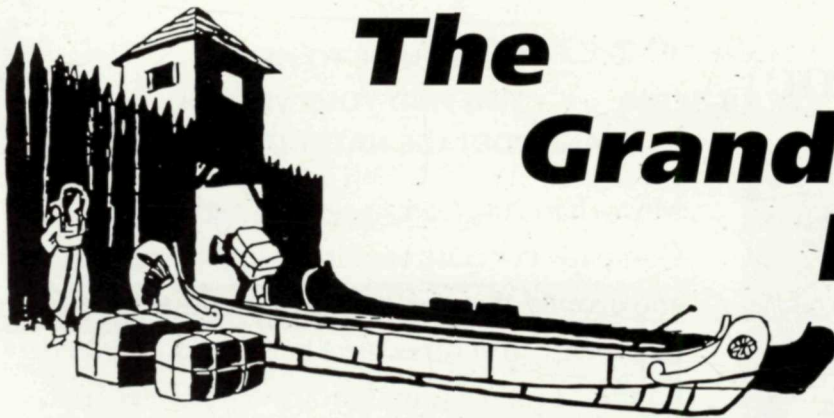




The Grand Portage Guide

Without Voices, They Will Speak: What Museum Collections Can Teach Us

Steve Veit – Museum Technician

As the proud parent of a book-loving toddler, I've come to appreciate the value of a good story. I hope you'll indulge me for a few minutes as I share a treasured tale with you now. I'd like to begin our journey with a question: What do a 2,300-year-old stone projectile point, a 230-year-old steel knife blade made in Sheffield, England, a voyageur contract from the year 1800, a Cracker Jack token from 1933, a Civilian Conservation Corps-era woven cedar mat, and the 36-foot-long Montreal canoe on exhibit in the warehouse all have in common? If you said, "They're all pieces from Grand Portage National Monument's museum collection," give yourself a



Jasper Taconite projectile point (GRPO 20897) shiny Gold Star. These six objects are part of a collection consisting of over 93,000 artifacts, or as I like to refer to them, "tangible links to the past" that help us better understand the history of Grand Portage and the people who were here as we tell their stories.

The museum collections of the National Park Service belong to the American people, and we have the pleasure (and responsibility) of managing them as custodians for you. To do this successfully, we are guided by a *Scope of Collections Statement*, which outlines the legal mandates and park's mission to guide our policies of what we collect and why, and what we don't collect and why. In addition, the park's

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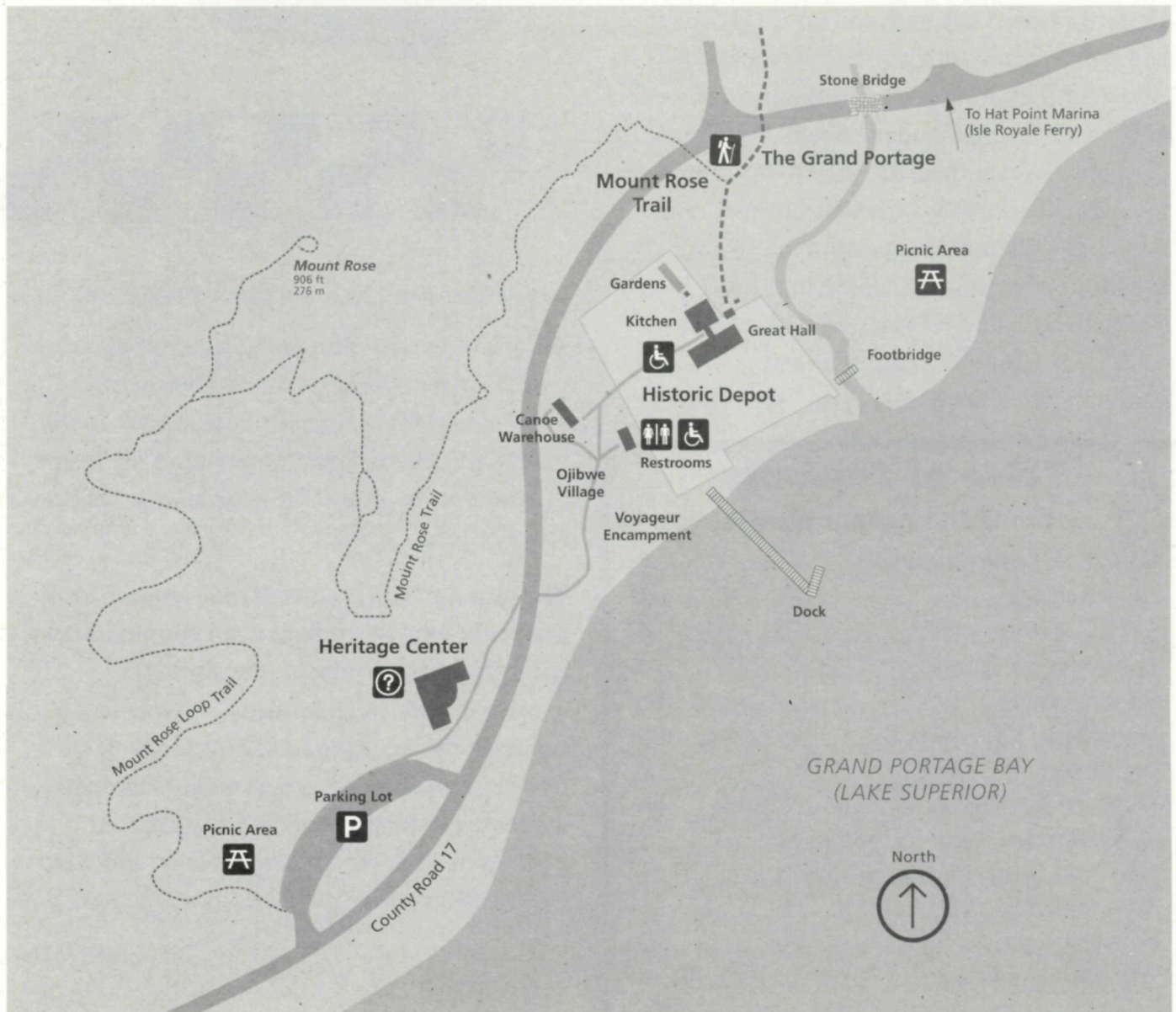
Biindigen - Welcome!

Welcome to Grand Portage. We are pleased you are here and exploring "Portage" with us. There is much to see and do. Please join our interpreters and participate in the past. Please ask us about the fur trade and its ingenious technology, or its novel customs. Or come and learn about the intrinsic links between the fur traders and the nearby residents, the Grand Portage Ojibwe.

-The Staff of Grand Portage National Monument

A GUIDE TO HELP YOU FIND YOUR WAY AT GRAND PORTAGE NATIONAL MONUMENT

More than 200 years ago, the North West Company concentrated its business activities in and around the stockade. Four of the most important structures have been reconstructed on their original foundations: The Great Hall, kitchen, warehouse, and gatehouse. National Park Service employees and Volunteers-In-Parks (VIPs) staff these buildings. You will find rangers and VIPs wearing dress appropriate to the period, or in the NPS uniform.



ACTIVITIES & RANGER-CONDUCTED PROGRAMS

LIVING HISTORY DEMONSTRATIONS

Come to the Voyageur Encampment and Ojibwe Village, where you will see demonstrations of Ojibwe and voyageur life in the late 1700s. While there, see our American Indian Three Sisters garden, and view a North West Company trade gun.

Visit the Great Hall, historically furnished circa 1790s. Also in the Great Hall, there is a Try-It-On historic clothing exhibit where *you* can fit into history!

Follow your nose to the kitchen, where you can see period cooking and baking demonstrations from mid-June through early September. Don't miss our historic heirloom garden and outdoor bake oven located just behind the kitchen.



Three Sisters Garden scarecrow "Matilda" receives new clothes.



RANGER-CONDUCTED INTERPRETIVE PROGRAMS

History comes alive when you take part in an interpretive program here at Grand Portage. Park rangers will transport you back in time, where you can become part of the story that unfolds before you!

These programs range in length from 20 minutes to 60 minutes. Be sure and check the "Program" sign in the Heritage Center or ask information desk staff for program topics, locations, and starting times. Please note: Our program schedule is subject to change without notice due to staffing or weather conditions.

VIDEO PRESENTATIONS

Video programs are offered regularly in the Heritage Center classroom. There are several to choose from. *Schedule subject to change.*

"Rendezvous With History: A Grand Portage Story" – Running time is 23 minutes. - *Shown on the hour.*

Short Subjects: "Our Home: The Grand Portage Ojibwe," "The Men of the North West Company," "The Gift of the Birch Bark Canoe," "A Gap in the Hills: Geography of Grand Portage" - Running time 24 minutes - *Shown on the half hour.*

SELF-GUIDED ACTIVITIES

HIKING TRAILS

The Grand Portage: The 8.5-mile *Grand Portage* is open for hiking. Two campsites are available for camping at Fort Charlotte. A free permit is required, and can be obtained at the Heritage Center or online at: www.nps.gov/grpo/planyourvisit/permitsandreservations.htm. For more information about camping at Fort Charlotte please see page 12.

Mt. Rose Trail: The Mt. Rose trail, located across from the historic depot, is a paved ½-mile-long nature trail which climbs 300 feet for a spectacular vista of the depot and Lake Superior. Approximate hiking time is 1 hour. A self-guiding trail brochure is available at the trail head. The new Mount Rose Loop Trail (see map page 2) begins at the west end of the parking lot in the picnic area.

BROCHURES AVAILABLE

We offer several brochures for your use and enjoyment:

- NPS Grand Portage Official Map and Guide
- Ojibwe Lifeways
- Historic Gardens
- Bird & Wildlife Checklists
- Grand Portage Rocks

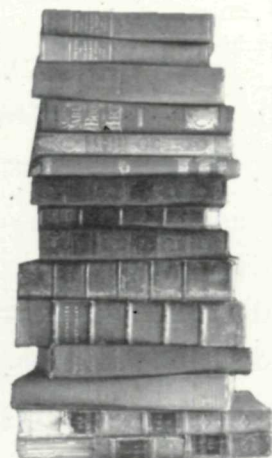
JUNIOR RANGER PROGRAM

Become a Grand Portage Junior Ranger! This program, for kids ages 7 to 13, is free. Activity guides can be picked up at the Heritage Center and Great Hall. You should allow at least 1½ hours to complete this activity. When finished, kids are awarded a Junior Ranger patch. This is a family activity and we encourage parents to get involved and enjoy the program with their kids! Children under the age of 7, or those with special needs, will require the assistance of an adult.

BOOKS WORTH BROWSING

To help alleviate the isolation of winter posts, the North West Company provided reading materials. Daniel Harmon, a North West Company clerk wrote,

"Most of our leisure moments (and which is nearly nine tenths of our time) will be spent reading, and conversing on what we have read."



The following titles may be found in *your* local library:

- "Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teaching of Plants" by Robin Kimmerer, 2015. Milkweed Editions, Minneapolis, MN, 408 pg.
- "Once They Were Hats: In Search of the Mighty Beaver" by Frances Backhouse, 2015. ECW Press, Toronto, ON, 256 pg.
- "A Bag Worth A Pony: The Art of the Ojibwe Bandolier Bag" by Marcia Anderson, 2017. Minnesota Historical Society Press, St. Paul, MN, 272 pg.
- "Original Local: Indigenous Foods, Stories, and Recipes from the Upper Midwest" by Heid Erdrich, 2013. The Minnesota Historical Society Press, St. Paul, MN, 264 pg.
- "Holding Our World Together: Ojibwe Women and the Survival of Community" by Brenda Child, 2013. Penguin Books, New York, NY, 240 pg.
- "North Shore: A Natural History of Minnesota's Superior Coast" by Chel Anderson & Adelheid Fischer, 2015. University of Minnesota Press, Minneapolis, MN, 632 pg.
- "The Writings of David Thompson, Volume II" edited by William E. Moreau, 2015. McGill-Queen's University Press, Montreal, Quebec, 310 pg.
- "Songs Upon the Rivers: The Buried History of the French-Speaking Canadiens and Métis from the Great Lakes and the Mississippi Across to the Pacific" by M. Bouchard, R. Foxcurran, S. Malette 2016. Baraka Books, Montreal, QC, 448 pg.
- "The Fur Trade Gamble: NWCo on the Pacific Slope" by Lloyd Keith, John Jackson 2016. University of Nebraska Press, Lincoln, NE, 300 pg.
- "The Beginner's Guide to Growing Heirloom Vegetables: The 100 Easiest-to-Grow, Tastiest Vegetables for your Garden" by Marie Lannotti, 2012. Timber Press, Portland, OR, 252 pg.
- "Modern Spirit: The Art of George Morrison" by W. Jackson Rushing III & Kristen Makholm, 2013. University of Oklahoma Press, Norman, OK, 182 pg.

These books are also available at the Eastern National store in the Grand Portage National Monument Heritage Center.

The Grand Rendezvous

Karl Koster – Park Ranger

The hustle and bustle of summer activity peaked with the North West Company Rendezvous held here at Grand Portage. This was the time when furs from wintering posts, which reached into Canada, were delivered down the historic *Grand Portage*. The annual Rendezvous is still celebrated here during the second full weekend of August. The event is held in conjunction with the Rendezvous Days and Powwow, sponsored by the Grand Portage Band of

Lake Superior Chippewa. The annual gathering is our biggest and grandest celebration of the year, a time when Grand Portage comes alive and reflects on its rich heritage. Re-enactors from across the country and Canada gather to camp and challenge each other. This is one event you do not want to miss! Music, dancing, craft demonstrations, and hands-on workshops ensure an exciting weekend at the national monument.



Hats Off to Hat Makers

Karl Koster – Park Ranger

The North West Company shipped fur pelts originating from over 100 of its trading posts in the Northwest directly through Grand Portage. In the 1700s and early 1800s fur pelts were used in fashionable clothing, felt hats, soft pillows, toothbrushes, and more. The felt hat industry was the largest consumer of the coveted North American furs. Furs for the hat trade made up more than 65% of all English fur imports during this time. Beaver pelts accounted for over 60% of the total pelts traded in one season during the heyday of the North West Company (1785-1802). The use of beaver pelts for hats severely depleted the beaver population in Eu-

rope and Russia and eventually North America, as well.

Historically, hatters used a variety of furs in the hat making process; each had specific advantages and disadvantages. Beaver was considered "*par excellence*," meaning it was the best for creating the most durable and highest quality hats. Other furs commonly used in felt hat making were rabbit, hare, muskrat, and otter. Felt hats could even be made from the exotic fur of camels, cats, and monkeys! Additionally, sheep's wool was a common felting material for

(Continued on page 14)

legislative directive, or *enabling legislation*, states Grand Portage National Monument was created “for the purpose of preserving an area containing unique historical values.” Having spent the better part of two decades at this park, I can tell you what a blessing it is to have these two guidance documents somewhat broadly defined. While best known for our late 18th century fur trade interpretation, our mandate enables us to go beyond the yearly confines of the 1779-1802 North West Company use of Grand Portage as a fur trade depot. Our museum collection is one of

graciously donated by a Grand Portage resident to the monument in 2014. The collection as a whole reveals details about the region’s earliest inhabitants with their skilled craftsmanship and ability to adapt to their environment. Take some time to examine the 15 different raw material stone types on display and you can conclude that trade networks were operating in this region thousands of years before the fur trade ever came to Grand Portage.

We encourage you to spend some time in the exhibit and use your imagination for a moment by asking yourself what it must have been like for the region’s earliest inhabitants, using the tools you

see on display, to fish using hooks and spears and hunt using projectile points, and then subsequently process those food sources using knives, scrapers, and bifaces? As you ponder these questions, remember that you’re primarily examining finished tools in this exhibit, and one would have to manipulate stone or copper to form a

functional implement ahead of time as well. It certainly leads me to appreciate the comforts afforded by modern technology, but simultaneously, awakens an appreciation for the efforts and ingenuity of those who centuries ago walked the same ground that we now tread.

Elsewhere on exhibit, 32 of the Ojibwe baskets, bags, and other craft items you can see displayed in the Heritage Center gallery were acquired from a generous donation to the park in 2006. Virtually all of the ethnographic materials on exhibit were created as a means to generate income for the



Copper knife (GRPO 20013)

the ways we regularly share this complex story that spans a vast period of time here in Grand Portage.

Formerly available only during guided tours of the “dungeon” (museum storage area) I led each autumn, we are pleased to now invite all of the park’s visitors to experience our “Shield Archaic Technologies” exhibit on the 2nd floor of the Heritage Center. Featuring original tools crafted from copper and stone by people living in this area as far back as 7,000 years, the 188 objects on display are just a selection from over 1,900 pieces



Birch bark basket with scratched geometric design (GRPO 1158)

maker during difficult economic times in the 1930s-1960s. I've always admired the many pieces of what I refer to as "Ojibwe art objects" in the museum collection because artistry seems so intertwined with functionality. All of these bags, baskets, hooked rugs, beaded moccasins and belts, cedar mats, and other handcrafted items have their own story, detailing where they were made and by whom, and what sort of meaning, if any, the manufacturing technique or design, shape, pattern, or colors that particular object may possess. Some of these details we are fortunate enough to know, while others remain shrouded in mystery. For example, a beautifully-crafted birch bark winnowing basket with a geometric scratch design made in Grand Portage in 1937 appears well used as it likely held countless pounds of wild rice each autumn during processing, but research into the Works Progress Administration number marked on the bottom has yet to yield any records tying this basket to a particular maker.

In most cases however, we are fortunate enough to possess documentation that helps answer some of our questions, and this can lead us into exciting new discoveries along the way.

Archeologists as well as museum curators refer to this documentation as *provenience*, and if this source of information is robust and detailed, it is equally if not even more important than the physical object itself. In archeology for example, without stratigraphic information about where a particular object was found in its proper context in relation to a site and/or other objects, we simply have an object with no true meaning, as there is nothing to link its identity to a specific time and place. In the museum world, this translates into something like a chain of custody, where each step of a transfer can be documented so we can trace who made it, who later possessed the item, and the circumstances in which it became part of the monument's collection. One of my favorite examples to illustrate this concept

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Front of Cracker Jack medallion Text top: 2ND President, U.S.A.
L.1797-R.1801 Text bottom: John Adams (GRPO 17623)

involves the aforementioned Cracker Jack token recovered from an excavation along the Grand Portage trail in 2006. As we unearthed this shiny metal piece there was great excitement in the field about finding this “coin” with an image of John Adams on it...until we turned it over to find the embossed words encouraging us to “Join the Cracker Jack Mystery Club, Save this Medal!” We had a good laugh about it that afternoon, and only realized later that we had uncovered a truly unique piece of Grand Portage history. With some further research, we learned that these medallions were only manufactured for one year – 1933 – the same year the Civilian Conservation Corps-Indian Division worked on clearing the Grand Portage trail of debris and brush to restore the footpath. We surmise that someone working on this trail clearing project must have been enjoying a snack and inadvertently dropped the medal that we would find over 70 years later. This piece ties in nicely with more recent history as it remains an artifact testifying to the efforts of

those involved in bringing attention to Grand Portage as a place worthy of being protected for the enjoyment and use of future generations.

At a park that owes so much of its interpretive knowledge to the archeological record, the museum collection is frequently examined to further understand how a particular object may have been used or for what purpose. Take for



Back of Cracker Jack medallion Text top: "SON OF LIBERTY" Text bottom: "COLOSSUS OF INDEPENDENCE" (GRPO 17623)

example gunflints, thousands of which were transported to Grand Portage annually during the fur trade. We possess over 140 in our collection, and through analysis, these can tell us much. By shape and color we can usually identify the country of origin – and now you can too since I'll tell you that British flints are typically dark gray to black in color and are longer than they are wide, and French flints are amber or honey-colored and are wider than they are long. We are also able to determine whether or not a stone has been heated to try and enhance its flaking properties for resharpening. Based on examining use wear or abraded edges, we can often detect how the

(Continued on page 13)

Archaeology at Your Park: Recent Excavations and What We Learned

Dani Kiesow – Archeology Technician



Staff and volunteers excavating for the bathroom relocation, 2017.

When conducting archeological excavations within the park, the most common questions we encounter on-site from visitors include: “What are you doing and why?”, “What are you looking for?” and “What are you finding?” The answers to these questions can be relatively simple or much more elaborate depending upon the situation. Sometimes, like this past summer, we’re not searching for anything in particular, but looking for anything and everything as we carry out compliance work in accordance with the requirements of the National Historic Preservation Act. In 2017 we excavated 15 different square meter units taken from a random sample grid map as we investigated areas nearby the reconstructed Canoe Warehouse and the Voyageur Encampment to try and detect any archeological sites that may be impacted or significantly disturbed as a result of the upcoming construction project relocating our public restrooms. We found a few ubiquitous pipe stems and glass beads, along with an 18th century shoe buckle fragment, but these items were out of context as a result of being deposited

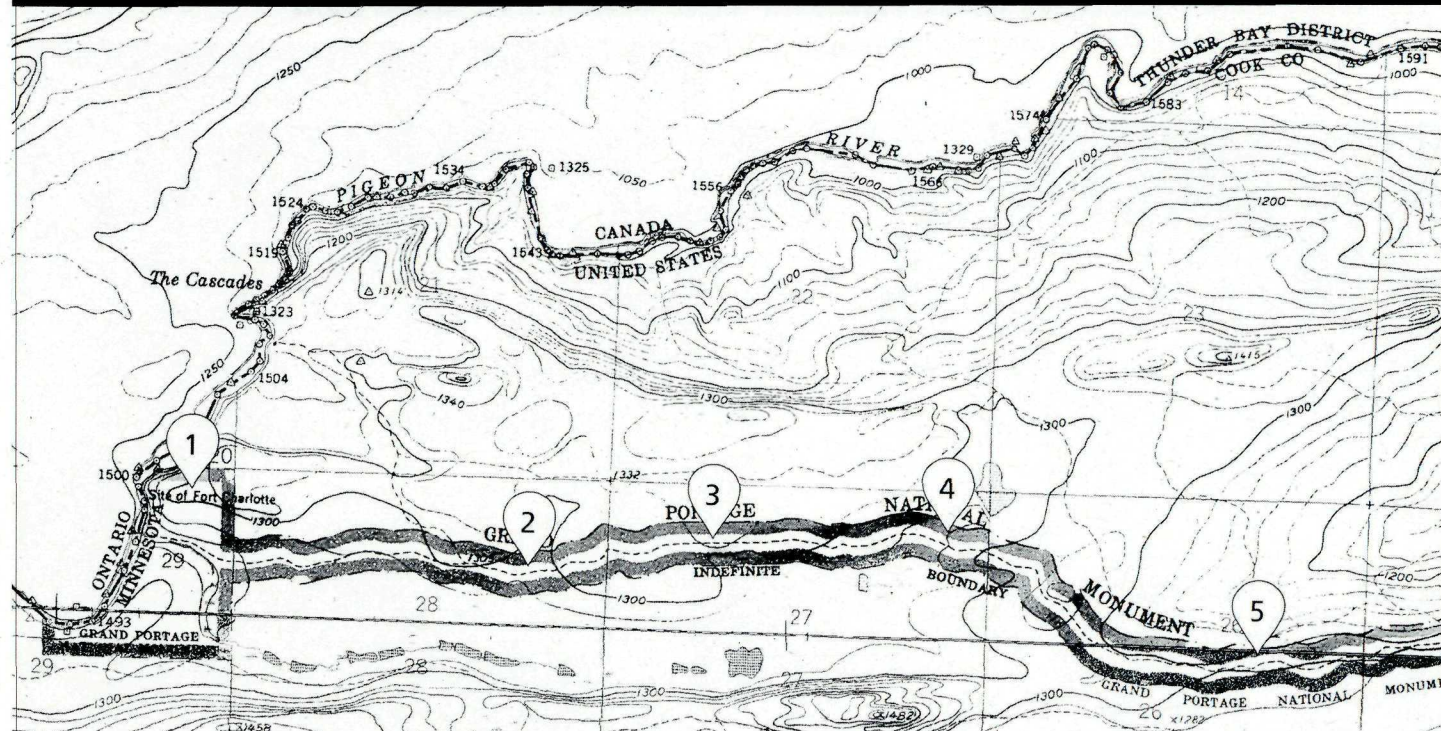
during a previous excavation in 1964 that examined the palisade wall trenches.

Like all projects on federal property or those with federal funding, we have to ensure that significant archeological sites, those older than 50 years, will not be damaged or disturbed. Put simply, we are required to do archeology by law in this case. This guarantees that any historical property significant at the local, regional, or national level is preserved for future generations to learn from and experience. Without the safeguards established by legislation like the National Historic Preservation Act or Archeological Resources Protection Act, many of our histories, heritages, and cultural landscapes might become compromised or even lost forever, and that is one of the primary reasons why we do archeology.

We also conduct excavations when we want to learn more about a known site. In 2016, we excavated around the yard of a Bureau of Indian Affairs building near the picnic grounds to the east of the

(Continued on page 12)

Kitchi Onigamiing



Points of Interest on the Grand Portage

Take a walk on the ancient portage, a trail where more moccasins have travelled than hiking boots! *Kitchi onigamiing* (Ojibwe for great carrying place), has seen foot traffic for more than 2,000 years. Today, the Grand Portage is a quiet backcountry trail preserved and maintained by the National Park Service and the Grand Portage Band of Lake Superior Chippewa. How could a trail be in existence for so long? Do you have a trail you always return to? Why?

Note: Points of interest are not exact, please stay on the trail.

(1) Fort Charlotte: 1240 ft. (378 m); 8.5 miles (13.68 km) from Lake Superior. When voyageurs reached Fort Charlotte, they left the supplies they carried, and picked up furs to take back to Lake Superior!

(2) Approximately one mile (1.6 km) from Fort Charlotte find an area where long ago a rill carved a ravine. Today it is called Whistler's ravine (the 15th *posé*) and a great birding spot!

(3) 1340 ft. (408.4 m) Highest elevation on the portage, 7.0 miles (11.27 km) from Lake Superior.

(4) During the 18th century fur trade, this was a grassy wetland. Today it is known as the Meadow. Many walked in knee-deep mud, with moccasins stuck like Saran wrap to their feet. Beavers have since dammed the water and made this meadow.

(5) Old-growth white cedar trees persist despite fire, drought, and logging along this

section of trail. Known simply as the Cedars, the oldest of this group of trees were saplings as North West Company men trudged the portage in 1797.

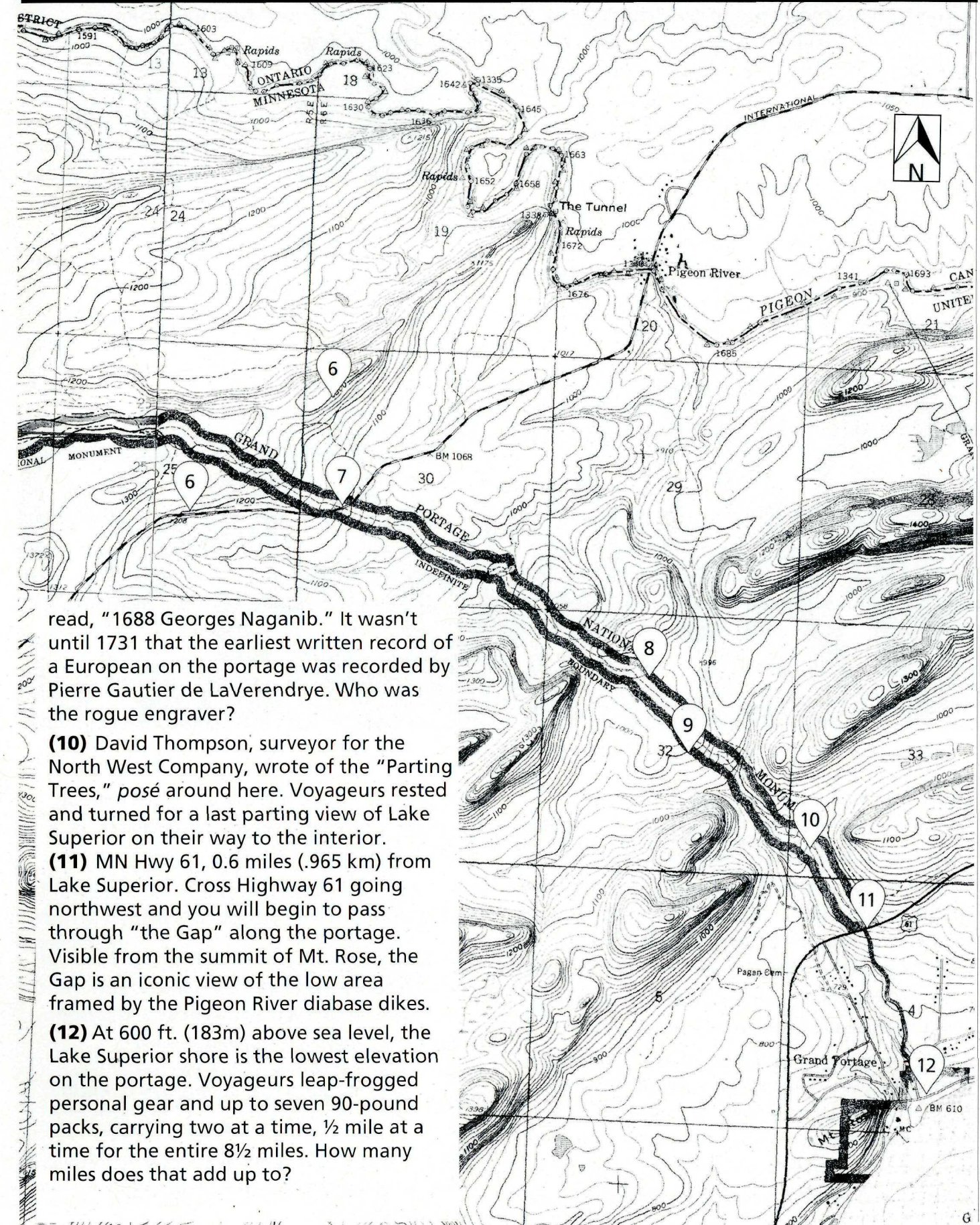
(6) Abita Ridge, 1345 ft. (410m) highest point visible from the trail. Abita is the Ojibwe word for half.

(7) County Road 17 is 3.7 miles (5.5 km) from Lake Superior and 4.8 miles from Fort Charlotte. The forest changes from deciduous aspen and birch closer to Lake Superior, to coniferous cedar, pine, and tamarack west of this point.

(8) The Notch: Voyageurs rested about every one-half mile, usually at the same area called a *posé*. Sixteen *posés* are spaced from the lake to the river. This locale is known as the Notch *posé*. Why did they stop here?

(9) In 1953, a large inscribed boulder was found along the portage corridor 1.5 miles (0.8 km) from Lake Superior. The chiseled inscription

The Great Carrying Place



read, "1688 Georges Naganib." It wasn't until 1731 that the earliest written record of a European on the portage was recorded by Pierre Gautier de LaVerendrye. Who was the rogue engraver?

(10) David Thompson, surveyor for the North West Company, wrote of the "Parting Trees," *posé* around here. Voyageurs rested and turned for a last parting view of Lake Superior on their way to the interior.

(11) MN Hwy 61, 0.6 miles (.965 km) from Lake Superior. Cross Highway 61 going northwest and you will begin to pass through "the Gap" along the portage. Visible from the summit of Mt. Rose, the Gap is an iconic view of the low area framed by the Pigeon River diabase dikes.

(12) At 600 ft. (183m) above sea level, the Lake Superior shore is the lowest elevation on the portage. Voyageurs leap-frogged personal gear and up to seven 90-pound packs, carrying two at a time, ½ mile at a time for the entire 8½ miles. How many miles does that add up to?

(Continued from page 9)

reconstructed depot as part of my Master's thesis. We learned this building existed from 1903 to 1940 and was used as a private residence for a Bureau of Indian Affairs farmer. However, our data suggests that the farmer did not actually farm. It appears the farmer was stationed on the Reservation to observe how government laws and policies were being followed. This study was really eye-opening, and is hopefully the start of more research at Early Reservation-era sites that we can use to increase our expanding interpretation of what life was like in Grand Portage after the fur trade era concluded.

before and after, the answers gleaned from archeology provide us with much of the "how we know" or "why we know" what we've come to understand transpired here.

If you see any of us in uniform excavating this year, please don't hesitate to ask us questions. We are always happy to take a break and talk about why we are digging, the artifacts we are finding, and what that means for the site as a whole. If you think you may have found an artifact when you are visiting us, please take a picture and leave the artifact where you found it, and inform a Park Ranger right away. Artifacts can tell us a lot about a site, but equally as important, the location where items are found – their



Civilian Conservation Corps– Indian Division (CCC-ID) Archeological Crew, 1936.

Other examples of conducting archeology on a known site here in Grand Portage are the excavations conducted before the reconstructed buildings were set back on the original foundations of the structures that once stood here in the late 18th century. Work in the 1930s through the 1970s yielded over 57,000 artifacts, and these objects recovered from systematic archeological excavations significantly enhance our ability to accurately interpret the people and events of the past at this location by accurately reproducing many of the materials you see on display and even helping us to determine behavioral patterns, or what would have been happening where. With limited primary documentation describing the specific activities of the fur trade in Grand Portage as well as

context – can tell us more; this is why it is critically important to leave artifacts where you find them. After all, those resources may teach us something new and provide fresh insights about this incredibly special place.

Archeological resources at Grand Portage National Monument are protected by the National Historic Preservation Act of 1966, as amended, Executive Order 11593, Archeological and Historic Preservation Act, Native American Graves Protection and Repatriation Act, and the Archeological Resources Protection Act. Any unpermitted, unauthorized collecting of artifacts within the monument boundary is in violation of one or more of these laws.

(Continued from page 8)



Gunflints: French (GRPO 6734) left, and British (GRPO 6495) right

flint was used, differentiating between the flint being struck against a frizzen on a musket or impacted by a firesteel to create sparks. Without these resources in our collection, we may not be able to answer some of the research questions that we face as we strive to learn more about the past.

As you walk the grounds of the historic site, take note of the reproductions that you see on display

– knives, axes, glass beads, ice chisels, clay pipes, firesteels, kettles, ceramic dinnerware, and even the paint on the doors and windowsills – they all have their archeological counterparts present in our museum collection to give you an accurate reflection of what was being used in Grand Portage centuries ago.

Thank you for taking the time to visit our park and I hope you've gained a deeper appreciation for our museum collection and why parks maintain collections. We delight in making our collections accessible to you through both static and online exhibits, as well as personalized tours when available. So in closing, I'd like to say if you happen to see some guy in a National Park Service uniform standing by the Heritage Center fireplace in a socially awkward manner advertising a program for a secret tour of the collections – by all means, please join me...I'm less nervous with a bigger crowd anyhow, and you won't regret the unforgettable moments of experiencing history come alive through the stories these objects can tell us.

Ojibwemodaa: Let's Speak Ojibwe!

Common Ojibwe phrases, look for them around Grand Portage, or use them during your visit!

Boozhoo: (Boo – Zhoo): Hello (slightly formal)

Aaniin: (Ah-Neen): Hi

Mii Gwech: (Me – Gway-ch): Thank you

Biindigen: (Been-dig- ain): Come inside

Awegonen?: (Away-gon-in): What is it?

Aaniindi?: (Ah-neen-dee): Where is it?

Ganawaabi: (Gah-nah-wah-bee) Look

Ikwe: (Ick- way): Woman

Inini: (in- in- ee): Man

Abinoojiinh: (Ah- Bin-ooh-jee): Child

Bajiishka'ogaan: (Bah-Jeesh-ka-oh-gahn): Conical Lodge

Wiigiwaam: (Wee-gih-wahm): Wigwam

Nisawa'ogaan: (Nih-sah-wah-oh-gahn): Peaked Lodge

Gigawaabamin Minawaa: (Gih-gah-wah-bah-min Meen-ah-wah): See you later

many centuries. Wool felt hats were considered lower in quality than true fur felt, as they didn't keep their shape, they broke down, and they could become "stinky." Today, hats are still made from many different types of furs, and wool, but beaver still reigns as the highest quality there is.

The furs underwent a long and intricate process to be made into functional and stylish hats that became coveted fashions of the day. In some cases, furs were initially treated with chemicals to aid the felting process. Then, to begin to turn the fur pelt into a hat, the guard hairs were removed, and then the inner fur, and finally, the leftover skin was set aside.

Next, the higher quality inner fur was usually mixed with other kinds of fur, or wool. However, hatters left nothing to waste. The outer guard hairs became stuffing for pillows and upholstery, and the hides became a major component in the manufacturing of glue.

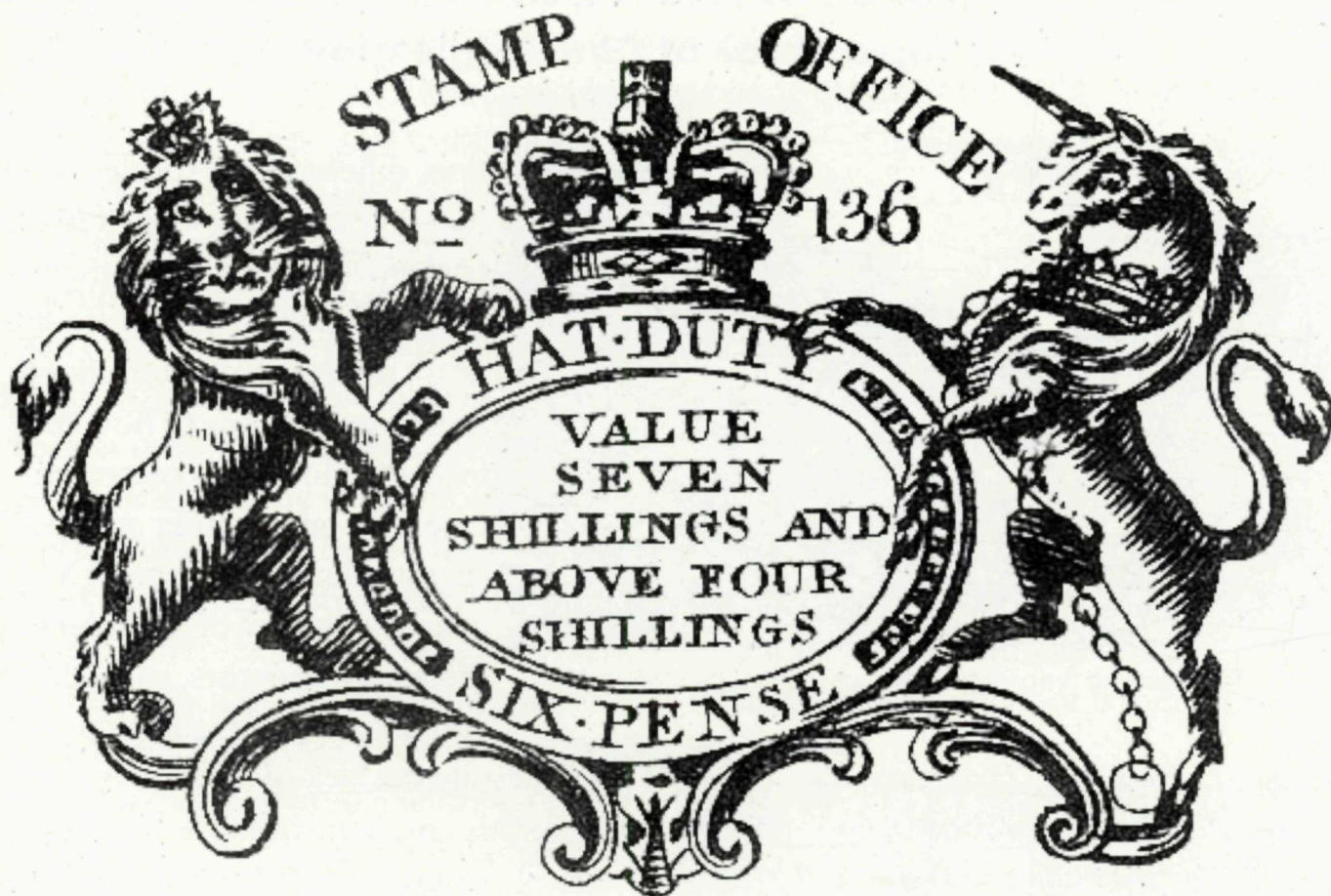
The hatter then chose the amount of fur he would need per hat by weighing it on a scale. The right amount of fur was then moved to a space in the shop referred to as a "bow garret." There, he used a hatter's bow (a tool resembling an oversized fiddler's bow) to "dance or excite" the fur to clean and separate it. The vibration of the string amongst the fur shook out debris/dust, and tossed the fur, now called "fluff," into alignment for felting. Once arranged by the bow, the "fluff" was lightly moistened and gently compressed into an over-sized hollow cone resembling a floppy hat that would cover head AND shoulders!

To tighten the fibers and shrink the over-sized

cone, it was rolled and compressed by the hatter at a battery (wooden planks surrounding a kettle of near boiling water), like a baker kneading dough. The "hatter's magic" or skill was in the sweat and toil of working the cone for hours above the boiling water until it was "just right." It was rolled and unrolled, dipped in the kettle and wrung out, over and over again. The kettle contained mostly water, but chemicals and other items which were believed to aid the process were also added. Sulfuric acid, bits of bone, scraps of leather, and even a few scoops of oatmeal are all known to have been used at some point. The process was done when the felted cone was of the correct size and thickness for a hat.

To shape the now shrunken cone into a hat, the hatter brushed, cut, compressed, and shaped the hat onto a myriad of wooden hat blocks. Each hat block was chosen precisely for size and fashionable style. After shaping, the hat was returned to a kettle for dyeing. Black was the most popular color for hats, and the dye was created with logwood chips imported from South America. A hat dyer might add oak galls (a "blister" on an oak tree caused by an insect), verdigris, or even urine to aid in darkening and holding the color. Attaining a lasting true black was difficult; for this reason dyers kept trade secrets and exclusive recipes for their colors.

Once dry, a stiffener was added to help the hat keep its shape. This process was also kept a trade secret amongst hatters. Stiffening ingredients included shellac, gum arabic, vinegar or beer dregs, egg whites, and diluted animal-based glues. Finishing included clipping errant hairs, *pouncing* or smoothing the felt with a brick of pumice, brushing the hat, sewing linings and attaching hat bands and other flourish-



British Hat Duty Stamp

es like brightly colored feathers.

Purchasing a hat from a hat shop between 1784 and 1811 came with a financial commitment to the British government. It may seem odd today, but all hats from the lowest quality wool to the extravagant beaver felt hat came with a tax stipulated by its retail cost. Hats were stamped with a duty stamp on the liner to show the government had received its share.

The popularity of felt hats led to over harvesting, and the North American beaver population began dwindling as early as the early 1800s. Diminished supply inflated beaver pelt costs, and talented hat-makers were forced to find new fur supplies to keep costs down. Hatters turned to other furs such as the coypu, or nutria, a South American mammal with similar fur quali-

ties for making fur felt hats. They also began to use manufactured silk plush which could be woven in mills. The silk was stitched over a body of stiffened muslin or cardboard. Once brushed with a fine steel comb, the broken silk fibers looked like real fur. As silk hats became popular, they often were known as "Paris hats."

Today, we welcome you to enjoy our new exhibit in the Great Hall, entitled *The Borradaile and Atkinson Hat Shop*. *Borradaile and Atkinson* was a company operating in London during the height of the fur trade. Records indicate they supplied the North West Company with felted hats. Enter the new exhibit and see the tools and raw materials of a 1799 London hat shop. See the felting process and the dreadful story of mercury and caustic acids used in this dangerous trade.

One Tree Does Not Make a Forest: The Importance of Communication

Sadie Libal – Resource Assistant



Figure 1: Tree seedling propagated and out-planted by Monument staff.

“Message. Attention. Transfer. Acceptance. Action. Communication is the basic thread that holds the survival of a system together.” Alex Shigo

To thrive in nature with ourselves and other species as a community, we must communicate. Humans employ many methods to do this. For example, we communicate verbally, visually, in writing and audibly. This communication allows us to work together and cooperate with other species, like our pets, as if they were a part of the family.

This level of sophistication makes us arguably the most successful species on the planet. Defining success can be difficult when applied to other species. Consider trees - many will argue they are successful in nature too. When left undisturbed they are often long lived and productive. In addition,

different tree species thrive together in almost every terrestrial environment on earth. Despite these observations we still don't understand much about their communities or how they interact. How trees communicate with one another and their surrounding environment has been the subject of considerable debate by scientists, naturalists and nature-lovers since the

1970s. Despite the lack of agreement on whether this communication is chemical, electrical, acoustic, or a variety of all three there is no denying that trees have the ability to create communities within their environment, not unlike ourselves.

A hike along the Grand Portage, up the Mount Rose trail, or nearly anywhere else offers us the opportunity to observe communities of trees in their environment. While our observations are typically confined to the trunk, branches and leaves, the real action is underfoot, out of sight and out of mind. Recently, researchers have begun to study what's happening underground to map nutrient flow and chemical signals of trees. This has revealed complex communications right under our feet. These underground connections between trees and their environment have begun to

“humanize” trees, making their communications, actions and communities more relatable. Biologist Suzanne Simard has even discovered that some large trees will lend nutrients to nearby shaded seedlings, acting like mothers to give their offspring or relatives the energy they need to grow tall and reach for the light they need to grow on their own. Interspecies cooperation among trees has been found as well. Often we see trees growing closely with one another. A good example of this can be seen along the Grand Portage trail, areas with both balsam fir and birch trees. Researchers have discovered through mapping underground nutrient flow that fir will lend necessary nutrients to birch in times of need and the birch reciprocate later in the growing season when their nutrient reserves are at a maximum. Though we cannot observe this nutrient flow with our eyes, we can observe these trees growing proximal to one another, not working to shade one another out and win the race to the sun, but instead boosting each other’s health in meager times. A diverse forest is a healthy forest; the trees knew this long before any scientist set foot on their terrain.

These communication ideas reach much further than our northern boreal forest where there are trees there are complex interactions between trees and their surrounding community. Think big: consider that a single honey fungus in the Blue Mountains of Oregon likely represents the largest terrestrial organism on earth - cover-

ing 3.7 square miles - and lives for thousands of years. The tree community existing above this honey fungus is dependent upon these beneficial fungi for survival and the tree’s death is necessary for the honey fungus to complete its life cycle. More interesting still, some honey fungus is responsible for foxfire, a bioluminescent glow. In response to cues in their environment, they actually glow in the dark and attract the insects that spread their spores. Consider, who is communicating with whom? Who is in charge if trees live and die by the fungus beneath them? Is it thought alone that provokes communication, or is there something else?



Figure 2: A bioluminescent fungus growing from a tree on Mt. Vernon in Wisconsin. (Public domain, Wiki 2018)

If you are interested in learning more about how trees communicate, check out the best-selling book *The Hidden Life of Trees* by Peter Wohlleben and explore more places like Grand Portage National Monument. We’re sure that if you do, you will be struck with as much awe and wonder in the presence of trees as we are.

AREA INFORMATION:

There are a few places nearby to purchase light meals, snacks, gas, and other necessities.

The food and lodging information provided here is for the convenience of our visitors, and is not an endorsement by the National Park Service.

SERVICES:

Grand Portage Trading Post & Casino/ groceries/supplies/post office/SPIRIT Gas & Diesel – Drive about 1/2 mile west (a right hand turn out of Heritage Center parking lot) onto Mile Creek Road. The Trading Post, Post Office and SPIRIT gas station are on the right between Mile Creek Road and Highway 61. Phone: 218-475-2282

Grand Portage Lodge & Casino /gift shop/ delicatessen/Island View Dining Room – Drive about 1/2 mile west on Mile Creek Road. The Grand Portage Lodge 100-room facility is on the left at the stop sign. Phone: 218-475-2401

Ryden's Border Store/Phillips 66 Gas – Located about 4 1/2 miles north of Grand Portage National Monument on Highway 61. At any junction to Highway 61 in Grand Portage, turn right (east) on Highway 61. Follow Highway 61 to Ryden's on your left. Phone: 218-475-2330

Voyageurs Marina – Located about 1 1/2 miles from the monument. Follow Mile Creek Road east over stone bridge. Follow County Road 17 to your left, up over the hill and past the church and school. Continue to follow County Road 17 1 1/2 miles, to the east side of the bay. The marina will be on your right. Under new management. Phone: 218-475-2476

CAMPGROUNDS:

Grand Portage Marina & Campground – Marina Rd. (adjacent to Grand Portage Lodge & Casino), Grand Portage, MN, 55605. Phone: 218-475-2476

Judge Magney State Park – 4051 E. Hwy. 61, Grand Marais, MN, 55604. Phone: 218-387-3039

Grand Marais RV Park & Campground – Highway 61, Grand Marais, MN, 55604. Phone: 218-387-1712

LOCAL STATE PARKS:

Grand Portage State Park – 9393 E. Hwy 61, five miles east of Grand Portage. Offers a scenic trail to the spectacular Pigeon Falls. The park has a visitor contact station and sales area. There are no camping facilities. Phone: 218-475-2360

Judge C.R. Magney State Park – 4051 E. Hwy. 61, 14 miles west of Grand Portage. Offers trout fishing and white-water kayaking on the Brule River. There are six miles of summer hiking trails and five miles of winter ski trails. A well-maintained trail winds along the river to the Upper and Lower Falls and the Devil's Kettle, a large pothole into which half of the river disappears. Phone: 218-387-3039

Cascade River State Park – 3481 W. Hwy. 61, 45 miles west of Grand Portage. Offers spectacular waterfalls along the Cascade River. There are also scenic overlooks of Lake Superior. There are 18 miles of trails through a birch and spruce forest. The park has a 40-site campground, picnic facilities, and plenty of lake and river fishing. Phone: 218-387-3053

Need Special Assistance?

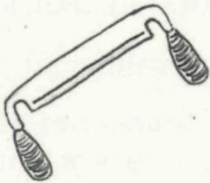
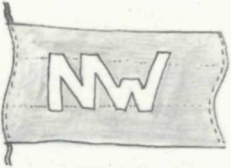
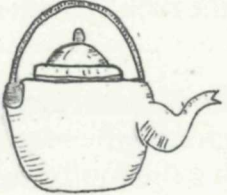
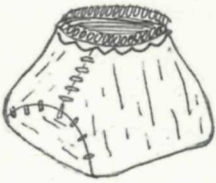
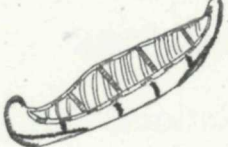
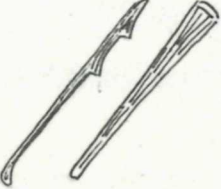
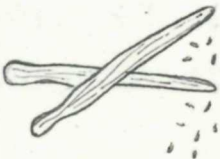
*For help or questions
concerning accessibility
at the park,
please contact
any park ranger, or
Chief of Interpretation,
Pam Neil.*

218-475-0123 Voice/TDD

GRPO_Information@nps.gov

KIDS' PAGE: FUR TRADE BINGO

Circle objects you see in the Heritage Center, Ojibwe Village, Voyageur's Encampment, Warehouse, Kitchen and Great Hall as you tour Grand Portage National Monument. Find five objects in a row vertically, horizontally or diagonally and you win!

B	I	N	G	O
				
				
				
				
				



A FEW TIPS TO HELP YOU ENJOY YOUR VISIT



- Wear sturdy footwear when walking on Monument trails. Please stay on the trails. Watch closely for roots and uneven ground to avoid tripping.
- Do not drink water from streams or lakes unless you first boil or treat it.
- Never hike alone. Always tell a friend/relative where you are going, and when you plan to return.
- When hiking in the backcountry during summer months, the use of insect repellent and/or a head net is strongly recommended.

REMINDERS AND HELPFUL INFORMATION

- Notify a park employee if you encounter any situation you feel is unsafe.
- All plants and animals within Monument boundaries are protected. Please help us protect them by not feeding or injuring animals or picking stones or plants.
- Pets and smoking are not permitted inside the stockade walls or inside buildings.
- Please keep bicycles out of the stockade and secured to the bike rack provided at the Heritage Center. Do not lock bicycles to sign posts or trees.
- A picnic area is located at the west end of the parking lot at the Mount Rose Loop trailhead stairs. Another is east of the palisade across Grand Portage Creek, and may be reached by walking the path between Grand Portage Bay and the palisade and crossing the footbridge.

VISITING ISLE ROYALE NATIONAL PARK

For information about ferry service to Isle Royale National Park please ask park staff.

For more information about Grand Portage National Monument, contact:

Superintendent, Grand Portage National Monument

P.O. Box 426, 170 Mile Creek Road, Grand Portage, Minnesota, 55605.

Voice/TDD: 218-475-0123

Visit our website at: <http://www.nps.gov/grpo/index.htm>,

or contact us by e-mail at: grpo_information@nps.gov

This document can be obtained in alternate formats.

Please contact the park's accessibility coordinator to make a request.