of the species (9% of the individuals) were associated with the white spruce plantation. 10% of the species (5% of the individuals) were associated with grassy meadows and openings. Seventeen percent of the species (7% of individuals) were identified offshore from the Sugarloaf in Lake Superior.

Much of the habitat within the Sugarloaf site has experienced some degree of disturbance. Alder (and alder interspersed with red pine) occupies much of the site. This habitat provides a well-developed shrub layer, and is occupied by bird species associated with early successional habitats (also typified by dense shrub layers), such as the Chestnut-sided Warbler and the Mourning Warbler. Alder Flycatchers are also abundant in the alder habitat distributed on the lower elevations of the site.

Other disturbed habitats on the site included the red pine and white spruce plantations. Only two species (American Crow and Nashville Warbler) were identified in the spruce plantation on the west side of the site. Ground, shrub, and subcanopy layers were poorly-developed in this plantation, providing reduced opportunity for foraging or nesting. Red pine plantations supported relatively larger numbers of species and individuals possibly due in part to the alder interspersed within the red pine plantings. The relatively young age of the red pine plantation (compared to the spruce) provided greater development of ground vegetation, and possibly additional foraging and nesting opportunities for birds.

Relatively intact habitats, such as the northern hardwoods, provided habitat for canopy nesting and foraging species (e.g. Black-throated Green Warbler). Coniferous-associated canopy species, such as the Ruby-crowned Kinglet and the Yellow-rumped Warbler, were also found in the northern hardwoods perhaps due to the close proximity of the spruce plantation.

Species associated with aquatic habitats likely do not use the Sugarloaf site for breeding, but may use portions of the site for resting and foraging. Offshore areas are also possibly used for foraging during the breeding season.

The Eastern Phoebe was the only species documented as breeding within the Sugarloaf site. One nest was found along the shoreline area, underneath overhanging vegetation of an eroded bank. This species also frequently builds its nests on man-made structures, such as bridges and buildings; no signs of nests were seen on the buildings located on the Sugarloaf site. The abundance of the eroded banks within the Sugarloaf site and their proximity to the water, may reduce the reliance of the phoebe on the buildings for nesting.

SICA gratefully acknowledges funding for this project approved by the Minnesota Legislature, 1995 Minnesota Laws, Ch. 220, Sec. 19, Subd. 7(i), as recommended by the Legislative Commission on Minnesota Resources.

TABLE 1

Number of individuals of each species observed at the Sugarloaf site and percent of total.

SPECIES	NUMBER	PERCENT
Common Loon	1	0.8
Canada Goose	2	1.7
Red-breasted Merganser	3	2.5
Ring-billed Gull	1	0.8
Northern Flicker	1	0.8
Eastern Phoebe	1	0.8
Yellow-bellied Flycatcher	1	0.8
Alder Flycatcher	5	4.1
Tree Swallow	1	0.8
Blue Jay	2	1.7
American Crow	2	1.7
Black-capped Chickadee	2	1.7
Red-breasted Nuthatch	1	0.8
Gray Catbird	3	2.5
Veery	3	2.5
Ruby-crowned Kinglet	5	4.2
Cedar Waxwing	3	2.5
Red-eyed Vireo	9	7.6
Nashville Warbler	9	7.6
Yellow-rumped Warbler	8	6.7
Black-throated Green Warbler	4	3.4
Chestnut-sided Warbler	8	6.7
Ovenbird	4	3.4
Mourning Warbler	4	3.4
Common Yellowthroat	5	4.1
American Redstart	13	10.9
American Goldfinch	7	5.9
Chipping Sparrow	4	3.4
White-throated Sparrow	2	1.7
Song Sparrow	5	4.1

TABLE 2

Habitat, feeding, nesting, and migration classifications for species observed at the Sugarloaf site.

SPECIES	HABITAT	FOOD	NESTING	MIGRATION
Common Loon	1	1	1	2
Canada Goose	1	13	1	2
Red-breasted Merganser	1	1	1	2
Ring-billed Gull	1	2	1	2
Northern Flicker	6	6	4	2
Yellow-bellied Flycatcher	4	9	1	3
Alder Flycatcher	3,4	9	3	3
Eastern Phoebe	3	9	5	2
Tree Swallow	1	8	4	2,3
Blue Jay	2	2	2	1
American Crow	5	2	2	2,1
Black-capped Chickadee	2	7	4	1
Red-breasted Nuthatch	2	12	4	1
Veery	2,4	6	1	3
Ruby-crowned Kinglet	2	7	2	2
Gray Catbird	3,4,2	10	3	2,3
Cedar Waxwing	2	11	2	1,2
Red-eyed Vireo	2,4	7	2,3	3
Nashville Warbler	2,5	7	1	3
Yellow-rumped Warbler	2	7	2	2,3
Black-throated Green Warbler	2	7	2	3
Chestnut-sided Warbler	4	7	3	3
Ovenbird	2	4	1	3
Mourning Warbler	3,6	7	1,3	3
Common Yellowthroat	3	7	3	2,3
American Redstart	4,3,2	9,7	2,3	3
American Goldfinch	3	3	3,2	2
Chipping Sparrow	2	5	2	2
White-throated Sparrow	2,6	5	1	2
Song Sparrow	3	5	2	2

HABITAT 1. Aquatic 2. Northern Hardwoods (quaking aspen and paper birch) 3. Alder 4. Alder/young red pine matrix 5. White Spruce (plantation) 6. Grassy meadow/opening

FOOD 1. Aquatic vertebrates 2. Small vertebrates, invertebrates, vegetation, carrion 3. Seeds 4. Ground invertebrates 5. Ground invertebrates and seeds 6. Ground invertebrates and fruits 7. Foliage invertebrates 8. Aerial insects - taken in continuous flight 9. Aerial insects - taken in sallies from a perch 10. Foliage invertebrates and fruit 11. Fruit 12. Bark Insects 13. Aquatic vegetation

NESTING 1. Ground 2. Canopy 3. Subcanopy or shrub 4. Cavity 5. Ledge

MIGRATION 1. Permanent Resident 2. Short-distance migrant 3. Long-distance migrant