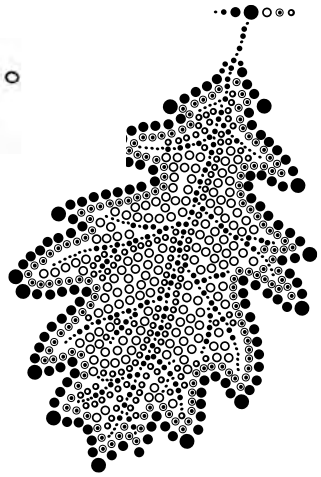

MITIGOMIZH
TEACHINGS

Sponsors

Mitigomizh Teachings

The Mitigomizh Teachings emblem was crafted with intention; it bears the essence of seven generations through stylized bead designs, weaving a tapestry that echoes the wisdom of our ancestors. At its heart lies the strength of the oak leaf, a symbol of growth, resilience, and interconnectedness. Just as circles abound in nature's patterns, from Indigenous art to biological rhythms, our logo beckons you to delve into the stories and lessons that bind us together. Join us as we honour the past, embrace the present, and shape the future through Mitigomizh Teachings.



This work was made possible by National Science Engineering Research Council [NSERC] PromoScience Funding PROSC/577339-22.

Acknowledgement & Gratitude

“Acknowledging the vast complexity of the many groups of Indigenous peoples living throughout the lands we know today as Canada requires extensive awareness of a rich history dating back over 12,000 years since the end of the last ice age, which itself lasted more than 60,000 years. There is evidence suggesting that many different Indigenous peoples, each with unique languages and lifestyles built, or perhaps rebuilt, their civilizations across the continents we know today as the Americas as soon as that ice melted, and even before.

As the climate warmed, over different time periods and in different regions of the Americas, so too did the environmental biodiversity and with that came the rise of ethnobotanical knowledge amongst those many different Indigenous peoples. Utilizing their ever-evolving ethnobotanical wisdom and through the trade of songs, stories, seeds and land design principles, these peoples’ expanded to every part of the continents that makes up present day North and South America, with the Northern part often referred to as ‘Turtle Island’.

Ethnobotanical knowledge is the study of how human populations and the plants in their environment interact.

Some of these civilizations predate European civilizations by thousands of years. Cahokia for example, a major pre-European civilization, dates back to between 800 -1600 B.C. Cahokia, with its centre of trade located near present-day St. Louis, Missouri, USA, was once home to what archaeologists call the Mississippian culture or empire. It was made up of at least 12 Algonquian language speaking groups and was once home to what archaeologists refer to as the Mississippian culture or empire. This civilization of hundreds of thousands people built tens of thousands of earthen mounds across the Appalachian mountain range and far beyond. They grew a wide range of different edible plants and traded extensively with their neighbours. Surrounding the city of Cahokia was a stockade of 20,000 Oak and Hickory logs one foot (30 cm) in diameter at their base and 20 feet (6 m) tall. The construction of this Stockade was a monumental undertaking considering that at the time there was no “modern” technology or even shovels to dig holes.

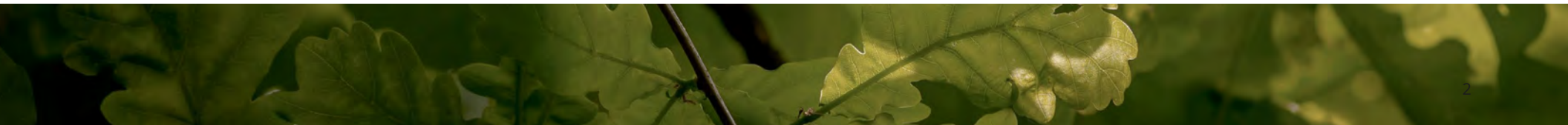
Remains of the stockade wall at Cahokia Mounds Historic Site.

At a minimum, settlers throughout today's Americas should have a basic awareness of the history and circumstances that have led to the current situation for the communities of Indigenous peoples where they are settled. However, to appreciate fully and recognize it appropriatey the history of Indigenous peoples; their complex associations to various communities both past and present; their historic and contemporary lands and treaties; and, perhaps, most importantly, their vast array of ethnobotanical wisdom, an extensive study and, ultimately, an extensive practice, is required. Indeed, this knowledge may be what is missing from our ability to take care of land and water today in sustainable ways.

It is important to remember, unlike other places in the Americas, that Canada is not a conquered country. Canada is a country made up of treaties with Indigenous peoples. From the time of European contact, long before these lands became known as Canada, treaties were agreed upon with and for the benefit of the Indigenous peoples and the settlers who negotiated them. All Canadians are considered treaty people because of their agreements with Indigenous Nations after and before the Royal Proclamation of 1763. These treaties were established in partnership with various communities of peoples some of whom continue to practice their complex cultures in their languages using their ethnobotanical wisdom, albeit, often in our modern context.

There remain Indigenous peoples who wish to take care of land, like their ancestors once did, for the benefit of future generations. I am one of them. By recognising the treaties that govern the lands where you are located and even a sliver of the ethnobotanical wisdom of the Indigenous civilizations that make up the places you call home, you are taking an essential step on the path towards reconciliation. Preserving intricate Indigenous knowledges that make up our society is up to us all. Ultimately, Science Rendezvous' tree resources are written from Indigenous peoples' points of view. These resources can assist us all in not only better understanding how Indigenous peoples viewed, but how we take care of land and trees and how we can collectively take actions that can benefit both present and future generations."

- Mkomose (Dr. Andrew Judge), Oshkaabewis



Words from Anishinaabe grandmother & Knowledge Keeper, Diane Maytwayashing

Knowing the Sacred and Beautiful

"Indigenous people have an innate relationship with everything that exists on Earth and in the Universe: the lands, waters, rocks, trees, plants, insects, moon, sun, and stars. We see ourselves as the Universe. We (Anishinaabe) are the people who know there is a Spirit in every living thing from a flower, to a leaf, to a ladybug, to a butterfly, to a buffalo, a bear, a eagle, a mountain, all water, our Mother the Earth, our Grandfather the Sun, our Grandmother the Moon, and our Ancestors the Stars. We are all relatives and we acknowledge the interconnections in our teachings, our stories, and our songs of the sacred and beautiful web of life in this vast Universe.

We (Indigenous peoples in Canada) have been largely misunderstood and even feared. We were judged, convicted, and mistreated in our own homelands. But now, at this significant time, we are experiencing a Spiritual evolution. Those who once persecuted us now come to us to learn. To learn from the people who were once thought of as less. The people with no God. But we are the people who have always seen holiness, godliness, and sacredness in everything from the smallest insect to the vast number of stars in the Universe. We are the people who have known heaven on our Mother Earth. We felt and lived the nurturing, blissfulness, gratitude, and love, just as living in heaven. We are the people who once had no judgment, no shame, no blame, and no jealousy. We are the people who lived as one with everything as our equal, as our relatives. We are the people who honoured the sacred creator and the life-giving woman. We have always known who we are.

The world of people has lost their Spiritual desire to know the beauty deeply rooted in our Indigenous essence. We are seeing that beauty and sacredness inside of us rise again. We are returning to that beauty within and acknowledging that sacred beauty is everywhere and in everything.

It is also important to mention that as an Anishinaabe person, the word "planet" does not resonate in my thinking—this word seems false. The reason is, the English word for planet does not seem to mean something that is alive, but our mother earth is alive! Mother earth is a woman. As an Anishinaabe woman I feel that we are living on a woman who is fully alive—nurtures us and sustains us. For Indigenous peoples we have a great reverence for the 'Earth' - Aki. This is why we say that we are all related, and we feel it deeply that way."

Written by Diane Maytwayashing, Indigenous Knowledge Keeper

Photograph of Grandmother & Knowledge Keeper Diane Maytwayashing, taken at Whiteshell Provincial Park. Photo supplied by permission from Indigenous Tourism of Manitoba.

The Development of Mitigomizh Teachings as told by Mkomose

Aanii! Greetings! My name is Mkomose (pronounced mm - ko - mosay). I am an Anishinaabe Oshkaabewis (ceremonial helper). I have been actively taking care of land for most of my adult life. When I was asked to contribute to the story of the Oak from my Anishinaabe perspective, which is my Indigenous perspective, a number of things immediately came to mind and heart. One of the most important things for me in discussing the past, especially when it comes to any Indigenous people or peoples and our knowledges—whether it is the knowledge of my Ancestors, the Anishinaabe, to which I have dedicated my life, or the ancestral knowledge of others, like the K'iche Maya, from whom I have also had the great privilege to learn—is to synthesize Oral Tradition, stories, research, and personal experiences, and not necessarily in that order.

Gratitude to the Stewards of Knowledge

Leading up to writing this I adhered to my responsibility as an Anishinaabe inini (man), seeking knowledge by first making offerings to the Ancestors. After those offerings were made, I then sought out knowledgeable individuals, based on pre-existing relationships, established over many years. Those knowledgeable individuals include two different stewards of Indigenous teachings (knowledge keepers): one who is Oneida (Haudenosaunee), Iroquoian speaking, and another who is Odawa (Anishinaabe), Algic speaking. I brought tobacco to the Anishinaabe teacher, because this is what we are called to do when accessing information from Elders. Additionally, I had a conversation with a Professor Emeritus of Archeology, who specialized in the region on which I focus in my story. I want to express thanks to these individuals, for their time in sharing with me, and their dedication to becoming people of wisdom.

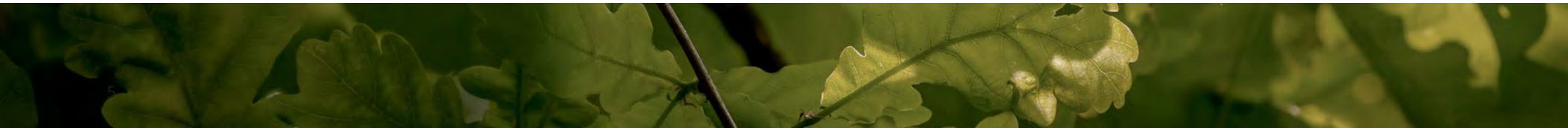
The journey begins

My conversations with the knowledge keepers was not simply about Oak trees. Oak trees do not stand alone. Oak trees—mitigomizhiig—in my Ojibwe language, live in symbiotic relationships with up to one thousand other species. So, like the complex journey an Oak takes to grow to maturity, so too did our conversations take us on several journeys through: (1) the designed forests where Oak's once grew in abundance; (2) an evolving history of our Ancestors lives; and, (3) challenging questions that may never be fully answered. The wisdom that influenced this story, both shared and researched, cannot simply be found online. Some of it will also never make it to print. Ultimately, it is impossible to fully convey all the wisdom as it relates to the significance of Oak trees to all Indigenous peoples—especially pre-contact Indigenous communities, across the lands we know as Canada today—in one document. It would take decades, much more research, and a lot more conversations with tobacco. That said, I will do my best to convey what I have learned. I hope that it inspires you to take actions to better care for the lands around you, that help you appreciate Oak trees on a different level, and that lead you to respect the lives of the Ancestors of the places we call home.

As an Anishinaabe man (an Indigenous person), any story I share about the Oak will be incomplete. I can never speak on behalf of all Indigenous peoples in the lands we call Canada. No one can. There is no single person or even group of people that could ever capture the full significance of the Oak Tree to all Indigenous peoples, given there are over 500 varieties of Oak found worldwide. That said, below I attempt to tell one story influenced by Elders, scholars, personal research and experience on the land related to Oak trees that I believe are significant. This combined knowledge brings together some of what is known from the sciences we have today, with what we might call Traditional Ethnobotanical or Ecological Knowledge. In my language we might refer to this knowledge as *gete kendaaswin*.

Above all else, the most important thing to remember about the Oak tree, which I believe could be a common thread amongst all those who've encountered and planted it in their lands is that this tree is sacred, like all trees and all beings. All Oak trees are sacred spiritual beings that Indigenous peoples from many places held and still hold in high regard as an Ancestor, as a provider of life, and as a relative to be honoured.

Symbiosis is defined as a close, prolonged association between two or more different biological species.



PAINTING A PICTURE OF THE PAST

To finish my part of this story of *Mitigomizhiig* - Oak Trees - I want to paint a picture of life during the time frame in focus, based on the significance of the Oak. As an activity, have someone read this to you to get the full effect. Close your eyes, take a deep breath and try to picture this...

It's the early morning. The sun is rising in the east. A cool spring breeze fills your lungs with the scent of warming soil. You rise from a warm fur blanket bed and step out of your bent cedar longhouse, squinting as the light of a new day brings a smile to your face. Others are already bustling around. You see dew dripping down the elm bark on the side of the lodge and you remember the work it took to build it with your family. There is an excitement in the air and you feel it in your bones.

The grandmothers are preparing a deer and corn soup and the aroma makes you hungry. You look around and admire the Oak palisade surrounding your community. A massive wall you helped rebuild last fall with more than 5000 Oak logs your grandparents planted, each a foot in diameter at their base, placed carefully side by side, standing nearly 20 feet (6 m) tall. You feel safe.

You begin to visualize the day and excited feelings grow inside as you foresee the several teams heading out, strategically, into the forest to perform their quadrennial controlled burn. It's been 3 years since you last witnessed this incredible moment, at the time, still too young to contribute. Today you will take part, your training is complete, you are ready.

The elder men are organizing their teams as a light northwesterly wind makes you feel a little chill. Clouds are forming, also in the northwest, and you can smell rain approaching. Offerings are being made to the ancestors, to the forest, to the winds and to the rains. The medicine people are asking permission to fulfill their sacred obligation, asking that the great spirit protect everyone, protect all their relatives, for the enormous task at hand. You find your father and your crew. Uncles, aunts, cousins, everyone knows their role. Everyone with an important part to play.

With a full belly you begin to venture out, past the inspiring palisade walls, moccasins leaving a light trail behind. Your crew, led by your father, is responsible for a tract of forest to the west of the village. The pace to get there is fast but you have trained for years for this moment. As you enter the stands of Oak, just at the edge of the corn fields, the awe of their sheer size is almost overwhelming. The tallest of them stands over 130 feet (40 m), 8 feet (2.5 m) across at its base.

You touch the coarse bark, giving thanks for its gift of your breath of life as you walk past. The next closest Oak Tree stands towering, its trunk over 80 feet (24 m) away, but its branches just barely caressing the branches of the tree you have just given thanks to. A thick blanket of dry Oak leaves covers the rich black soil below. You peer deeper into the distance and can see hundreds more Oaks across a vast expanse. Your heart fills with gratitude for your great grandparents and their great grandparents and their great grandparents still, all of whom have been responsible for this forest's design and care, and now it's your turn. Some of the trees have witnessed over 500 winters. As you finally approach

the edge of the tended expanse, the forest beyond darkens. Those are the places only the older ones have traveled. There is wonder in your mind, your heart and your will, because inside you know one day you will travel beyond the edge of your village, into that darkness. But for now you stay focused.

The fire keepers begin to prepare a sacred fire offering song that makes the birds pause and listen. The northwest winds have picked up and the clouds are thicker. The smell of rain is stronger. Your body is warm from the walk. The torches are prepared as you reminisce on the childhood stories you were told about this moment, you reflect back on the years you've gathered acorns here. All the fruits, roots, vegetables, mushrooms and shoots that grow in this sacred place fill your thoughts.

This place has sustained your people for over 40 generations. Your heart is ignited with joy from all the stories, all the teachings, and all the ways you have learned to give thanks here. As the wind picks up, far off to the west, you hear a gentle rumble of thunder and you know that it is time. Everyone fans out. Their backs facing the dark forest, their eyes facing the interspersed Oaks and Chestnuts ahead. The instructions from your leader, your father are clear. On the next rumble of thunder you will light the leaves in front of you. The anticipation builds. The excitement is almost overwhelming as you prepare to fulfill the sacred obligation passed on to you by the Ancestors. These actions will benefit your descendents, to ensure thriving for years to come, as your grandparents did for you.

Just then, the dark forest behind you lights up. The crackle of thunder much closer than expected making the hair on everyone's neck and arms stand up. It's time. You place your fiery torch to the edge of the layer of leaves. Looking to your left and right, you see that everyone has done the same. In an instant, the winds pull the fire south east, flames rising to eye level, creeping slowly but surely through your sacred lands. The smoke rises creating a fog in the leafless canopy, as the line of fire sweeps faster across the forest floor. The shrieking calls of the birds heightens the senses of the moment, but they too understand this is the way. It isn't long before the flames are more than 100 feet away.

The sound of celebration from your community members grows. It isn't long before the fire is more than a kilometer away, as the rains begin to lock the charred remains of the forest floor into the soil beneath making it safe to follow back towards the village. Before long you sense that your obligation has been fulfilled, there are smiles and celebratory exchanges amongst your relatives. As you return to the palisade walls and to the security of the village, you can't help but start thinking about the next time. The next time... maybe I will be the lead the next time.

MITIGOMIZH (OAK) TEACHINGS

The development of Mitigomizh (Oak) teachings began in the lands we know today as Winnipeg, Manitoba—Treaty One Territory—the traditional homelands of Anishinaabe (Ojibway), Ininew (Cree), Oji-Cree, Dene, and Dakota peoples. Winnipeg is also the birthplace of the Métis Nation and is the heart of the Métis Nation homelands. This resource is written largely from an Anishinaabe person's point of view and aims to guide us from merely acknowledging Indigenous peoples and their/our lands towards proactive ongoing commitments to take care of forests and trees in ways like those once used and still in use by Indigenous peoples. Some of the Mitigomizh (Oak) teachings herein call on people from all walks of life to take action to care for our shared forests in ways that ensures their longevity to benefit future generations. We recognize that this will be hard work, but there is no time like the present to start the process.

The Truth and Reconciliation Commission report calls on Educators in Canada to responsibly teach students about the history of Turtle Island and the impacts of settler colonialism on both the lands and the Indigenous peoples who once took care of those lands. By sharing the information in this document about the Oak tree, we seek to make public the culturally appropriate and accurate historical information that may inspire those who use it to take actions to preserve, utilize, and protect Canada's trees.

Our hope is that this information supports students in becoming active stewards of the land, by learning from Indigenous peoples' ethnobotanical wisdom, in this case related to Oak trees. We also hope to bring more awareness to the history of and the formation of Canada, which began long before its 1867 founding, so that collectively we can actualize the important roles and responsibilities that we agreed to in the signing of Canada's Treaties with Indigenous peoples.

Mkomose's Geographical Focus

My conversations soon narrowed down to two areas, one in southwestern Ontario and one north of Lake Huron, principally because that is where I grew up and have done a lot of my research as well as Oak Tree hugging. Our focus is on a Mixed hardwood region located north of Lake Huron between the town of Spanish and the city of Bawating (Sault Ste. Marie).

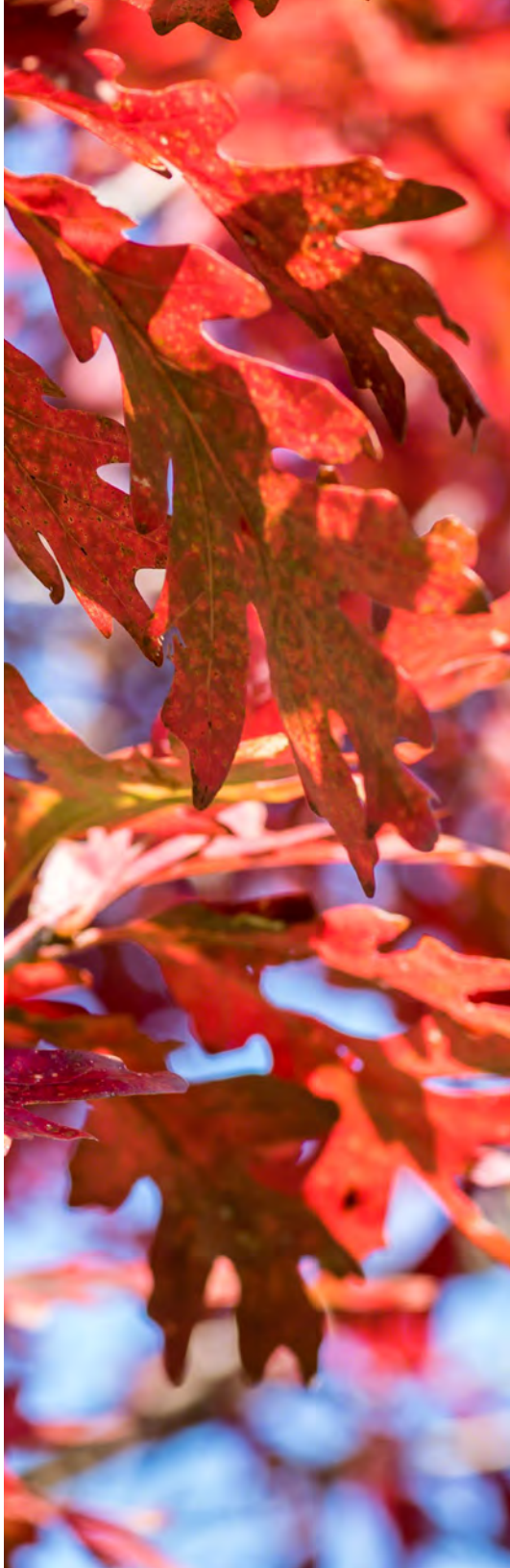
Here, Oaks were and still are predominant in the forests. It was also important to me because this is the region where Indigenous people were known to have cultivated huge swathes of Oak Savanna food forests. If you have never heard of an Oak Savanna food forest before, you are probably not alone.

Oak Savanna food forests were sustainable, food-producing landscapes carefully organized/managed and deliberately designed to be extensively biodiverse by the Indigenous peoples of the regions where they were planted (primarily Iroquoian and Algic speaking peoples). These forests were established around 1500 years ago in the region I am focusing on and lasted until the onset of ecocide, led by

Tree hugging can be traced back to various cultural, spiritual, and environmental practices throughout history. It is a practice associated with increased connection with nature and is a powerful symbol of reverence for nature.

European "advancement" and harmful farming practices. Between the mid-1600s and mid-1800s, most of these awe-inspiring forests, admired by the earliest European arrivals, were levelled. Tragically, it is estimated that less than 0.5% of the original Oak Savanna remains intact in Southern Ontario today, meaning that few people today will have the privilege of seeing a 500 year old Oak.

Both southwestern Ontario, surrounded by the great lakes, and that thin area of land extending north along the shores of Lake Huron have hosted Oak tree's from at least 6000 - 8000 years ago to the present day according to pollen records of those regions. While certainly their seeds were carried by animals in these regions, it is very likely that Indigenous peoples at that time were also planting Oak and eating acorns, albeit in a less organized way than during the reign of the Oak Savanna food forests.



Mkomose's Timeline Considerations

The next part of my conversations with the Elders and professor narrowed down a timeframe in history on which to focus. Though there is evidence of Indigenous peoples living in the areas where we focused our conversations soon after the Pleistocene Epoch ended (12,000 years ago), based on archeological and pollen records, there is also clear evidence of an evolutionary timeline leading to the rise of Food Forests. The evolution of Indigenous peoples of a region can be traced through the way baskets are made, the way flint is knapped, the way clothing is sewn, and the way people grew or ate food. These all change through varying time frames.

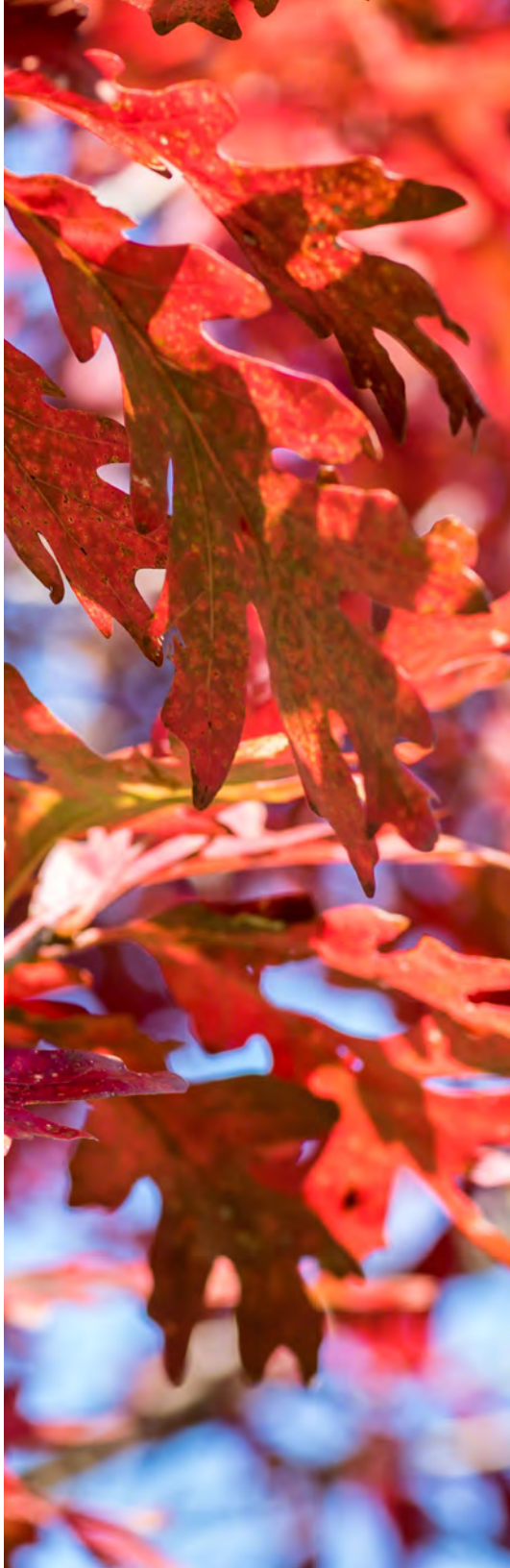
The way peoples of the regions in focus designed the environments where their civilizations came to thrive became particularly important from around 1500 years ago to around the time of contact approximately 400 years ago. It is important here that we dispel a commonly held notion that Indigenous peoples of the past lived in simplistic ways. To dispel the myths perpetrated by stereotype and popular media, which discredit the wisdom of Indigenous scholars and Elders, I draw attention to the fact that approximately one billion acorns may have been harvested by Algonquian speaking peoples alone as a source of food. Where were acorns stored? How were they collected? How were they processed? These seemingly simple questions are not easy to answer and may lead you on your own journey to better acknowledging the wisdom of the past.

While 1500 years ago to around 400 years ago is still a vast time frame through which innumerable changes took place for the Indigenous peoples in focus, narrowing down this time frame allowed us to have a general sense of the physical culture of the peoples, the climate and weather patterns at that time, where along in the evolutionary path the peoples we are talking about were, and for the purpose of this story, the ways that our ancestors would have utilized Oak trees.

Mkomose's conversations with the Elders and Archeologist

As my conversation with the Elders and Archeologist continued, we were speaking either about our own Ancestors, or in the case of the Archeologist, about peoples whose past lives had been studied extensively. Our Ancestors—both Anishinaabe peoples (primarily Algic speaking—Mississauga peoples) and Haudenosaunee (primarily Iroquoian speaking—Chonnonton peoples) thrived in the regions in focus throughout the timeframe in focus and used Oak trees in multiple ways.

Although there are thriving communities of Mississauga peoples today, both along the North Shore of Lake Huron and in Southern, Ontario, the Chonnonton peoples, who the Europeans called the Neutral Nation and who the Huron called the Attawandaron (the peoples who speak funny) have been essentially completely dispersed, as a result of many factors all connected to settlement and colonization. Today, members of the Six Nations confederacy make their homes in several places in Southern Ontario where ceremonial connections between Algic and Iroquoian speaking people continue. While I was not able to have a conversation with a person who identified specifically from the Ancestors of the Chonnonton peoples, speaking to someone connected to that language family—Iroquoian—in this case Oneida—was still very important.



MITIGOMIZH OAK TEACHINGS

DID YOU KNOW...

...that Oak trees belong to the Beech family (*genus Quercus)*. Approximately 600 species exist worldwide with about 90 found in North America. Canada is home to 10 native species, such as Red Oak, Black Oak, Chinquapin Oak, and White Oak. In Manitoba, Bur Oaks thrive, while Garry Oaks are unique to the west coast of British Columbia. Typically, Oaks are categorized into three groups: Red or Black Oak (Red, Black, and Pin), White Oak (White, Garry, and Bur), and Chestnut Oak (Swamp White, Chinquapin, Dwarf Chinquapin, and Chestnut). Oaks are generally easy to spot because of the unique shape of their lobed leaves. While there may be differences among species, a typical Oak leaf is approximately 10 centimetres long and has 4 or 5 lobes on each side. Although there are many individual differences among the species, in general, a young Oak tree, given optimal conditions, such as access to adequate water, sunlight, and healthy soil, can grow approximately 60 centimetres per year. However, as an Oak matures, its growth rate begins to slow. Thriving on hillsides, they need ample sunlight and well-drained soil, except for Swamp White Oak, which thrives in damp, low-lying regions. Typically, it takes an Oak tree 20 to 50 years to reach maturity and start producing acorns.

Standing between an average of 50 feet (15 m) to 80 feet (24 m) tall, in optimal conditions, an Oak can grow as tall as 145 feet (44 m): about the height of a fourteen-story building. They can live for 300 to 700 years and produce up to three million acorns in their lifetimes.

Did you know?

While a young Oak tree may need about 100 gallons of water daily, its water consumption decreases significantly to around 50 gallons per day as it matures.

Oak Trees like the Bur, White, Black, Red, and Pin Oaks are host to somewhere in the neighbourhood of 100 different insect species, but the Garry Oak, found in Southern Vancouver, Island hosts nearly 800 insect species. Oak trees are a keystone species: one that serves as the backbone of the ecosystem, and without which the ecosystem would fail. Gray squirrels and many different species of birds nest in the branches and eat the acorns; wood rats eat the acorns and build their debris piles from Oak twigs and leaves on the woodland floor.

How to Spot an Oak Tree In Your Area

Use the Forest Regions of Canada Interactive map to help you identify the forest type where you are located and also the forest types where Oak is typically located. Oak trees are typically located in the Deciduous Forest Region and the Great Lakes-St. Lawrence Forest Region. Click the button below to view the interactive map from the Science Rendezvous *Million Tree Project* showing Canada's eight different forest regions.

Forest Regions of Canada: **Click here** to view the interactive map (Million Tree Project)

Once you have located your region and know that there may be Oak trees in local parks and rural areas, **use this link** or the following features tables to learn how to identify the species of Oaks that you are likely to see. Use these features the next time you are outside, to identify an Oak in your neighborhood.

OAK BARK RUBBINGS

Not all Oak barks are the same! For example, the Red Oak usually has longer vertical strips of bark while the Black Oak tends to have more horizontal cracks.

Gather some plain white paper and crayons and head to a nearby wooded area. When you find an oak tree, hold a piece of paper around its truck. Younger children may need an adult or partner to hold the paper for them. Take a crayon and gently rub it up and down the page horizontally—you may need to remove the paper label from the crayon first if it has one. The texture of the bark should soon appear on your paper! When you are done, you may write the type of Oak on the page if you are able to identify it.

If you are able to create rubbings of different types of Oaks, place your pages beside each other. What is similar? What is different?

White Oaks Quercus alba

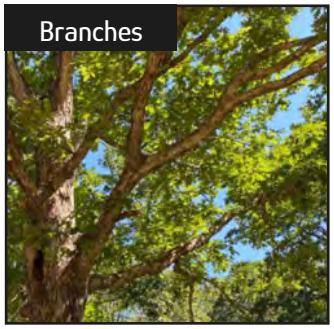
- **Trunk:** (Eastern White Oak) grows up to 12-15 metres.
- **Bark:** Light gray to almost white, blocky or ridged on the lower trunk, shaggy or scaly on the upper part of the tree. Upper bark often resembles that of shagbark hickory, but lighter gray in color and more brittle. Shagginess may vary from one tree to the next.
- **Branches:** Bending slightly downward, gradually turning upward toward tips.
- **Leaves:** 5 to 11 rounded lobes with deep sinuses. Underside pale or whitish green.
- **Acorns/Fruit:** Medium to large (2 to 4 centimetres). Solid brown when ripe, usually elongated or egg-shaped, with a “bumpy” cap covering about 1/3 of the nut. Fruit readily separates from the cap when ripe.

Did you know?

Some of the Oaks in the Oak Food Forests started growing after the Laurentide ice sheet receded and after the last glacial period (Pleistocene Epoch) ended around 12000 years before the present day. After that glacial period ended, the climate began to warm and both regions in focus in present day Canada entered what is called the Holocene Epoch, which created perfect conditions for Oaks to thrive.


Trunk

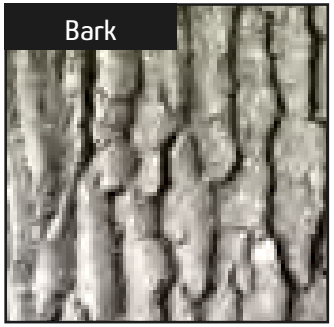

Bark

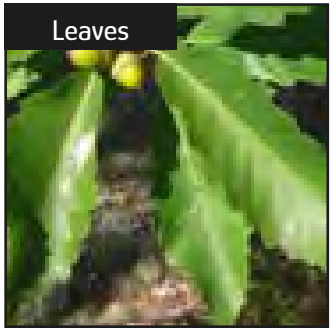

Branches


Leaves


Acorns/Fruit

Chestnut Oaks *(Quercus montana)*
Southern Quebec and Ontario





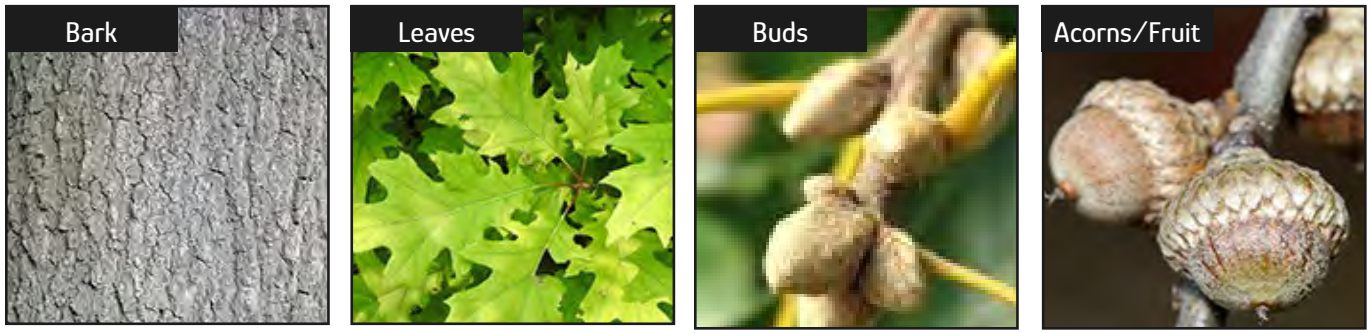
Bur Oak *(Quercus macrocarpa)*
Manitoba/Saskatchewan

Northern Red Oak *(Quercus rubra)* and Black Oak *(Quercus velutina)*

- **Red Oak Bark:** Mature trees often has longer, unbroken vertical strips of smooth bark. Cracks between bark are shallow and can be broad, often showing a slight reddish color on close inspection.
- **Black Oak bark:** More rugged and fragmented overall. More horizontal cracks and smaller unbroken pieces of bark. Deeper and narrower cracks between outer pieces of bark. Outermost pieces of bark rougher.
- **Leaves:** Red Oak typically have 7-11 lobes. Black Oak typically have 5-9 lobes.
- **Red Oak Buds:** Mature buds are slightly smaller, and either lack hair entirely, or are only pubescent at the tip. More rounded and less likely to have sharp angles in cross-section.
- **Black Oaks Buds:** mature buds are slightly larger, and are covered in dense whitish hair. Buds look more angular in cross-section.
- **Red Oak Acorns/Fruit:** has smaller acorns; cap encloses half or nearly half the acorn.
- **Black Oak Acorns/Fruit:** has larger acorns; cap encloses less (1/3rd to 1/4th) of the acorn.

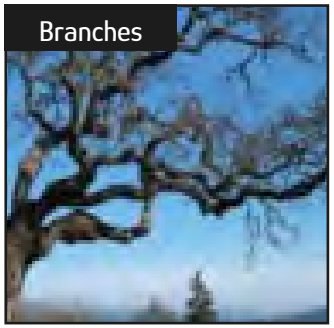
Northern Red Oak *(Quercus rubra)*

Black Oak *(Quercus velutina)*



Garry Oak *(Quercus garryana)*
West Coast/BC

- **Bark:** Greyish-black bark with thick grooves and scales.
- **Leaves:** Deeply lobed leaves are bright green and glossy above and paler with red to yellow hairs underneath. The leaves turn brown in the fall. Leaves often have bumps caused by gall wasps.
- **Acorns/Fruit:** acorns are small in size with a shallow scaly cup on one end.



REGIONAL KNOWLEDGE AND VOCABULARY

We must recognize that knowledge of Oak shared by Indigenous peoples from the West Coast and knowledge of Oak shared by Indigenous peoples from southwestern Ontario pre-contact is going to be different. Just as there are many types of Oaks and many different Indigenous peoples across Canada, there are many distinct Indigenous language families—12 to be precise. In turn, those 12 language families may generate between 30 and 60 different unique dialects.

The language highlighted in this document is Ojibwe, the root language family for which is Algic or Algonquian. While there are some 36 dialects of the Algic language family, today it is simply referred to as Anishinaabemowin (mowin - meaning language).

We encourage those reading this resource to seek out the word for Oak from the language of the Indigenous peoples of the region where you are located, as this is just one simple way to connect you to the Ancestors of those lands. For example, in the Anishinaabe (Algic) language Ojibwe, the word for acorn is mitigomin.

A few other Anishinaabe language words and phrases related to Oak - Mitigomizh - are offered below. Click to listen to their pronunciations in this chart, as shared by fluent speakers. These recordings and the recordings of many other Ojibwe language words are available from The Ojibwe People's Dictionary.

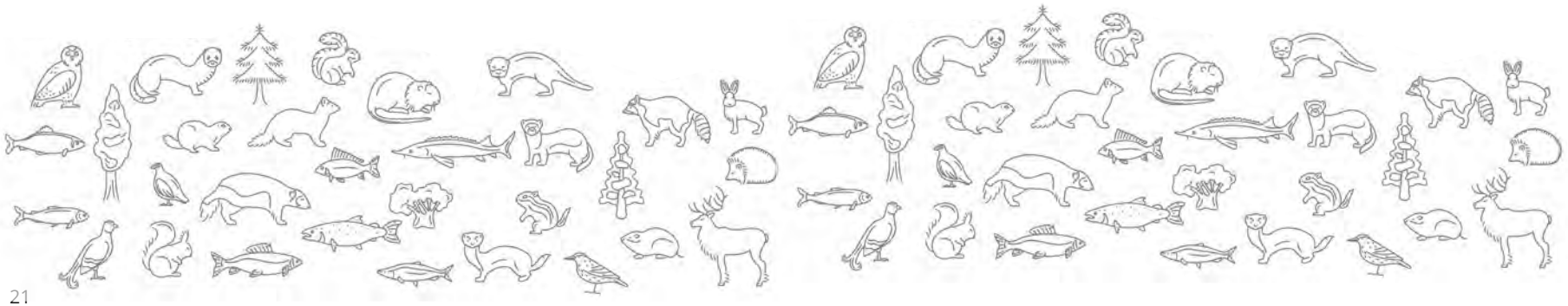
English	Anishinaabemowin (Ojibwe)
Oak	**Mitigomizh**
Oak Bark	Mitigomizhanagek
acorn	**Mitigomin**
Elder	**Akiwenzii** - Translates to old man but really means Elder
Great Spirit, Creator	Gichi-manidoo
Medicine	**Mashkiki**
Squirrel	**Ajidamoo** a red squirrel **Misajidamoo** a grey squirrel; a fox squirrel
Blue Jay	**Diindiisi** a blue jay *[Cyanocitta cristata]*
Bear	**Makwa** a bear [black bear; *Ursus americana*]

Spotted in the Oak Forest/Oak Savannah
Did you know?

The Oak is a keystone species. A keystone species is the backbone of the ecosystem Five hundred to one thousand other species of plants and animals including lichen, fungi, Oak Moth caterpillars, and many birds, mammals and reptiles would not survive without Oak tree acorns, roots, leaves, branches and trunks.

Here are just a few of the plants and animals that often live near Oaks:

TREES	PLANTS	AMPHIBIANS & REPTILES	MAMMALS	BIRDS	INSECTS
• Aspen • Cottonwood • Birch • Ash • Alder • Balsam Poplar • Chokecherry	• Hazel • Hawthorn • Wild Rose • Snowberry • Poison Ivy • Lichens/Mosses • Sage • Milkweed • Lily of the Valley	• Frogs/Toads • Salamanders • Garter snakes • Turtles	• Deer • Rabbits • Squirrels • Bear • Raccoons • Mice	• Blue Jays • Cedar Waxwings • Nuthatches • Owls • Eastern Kingbirds	• Weevils • Moths • Butterflies • Beetles • Wasps • Aphids



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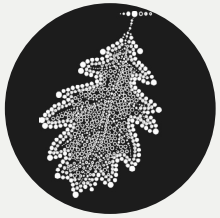
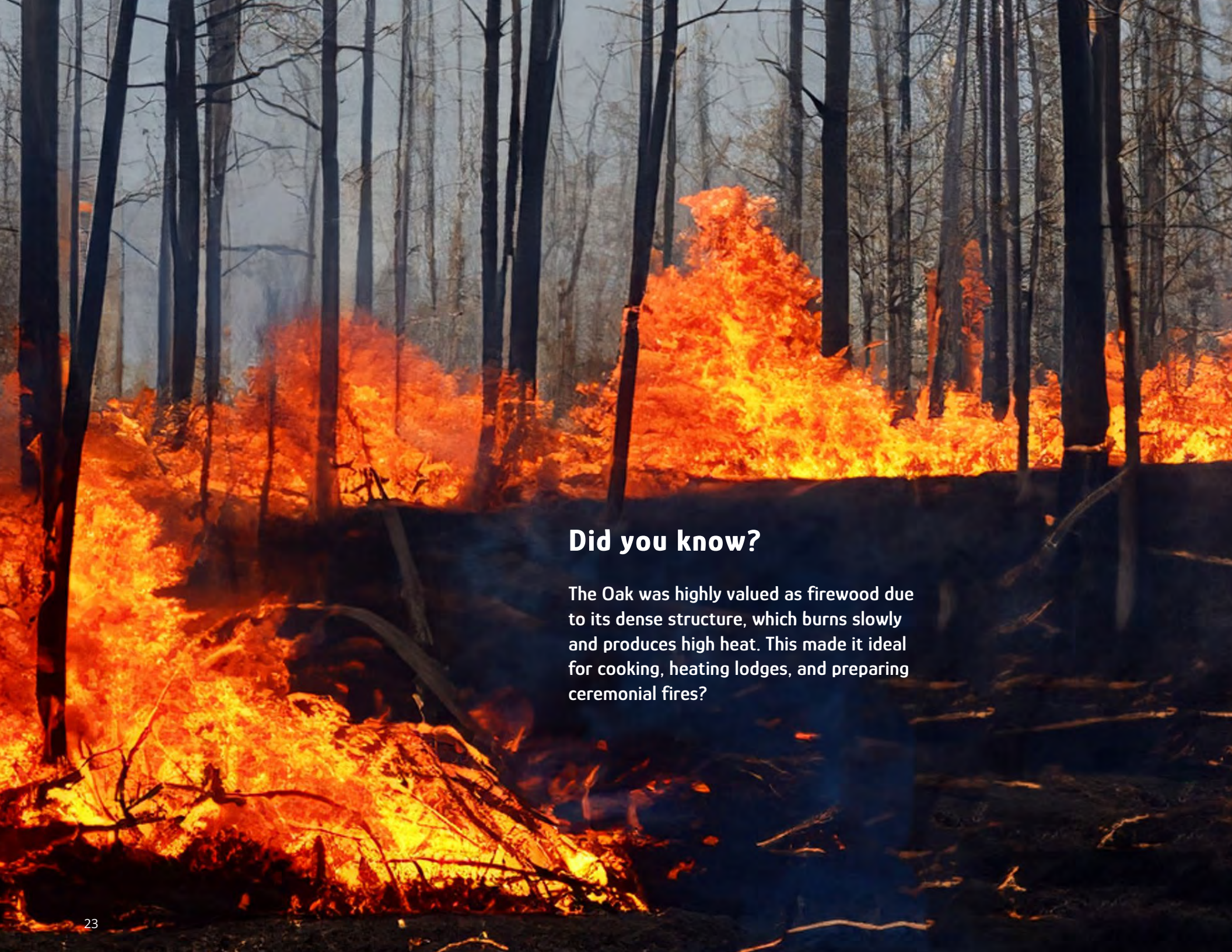
Fire

ISHKODE



Attawandaron and Mississauga peoples once shared a peaceful alliance in the lands that make up present day South Western Ontario. This peaceful alliance may have lasted for over 1200 years until contact began to disrupt their relationships. Prior to European arrival in Southern Ontario, in the early 1600s, massive Oak Savannah Food Forests were designed and maintained by the peoples who made those regions their homes. The peoples were very careful not to allow their forests to overgrow, which could threaten their community's wellbeing. Oaks and other tree sprouts that grew up unintentionally, and that were not part of the communities forest designs, were burned in a controlled way approximately every four years which ensured the trees in their forests reach entropy - which is essentially something reaching its maximum size. At the time of contact, oaks found in these regions, could be 10 feet (3 m) across at the base of their trunks. That is equivalent to six, 5 foot children holding hands around the base! Get 6 people together and hold hand to make a circle to get a sense of this size. Controlled burning was an intentional practice that persisted for at least 800 years prior to the 1600s. The Food Forests developed, maintained and designed by these Attawandaron and Mississauga peoples using fire ensured their communities thrived. The forests produced enough sustenance to allow hundreds of communities to establish and flourish and the impact went well beyond Southern Ontario. Fires and controlled burns are sacred and essential to many Indigenous groups. Until their populations began to decline significantly from warfare and diseases in the mid 1600s and into the 1700s, fire and controlled burns were a critical part of everyday life.

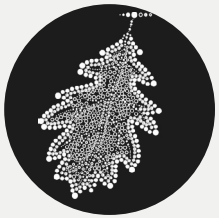


Did you know?

The Oak was highly valued as firewood due to its dense structure, which burns slowly and produces high heat. This made it ideal for cooking, heating lodges, and preparing ceremonial fires?

EARTH

AKI



Squirrels that collect and store acorns will sometimes bury them under leaves or in caches in the earth, but for multiple reasons they may not return. This can sometimes result in new Oak tree seedlings sprouting from the forest floor the following spring. As acorns mature, their conversion from seeds to Oak saplings depends on their dispersal to areas with all the necessary ingredients to thrive: adequate water, sunlight, and healthy soil. Small mammals like squirrels are vital in the spread of Oak forests.

The Oak tree also has a special and symbiotic relationship with what lies beneath the ground's surface: the mycelium. Oak leaves are rich in nutrients, their decomposition releases vital elements back into the soil, enriching it, fostering soil fertility, and promoting the growth of surrounding vegetation. The mycelium acts like a grid or network

Did you know?

That one squirrel can bury up to 3,000 nuts in a season in a process known as caching.

Did you know?

That grey squirrels can locate buried nuts by their odour but they can also remember the individual locations of nuts they have buried.

that allows the organisms within the forest floor to communicate. Oak trees form a unique bond with fungi below the ground, located near their roots, facilitating nutrient absorption from the soil, especially in the places that need it most. The fungi assist the Oak tree by extracting nitrogen from the soil, a task the tree cannot perform on its own. In return, the Oak tree receives the nitrogen from the fungus, while the fungus obtains sugars from the tree's root sap. While the Ancestors of the Oak Savannah Food Forests may not have understood these symbiotic relationships in the same way that Western science does today, they did something that our society is still learning, i.e., they made sure to take care of the land so as not to disturb or fracture these productive inter-species relationships.

Did you know?

Animals get their energy from food, but trees such as Mitigomizh generate their own sugar through a process called photosynthesis. Within Oak leaves, carbon dioxide from the air combines with water from the soil and solar energy to produce sugar. This sugar serves as the tree's life-sustaining fuel. Sugar is also a building block for roots, twigs, and other bits that make up growing trees. Called biomass, these body parts are food for all kinds of animals. Biomass is also a living storage system for carbon. According to the Arbor Day Foundation, a mature Oak tree will absorb more than 48 pounds (22 kg) of carbon dioxide from the atmosphere annually.

The Oak Savannah food forest is generally thought to contain at least 7 layers of edible habitat, which give rise to a host of thousands of species of total biodiversity making it one of the most important habitats to restore today.

Consider this

An average adult will consume approximately 1.5 kilograms (3.3 pounds) of food in a day, or about 10.5 (23 lbs) kilograms per week. To estimate the amount of acorns needed for a pre-contact Anishinaabe village of about 200 people, we assume half the population (100 people) are adults and the other half are children and Elders, who collectively consume about half as much food. Each adult will consume 10.5 kilograms of food per week; therefore 100 adults will need 1,050 kilograms of food per week. Each child or Elder will consume 5.25 kilograms of food per week; thus, 100 children and Elders will require 525 kilograms of food per week. Thus, to sustain the entire village, 1,575 kilograms of food per week will be required.

If we multiply 1,575 kilograms of food by the 52 weeks in a year, then we get a total 81,900 kilograms of food needed annually to feed the average Anishinaabe village. That's slightly less than the weight of a freight train car. If we further assume that acorns made up 10% of the diet of this village, a number which would vary significantly depending on the region, then 8,190 kilograms of acorns had to be harvested each fall season to feed the people. It requires about 120 acorns to make one kilogram of acorn nuts and acorn flower; thus, to have enough acorns for everyone, the village would need to collect approximately 982,800 acorns in total. Given the size of acorns and that they don't all ripen at the same time, collecting hundreds of thousands of viable acorns must have been quite a task in fall. Given also that there were thousands of Anishinaabe villages at the time of contact, a sense of the scale of the Oak harvesting and Oak tree care operations begins to come into perspective. Even if there were just 1000 Anishinaabe villages across their vast lands where Oak trees grow, we are looking at 982,800,000 acorns being harvested annually to feed the people just 10% of their diet!

How many acorns did you collect last season?

Aside from acorns being eaten as a food source, simply as a nut or even further being dried, crushed, and processed into acorn flower, acorns could also be used to make nut oils, which have been found by archeologists in the residue lining pottery of the time. Although they contain bitter tannins, there were developed methods to leach tannins from acorns through soaking, boiling and even using stone weirs in nearby rivers to let the acorns leach their tannins slowly. Acorns provide an important source of carbohydrates and fats to a human diet, especially during lean seasons like winter.

ACTIVITY

Acorn Buoyancy Experiment

Buoyancy is an object's ability to float in water or another liquid. Whether or not an acorn is buoyant is one predictor its health and ability to grow into a new Oak tree.

Collect acorns from beneath an Oak tree. It is okay if your acorns come from different species of Oak trees, have holes or blemishes, or vary in appearance. The more differences within your collection of acorns the better!

Viable acorns are acorns that can sprout into a sapling. A general rule of thumb is that viable acorns will sink when placed in water.

Nonviable acorns are those that are unable to grow into a new Oak tree. They usually include acorns that have holes, cracks, disease, or other damage. Nonviable acorns are more likely to float.

Fill a large glass or a bucket with water. One by one, inspect an acorn carefully. Does it feel solid? Do you notice damage of any kind? Predict whether the acorn will sink (likely viable) or float (likely unviable)! How many times are you able to correctly predict the outcome? As an extension of this activity, you may choose to plant one of your viable acorns.

WATER

NIBI

Oak trees are incredibly resilient for water conservation. Their deep roots allow them to access underground water sources. Even if the ground above is dry an Oak can remain hydrated. The Oak's intricate root system can extend up to three times the size of its canopy. Oak trees play a vital role in reducing water pollution by absorbing fertilizer nutrients, pesticides, and various contaminants in the soil. Oaks are important for planting around today's farms since they facilitate the gradual breakdown of these compounds into nutrients. Additionally, during heavy rainfalls, the canopies of Oak trees can capture and decelerate the rain, mitigating the erosive impact of raindrops. By intercepting rainwater on their leaves and stems during storms, Oak trees prolong the time it takes for rain to reach the ground. This process aids in diminishing surface erosion in rivers and streams which can have detrimental effects on waterways.

Did you know?

Oaks have two types of roots? The taproot is the main root that grows deep into the soil, anchoring and stabilizing the tree while allowing the tree to access moisture from deeper soil layers.

Fibrous roots spread near the surface, creating a network is vital for nutrient uptake qne ensuring the tree has access to essential minerals and water.

Did you know?

Drought stress resulting from reduced water availability can weaken Oak trees, making them more susceptible to pests, diseases, and mortality.

Did you know?

A mature oak tree uses about 378.54 L of water per day during the growing season which explains why they must have a consistently large supply of water.

ACTIVITY

Oak Tree Wildlife Survey

Many different animals rely on Oak trees for food and/or shelter. Take a clipboard, paper, and pencil to a nearby wooded area and select an Oak tree, or multiple Oak trees, to observe from a distance. Sit quietly for ten minutes, or a length of time of your choosing. Create a tally chart of the animals you observe interacting with your tree(s). A tally mark can be added for any interaction, for example, a robin landing in your tree or a squirrel climbing in your tree.

What animals did you notice interacting with your tree most frequently? Does time of day or time of year affect what kinds of animals you see or how frequently they visit? Are there any other types of animals you think might visit or live in the oak tree that you weren't able to see?

AIR

NOODIN

Oak trees depend on wind pollination to reproduce in the spring and produce viable acorns. Oak trees are ‘monoecious’ - meaning that they have separate male and female flowers on the same tree. During spring, a single Oak tree develops staminate (‘male’) flowers in the shape of catkins and small pistillate (‘female’) flowers, making the trees monoecious. After pollination, acorns form and take around three months to mature post-fertilization. Despite being consumed by birds and mammals, these animals can also aid in dispersing these seeds to different areas. A mature Oak tree can generate 100,000 litres of oxygen annually, which is equivalent to 274 litres daily. The average human requires 550 litres of oxygen daily. So, if we rely solely on Oak trees, each person would need the oxygen from about 2 mature oaks for their yearly oxygen needs. Oaks are also natural urban air filters and can eliminate upwards of 10 pounds (4.5 kg) of black carbon or “soot” from the air. In environments where air pollution is a problem, Oaks are considered to be ideal “air cleaners,” especially in areas such as rock quarries, where dust is a major polluter.

It can take an Oak 50 years to fully mature and begin producing its maximum amount of acorns. Their twisting branches and lobed leaves offer shade on hot days and help cool forests, city streets, and backyards, today. Given that Oak trees can live as long as 700 years, they are critical to several forested ecosystems in Canada where they are viable. As the climate continues to warm new zones where Oak Trees can grow will emerge, especially in Canada’s North. Oak trees are and always have been crucial for enhancing ecosystems and air quality.

THE MANY CONTRIBUTIONS OF THE OAK TO INDIGENOUS PEOPLES

Tools and Construction

The hard, durable wood of Oak was used to make tools like bowls and paddles. Its strength made it ideal for frames of wigwams, canoe gunwales, and various implements. Additionally, Oak was sometimes used to craft digging sticks for agriculture, hunting equipment, and wooden utensils.

Medicinal Uses

The bark and leaves of Oak trees are rich in tannins and could be used medicinally. By boiling Oak bark in water, extracts were prepared to treat infections, wounds, and diarrhea. The astringent properties of Oak made it effective in slowing bleeding and preventing infections.

Fuel and Firewood

Oak was highly valued as firewood due to its dense structure, which burns slowly and produces high heat. This made it ideal for cooking, heating lodges, and preparing ceremonial fires.

Spiritual and Ceremonial Roles

Oak groves were sometimes considered sacred spaces and the trees might be incorporated into storytelling and ritual rites of passage.

Aromatics

The Oak Tree's scent is often described as a rich, earthy, and soothing aroma and has been used for centuries as a foundation in fragrances and perfumes?

ACTIVITY

Participate in the Million Tree Project!

Archaeologist Louise Pujo and Grandmother Diane Maytwayashing
Whitemouth Falls, Manitoba in October 2022.
Photograph taken by Shelley Cook.
Aadizookaanag – Ancestors – A Sacred Story

Closing words from Grandmother Diane

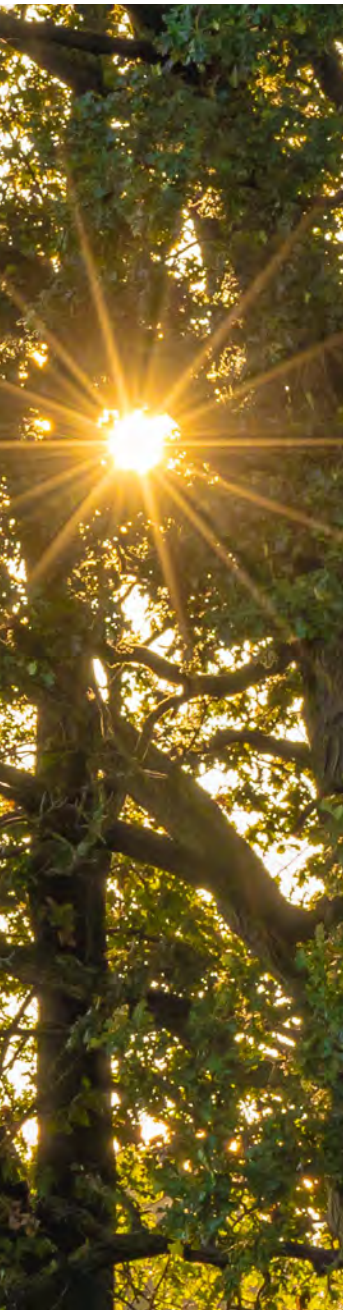
“Ancestor people and Ancestor Trees - Along the river at Whitemouth Falls Provincial Park are hundreds of Oak trees which are one to three hundred years old. These Oak trees specify that this area is a special place. The reason why Oak trees were planted along the Whitemouth River was an indicator of an ancestor burial site.

Back in the 1970’s a group of archaeologists and construction workers from Manitoba Hydro found bones of ancient Indigenous people on both sides of the river. The bones of these ancient peoples were transported to the University of Winnipeg and carbon dated to between two and eight thousand years old. These ancient ancestors were then repatriated back into the Whitemouth Falls area on October 17, 2013, with the guidance of Anishinaabe Elders from Ontario and Manitoba.

Oak trees are referred to as ancestor trees because the trees look like old people with their deep crevices which can look like wrinkles on the face of an old person. The Anishinaabe people share oral stories of a time when they planted acorns, seeds from Oak trees, to indicate a burial site or ceremonial site. Planting acorns from Oak trees was a significant land marker for the Anishinaabe peoples.

The Whitemouth Falls holds another indicator of this area, designated as a special place, where the Fisher Star Constellation, known as the Big Dipper, seen in the northern hemisphere directly above where the two rivers meet – which are the Whitemouth River and Winnipeg River. These Oak trees on the land and the Fisher star constellation above convey a story of an ancient past that once existed here thousands of years ago.

By remembering and honouring these sacred places, where the Oak trees thrive, we are assisting our Ancestors on their journey home.
– Diane Maytwayashing



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Click here for a list of sources used to write this guide.

CREDITS

PROJECT LEAD

Dr. Lynda E. C. Colgan
Professor Emerita
Queen's University

PROJECT ADVISOR

Kathleen Miller
Science Rendezvous

CONTENT DEVELOPMENT

Tyler Ashford

Jennifer MacRae

Mkomose (Dr. Andrew Judge), Oshkabewis

INDIGENOUS KNOWLEDGE KEEPERS

Diane Maytwayashing,
Anishinaabe Grandmother,
Whiteshell Land-based Education

Mkomose (Dr. Andrew Judge)

Mike Bisson, Anishinaabe Elder,
Mississauga First Nation

QUEEN'S EDUCATION LIBRARY

Brenda Reed

Shelley Woods

GRAPHIC DESIGN

Cheryl Hallam
Hallam Design

MITIGOMIZH TEACHINGS