

WE'RE CELEBRATING

150

YEARS

OF NATURE STUDY
IN THE CANADIAN
LAKEHEAD

&

50



YEARS

OF THE
CLAUDE GARTON
HERBARIUM AT LU



Lakehead
UNIVERSITY

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FOREWORD

As Canada celebrates its sesquicentennial, it seems like a good time to reflect on the connections that people have had with the land throughout Canada's history. The purpose of this booklet is to focus in on the question:

What is the history of "nature study" in the Lakehead region and what are its contributions to the larger story of Canada's past, present, and future?

"Nature study" takes many forms--from Indigenous knowledge and scientific inquiry, to natural resource exploration, nature appreciation, and recreation. Many fields of social and environmental inquiry at Lakehead University actively pursue some dimension of nature study. While we cannot hope to cover all aspects of nature study in a short booklet such as this, we hope that this brief survey will give readers some sense of the vital role the Lakehead region has played in shaping Canada's cultural and ecological identity. We also aim to assess the role of Lakehead University today in defining the relationship between people and land for current and future generations.

In the following pages, you will find personal reflections on Lakehead nature. Starting with a historical perspective, and leading to the more specific overview of the Lakehead University herbarium and the foundation for our current vegetation cover: the post glacial landscape development. These are followed by more personal essays on the history of fish research, and an overview of the role amateur nature lovers have played. In conclusion follows an opinion piece on the future role of Lakehead University in guiding nature investigations and better understanding of our local natural environment.



Dedication

TO THOSE WHO FIND
BEAUTY AND SOLACE
IN NATURE

EARLY HISTORY OF NATURE STUDY IN THE CANADIAN LAKEHEAD

Dr. Ladislav Malek

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Fortunately for us, the descriptions of the first scientific, or “natural history”, forays in the Lakehead region were published in two fascinating books: *“Lake Superior: Its physical character, vegetation and animals”*, by Louis Agassiz and J.E. Cabot, published in Boston, in 1850 by Gould, Kendall and Lincoln (Ref 1.) and in *“Autobiography of John Macoun M.A., Canadian explorer and naturalist”*, published in 1922 by the Ottawa Field Naturalists’ Club (Ref. 2). Both books provide a window into the science and discovery of natural environments at the time of Canadian Confederation. Macoun’s book, in particular, covers a longer historical period and deals with many of the political events taking place in the early days of Canada, quite uniquely from a naturalist’s point of view. The next few paragraphs highlight some of these early observations on our natural environment, which are still relevant to our current attitudes and decision-making.

The Swiss born Harvard professor Louis Agassiz led an expedition

to the Canadian Lakehead in 1848. His group used paddle-powered canoes to explore the geology, flora and fauna of the Lake Superior North Shore. The annoying biting insects of the boreal forest seemed to provide a unifying theme colouring the daily camping routine of the expedition. Even though we now have mosquito netting and DEET, this theme still permeates the experiences and writing of nature explorers!

The caution the “coureur du bois” guides used in crossing the open waters of Lake Superior in fragile birch bark canoes reflects the decades and centuries of accumulated experience initially learned from Indigenous peoples. Yet little mention was made in the book of Indigenous guides’

contributions to the success of the expedition, setting a tone of ignoring Indigenous knowledge. This lack of acknowledgement formed the basis for the ongoing fragile relationship between Indigenous inhabitants and the newly arriving Europeans. The evening lectures presented by the “professor” enlightened the expedition participants regarding the geological features of the land, which Agassiz recognizes to have been shaped by glacial forces not unlike those of his native Alps. His glaciological observations laid the foundation for our current understanding of regional geomorphological evolution in the context of ever accelerating global warming, which is now acknowledged to be caused by excessive human activity.





The Agassiz expedition collected geological, zoological and botanical specimens still retained at the Harvard Natural History museums. It is almost certain the publication of the Agassiz book report on the expedition did not go unnoticed by British politicians of the day. New developments in the United States, including the construction of railways and increased immigration into the mid-West spurred politicians to assert a British (nascent Canadian) presence in the West of the continent. The Palliser expedition quickly passed through the Lakehead (already served by steamships) in 1857, with

its goal to explore the Rocky Mountains. Their report did not paint a favourable picture for the construction of a railway through the Rocky Mountains, but the Conservative governments of the time were not deterred. In 1872, Mr. Sandford Fleming, the Chief Engineer for the Canadian Pacific Railway, was sent West to survey a potential train route to the Pacific.

Fleming also made use of the steamship service on the Great Lakes. By chance, Fleming met the Irishman John Macoun on board the ship “Francis Smith” and invited him to participate in his expedition. Macoun, a

self-educated botanist, was on leave from his teaching duties as Chair of Natural History at Albert College, Belleville. His plan appeared to be to study the nature of the boat-accessible Lakehead area, but he also had a secret desire to see the prairies and the Rockies.

“Two or three days previously, the Chief (Fleming) had noticed, among the passengers, a gentleman out for his holidays on a botanical excursion to Thunder Bay, and, won by his enthusiasm, had engaged him to accompany the expedition.”

Macoun did not hesitate in accepting the invitation to travel further west, to our detriment, leaving his study of our area for a much later trip in 1884! Following in the steps of the voyageurs and Palliser’s men, this chance meeting set the tone for the use of Port Arthur and Fort William (now Thunder Bay) as a staging area, an intermediate stop, in travels between Upper Canada and the new territories to the West. But more on that later.

The “enthusiastic” botanist took every opportunity of the frequent steamer landings to go ashore to collect plants. This was to the constant amusement of the passengers and, later, the teamsters driving the wagons near Rainy Lake and into the prairies, a goldmine of “new” plants for Professor Macoun:

“But, when he came back triumphantly waving a flower or bunch of grass, and exclaiming: ‘Did you ever see the like of that?’ ‘No, I never,’ was the general response from every disgusted teamster. ‘Tell yon man if he wants a load of grass, no to fill the buggy noo, an’ a’ll show him a fine place where we feed the horse.’”

John Macoun continued to explore the prairies by ox cart and birch bark canoe, taking a trip through the prairies to the Rockies, and ultimately returning to Fargo, North Dakota, which by this time was served by train. Subsequent years saw the transition of Macoun, in his own words, “from a botanist to a public man”. He was instrumental in arguing for and supporting the decision to build a railway through the Canadian Shield through Port Arthur to Winnipeg. His familiarity with the Lakehead region supported his lobbying for the construction of the railway via the North Shore of Lake Superior, a feat comparable in engineering difficulty to sending the rails through the Rockies. The botanist returned to the Lakehead in 1884 as a public servant and employee of the Geological Survey of Canada. His goal at this time was to collect plants around Lake Nipigon (one of the islands is now named after him) and to see the progress of the railway construction east of Port Arthur, past the Nipigon River, where

a substantial bridge had to be constructed. The biting insects remain a common theme for North Shore explorations:

“Our journey down the railway is indescribable, as we were tormented by flies, and our path was not strewn with roses.”

The opening of the Canadian Pacific Railway along the North Shore from Montreal to Winnipeg on Nov 1, 1885 (only one week before the last spike was driven on the British Columbia section) (Ref. 3) marked the beginning of a new era in accessibility of the Lakehead region to natural history explorers, from Canada, the USA and abroad. Numerous collections were made, which are deposited at various academic institutions around the world and are still being elaborated by current biodiversity exploration. The following essays provide a hint of the type of research being undertaken, and of the potential long-term usefulness of these scientific efforts.

To continue with reflections on the early science in the Lakehead region, we pick up the story in early 20th century, with local amateur nature study enthusiasts and the establishment of the Thunder Bay Field Naturalists Club, whose members assist various professional collectors visiting the region. Botanical collections of Claude Garton are described in the next essay, followed by further essays offering different perspectives on the

geological past of our region and some aspects of our current explorations of local nature.

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50

FIFTY YEARS OF THE CLAUDE GARTON HERBARIUM

Emma Lehmberg

Claude E. Garton Herbarium Assistant Curator



To describe where Claude Garton Herbarium is going, you need to first know where we've been. And to know that, we need to go back to Port Arthur in the 1930s.

In the early part of the 20th century, Claude Garton, our founder, was an elementary school teacher and amateur naturalist. At a time when the flora of Thunder Bay region was largely uncatalogued, he began to collect and preserve the local plants. His pursuits were conducted as a part of the Thunder Bay Field Naturalists (TBFN), an organization he co-founded. His expeditions to collect were wide and varied, traversing lakes and forests surrounding the cities of Fort William and Port Arthur, ranging west to the Manitoba border, north of Armstrong and east to Sault Ste Marie along Lake Superior shores.

These private collections continued in an unofficial capacity until 1967, the year that recently opened Lakehead University granted the Biology Department space for an official herbarium. Claude Garton, now

retired from teaching, happily took up a new position as the curator. As a curator, his responsibilities now extended to the scientific community and he participated in national botanical surveys, hunted down plants for researchers, and hosted fellow botanists when they were in our area. He worked in close conjunction with herbaria south of the border, most notably the University of Minnesota at Duluth's Olga Lakela Herbarium (and Olga Lakela herself). In this "era of the herbarium", the focus was largely on discovery, cataloguing, and preserving and our founding curator was tireless in his efforts to record the ecosystem around him.

With Garton's retirement in 1990, a different era of our herbarium began, one that started to focus on analysis and interpretation of the collections that had already been made. With the help of volunteer curators, Joanne Crowe and Erika North (pictured on next page), the TBFN continued - and continues - to collect for and contribute to the Claude Garton Herbarium. With extensive existing collections, professors,

undergraduate and graduate students began to use these materials for their research and teaching. The general public and school children also were welcome to visit the herbarium. A checklist for the Thunder Bay region was created and continues to be updated by the TBFN and the Claude Garton Herbarium, as well as a flora for the hepatics of the region.



So where do we go from here? It is the question that plagues all museums and herbaria as we engage more and more with a digital age in which much of our information is accessible via the internet, while we remain bound by paper and physical specimens. The survival of the herbarium is very much tied to the marriage of the new and old and to remain relevant, we must become a physical collection as well as a digital one.

One of the ways we aim to tackle this problem at Claude Garton Herbarium is to create a high-quality image of each of our plant specimens. Researchers will be able to examine these images on the internet before requesting to borrow the physical specimens - this not only saves us postage but also allows them to streamline the specimens they'd like to ask for. These images will also be available to the public as a resource for local plant identification and education. Our website will begin to function as a virtual museum, providing a portal to these images and being coupled with a map of their distribution.

The extensive historical collection of non-vascular plants - mosses and lichens - also needs to be converted to a digital format, so it can serve as a foundation for research into climate and pollution effects and their current geographic distribution. We will move into the next 50 years with an aim to engage and educate our local community. Plants form the basis of the

ecosystems around us, their numbers far outnumbering the charismatic animals we find here.

We will move into the next 50 years with an aim to engage and educate our local community. Plants form the basis of the ecosystems around us, their numbers far outnumbering the charismatic animals we find here. We will catalogue the appearance of new and potentially invasive species, while teaching about and preserving the existing native species. We would also like to expand our understanding of plants beyond a Euro-centric viewpoint, learning from local

Anishnaabe elders, as well as developing and facilitating an Ethnobotany course. Simply, we want to create an inclusive user community, based on a deep appreciation of plants and their role in the natural world.

And of course, while evolving with the times, we will continue to support and contribute to research, locally, nationally, and internationally. Because our mandate has always been simple: everything we do, we do for the love of plants and our curiosity about them. Many things will change in the next 50 years, but this never will.





GEOMORPHIC PROCESSES AND LANDSCAPE DEVELOPMENT

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Present landscapes can be likened to a palimpsest, an ancient parchment used many times, the most recent writing being most clear, earlier texts being progressively less well seen as each new phase of writing partially obscures the earlier ones.

The landscape of Northwestern Ontario reflects the latest geomorphic processes to act upon the area: the advance and retreat of ice lobes of the final stages of what we now call “Wisconsin glaciation”. Much of our region was exhumed from under ice as little as 10,000 years ago (photo on page 11, shows present day retreating glacier in the Rocky Mountains).

The advance of an ice mass scours and grinds the exposed rock surfaces over which it passes, the resulting debris, moraine, being plastered on and irregularly piled in topographic hollows, around and against more resistant rock masses, and accumulated along the ice margin whenever the rate of melt equals the rate of flow and results in the margin being geographically stationary. Water plays a significant role in sub-glacial processes, water, under hydrostatic pressure from the weight of ice above, being forced through channels within and under the ice, scouring deep tunnel valleys in bedrock and tumbling along huge volumes of rock debris, including vehicle size boulders.

The retreat of an ice mass occurs when the rate of melt exceeds the rate of flow. Ice does not

move backwards, but gradually melts away. Ice retreat dumps all the rock debris contained on and within the ice, carpeting the landscape with a final layer of morainic material. It is this “surficial” or “ground” moraine that most often provides the stratum on which subsequent soil and vegetation cover develop. In turn, insect and animal life follow, and the first humans arrive to explore and exploit the resources of the new landscape.

Though an extensive ice sheet might appear to be a single mass, ice behaves as a viscous, thick honey-like liquid, a complex pattern of greater and lesser lines of flow existing both in the horizontal and vertical dimensions. Instead of a single, smooth edge, the margin of an ice sheet is characterized by lobes of ice, somewhat similar to the pseudopodia of an amoeba. These flow out from the margin, often guided by major landscape features such as pre-existing valleys, ridges and lake basins,

primarily powered by gravitational flow, but capable of flowing over obstacles when pushed forward by the force of ice flow behind them. Often, one glacier lobe can be advancing while an adjacent lobe is melting back; one advancing over the very same ground just exhumed by an earlier one, but from a different direction.

The history of glacial margins can become very intricate in detail, yet the present landscape in the Thunder Bay region is the product of this interplay (*Figure 1*). Three ice lobes played a significant role in the final phase of the last glaciation of this region, the Marquette Readvance, the Patricia (Rainy River) lobe, flowing from the north, the Hudson Bay lobe, crossing the Nipigon basin from the north-east and the Superior lobe, an off-shoot of the Hudson Bay lobe, which, crossing the north shore of the Superior Basin, flowed along a less impeded path to invade the Duluth end of the basin, and pushed inland along the Minnesota north shore (*Figure 1*).

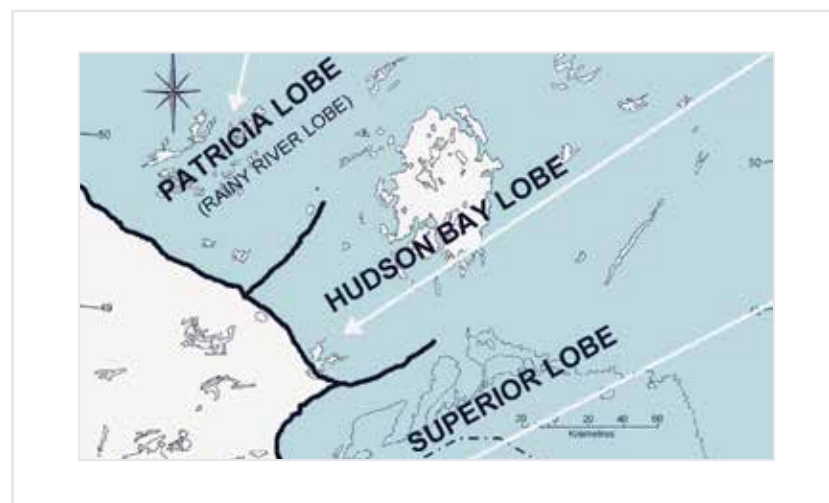


Figure 1: The Last Glacial Event for Thunder Bay

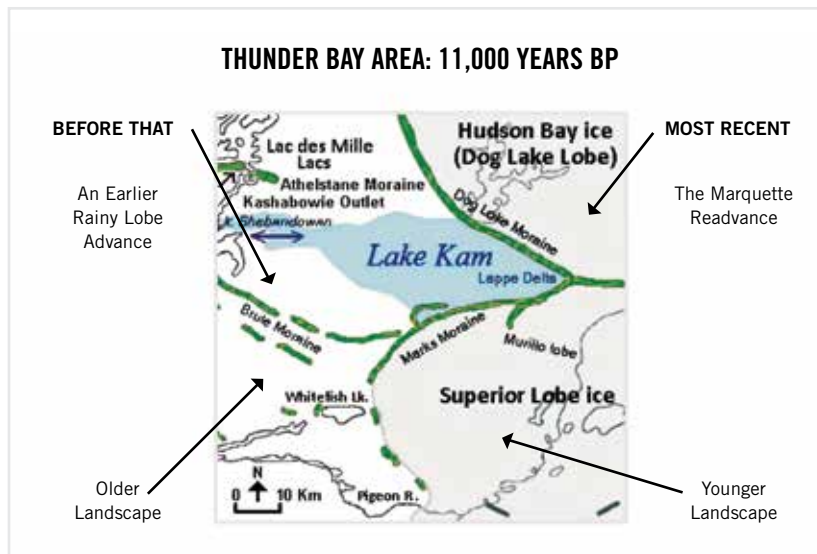


Figure 2.

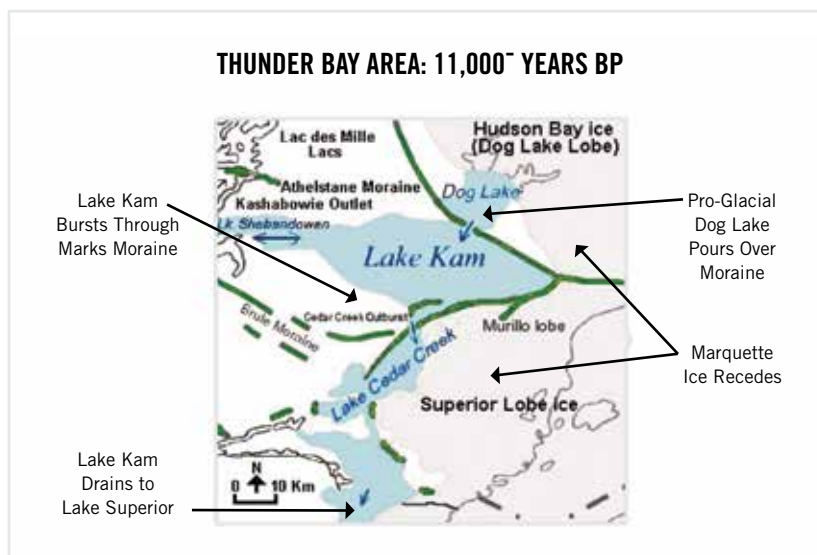


Figure 3.

It is the Superior lobe, which pushed up the dip-slope of the Sibley peninsula and flowed up the Kaministiquia and Whitefish valleys, almost to present day Whitefish Lake. Locally, this sub-lobe of Superior ice is known as the Murillo Lobe, its deposits

characterized by its content of red, mottled Sibley rock materials.

The Superior (Murillo) lobe appears to have halted and formed the Marks Moraine, which forms a prominent ridge on the skyline to the north of the City of Thunder

Bay. Research has shown that in fact the Superior lobe merely plastered its deposits on the flanks of a much older morainic landform, originally formed in an earlier advance of the Rainy River lobe and preserved to the west as the Brule moraine. This is the phenomenon of “inheritance”, a younger event modifying a landform of an earlier event, a not uncommon complication in the interpretation of post-glacial landscapes.

Simultaneously (Figure 2), the Hudson Bay lobe pushed south-west, in contact with the Superior lobe to the east, halting along a south-east / north-west line running along the south edge of Dog Lake. The Dog Lake moraine melded with the Marks moraine at Lappe, the inter-lobate moraine, the Mackenzie moraine being identifiable eastwards to Dorion. Meltwater flowing west between the two lobes resulted in the Mackenzie moraine and, at the junction of the Marks and Dog Lake moraines, formed a large delta.

Deltas form where flowing water and debris meet the margin of a body of water, in this case, glacial Lake Kaministiquia, which was temporarily trapped between the ice lobes and extended west into the Shebandowan area. In fact, the history of Lake Kaministiquia is more complex, there being interflows between it and the huge body of Glacial Lake Agassiz (named after the early explorer-naturalist!), which inundated much of what is now Manitoba.

Shorelines of former Lake Kaministiquia can be traced along the fronts of both the Dog Lake and Marks moraines.

A very significant point to note is that while the Hudson Bay and Superior lobes advanced to cover and modify an older landscape and leave a fresh landscape upon their subsequent retreat, this older landscape remains untouched to the west of the Marks and Dog Lake moraines. Indeed, many layers of older landscapes remain, sediments exposed at the base of the steep river banks of the deeply incised Whitefish River valley belonging to much earlier phases of glacial history of which no surface evidence remains.

For example, the sediments and landforms of the Arrow Lake area, which include the Steep Rock moraine and the East Arrow delta, are those of earlier glacial events than the Marquette Readvance. Reverting to tundra conditions (characterized by lichens, “alpine” plants and stunted trees) during the Marquette Readvance, its former plant and animal assemblages, and possibly human occupants, retreated south-west to warmer climes, but evidence of their presence can remain, saved from the destruction by ice invasion as pollen in the soils, buried bone fragments and the debris of taconite tool making.

A small glimpse of the wealth of detail of glacial and post glacial history is shown in Figure 3. A little later than 11,000 years ago, the highest level of Lake Kaministiquia exceeded the

height of the Marks moraine in places, lapping directly on ice. As the Superior (Murillo) lobe began to melt back, waters of Lake Kaministiquia broke through the Marks moraine and flooded the upper Whitefish valley, recently revealed from under the ice itself. The lake that formed, known locally as pro-glacial Lake Cedar Creek, after a stream that crosses its floor (photo on page 4), was unable to flow east as waning ice still blocked the way. It found its exit west and south to the Pigeon River valley, also still blocked by ice to the east, so poured into a high level of Lake Superior through a broad channel found well above the present village of Hovland, MN. The route is verified by a thin layer of red clay found under more recent deposits and lying over the thick grey clays of earlier lacustrine and fluvioglacial events.

This is but a glimpse of the detail of glacial history, which makes the Thunder Bay region one that is so varied and interesting. Present landscape is, as the palimpsest, a fascinating overlay of many phases of geomorphic processes and events. Though we tend to look at the landscape around us from the perspective of our own life-span and think of it as largely unchanging, it would serve us well to recognize that what we see today is as it is only because of a lengthy history of landscape change that we have inherited, and that change, though perhaps imperceptible to us, is ongoing.

The careful collection and documentation of the plant

assemblage of the Thunder Bay region by Claude Garton and its vital preservation in the Herbarium is, in the context of history, an important but single “still” snapshot from the long running video of landscape development. Future generations of naturalists will be able to document the ongoing transformation of the landscape and vegetation cover as the global geological warming is accelerated by human activity.



HISTORY OF ICHTHYOLOGY IN THE THUNDER BAY AREA

Dr. Walter T. Momot

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A basic problem underlying the management of Northwestern Ontario fisheries is a lack of knowledge about the state of the resource. The essence of management is to control the allocation of the resource. But, how can you allocate, unless you know the composition of the resource - not just of game fish, but also non-game species which serve not only in some cases as bait fish, but also as sentinels of water quality, as well as providing a dynamic record of historical and current events shaping the biodiversity of the fish fauna?

The earliest comprehensive attempts at providing local fish distribution records are those of Dr. A. E. Allin and R. A. Ryder. Dr. Allin was a hobbyist, who made collections of records of fishes in the Thunder Bay area from the 1940s to the 1960s that are now housed at the Royal Ontario Museum. Mr. Ryder was employed by the Ministry of Natural Resources. In the course of his field work, he also took the time to make fish collections and kept records. The records made by both of these men were made

available to Dr. Walter Momot at Lakehead University.

Upon taking a position (1975) in the Biology Department at Lakehead University, Dr. Momot taught a course in Ichthyology, which included field trips for the purpose of collecting, identifying and recording fishes of the Thunder Bay area. The initial field work, from 1975-1980, allowed for the ongoing collection and maintenance of identified and catalogued fish specimens; these specimens were kept on a shelf in the biology lab. In 1981, he was able to employ Mrs. Connie Hartviksen as his research assistant. Together, from 1981 – 1992, they continued to expand and improve the collection.

In addition, a grant to study water quality in the Kaministiquia (Kam) River (1987) allowed them, together with graduate and undergraduate student volunteers, to intensively sample this stream and its tributaries from Kakabeka Falls to its mouth. Together, with the work of Dr. Allin and Mr. Ryder, enough fish distribution information was now available

to compile it into a publication, *Fishes of the Thunder Bay Area of Ontario* (1989), which was sponsored by the Thunder Bay Salmon Association.

Mrs. Hartviksen officially left the position in 1991, but fortunately, in 1989, Mr. Sam Stephenson became Dr. Momot's graduate student. His Master's thesis was centred on the distribution of fishes on the Sibley Peninsula, sponsored by a scholarship and a grant from the Lakehead University Centre for Northern Studies and added funding by the Senate Research Committee. Mr. Stephenson was an enthusiastic Ichthyologist, and together with Mrs. Hartviksen, as an unpaid volunteer, and Dr. Momot made many additional collections in many places not previously sampled. Mr. Stephenson published his Sibley work in 1994. By 1996, we had information from 3000+ separate collections from 640 lakes and 120 streams covering an area larger than the Province of New Brunswick. In 1996, Ontario Hydro provided funding to us to publish an *Atlas of the*

Fish Distribution within the Canadian Tributaries of Western Lake Superior. This publication summarized 21 years' worth of effort, employing various undergraduate and graduate students and technicians. We also received much assistance and encouragement to continue our work from the late Dr. Ed Crossman, Erling Holm and Nick Mandrak at the Royal Ontario Museum.

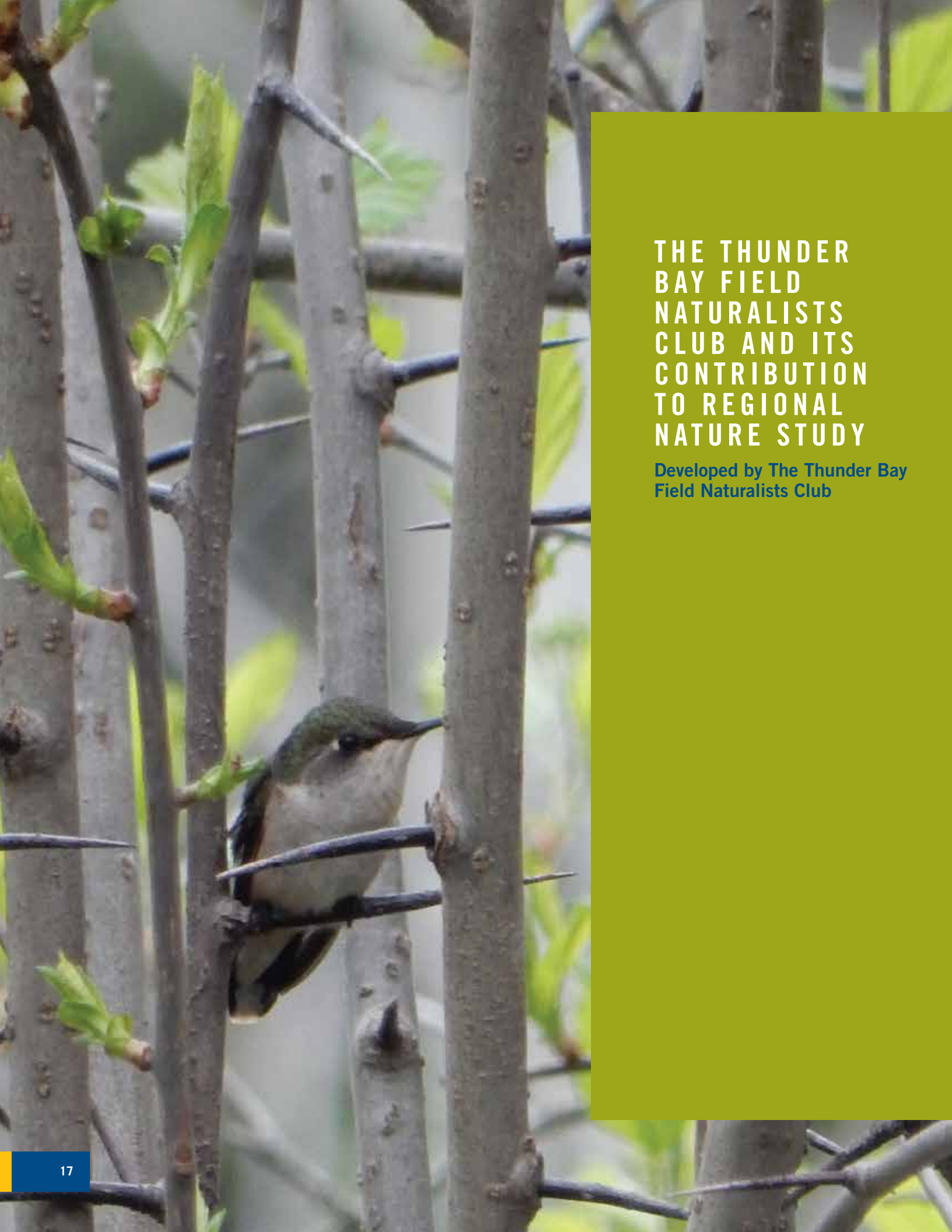
After Mr. Stephenson graduated, we were fortunate to employ Mrs. Carolyn Price, to assist for the next 23 years with the maintenance of the fish collection, as a lab assistant, and with many more field trips. After his official retirement in 2003, Dr. Momot and Mrs. Price continued to teach the course in Ichthyology and made many additional class field trips, until 2014. After 50 years, it was time to retire. Besides encouraging and educating undergraduate Biology students in natural history studies, we added one new, previously unknown species, the Tubenose Goby, to our knowledge base.

Fish distribution is a dynamic process. Over time, some species are lost, while others are added to the checklist. The central activity of a University is education through scholarly activity! In our case, it was the natural history of one group of vertebrates – the study of the behaviour of living organisms in their natural environment. It is much bigger in scope than ecology, because not only an analysis is made of problems, but a synthesis of ideas about

the problems must be worked out through patience and experience. Living organisms and their environments are inseparable. The life activities of an individual fish consists of adjustments to its physical, chemical and biological environment. When adjusted to a situation in a portion of space at a particular time it is acting in its habitat. What are the various methods and devices a fish uses to meet the demands of their existence? The naturalist must not only use the findings of other branches of biology, but also the findings of the other sciences, to augment his or her own knowledge and activities. The student of any subject must not blindly accept everything they see and hear as dogma, but instead should be inspired to prove or disprove theories, by using what has been empirically revealed to them. Failing to do both of these things produces a superficiality in their work.

The University that substitutes and emphasises rote dogmatic learning, by developing narrow, technical teaching methods, multiple choice exams, and cut rate consulting contracts, in place of curiosity-driven scholarships, herbariums, museums and libraries, thus supressing innovative and imaginative learning experiences of its students is unworthy of its name.



A small bird with a green back and white underparts is perched on a thorny branch. The bird is facing right, and its head is turned slightly towards the viewer. The branch is grey and has several sharp thorns. The background is a soft-focus green, suggesting foliage.

THE THUNDER BAY FIELD NATURALISTS CLUB AND ITS CONTRIBUTION TO REGIONAL NATURE STUDY

Developed by The Thunder Bay
Field Naturalists Club

The study of nature by amateur naturalists contributed, and continues to contribute to our understanding of our natural surroundings. What follows is a brief history of the Thunder Bay Field Naturalist Club (TBFN), whose members have added in significant ways to our appreciation of local nature. Many past club members have interacted with professionals, including staff at Lakehead University, and helped to make meaningful and valuable contributions to science. The following paragraphs review some of the history of the club and outline a path to ongoing involvement of club members with scientists at Lakehead University.

THE EARLY DAYS

The Thunder Bay Field Naturalists Club started in January, 1933 when a meeting was called by Lt.-Col. L. S. Dear and Capt. S. C. Young to determine the interest in forming a naturalist organization. Apparently this was something that had been lacking at the Lakehead, because the interest was immediate. As a result of this and other meetings that followed, the club became quite active, with an executive and over thirty members, who paid a small fee for membership. The first President was Lt.-Col. Dear, with C. E. King as Secretary. Young was made Honorary President. Shortly after the group joined the Federation of Ontario Naturalists (now Ontario Nature), and have remained a member ever since. Birdwatching and botany were the main focus of these early years, building up

reference collections of plants, eggs, and other specimens. The club survived the hungry thirties, but succumbed to the decimation of its membership during World War II. Claude Garton took over the leadership in 1937 with a membership of 50 persons. Dr. Albert Allin was President from 1943 to 1946. In 1946 Dr. Howard Quackenbush became President and the club again resumed operation and has grown steadily since. Allin again assumed leadership from 1951 to 1953. He was succeeded by Keith Denis in 1954. In January, 1947 a quarterly newsletter was established that has been published ever since and is available online under the Publications menu at the top of this page. All surviving copies of this and much other historical material are safely housed in the Lakehead University Archives.

RECENT HISTORY

As the ideas of conservation and ecology were advanced it became clear that financial assistance was required to conduct the activities considered necessary to advance these concerns. In 1972 the Thunder Bay Field Naturalists acquired "charitable donation" status which allowed the club to access improved funding. In 1978, the group incorporated as the "Thunder Bay Field Naturalists Club" under the Corporations Act of Ontario as a not-for-profit company in order to offer additional legal protection for members and activities. Under the leadership of many dedicated volunteers, birding

and botany continued to be strong interests of the club in the latter half of the century. In the early 1980s TBFN members were active participants in Ontario's first Breeding Bird Atlas. In 1989, TBFN, with support from the Ontario Ministry of Natural Resources, launched Project Peregrine, which helped reintroduce this species to Lake Superior's north shore. Woodland caribou and other mammals were not overlooked, with many club members contributing during the early 1990s to the Ontario Mammal Atlas, published in 1994.

INTO THE NEW MILLENIUM

In 1991, the Thunder Cape Bird Observatory was established as a joint project by TBFN, the Ontario Ministry of Natural Resources, and what is now Bird Studies Canada, working in partnership with Sleeping Giant Provincial Park and the Canadian Coast Guard. TCBO continues to band and provide records of migrating songbirds, raptors, owls, and other species to a global monitoring network.





The Thunder Bay Field Naturalists acquired their first Nature Reserve at the mouth of the Nipigon River in 1993 and now own fifteen pieces of property protecting more than 4,400 acres of ecologically significant property. This assemblage makes the Club one of the largest landowners among like organizations in Ontario. Thunder Bay Field Naturalists continue to engage in long-standing continental efforts such as the Audubon Christmas Bird Count and Baillie Birdathon, as well as provincial initiatives like the 2nd Breeding Bird Atlas and other citizen science initiatives. As always and equally important, we actively promote the study and appreciation of the natural environment and advocate for its wise use. With over 75 years of history, TBFN has become a well-recognized and respected voice for the natural world in the Lakehead region. Attracting new generations of naturalists to the club has been recognized as one of the essential future goals. Co-operation with local schools and Lakehead University may be one path through which this may be achieved.

REFERENCE

www.tbfn.net

BRANDING OURSELVES CULTURALLY FOR NATURE STUDY

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How does a university present itself to the communities it serves? In today's world of competition for scarce economic resources, universities "brand" themselves quite consciously. A brief look at the current (2014-present) Lakehead University brand, and the original Coat-of-Arms (1959), reveals much about the possibilities and challenges for a thriving curriculum of nature study in the Lakehead.

On June 20, 1959, what was then the Lakehead College of Arts, Science, and Technology



Lakehead University Coat-of-Arms

was granted the Coat-of-Arms of the University by the Earl Marshall, the Duke of Norfolk. The Lakehead University Coat-of-Arms is the official symbol of the University. The fire and candles are symbols of enlightenment. The books symbolize wisdom and knowledge. The helmet is a symbol for bravery, and the canoe, pine tree, and water are indicative of our northern environment. (Lakehead University Brand Guide Book, sec. 2, 2014)

The motto inscribed beneath the shield reads "*Ad Augusta per Angusta*," which roughly



Lakehead University Shield (logo)

translates: "through difficulties, to honours," or, "achievement through effort," or, "only by going through difficulties may we reach the highest things." Interestingly, this is the password used by conspirators in the opera, *Ernani* by Verdi, which he derived from the drama by Victor Hugo. Steeped in Western tradition, it is a very cultured motto rich in imagery of nature. It was suggested by Carlo Fonda, who in 1959 was a Professor of English at Lakehead.

The current (2014) Lakehead University Corporate Identity, or brand, is a shield derived from the original Coat-of-Arms. Central to the shield design are the waves, book, and sun as symbols of the natural environment, knowledge, and enlightenment.

The simplification of design is in keeping with corporate branding trends, yet the Lakehead shield retains a strong representation of the natural world. What are we to make of this representation today? What great work might it inspire us toward? The sun rising out of the water is an archetypal image

signifying the optimism of new beginnings, just as it is a reminder that all book learning, and all of culture, are rooted in and depend upon natural systems. Several design elements from the original Coat-of-Arms, however, have been lost in the corporate branding. Revisiting these reveals some key issues surrounding nature study in today's university climate.

The original Coat-of-Arms includes a crest composed of “a canoe paddled by an Indian [sic] and a fur trader to represent the important role of Fort William and the fur trade, a rock outcrop with a quartz vein to represent the mining industry, and a spruce tree to represent the forest industries” (Braun and Tamblyn, 1987, p. 42). The original 1959 Coat-of-Arms is thus rich with symbolism about the relationship between people and nature. It explicitly acknowledges the relationship between Aboriginal and European culture at the time of contact, it celebrates the canoe as a heritage symbol across cultures, and it recognizes the value of Canada's material wealth in the story of nationhood.

From a contemporary educational perspective, the imagery of the Coat-of-Arms raises questions of perspectives toward nature and culture that continue to be contested, and that thus require careful scrutiny and reflection. What, for example, is the proper relationship between contemporary First Nations, Métis, and Inuit people and the relative newcomers to the land we call Canada? How should these relationships be characterized and addressed today within higher education? What is the proper balance between teaching natural resource development and learning to value natural places, other species,

ecosystems, and climate systems for other purposes? What is the best strategy for teaching the relationship between cultural systems and natural systems? Given the history of colonization in North America, does the university have an obligation to decolonize its curriculum, including courses in the natural sciences? How do we as a university community support widespread learning about how to live well in our places—whether we are leaving or staying? What purposes and perspectives (e.g., scientific, aesthetic, spiritual, recreational) underlie our conceptions of nature study, and what is the trajectory of our ecological ethics? And finally, is the tree on the crest of Lakehead University's Coat-of-Arms a pine or a spruce?

Curiously, the 2014 text of the Brand Book Guide calls it a pine. This is likely the result of a misperception, common among many “educated” people, that sees all conifers as “pines.” It is clear from the profile of the tree on the Coat-of-Arms that it resembles a spruce; indeed, Braun and Tamblyn (1987), who undoubtedly knew the difference, call it a spruce—the dominant tree of the boreal forest. Does the difference matter?

The people involved in producing this small booklet, along with many others across the university community, believe that it does. A spruce is not a pine, the field of environmental studies includes many competing narratives, methodologies, and mythologies, and what is one person's natural resource or taxonomical wonder is another person's sacred ground.

If we are to value other-than-human nature, then we need a culture that knows how to recognize it and how to care for it

in all its ideological complexity. Unless an intellectually robust and a culturally diverse approach to nature study is explicitly articulated by the university community, nature study will be eroded in the face of economic pressure and the reductionist educational program that such pressure fosters. Those of us who wish to protect and revitalize nature study—in a culture that increasingly diminishes its land and knowledge base—are (as in Verdi's *Ernani*) a brand of conspirators conspiring to keep nature study alive.

Lakehead's motto provides encouragement. *Ad Augusta per Angusta*: Only by going through difficulties may we reach the highest things.

REFERENCES

1. Harold S. Braun with William G. Tamblyn, A Northern Vision: *the Development of Lakehead University*. Thunder Bay: Lakehead University, President's Office, 1987.
2. Lakehead University, *Lakehead University Brand Guide Book*. Thunder Bay: Lakehead University, 2014.



An aerial photograph of the Lakehead University campus, featuring a large, curved building complex, a central pond, and surrounding greenery. The entire image is overlaid with a semi-transparent blue filter. A white rectangular box is centered on the page, containing the section title.

CONCLUDING REMARKS

Lakehead University continues to play an important role in the introduction of new ideas and understanding the natural world, based on scientific discovery. This is an essential hallmark in the evolution of Western civilization. Clearly, in the future this approach will be tempered by the recognition of the importance of inclusion of indigenous and “global” perspectives on human relationship with nature. Past mis-steps of the purely reductionist approach of science have fostered negative societal attitudes toward science and scientists. These seem to persist and perhaps are on the rise. The recognition and acceptance of rational science, albeit an imperfect human construct, is a necessary and fundamental component of human evolution. Continued advances in scientific discovery must be linked to advances in social science, in particular to finding new paths to equitable sharing of global wealth and resource use without damaging the environment. Set against the continuing global population increase, this may seem an insurmountable challenge left for the future generations!



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