

Nando-gikenimindwaa Nindinawemaaganidog

Getting to Know All of Creation



We don't inherit the earth from our Ancestors,
we borrow it from our Children.

ACKNOWLEDGEMENTS/CONTRIBUTORS:

The concept of this project was inspired by the lack of materials and resources available for the youth and those wanting to learn and understand the life around us; water, air, fire, rocks, plants, trees, and the animals. Without these beings, we could not exist.

We would like to thank our ancestors for protecting these gifts for generations to come. We would also like to thank those who courageously hung onto the language, knowledge of the plant beings, ceremonies, and our traditional food systems. Miigwech to those who have sought the will to understand these things, and to those who have contributed to this project in some form or another. Lastly, we want to thank those yet to come who will carry on these ways of learning and knowing, they are who we had in mind when working on this project.

MISHIIKIWAT

ANANGO'KWE

MEZINAANAKWAD

BENESIKWE

WAABIGAAGAAGI' IWKWEBIIK

MISKWAANIKWADIKWE

GIDAGAAKOONS

GAAGIGE AANAKWAD

AWANOOKWE

GIIZHIGOOKWE

NIIGANWEWIDIMOOK

ZIIGWANOOKWE

~ Miigwech ~

COMMUNITY CONTRIBUTORS:

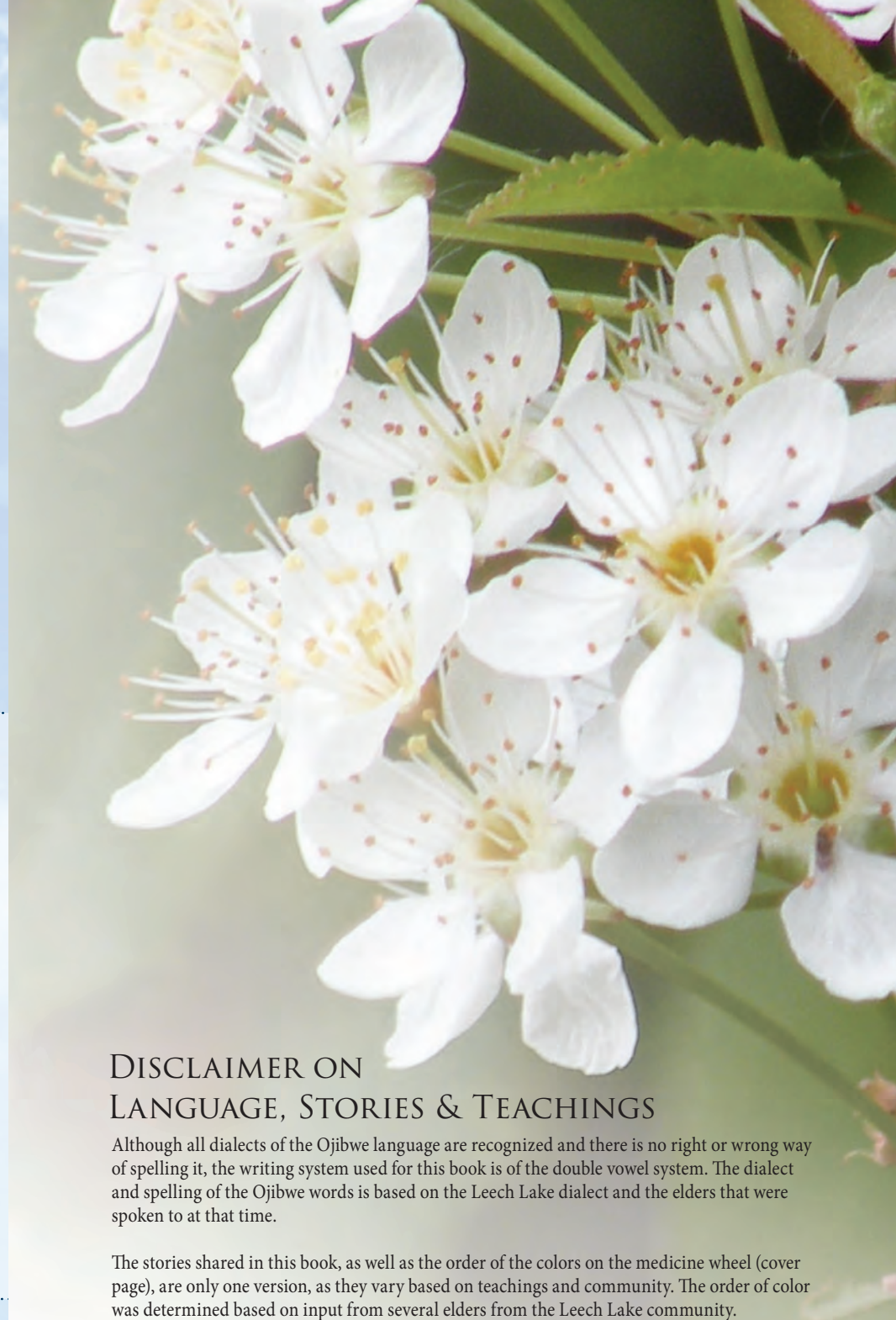
There are far too many to mention. We visited with Anishinaabeg from Leech Lake, White Earth, Red Lake, and Mille Lacs for over two years.

We are grateful for the guidance from all of the Anishinaabeg who shared and conceptualized the vision for this book.

DISCLAIMER ON LANGUAGE, STORIES & TEACHINGS

Although all dialects of the Ojibwe language are recognized and there is no right or wrong way of spelling it, the writing system used for this book is of the double vowel system. The dialect and spelling of the Ojibwe words is based on the Leech Lake dialect and the elders that were spoken to at that time.

The stories shared in this book, as well as the order of the colors on the medicine wheel (cover page), are only one version, as they vary based on teachings and community. The order of color was determined based on input from several elders from the Leech Lake community.



RE-CREATION STORY

Long ago, after Creator first put people on the earth, the Anishinaabe (first people) strayed from their peaceful ways. Soon people were fighting each other over hunting grounds and other things and they started killing one another and losing respect for all life. That harmony and respect for all living things no longer existed on earth so Creator decided to purify earth. He did this with water; the water came in the form of a great flood. This water fell upon the earth killing the Anishinaabeg and most of the animals. Only Wenaboozhoo was able to survive, along with a few animals and birds who were able to swim and fly. Wenaboozhoo floated on a huge log searching for land but no land was found as the earth was now covered by the great flood.

Wenaboozhoo allowed the animals to take turns resting upon the log. Finally, Wenaboozhoo spoke. "I am going to do something. I am going to swim to the bottom of this water and grab a hand full of earth. With this small bit of earth I believe we can create a new land for us to live on with the help of the four winds and the Creator." Wenaboozhoo dove into the water and was gone for a long time. Finally, he surfaced and told the animals that the water was too deep for him to swim to the bottom. All were silent. The loon spoke up, "I can dive underwater for a long way; that is how I catch my food. I will try to make it to the bottom and try to return with some earth in my beak." The loon disappeared and was gone for a long time. Surely, he thought, the Loon must have drowned. Then they saw him float to the surface, weak and unconscious. "I couldn't make it. There must be no bottom to this water."



RE-CREATION STORY

Then the hell diver came forward and said, "I will try next; everyone knows I can dive great distances." The hell diver went under and again, a very long time passed, and others thought that he had surely drowned. At last, he floated to the surface unconscious, and not till he regained consciousness, could he relate to the others that he, too, was unable to reach the bottom. Many more animals tried but failed — even the turtle. All failed, and it seemed as though there was no way to get the much-needed earth from the bottom. Then a soft voice was heard. "I can do it," the voice said softly. At first, no one could see who it was that spoke up. Then a little muskrat stepped forward. "I'll try," he repeated. Some of the bigger more powerful animals laughed at the muskrat. Wenaboozhoo spoke up, "Only Creator can place judgment on others. If Muskrat wants to try, he should be allowed to."

Muskrat dove into the water. He was gone much longer than the others who had tried to reach the bottom. After a while, Wenaboozhoo and the others were certain Muskrat had given his life trying to reach the bottom. Far below the water surface Muskrat had, in fact, reached the bottom. Very weak from lack of air, he grabbed some earth in his paw and, with all the energy he could muster, began to swim for the surface. One of the animals spotted Muskrat as he floated to the surface. Wenaboozhoo pulled him onto the log. "Brother and sisters," Wenaboozhoo said, "Muskrat went too long without air and he is dead." A Song of mourning and praise was heard across the water as Muskrat's spirit passed on to the spirit world. Suddenly, Wenaboozhoo exclaimed, "LOOK! There is something in his paw!" Wenaboozhoo carefully opened Muskrat's tiny paw. All the animals gathered close to see what was held so tightly there. Muskrat's paw opened, revealing a small ball of earth. The animals shouted with joy! "Muskrat sacrificed his life so that life on earth could begin anew."

Wenaboozhoo took the small ball of earth from Muskrat's paw; just then Turtle swam forward and said, "Use my back to bear the weight of this piece of earth. With the help of the Creator we can make a new earth." Wenaboozhoo put the piece of earth on Turtle's back. Suddenly, the wind blew from each of the four directions. The tiny piece of earth on Turtle's back began to grow. It grew and grew and grew until it formed an Island in the water. The island grew larger and larger but still, Turtle bore the weight of the earth on his back. Wenaboozhoo and the animals all sang and danced in a wide circle of the growing island. After a while, the four winds ceased to blow and the waters became still. The huge island sat in the middle of the water and today, that island is known as North America. Ojibwe hold special reverence for Turtle who sacrificed his life and made life possible for the earth's second people to this day. Muskrat has been given a good life even though the marshes have been drained and their homes destroyed in the name of progress. Muskrat continues to survive and multiply. Muskrats do their part today in remembering the great flood. They build their homes in the shape of the little ball of earth and the island that was formed from it.

THE GIFT OF NIBI (WATER)

Nibi is also one of the first four sacred beings that shaped the world that we live in. Life cannot exist without Nibi; Anishinaabeg have always understood her life-giving value.

European immigrants viewed Minnesota's wetlands as vast wastelands. They made numerous attempts to drain northern peat bogs for commercial agriculture. Remnants of these attempts remain as long, straight, drainage ditches that are visible throughout the peat bogs of northern Minnesota. The state of Minnesota has made many attempts to mine the northern Peat Bogs while the Anishinaabeg have remained steadfast in protecting them. A Red Lake Elder once said that "the white man sees no value in these peat bogs, but the Anishinaabe know that these are the vessels of life." While many things continue to threaten Nibi, she remains central to our traditional, cultural, and spiritual ways, and we are grateful to the women who care for and pass the teachings of Nibi forward.

Ancestors who refused to relocate from what is now known as Leech Lake Reservation understood the treasures this place has to offer. Nearly half (300,000 acres) of Leech Lake Reservation is surface water, with 270 lakes supporting fish, 13,000 acres of wild rice stands, 713 miles of rivers and streams, and 168,000 acres of wetlands. Truly a vessel of life!

FUN FACT:

Is it a coincidence that 70% of the earth's surface is covered with water, 70% of Leech Lake Reservation consists of aquatic ecosystems, and 70% of our bodies consist of water?

THE GIFT OF ISHKODE (FIRE)

Ishkode is one of the first four sacred beings to shape the world we live in. Ishkode is as important to life as water or air. Ishkode has warmed our homes, allowed us to process maple sugar, wild rice, and smoke fish. Some of us have changed how we acknowledge and use Ishkode, but he remains a vital part of our daily lives. Ishkode is a transformer, converting the energy of other beings into heat, light, ash and smoke.

We still gather around Ishkode, as a bond between Nations, to retell stories, measure our generations, and show gratitude to the men who care for and pass these teachings forward. One of Ishkode's medicines is life-giving warmth; other medicines are not as well known.

The ecosystem role of Ishkode is misunderstood by many, primarily due to fear – fear of wildfire, the loss of homes, and timber resources with commodity value. However, Ishkode is extremely important; respect for his place in this world needs to be restored. Historically, Ojibwe used Ishkode as a tool to manage the landscape. Ishkode is beneficial for soil; nutrients such as nitrogen, phosphorus, potassium and calcium are usually bound in the organic layer of soil. When Ishkode moves across the land, intense heat releases (volatizes) these nutrients, increasing their availability to plants and soil microorganisms such as bacteria and fungus, thereby increasing plant productivity. The blackened soil increases soil temperatures due to greater heat absorption, also promoting vegetative growth. Anishinaabe used Ishkode to promote healthy growth in both traditional agriculture and forest management.

"Long time ago, the forest didn't used to be so thick with underbrush. Fire used to keep that thinned. Every spring, people would burn their yards to keep the brush down and grow the gardens. This kept the wood ticks away too."

- quote by community member

THE GIFT OF NOODIN (WIND)

Wind is one of the first four sacred beings that shaped the world we live in today. Wind is air that is moving. Wind continues to shape the world around us. Whether it's carrying pollen to assure another generation of plants, or sculpting rock formations over the centuries, wind is always and forever a part of our daily lives.

Why does the wind blow? When Giizis (sun) warms the land, the air (atmosphere) also warms. Parts of earth receive sunlight all year and are always warm. Other places receive indirect sunlight and are colder. Warm air weighs less than cold air and rises. Then cool air moves in, replaces the rising warm air. It is this movement of air that makes the wind blow.

Generally, from May through October, Leech Lake experiences winds that are south or southwesterly. These winds originate in the desert southwest and are hot and dry. Winds coming from the Atlantic Ocean move clockwise, picking up the warm air and moisture around the Gulf of Mexico. As the air moves north, it becomes moist and warm. If it collides with cold air from the north, a storm will result.

Larry Aitken tells of a time when he was sitting with Jimmy Jackson and a prominent scientist. A storm was rolling in. Jimmy began to speak about Thunderbirds. The scientist said, "No, there were no such beings as Thunderbirds; the storm was caused by warm and cold air colliding." The scientist challenged Jimmy by asking if he had ever actually seen Thunderbirds. Unwavering in his belief, Jimmy asked the scientist if he had ever seen the cold air colliding with the warm air. We are grateful for these teachings.

"Why does one need to know why the wind blows; it just does, she brings so many feelings and messages from the other side."

- waabigaagaagi' iwkewebiik

THE GIFT OF ASINIIG (ROCKS)

Asin is another of the first four sacred beings that shaped the world that we live in. Asiniig are the foundation of our universe. Anishinaabe have always understood the gift of grandfathers. Rocks have a spirit. Rocks provide life. Earth's crust is made up of rocks, rocks are made up of minerals and can be made up of a single mineral or a combination of several minerals.

Copper = "Miskwaabik"

Iron = "Biiwaabik"

THERE ARE THREE MAIN ROCK TYPES:

1. Igneous rocks are formed when magma/lava goes through the cooling and solidification process. Granite and basalt are examples of igneous rocks.
2. Sedimentary rocks are formed from pieces of mineral and/or organic particles. Sedimentation is the process of accumulation of these particles (detritus) carried by wind and water. They settle and accumulate layer upon layer to form a new rock. Sandstone and Limestone are examples of sedimentary rock.
3. Metamorphic rocks arise when existing igneous or sedimentary rocks change in form from heat, pressure or chemical reactions.

*"We are grateful for the gifts Asiniig
give to Anishinaabeg"*

THE GIFT OF ANANGOOG (STARS)

Fisher was living somewhere on Turtle Island; nobody knows exactly where. This story is about a time when there was no summer. It was winter, winter, winter all the time. All the beings knew that summer existed somewhere, but summer no longer came to visit them, even though everyone wished very much and waited for summer to visit.

At this time a man captured some little birds which are called ni'benis'e, "summer (guardian) birds". He tied them in bundles and kept them with him all the time. That was the reason why it was continually winter, for so long as he held these birds, they could not bring summer. The people pondered very much how to go about freeing these birds from the man who kept them. At last, somebody discovered where this man lived, and they decided that someone would go and try to free the Summerbirds. Now the fresh-water Herring lived in the same wigwam with the man who kept the Summerbirds.

The Fisher at last decided to go and free the birds so that summer would come. He travelled a long while and reached the wigwam where the captor and the Herring

lived. When he went in, he found the Herring alone. He captured the Herring and put some pitch on his mouth, so that he could not cry out. Then Fisher took the bundles of birds and tried to break the bindings, so that he could free them. Using his teeth, he finally tore open the bundles and the Summerbirds flew free into the air. Then the pitch broke from the Herring's mouth, and he cried out, "Fisher breaks the bundle! The Summerbirds! Fisher breaks the bundles with his teeth! The Summerbirds!" Two or three times he cried out until the man heard him. The man came running, but by the time he arrived, Fisher and the summer birds were far away.

The Fisher ran very fast to save himself. The Man had a bow and arrow with which he was going to kill Fisher, but the Fisher sprang into the sky and climbed way up, with the hunter following behind him, still trying to shoot him with his bow and arrow. All he succeeded in shooting, however, was Fisher's tail, which is broken where it was wounded. (This is the bent in the handle of the Great Dipper constellation. The small star, Alcor, is the wound). Although they chased him continually, they never got him.

~ Another Story About the Fisher Constellation ~

Way long time ago, summer never visited the land of the Anishinaabe. The days were long, cold and dark. Fisher arrived home one night to find his son crying. Why are you crying, Son, Fisher asked. I am tired of being cold and living in the dark all the time. I wish for a different life. I have heard of a time when there was a bright fire in the sky, and the wind was warm and the skies were filled with colorful beings with beautiful song.

Fisher was so saddened by his son's tears he decided to leave in search of the fire in the sky, the one they called Sun. Fisher went to visit his friends Otter and Badger, asking them to join him on his journey in search of the Sun. Both Badger and Otter agreed and the three set off on their journey. They traveled far to the highest mountain peak they could see. The journey to the base of the mountain took them many months. Then they started their climb to the top; they climbed and climbed again. The journey took them a very long time. Once they reached the top,



they found a sheet of ice. Fisher said, “I am going to break through this ice and find the sun. He must be behind this ice.”

Badger said, “I am stronger than you, Fisher. Let me break through the ice.” Badger jumped up and hit the ice with his head. The ice was so thick it knocked Badger out, and he rolled all the way back down the mountain. Otter said, “I am bigger than you are, Fisher — I will break the ice.” So Otter jumped up and hit the ice. Nothing happened. Otter tried again and hit the ice so hard that his body went limp, and he, too, rolled all the way down the mountain. Fisher was left standing all alone at the summit, with the large expanse of ice suspended above his head. He felt sad that his friends had tried so hard and they could not break through. He thought of his son at home, sad and longing for the warmth he had only experienced in stories.

Fisher gathered all his strength and jumped up and hit the ice as hard as he could. The ice cracked just a bit. Fisher jumped again and hit the ice with all his might. The ice cracked a little more. One more time, thought Fisher. He gathered all the strength he could and hit the ice one last time and the ice cracked, making a hole. Light shined through the hole and Fisher could feel a warm breeze. The hole was big enough for Fisher to climb inside. Once Fisher was inside, the light was so bright it hurt his eyes; the warmth was so great he could feel it penetrating deep inside. Once he could see, he was amazed at all the colorful birds and the sound of their beautiful songs. Fisher started running around he was so happy. The birds soon found the hole which was getting bigger as the sun was melting away the ice. The birds were escaping to the earth below as was the warmth that had been held back for years. Fisher saw a village of people and the people were yelling about the birds escaping. The people started chasing Fisher around because they knew he was the one who broke through the ice. They were yelling at him and shooting at him with arrows. Just as Fisher was about to jump back down to Earth through the hole an arrow hit him and he fell dead upon the earth.

Creator felt sad for Fisher so he picked him up and put him in the sky, where he will forever chase the seasons to remind us of Fisher’s courage to bring the sun, warmth and birds back to the people.

In Anishinaabe culture, we are taught that a piece of Mother Earth was put on the turtle’s back after the great flood. Nanabozho saw that the back of the turtle had thirteen sections, which he compared to the thirteen moons of the year. These thirteen moons are now known as months, but only twelve are recognized on a calendar.

The pattern on the back of a turtle has thirteen large sections surrounded by a ring of 28 small sections, which can be used as a calendar to count the passing of days and moons through the yearly cycle. Each moon phase holds significant importance in the life of Ojibwe people.

Zinziibaakwe Giizis Sugar Moon (*April*)

Nmebine Giizis Budding Moon (*May*)

Waabigwani Giizis Blossom Moon (*June*)

Miini Giizis Berry Moon (*July*)

Manoomini Giizis Rice Moon (*August*)

Waagibagaa Giizis Changing Leaves Moon (*September*)

Binaakwe Giizis Falling Leaves Moon (*October*)

Gashkodin Giizis Freezing Moon (*November*)

Manidoo Giizisoonhs Little Spirit Moon (*December*)

Manidoo Giizis Spirit Moon (*January*)

Namebinia Giizis Sucker Moon (*February*)

Onaabini Giizis Snow Crust Moon (*March*)

Bopogaame Giizis Broken Snowshoe Moon (*March/April*)

WATER LILY STORY

Once there was a village of Anishinaabe. They were a happy village. Everyone had a job and they shared with each other. Life in the village was good. In the evening, the people would sit around a fire and look at the stars. One night, they noticed one of the stars seemed to be moving closer, so over time they watched and yes, the star was moving closer until one night, the star was hovering just over the top of the village. The people wondered what this meant. That night, a young man in the village had a dream of a beautiful woman, she was the most beautiful woman he had ever seen. Her hair was like spun gold, and she spoke to the young man. She said, "I love the people in this village; I have come close so that I can watch and would very much like to live in and be part of this village, but my body cannot live on earth and that makes me sad. The woman shed a tear and the young man felt sad. He wanted her to be part of his village. In fact, she was so beautiful he would like her to be his wife. The young man awoke and told the village about his dream. They wondered what they should do; they decided that they should pray to the Creator and ask for his help, so they all prayed asking for guidance on what they should do about the beautiful star woman who wanted to live with them. It seemed that Creator was not answering their prayers in any way and this made star woman sad. She knew her wish could never be, and the sadness just became too much. As the sadness reached her heart she exploded into millions of pieces and rained down upon the lake next to the village. In the morning, the young man who had dreamed of star woman awoke and went to the lake to clean up. To his shock, the lake was covered with beautiful white star flowers with gold centers. This flower is a reminder of the star woman who wished to live her life with the Anishinaabeg.



LEECH LAKE WATERSHEDS

You don't have to live on a lake or a river to have an impact on water quality. We all live in a watershed, and our collective actions on the land will determine the future quality of our waters. How we use the land within a watershed affects the type of sediments, nutrients and other pollutants that can be washed into a river or lake. Runoff from parking lots, highways, lawns and forests all impact water quality.



WHAT IS A WATERSHED?

A watershed is the area of land that drains to a river, lake or wetland. Watersheds are also called drainage basins. A watershed can be small (draining only a few acres), or very large (draining thousands of square miles).

Watersheds collect rain, snow melt, spring water, and ground water in the form of streams, and rivers which eventually join up in a single large river or lake. Because everything in a watershed is interconnected, small acts in one area of a watershed can have a profound impact on the entire area a watershed covers. We are all interconnected by water, and our actions on the land impact nearby lakes, rivers, streams and wetlands. *Everyone lives in a watershed.*

THE MEETING PLACE

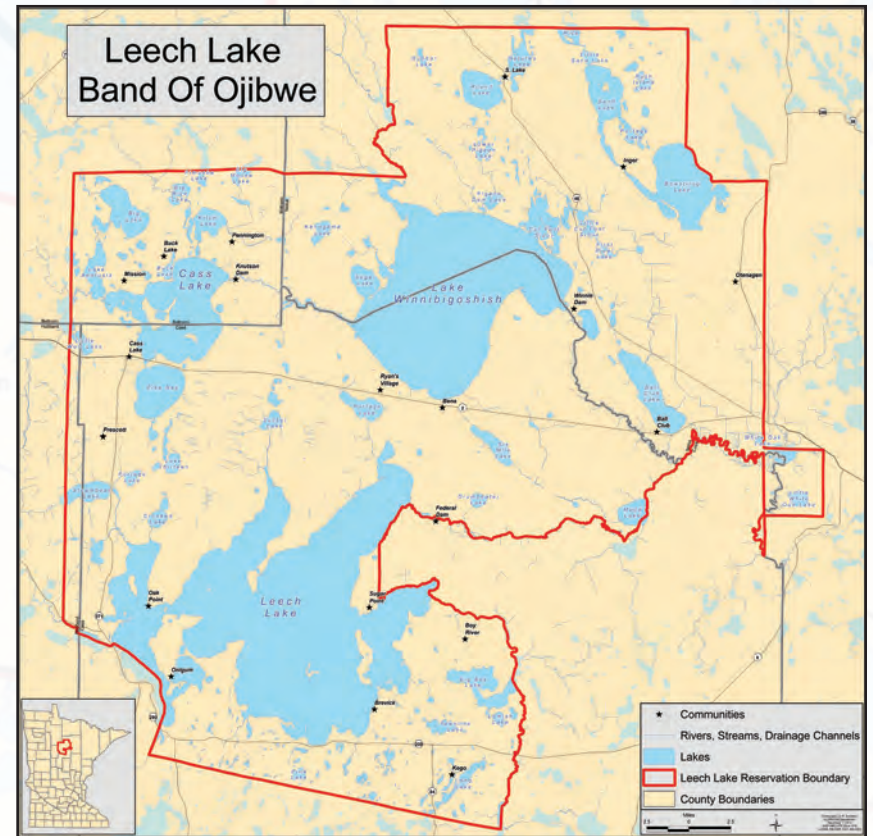
GLACIERS FORM THE LANDSCAPE

During the Pleistocene or Ice Age (2 million to 10,000 years ago), most of North America was covered in a sheet of ice known as the Laurentide Ice Sheet. This ice sheet was thought to be several miles thick in places. The sheer weight, combined with periods of warm weather and precipitation, caused the Laurentide ice sheet to shift periodically. Lobes of ice radiated outward, advancing and retreating across areas of Minnesota. These lobes, known as the Des Moines, Wadena, Rainey and Superior Lobes, all covered various portions of the state at one time. The only area that was not covered by glacial ice, in the southeastern portion of the state, is called the driftless area. About 11,000 years ago, the glaciers retreated north into Canada, leaving Minnesota ice-free. Water from the melting glaciers flooded the landscape to create large glacial lakes.

Over time, the glacial lakes drained and the landscape was left much like we see it today. The glaciers may be gone for now, but the land beneath our feet tells a story of great masses of sediment, gravel, boulders, sand, and even clay, being shaped by the great force of glaciers advancing and retreating. The glaciers have left us with a beautiful landscape of rolling hills, deep river valleys, and “10,000 Lakes” to explore and enjoy.



LEECH LAKE RESERVATION



FUN FACTS ABOUT THE LEECH LAKE RESERVATION:

- 864,185 acres of land
- 280,000 acres of water
- 270 named lakes
- 162,591 acres of wetland
- 13,000 acres of wild rice

TURTLE STORY

Long time ago, Mikinaak was walking through the woods. All the birds were flying excitedly about and singing. Mikinaak wondered what was going on, so in his loudest voice he hollered “Hey, what’s going on up there? What is all the excitement about?” The birds ignored Mikinaak. They all knew if they started talking to him, they would never get away, for Mikinaak was known for being able to talk for long, long periods of time.

Mikinaak kept on walking, but continued to wonder why all the birds were so excited. “Hey you guys up there! What is going on, why are you so happy?” One bird decided to answer Mikinaak. “We are getting ready to fly south for the winter. It’s warm in the south were we go.”

Mikinaak thought about this. He wanted to go where it was warm in the winter time. “Hey, hey take me with you! I want to go where it’s warm in the winter. I want to be warm too!”

The Birds laughed. “You can’t even fly Mikinaak. How would you come with us?” “Please, please take me with you. I want to be warm; I want to go with you.” The Birds started to take pity on poor Mikinaak and thought about how they could help him go south with them. “What if we have Mikinaak hang onto a stick with his mouth, and then we can carry him south with us?” asked Osprey. “I am good at

carrying things in my talons. I could carry Mikinaak.” “Mikinaak will not be able to talk or he will fall. Do you think Mikinaak can do that?” asked Opichi.

“Mikinaak!” said Opichi, “we have a way for you to go south with us but you will not be able to speak the whole journey, can you do that?” “Oh yes!” said Mikinaak. He was so excited — he was going south to be warm all winter! Osprey said “Here Mikinaak, grab hold of this stick. Do not let go or you will fall.” Mikinaak took the stick in his mouth and held on tight. Up and up he went, higher and higher until he could see the land in all four directions. He loved being able to see so far. He was used to only being able to see what was on the ground right in front of him. Mikinaak took in the delightful view for a long time without thinking about talking. Then he wanted to know when they would arrive in the south where the weather was always warm, even in the winter. He wanted to get Osprey’s attention so he started waving one of his legs. Osprey flew on without noticing Mikinaak’s signal. Mikinaak started waving two legs; still Osprey did not see Mikinaak’s signal.

Finally, Mikinaak was waving all four of his legs and even his tail and still Osprey flew on. Mikinaak wondered, “We must be almost there. How can I get Osprey’s attention?” Without thinking, he opened his mouth to ask and lost his grip on the stick and started falling to earth below. “Aaaaaaaaaaaaaah!” Mikinaak yelled all way down till he fell hard upon the earth. Mikinaak never made it south to where it was warm all winter but from that time forward, he and all his relatives carried the marking on their backs that he got from falling so hard upon the earth.



This is Chris, a young snapping turtle being released in to the wild.



TURTLE CALENDAR

1. April	Iskigamizige-giizis	<i>Sap Boiling Moon</i>
2. May	Zaagibagaa-giizis	<i>Budding Moon</i>
3. June	Ode'imini-giizis	<i>Strawberry Moon</i>
4. July	Aabita-niibino-giizis	<i>Midsummer Moon</i>
5. August	Manoominike-giizis	<i>Ricing Moon</i>
6. September	Waatebagaa-giizis	<i>Leaves Changing Color Moon</i>
7. October	Biinaakwe-giizis	<i>Falling Leaves Moon/Raking Moon</i>
8. November	Gashkadino-giizis	<i>Freezing Moon</i>
9. December	Manidoo-giizisoons	<i>Little Spirit Moon</i>
10. January	Gichi-manidoo-giizis	<i>Great Spirit Moon</i>
11. February	Namebini-giizis	<i>Sucker Moon</i>
12. March	Onaabini-giizis	<i>Hard Crust on the Snow Moon</i>
13. 13th moon	Makwa-giizis	<i>Bear Moon</i>

- The pattern on Mikinaak's shell is a reminder of time. Anishinaabeg used to track time passing using the moon.
- There are 13 moons in a year and it takes an even 28 days to pass through one cycle of the moon.
- Look closely at Mikinaak's shell and you will discover typical turtles and tortoises have 13 scutes. One scute for each moon in a lunar year.



ETHICAL RESEARCH

The concept of Ethical research is new to Indigenous communities. Our stories contain the values and philosophies of living respectfully. However, the introduction of mainstream western education (and the continued scrutiny of outsiders trying to gain information of our traditional knowledge, culture, and spirituality) has inspired a discussion of how to move forward in a way that is respectful and beneficial to all.



For example, an outside entity's study concluded that Leech Lake Band members do not include fish in their diet as often as they did historically. Another outside entity tried to use these conclusions to determine the level of cleanup at a contaminated site. While the initial study may have seemed harmless, it could have been detrimental to future generations by diminishing their inherent right and access to a healthy traditional food. Not cleaning the site properly also impacted our values of caring for the aquatic ecosystem and the fish themselves. Mainstream western research protocols on water, fire, rocks, air, plants, and animals are not conducted in a way that considers our Anishinaabe philosophy that these are living beings. These beings have a right to be treated respectfully. What if you belong to the fish clan? And what if your clan is sick? How does this impact you?

Before considering any research, one must be familiar with the community, their values, and philosophies by which they live. The community needs to be fully informed of any research being considered, as well as who will own the research and how it will be used. The community must then give their informed consent before any research proceeds. Without this, we will continue to have flawed research, biased with outside values and philosophies.

As living beings we are ALL connected and what happens to ONE happens to ALL.



MITIGOOG (TREES)

Aniib (iig) – *American Elm*

Zhingob (iig) or Zhingwaab (iig) – *Balsam Fir*

Maanazaadi (wag) – *Balsam Poplar*

Wiigob (iig) – *Basswood*

Wiigwaasi-mitig (oog) – *Birch*

Baapaagimaak (oog) – *Black Ash*

Maananoons (ag) – *Iron wood*

Okikaandag (oog) – *Jack Pine*

Makominagaawanzh (iig) – *Mountain Ash*

Miskwaawaak (wag) – *Red Cedar*

Ininaatig (oog) – *Red Maple*

Bapakwanagemag (oog) – *Red Pine, Norway Pine*

Miskwaabiimag (oog) – *Red Willow*

Opwaaganaatig (oog) – *Smooth Sumac*

Adoop (iin) – *Speckled Alder*

Ininaatig (oog) – *Sugar Maple*

Mashkiigwaatig (oog) – *Tamarack*

Azaadi (wag) – *Trembling Aspen*

Aagimaatig (oog) – *White Ash*

Giizhikaandag (oog) – *White Cedar*

Mitigomizh (iig) – *White Oak*

Gaawaandag (oog) – *White Spruce*

Leaf Shapes & Flower Parts 1-4

TWO TYPES OF TREES

DECIDUOUS



**Binaakwaasingan
aniibiishan**

*"Those whose leaves
fall annually."*

A tree or shrub that
loses its leaves annually.

CONIFEROUS



**Binaakwaasiisingan
zhingwaakaandagoog**

*"Those whose needles
don't fall annually."*

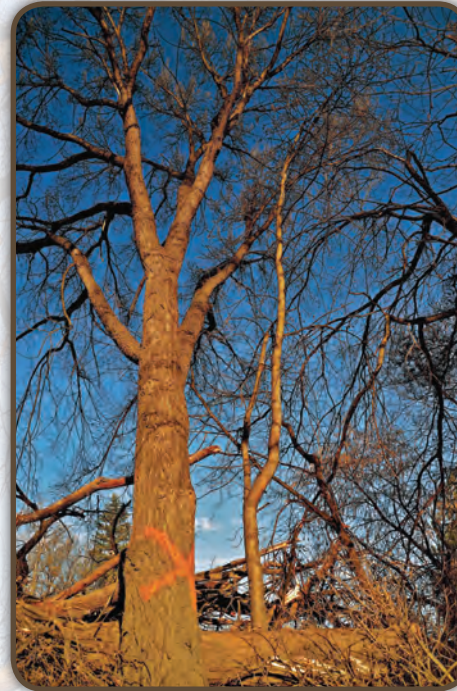
Conifer evergreen trees
or shrubs of coniferinae
including pine, spruce, fir
and other cone-bearing
trees and shrubs.

ANIIB (IIG)

Common Name: American Elm (s)

Latin Name: *Ulmus Americana*

Aniib is a fast growing deciduous tree reaching heights of 50 to 70 feet tall, and diameters of up to 48 inches at maturity. Aniib was once a long-lived tree, often reaching 200 years of age. However, a wilt fungus called Dutch elm disease (*Ceratocystis ulmi*)



usually kills most trees before they are 30 years old. Saplings seem to be immune to the disease. The trunk is buttressed (tree root that extends above ground). The bark of young trees is dark grayish-brown with broad, shallow, ridges. Older trees are gray and deeply furrowed. The leaves are alternate, simple, double-toothed, and elliptic to egg-shaped, tapering to a point at the tip. The upper surface is dark green, slightly rough, and the underside is paler and slightly fuzzy. In the fall, the leaves turn yellow. The flowers emerge before the

leaves in early April to mid-May, and have both male and female parts.

They are borne in small, loose, clusters on the previous year's twigs.

They have no petals, and only 7 to 9 stamens with red anthers.

The fruit is a samara consisting of a dry, flattened, papery oval containing one seed. Bear Island and Sugar Point once had large amounts of elm; many of the huge stumps still remain. It must

have looked beautiful to see these trees growing.



ZHINGOB (IIG) OR ZHINGWAAB (IIG)

Common Name: Balsam Fir (s)

Latin Name: *Abies balsamea*

Zhingob is a medium size conifer, reaching heights of 40 to 60 feet. His bark is smooth, grayish in color, and marked by blisters filled with resin or balsam pitch. Their leaves are needlelike, but flat; length 1/2" to 1" with rounded point; dark green and lustrous above, and silvery-white beneath, and are wonderfully fragrant. The beautiful fragrance given off was understood to represent the tree praying for the People. If people were walking by the balsam fir when she released her fragrance, they would know that someone somewhere needed prayers.



Cones grow upright on branches, are purple in color, oblong with a length 2 to 4 inches, and ripen in the autumn of the first year. Seeds have wide wings and fall, along with the scales of the cone, when they are ripe, leaving the hard central axis standing upright on twig-like spike.

The Ojibwe people have traditionally harvested parts and products from zhingob for various kinds of utility and medicinal purposes; however, today, the most common product is boughs. It's important not to overharvest. In New England and the Appalachian region balsam fir (*Abies balsamea*; Zhingobiig and hemlock (*Tsuga canadensis*; Gaagaagimizhiin) are under

attack by the balsam and hemlock woolly adelgid, respectively. These introduced aphid (plant lice) relatives build to huge numbers, extracting stored food reserves from their respective hosts and basically starving them. While the cold winter temperatures traditionally experienced in the ceded territory may rid the forests of a large portion of these insects in some



years, their ability to survive under the snow and to multiply rapidly in the spring means that if they arrive, they will always be a threat to conifers.

MAANAZAADI (WAG)

Common Name: Balsam Poplar (s), Balm-of-Gilead, Bam

Latin Name: *Populus balsamifera*

Maanazaadi is a medium-sized to large, fast-growing, short-lived tree. Mature trees will usually reach heights of 40 to 70 feet with diameters of 4 to 20 inches at breast height (DBH). The bark of young trees is somewhat smooth, greenish-brown to greenish-gray in color with raised, diamond-shaped, lighter colored lenticels. Lenticels later become vertical cracks as the tree matures and the bark becomes thick and turning darker gray or grayish-brown.



Maanazaadi has two types of leaves: early (preformed), and late (neo-formed). Early leaves overwinter in the bud and are nearly fully formed before bud burst in the spring. They are the first leaves to mature in the spring. Neo-formed leaves are all of the subsequent leaves produced during the season.



Leaves are deciduous, alternate, and simple, egg-shaped to narrowly egg-shaped, tapering to a point at the tip with straight sides along the tip. The top is dark green, shiny, and hairless. The underside is paler and covered with a whitish, waxy coating, and hairless. The leaves turn yellow in the fall. Male and female flowers are produced on separate trees appearing before the leaves in early May to early June. Both male and female flowers are catkin clusters. Their fruit is an egg-shaped capsule containing 30 to 44 seeds. The seeds are released late May to June and are dispersed by wind.

Forests containing Maanazaadiwag support a wide variety of wildlife, including moose, whitetail deer, wolf, coyote, black bear, grizzly bear, lynx, snowshoe hare, pine marten, and beaver. Moose, whitetail deer and snowshoe hare eat Maanazaadi to some extent. Beavers use Maanazaadi for food and building materials. Beaver activity also creates additional habitat for birds and others.

WIIGOB (IIG)

Common Name: Basswood (s)

Latin Name: *Tilia americana* var. *americana*

Bisha'igobi =

"to peel basswood"

Basswood is a fast-growing, long-lived (often surviving over 200 years) deciduous, hardwood tree. These trees usually grow to 50 to 70 feet tall, with a diameter up to 36 inches. Some have been known to reach 90 feet in height. The trunk is straight, and there are often suckers growing at the base of the trunk. When struck lightly with the handle of a tool, the trunk sounds hollow.

The bark on young trees is thin, smooth, and light gray. As the tree ages, the bark becomes moderately thick, dark grayish-brown, with deep, V-shaped fissures. The leaves are large (3" to 6" long and 2" to 5" wide) egg-shaped to nearly circular, and alternate with coarsely toothed margins. The upper surface is dark green and hairless; the underside is a paler green. In autumn, the leaves turn yellow to orange. Leaves on suckers are often much larger.

Basswood flowers can be both male and female, emerging in early July to early August, and they last two weeks. The individual flowers are fragrant and have 5 hairy sepals, 5 greenish-yellow to white fuzzy petals. The fruit matures from mid-August to mid-September as a spherical, hard, nut-like drupe with fine hairs and tipped point, brownish in color, and less than an inch in diameter.

Strips of fiber from the inner bark provide very strong cordage. Basswood bark loosens on the trunk around mid May-July (depending on weather conditions). Some people say early June is the prime time to harvest, and that trees between 5-7 inches are the best size. Harvesting always starts with offering asemaa (tobacco), then making a cut all the way around the trunk's circumference at the base of the tree (called girdling). The next step is pulling 1-3 inch strips up the entire length of the tree. When the strip reaches the top, then the strip is snapped off the tree by whipping it up and back simultaneously. We harvest as much as possible and share the harvest



because once the bark is stripped, the tree will die. This does not mean the tree is wasted; you can return after the tree has dried out and is easier to carry from the woods. Basswood is a wonderful carving wood.

Strip the inner bark from the outer bark by soaking them for a couple of days. This will make it easier to separate the inner bark from the outer bark. Soak the inner bark again for a longer period of time until it becomes separate thin layers. After the soaking, you can let the inner bark strips dry out and coil for easy storage. Strips twined together make strong, durable rope, or can be used for lacing baskets.

WIIGWAASI-MITIG (OOG)

Common Name: Paper Birch (es)

Latin Name: *Betula papyrifera*

There is a story about Wenaboozhoo being pursued by some eagles and hiding in a birch tree. Birch protected him. He was so grateful for this protection that he repaid the Birch Trees with a gift of protecting anything contained in the bark of Birch. Anishinaabeg use Birch bark for protective shelters, canoes to protect us when traveling about on water and our containers to keep our food.

Anishinaabeg have been using birch bark to collect, store, and cook food and other products for centuries. It was recently discovered that the outer bark contains botulin, an antifungal chemical making it ideal for food storage. Birch bark is a valuable construction material — light weight, pliable and yet strong and easily cut with a knife, shaped and sewn together. The bark also contains an oil that can be extracted. The oil is thick and can be used as a glue or sealant and is known to have air purification type qualities.



Many forests in Minnesota are managed only for trees with a high market value, not diverse healthy forest ecosystems. Birch is one of those trees that has little market value and as such is not considered in federal, state and county forest management. This makes it hard to find Birch trees on public land that are of quality and quantity necessary for traditional use.

Birch is a medium-sized deciduous tree with thin, smooth, very white bark marked with pores or “lenticels.” The leaves are alternate, heart-shaped, dull green on top with a yellowish green on underside. Birch leaves turn light yellow in autumn. Flowers are in the form of separate male and female catkins from half inch to one and half inches long. Fruits are in the form of a nutlet, resembling a cone which contains many seeds and ripen in late August-September.

BAAPAAGIMAAK (OOG)

Common Name: Black Ash (es)

Latin Name: *Fraxinus nigra*

Black ash is a rather small, slow growing tree found growing in bogs, along river bottoms, and other poorly drained areas. These trees can reach heights of 40 to 80 feet, and reach diameters of 12 to 24 inches. Black ash bark is smooth in young trees, but becomes scaly to corky, gray-brown. Their leaves are opposite, pinnately compound, 7 to 11 sessile, serrated leaflets; whole leaves are 10 to 14 inches long, dark green above, lighter below with tufts of brown hair. Black ash is monoecious (separate male and female flower on same tree) female flowers are in loose panicles; males in tighter dense clusters, both appear before the leaves in early spring. Their seeds are single, paddle-shaped samaras produced in clusters. As seeds ripen, they are dispersed via wind, water, and animals. Most seed is immature at the time of dispersal and requires a growing season to mature and germinate. Seedling development is relatively slow. Black ash develops a shallow fibrous root system that is well adapted to periods of soil saturation.



These trees have been historically, and are currently, relied upon for multiple uses, most notably the use of Black ash (*Fraxinus nigra*) wood splints by traditional basket makers. Ash trees continue to be used for the construction of many items including baskets, snowshoes, hunting and fishing decoys and canoe paddles. People who work with this wood possess considerable knowledge about Black ash and the ecosystems where these trees reside. Much of this information has been passed down through generations for centuries; some refer to this type of knowledge as traditional ecological knowledge.

The winged seeds are eaten by a number of birds and animals including wood ducks, purple finches, pine grosbeak, beaver, porcupines, and white-footed mice. Rodents and sometimes wild turkeys shuck off the wing and eat only the seed inside. White-tailed deer and moose browse on the twigs and foliage. Black ash is at risk to Emerald ash borer. Methods to reduce the spread of this invasive insect are outlined under White ash.

MAANANOONS (AG)

Common Name: Ironwood (s)

Latin Name: *Ostrya virginiana*

Ironwood can be found mostly in rich, not-too-dry soil in forests of mixed hardwoods. He is very shade tolerant and slow growing. Ironwood can reach heights of 20 to 40 feet, and diameters of 5 to 12 inches. The bark is light gray brown; furrowed and irregularly ridged. Leaves are simple, alternate on the stem, length 2 to 4 inches; generally oblong with narrow tips; doubly-toothed margins; dark yellow-green above and paler below, turning a dull yellow in the fall. The same tree will produce both male and female (monoecious) flowers in the form of catkins appearing in spring when leaves emerge. The fruit is a small flattened, ribbed, hard nutlet which ripens in July and August.

Buds and catkins of eastern Ironwood are important winter food for ruffed grouse, and the nuts are a secondary food in the fall. The nuts are also a preferred food of sharp-tailed grouse and wild turkey, and are eaten to a lesser extent by both red and gray squirrels, cottontails, purple finch, rose-breasted grosbeak, and Downy woodpeckers.

Ironwood can be used for medicinal purposes, and the wood is very strong, making an excellent choice for lodge poles and sled runners.



OKIKAANDAG (OOG)

Common Name: Jack Pine (s)

Latin Name: *Pinus banksiana*

Jack pine are found in abundance on Leech Lake and in north-central Minnesota. Many forestry programs have planted Jack pine and other pines in monoculture (pure) stands. Usually, the first of the pines to emerge after fire is Jack pine. He is a very hardy pine species that can thrive in sandy soil too low in nutrients to support White or Red pine. Jack pine grows to heights of 25 to 60 foot, with diameters of 8 to 20 inches (DBH). Leaves are needle-like, stubby, flat, grayish green. They grow in bundles of two and are slightly twisted.

Jack pine are monoecious. Male flowers are cylindrical, yellow-green clusters on the tips twigs; females are oval and reddish. Cones are about 1-1/2 inches long and curved. They are brown when ripe and turning gray as they age, they often remain attached to branches for many years; however, the seeds remain viable. When cones open, small-winged triangular seeds can be carried far in strong winds. Jack pine cones are sealed with a resin that prevents the cone from drying out and releasing their seeds unless certain conditions are met. The resin only melts at or above 112 degrees Fahrenheit. Such high temperatures are reached during forest fires and on extremely hot summer days. When the resin is melted, cones open to release seeds.



MAKOMINAGAAWANZH (IIG)

Common Name: Mountain Ash (es)

Latin Name: *Sorbus Americana*

Mountain ash is a small tree sometimes reaching heights of 20 to 30 feet, and diameters of 4 to 12 inches. Their spreading, slender branches create a narrow round-topped crown. On young trees, the bark is smooth with numerous lenticels (pores). As the tree matures, the bark turns grayish brown, developing cracks, splits and scaly patches. Their leaves are alternate, pinnately compound, sharply-toothed, dark green above, paler below. The leaves turn bright yellow in fall. Their flowers are showy clusters of small white flowers, 3 to 5 inches across, appearing in late spring to early summer. Their fruit are clusters of small orange to red colored pomes (a receptacle enclosing the ovary and seeds) that ripen in fall. Few trees have berries all winter but Mountain ash is one of them.

Mountain ash has many medicinal properties. The berries are rich in iron and vitamin C. The berries are edible, but acidic, and do not taste good when eaten raw. They can be cooked with meats for seasoning, or made into jelly.

Mountain ash is a preferred browse for moose. It can comprise up to 57% of their summer diet. White-tailed deer, fishers, martens, and snowshoe hares, also browse American Mountain ash. The berries are also eaten by many birds such as ruffed grouse, sharp-tailed grouse, robins and other thrushes, cedar waxwings, blue jays and gray jays, squirrels, and rodents. Yellow-bellied sapsuckers drill into American Mountain ash trees to obtain the sweet tasting sap.

In late autumn or winter, one will see an entirely different kind of tree dotted here and there among the green pines and spruce. These are Mountain ash trees covered in a mass of brilliant red berries. The more berries on the tree, the more severe the winter will be. Why? A legend tells that long ago a severe winter had set in. Snowdrifts grew high and temperatures dropped extraordinarily low.



While in search of food, some hunters became terrified when they came upon hundreds of birds and small animals lying dead on the frozen snow bank near a tree. Immediately they banded together in great numbers and offered prayers' to the Great Manidoo (Spirit), as they were worried what had caused the birds to die would also destroy them.

The Great-Spirit answered them by instructing them to take one drop of blood from every dead bird and small animal and place the drop on a tree. The people chose the Mountain ash, as this is the tree they used for making bows and arrows, their best means of survival in the long winter months. The next morning every tree they had placed drops of blood on bore thousands of berries. The birds and small animals that had survived were perched on the Mountain ash branches eating the delicious berries. From that time on, Mountain ash has held onto the berries all winter and whenever a hard cold winter is approaching again, Mountain ash offer abundant food.

MISKWAAWAAK (WAG)

Common Name: Easter Red Cedar (s)

Latin Name: *Juniperus virginiana*

Red cedar, is a small evergreen tree, usually 10 to 40 feet, with diameters of up to 24 inches. The bark is thin, reddish-brown in color, with long, vertical shred-like strips. Leaves are opposite, scale-like, covering older twigs closely in alternating pairs. On new shoots, they are sharp pointed and spreading, dark green. Flowers are small, cone-like on end of short twigs. Fruits are dark, dusty blue, fleshy 'berries' (cones), 1/4 inch diameter, ripening the first season, with 1-2 seeds in each cone.



FUN FACT:

Cedar is one of the four medicine plants purifying herbs. Red Cedar provides food and cover for numerous birds and mammals. Winter food and protection is particularly important for whitetail deer.

ININAATIG (OOG)

Common Name: Red Maple (s)

Latin Name: *Acer rubrum var. rubrum*

Red maple is a moderately fast-growing, moderately long-lived, and medium to large deciduous tree, rising on a single trunk from shallow, horizontal roots. Mature trees are usually 40' to 70' tall and up to 24" in diameter, though large individuals can reach over 80' in height. Maples typically live 100 years, rarely more than 150 years. Red maples can be found in wet to dry areas from swamps to upland woods.



In the forest, the trunk is usually unbranched for half its height and the crown is narrow and short. The bark on young trees is silvery gray and smooth, with random, vertical cracks. Mature trees have bark that is gray to dark grayish-brown. The bark separates into multiple layers of vertical, plate-like strips.

The leaves are opposite, 2½" to 4" long, and nearly as wide, palmately lobed with usually 3 to 5 lobes. The lobes taper to sharply-pointed tips. The space between the lobes are sharply V-shaped. The upper surface is light green and hairless. The lower surface of young leaves is paler green and hairless or sparsely hairy. The lower surface of mature leaves is often strongly whitened, waxy (glaucous), and hairless or sparsely hairy along the main veins. In the fall, leaves turn scarlet red, orange, or yellow. Fallen leaves break down quickly.

Red maples flower from March to May, long before the leaves. The flower is a short, dense cluster from lateral buds on the branches. Red maples produce both male and female flowers on the same tree, but on different branches, and are pollinated by wind and insects.

The fruit is a pair of dry seed cases with papery wings attached. They occur in clusters that droop downward from long stalks. They are slightly connected to each other when young and separated at maturity. The seed cases are plump. The wings are usually ½" to 1" long and are initially green turning from red and brown with age. Usually each seed case contains only a single, viable seed.

FUN FACT:

Red Maple can be tapped for syrup as all Maples can, but the sugar content of the sap is generally less than that of the Sugar Maple.

BAPAKWANAGEMAG (OOG)

Common Name: Red Pine, Norway Pine (s)

Latin Name: *Pinus resinosa*

Gaa'Miskwaawaakokaag, place where the trees turned red, is the traditional name for the area now called Cass Lake. Red Pine is a cone-bearing evergreen tree (conifer) often growing to heights of 80 feet with diameters of up to 36 inches. These trees are long lived and can reach 500 years of age. The bark of Red Pine is pale red and the wood itself is a pale red. On mature trees the braches start about two-thirds of the way up the tree trunk. Their leaves are long, dark, glossy needles growing in pairs. Their cones are symmetrical ovoid, about 1.6–2.4 inches long. Before maturity, they are purple in color. Like all pines, the cones take two years to mature. Red Pines start producing cones at age 15 to 25 years and only produce a small amount of cones every three to seven years.



FUN FACT:

Red Pine has many medicinal uses. The boiled resin is mixed with tallow for use as a waterproofing material for canoes.



MISKWAABIIMAG (OOG)

Common Name: Red Osier Dogwood, Red Willow (s)

Latin Name: *Cornus sericea L*

Red Willow is a woody, deciduous shrub generally growing 4 to 20 foot in height. The bark and twigs are reddish to purple and fairly smooth. After leaf-off in fall, the deep red branches add a splash of color to the winter landscape. The bark, twigs, and leaves are bright green in spring through summer. Leaves are simple, opposite, between 2 to 4 inches long, dark green above, paler and hairy on the underside, with smooth margins. They produce a white to cream colored cluster of flowers from June to August. Fertile flowers form round smooth whitish droops containing a single seed. Plants do not produce seed until they are 3-4 years old.

Red Willow has many useful medicinal and technological qualities. The inner bark and leaves contain salicylic acid, the active ingredient in common aspirin (acetylsalicylic acid). The leaves or inner bark can be chewed or boiled as tea to relieve fever or other minor pain like toothaches, headaches, or arthritis. The inner bark is also used in tobacco mixtures.



Red Willow branches are straight, pliable, and flexible, making them an excellent choice for basket-weaving. Differences in stem color create a multi-hued design of light green, yellow, and orange, red to deep burgundy. Red Willow is also used as a dye to make red, light red, and even a khaki colored dye.

White-tail deer and moose browse the twigs, foliage, and fruits. The fruits of Red Willow ripen in late summer, and remain available through late fall, some berries may remain on the plant into the winter. A wide variety of birds — including wood ducks, bluebirds, crows, purple finches, yellow-shafted flickers, grosbeaks, robins, thrushes, vireos, cedar waxwings, woodpeckers, grouse, and wild turkeys — eat the berries. The shrubs provide excellent nesting habitat for these birds, as well. Mammals that eat the fruit and foliage include black bear, beaver, cottontail rabbits, raccoons, skunks, squirrels, chipmunks, and mice.

OPWAAGANAATIG (OOG)

Common Name: Smooth Sumac (s)

Latin Name: *Rhus glabra*

Smooth Sumac grows well at the edges of woods, on open slopes or rocky soil. This plant needs direct sunlight, and does not tolerate wet soil. Smooth Sumac spreads by rhizomes. Rhizomes are horizontal underground plant stems capable of producing the shoot and root systems of a new plant. This process allows the parent plant to propagate and also enables the plant to survive underground. Smooth Sumac is one of several sumac species. It is a shrub that grows up to 10 feet tall. Smooth Sumac has many crooked trunks leaning in different directions.



The leaves of this shrub have a lot of small leaflets which together make one leaf. Leaves are medium-green, and the leaflets each have small-toothed edges. The leaves of Smooth Sumac turn bright red in the fall.

The flowers of this plant grow in clusters three to five inches long. Flowers are shaped like a cone, with clusters of red berries which are fuzzy or grainy and bloom in June and July. The flowers can be used to make a delicious refreshing lemonade-type beverage.

Making this beverage is simple. The first step is to harvest the berries. Sumac “berries” are really just seeds covered with a thin coating of flavoring substance and hairs. The large clusters are easy to collect. Just snap off the twig that bears the cluster



by bending it. You want to harvest berries when they are dark red and fully matured, allowing the tart flavor time to fully develop. July is usually a prime time to harvest. Taste each cluster as you harvest to assure yourself that you are collecting something with flavor since occasionally, they are bland. Sometimes a white, sticky substance coats the berry heads; this is pure essence of sumac flavor — don't let this worry you. Place a half-dozen or so berry clusters into a pitcher, pour cold water over them, crush them up a little by hand or spoon and place the mixture in a cool place. Pouring boiling or hot water over the berries makes for poor flavor, as it leaches tannins from the stem, causing the drink to become bitter. The longer the mixture is allowed to sit, the more the berries infuse creating a stronger drink. When the flavor is to your liking, strain the drink through cheesecloth to remove seeds and hairs. Sugar, honey or maple syrup can be added as a sweetener.

The tartness of sumac is partly due to ascorbic acid (vitamin C), an added health benefit of this traditional beverage.



ADOOP (IIN)

Common Name: Speckled Alder; Tag Alder (s)

Latin Name: *Alnus rugosa*

Alder can occasionally grow to tree size, but is most often considered a large shrub. Alder is usually found growing in wet soils with multiple-stems growing from the base. Leaves are simple and alternate, with doubly-toothed margins. Their bark is often marked with highly visible light-colored (white), horizontal, narrow lines (lenticels). The soft spongy tissue (pith) of twigs is star-shaped.



Flowering in March to early May, Alder's male flowers are long catkins or amendments (a slim, cylindrical flower cluster, with inconspicuous or no petals), the female amendments are smaller and reddish colored. Alder is one of the first plants to flower in the spring.

Sometimes you may hear people talk about how alder thickets provide cover for moose, white-tailed deer, rabbits, and others. Moose, muskrats, beavers, and rabbits browse the twigs and foliage. Songbirds, including redpolls, goldfinches, woodcock, and grouse eat the seeds, buds, and catkins. Beavers like to build their dams and lodges with speckled alder.

Root nodules of Alders support nitrogen-fixing bacteria resulting in surrounding soils being nutrient rich and promoting healthy growth for other plants. Alder has many medicinal properties and we encourage you to seek guidance of a mentor from your community to learn these things.



ININAATIG (OOG)

Common Name: Sugar Maple (s)

Latin Name: *Acer saccharum*

Ininaatigoog is the first to wake in spring and bless Anishinaabeg with the gift of maple sugar. Iskigamizigewin (sugarmaking) happens for several weeks during Ziigwan (spring). Traditionally, Anishinaabeg didn't use much salt; maple sugar was/is a basic seasoning for stews, teas, berries, vegetables. Large amounts are made during a few weeks each spring when the maple sap runs.

Sugar Maple is a long lived tree (300 to 400 years) but usually living 150 to 200 years. Sugar maple is a tall tree growing to heights of 80 feet or more with diameters of up to 24 inches. Young tree bark is light gray to brown and somewhat smooth.



Sugar Maple Camp

On older trees, the bark is gray to almost black, with irregular plates or scales. Twigs are smooth and reddish brown with sharp-pointed winter buds. Leaves are opposite, simple, 3 to 6 inches long, with 5 delicately rounded lobes; green above, paler below. In the fall, they turn to brilliant shades of dark red, scarlet, orange, or yellow. Mid-to late spring, as the leaves emerge, trees produce flowers. Sugar maple is either dioecious or monoecious, producing separate male and female flowers on the same or different trees. Both male and female flowers are drooping umbels consisting of a yellowish green calyx. Cross-pollination occurs by the wind during a 1-2 week period. Fertile female flowers are replaced by paired samaras that become mature during the fall.

Sugar maple is commonly browsed by white-tailed deer, moose, and snowshoe hare. Gray squirrels and flying squirrels feed on the seeds, buds, twigs, and leaves of the sugar maple. Porcupines consume the bark.

Sap starts to run around mid-March; the exact time depends upon weather conditions. Sap flows when daytime temperatures are above freezing (32 degrees Fahrenheit/0 Celsius) and nighttime temperatures are below freezing. Rising temperatures create pressure in the tree making the sap run. Sap usually runs for about 4 to 6 weeks.

All Maple trees can be tapped to produce sugar but maples with the highest sugar content in their sap are Sugar, Black, Red, and Silver. Tap mature trees that are at least 12 inches in diameter. More than one tap can be placed on a tree depending upon its size.

Select trees with the greatest exposure to sunlight. Most trees are tapped about 3 feet above the snow and will vary based on what is convenient for easy collection. Some say that if the tree was tapped in the previous seasons, not



to tap within 6 inches from last year's tap hole. Most taps require a 7/16 or 5/16 size hole. Drill the hole about 2 – 2 1/2 inches deep. It may be helpful to wrap a piece of tape around the drill bit as a guide. Drill the hole at a slight upward angle. The shavings from the drilled tap hole should be light brown; this means the tree is healthy. Remove the shaving from the hole with a twig. Insert the tap into the hole and gently pound the tap into the tree with the blunt end of a hatchet. If the sap is flowing, it will immediately start dripping from the tap.

Use only food-grade containers to store your collected sap. Local grocery stores are a good source for 2-5 gallon size buckets. When sap is flowing, collect the sap daily. Pour the sap from the bucket into a storage container, new 30 gallon trash cans or 55 gallon food-grade barrels work well. Use cheesecloth to filter out leaves, bugs and twigs. If part of the sap is frozen, the ice can be taken out and placed on the ground.

NUMBER OF TAPS THAT CAN BE PLACED ON A TREE:

Diameter	# of Taps
12-20 inches	1
21-27 inches	2
Greater than 27 inches	3

TO MAKE MAPLE SYRUP:

Excess water is boiled from the sap. It takes about 38- 40 parts maple sap to make 1 part maple syrup, as a general rule 10 gallons sap to make 1 quart syrup. It's best to boil down your sap at least every seven days.

Because large amounts of steam are generated by boiling sap, boiling indoors is not recommended. Fill a large pan or pot with sap. Place it over the fire. When the sap starts to boil down to about a quarter or half the depth of your boiling container, add more sap and try to maintain the boil. If the sap is boiling over the edges of the pot, lower a branch from a balsam fir to stop the foam from boiling over. Boiling sap will take on a dark golden brown color. Once the sap is nearly boiled down and has a thick fluid texture, it is time to transfer sap to a smaller pot.

Once in a smaller pot a final boiling can be finished indoors. Continue boiling the sap until it takes on a consistency of syrup. Check by dipping a spoon into the sap. Good syrup will "stick" to the spoon as it runs off. At this point, it is important to watch the boiling sap very closely as it approaches syrup stage, for it is more likely to boil over, or even burn. If using a candy thermometer, the finished temperature is 219 degrees F.

There is often a small amount of sediment in the syrup. Filter sediments out with a cheese cloth. This process may need to be repeated several times using a clean filter each time. Sterilize canning jars or bottles, lids and caps in boiling water. Pour syrup into jars.

MASHKIIGWAATIG (OOG)

Common Name: Tamarack (s)

Latin Name: *Larix laricina*

Although the Tamarack tree resembles other evergreens, the tree is actually Minnesota's only deciduous conifer tree. Tamarack is fast-growing and short-lived, usually no more than 150 years old. Average mature trees are usually 40' to 70' tall and 14" to 20" in diameter at breast height. Tamarack commonly grows in swamps and sphagnum bogs, but also grows in upland soils. Very often you will see the tall tamarack trees growing in pure stands.

The trunk is slender and straight, the bark on young trees is smooth and gray but once the tree matures, the bark is rough, reddish-brown, thin, and flaky, with small scales. There are 2 types of branches. Branches of the current year are long and have scattered, single leaves. Branches from prior years develop lateral, dwarf, secondary branches. These secondary branches are slow-growing and produce crowded clusters of many leaves.



The needle-like leaves are soft, pointed, slender, $\frac{3}{4}$ " to $1\frac{1}{2}$ " long, and deciduous. They are flat on top; the underside has a groove making a leaf look 3-sided in cross section. Leaves are bright green in the spring turning to a bluish green in the summer.



Just before the needles drop in autumn, the needles turn a beautiful golden color, giving stands of tamarack a striking contrast to other fall foliage.

Tamarack trees produce both male and female cones on the same tree. Pollen (male) cones are spherical and yellow. Female cones at the time of pollination are almost spherical and red.

Pollination takes place in late April or early May. Male cones shed pollen, then wither and fall away. Female seed cones mature mid-August to September. Mature seed cones are light brown, woody and egg-shaped, about $\frac{3}{8}$ " to $\frac{3}{4}$ " long.

Tamarack roots are used to make twined woven bags. The roots are stripped of their outer bark and boiled to make them pliable. These bags are used for storage. Larger tamarack roots can also be used as lacing on the edges of canoes.

Ask a story teller about the Dibaajimowin (story) of Gijigijigaaneshiinh miinawa mashkiigwaatig (Chickadee and Tamarack) a story of compassion, assistance, and humility.

AZAADI (WAG)

Common Name: Trembling/Quaking Aspen (s), Poplar, Popple (s)

Latin Name: *Populus tremuloides*

Aspen is a short lived tree, living approximately 50-60 years, and considered a small to medium size tree reaching heights of about 65 feet and diameters of 12 to 20 inches. The greenish white to whitish gray bark is one identifying characteristic of this tree, but the bark is special for more reasons than just its unique appearance. The bark layer of quaking aspen contains chlorophyll and is able to carry out photosynthesis, a task usually reserved for leaves. The leaves are simple alternate, small, and broadly oval with a finely toothed margin. Leaves are shiny green on top with a dull green underside, turning stunningly golden in fall. Leafstalks are flattened at right angles to leaves, causing leaves to quake or tremble in a very slight breeze.



Aspen flowers in April-May, with male (staminate) and female (pistillate) on separate trees, both flowers are catkins. The fruits are flask-shaped capsules that split open, releasing tiny seeds — each with a tuft of long, white, silky hairs, making it easily transported by wind. Young trees will flower after 2-3 years of growth but high seed production takes 10-20 years.

Young quaking Aspen provide food and habitat for a variety of wildlife: black bear, deer, beaver, porcupine, moose, ruffed grouse and many smaller birds and mammals such as mice, voles, shrews, chipmunks, and rabbits.

Ruffed grouse is especially dependent on quaking aspen for food and nesting habitat. Aspen 15 years or older provide the most important year-round food sources in the form of green leaves, flower buds, and catkins. During winter, the flower buds of Aspen become the staple grouse food. Aspen also provides a thick, dense cover to protect nesting grouse and hens with broods from predators such as hawks, owls, foxes and coyotes.

AAGIMAATIG (OOG)

Common Name: White Ash

Latin Name: *Fraxinus Americana*

White Ash is a large tree growing between 50 to 80 feet tall. The leaves are smooth, green and lanceolate shaped, opposite, pinnately compound 7 (5-9) arranged in leaflets. Ash are dioecious (male and female born on separate trees). Their flowers appearing April-May are numerous, very small, green to purplish in color forming in small clusters at the tips of branches. The fruit appears in August-October as a Samara (a simple winged fruit) and hang in clusters, maturing in fall and dispersing over winter. White Ash begins producing seed at a minimum age of 20 years.



Wood of White Ash is valued for its strength, hardness, heavy weight, and elasticity (easily bent). Ash is a preferred wood for the construction of snow shoes, toboggans, bows, lacrosse sticks, canoe paddles, and many other tools. White Ash has a variety of medicinal purposes; an example being juice from the leaves, which can be applied to mosquito bites for relief of swelling and itching.

The Ojibwe word Aagimaatig is broken down as follows: aagim = a snow shoe, aakwa = a word part meaning wood, organic solid.

Many animals browse on White Ash including white-tailed deer, beaver, porcupine, and rabbits. White Ash seeds are eaten by wood duck, northern bobwhite, turkey, grouse, finches, grosbeaks, mice, and other birds and small mammals. White Ash has a tendency to form trunk cavities which are used by cavity nesters such as redheaded, red-bellied, pileated woodpeckers, and others as well. Once a cavity nester excavates a hole, it becomes an excellent habitat for secondary nesters such as wood ducks, owls, nuthatches, gray squirrels and raccoons.

GIIZHIKAANDAG (OOG)

All of our White Ash (and other Ash species) are at risk of being lost to Emerald Ash Borer (EAB) which is an insect that destroys ash trees. EAB was found in St. Paul in early 2009. EAB only kills ash trees, but it does so in great numbers. This little insect has already killed millions of ash trees throughout North America. It is expected to have a huge effect on the landscape and the millions of ash trees that grow in Minnesota. This invasive (spreading) species was accidentally brought to the United States from Asia in the 1990s. It was first discovered in Michigan in 2002, and since then has been discovered in Ontario, Canada, Ohio, Indiana, Illinois, Maryland, Pennsylvania, West Virginia, Virginia, Missouri, Wisconsin, New York, Iowa, and now, Minnesota. Millions of trees have been lost.



Common Name: White Cedar (s)

Latin Name: *Thuja occidentalis*



The EAB can only fly short distances on its own; most of the spread is due to people transporting the insect, especially the larvae which are burrowed under the bark of firewood or landscaping trees. Adult female Emerald Ash Borers lay their eggs on the bark of ash trees. When the eggs hatch, the larvae burrow under the bark and eat the living tissue of the tree. This cuts off the ability of nutrients, water, and sugar to nourish the tree. After two or three years of heavy infestation, the tree dies.

Cedar is a shade tolerant, slow-growing tree typically found in dense, pure stands in northern wetland areas. Although occasionally he can be found growing on rather rocky areas like the famous “Little Spirit Cedar” tree growing in Gitch-Onigamiing (Grand Portage Reservation). The leaves are unique in their scale-like appearance and are amazingly aromatic. The bark grows long and vertical, and looks like shaggy strips. The cones are very small and grow in large clusters at the end of branches.

WHAT CAN YOU DO? *Limit your movement of firewood!*

The major contributor to the spread of EAB and other insect pests is the transportation of firewood from one area to the next. Larvae and pupae can hide beneath the bark and then escape as adult beetles after being transported many miles. Many of the places where EAB were found were parks and campgrounds. People had carried EAB with them when they brought firewood for a picnic or camping trip. We do not want the Emerald Ash Borer getting to the hardwood forests of the Leech Lake Reservation through human movement of firewood.

Utilize ONLY local firewood!



Making Rice Knockers

Cedar is utilized in many ways as the wood is rot resistant, light and buoyant, making it the perfect material for the thwarts, ribs and frames of birch bark canoes. Cedar is also used in making dikanaaganan (cradle boards) and Bawa'iganaakoog (rice knockers) and many other useful tools. Cedar leaves are used as a tea high in vitamin C!

MITIGOMIZH (IIG)

Common Name: White Oak (s)

Latin Name: *Quercus alba*

White oak is a long-lived, slow-growing tree, reaching 60 to 100 feet in height, with trunk diameter that can reach six feet! The bark is pale gray with scaly ridges and shallow fissures. The leaf is simple, alternate on stem and deeply divided into five fingerlike lobes which are rounded at the tips; light green above and much paler below. Leaves turn red or brown in fall and often remain on the tree most of the winter.



White oaks have male and female flowers. The male flowers are greenish-yellow catkins, up to four inches long, which hang from the end of twigs. Female flowers are small reddish spikes. White oak fruit is mature after one season and is called an acorn, growing over an inch long with a warty cap.

Acorns are good food! The nutritional breakdown of acorns from white oaks is 50% carbohydrates, 5% fat, and 4% protein. A pound of shelled acorns can provide 1,265 calories! Acorns harvested for consumption start by cleaning them, dumping them into water and separating the ones that float from the ones that sink. Floating acorns should be discarded. Dry the acorns in the oven at 150 F. for 15 minutes. They can also be sun dried for a few days if you have a place where squirrels will not carry them away. Drying them shrinks the nut inside making them easier to shell.

Acorns contain tannins, which makes them bitter. Tannins can be removed by leaching. There are three ways to leach acorns. The least common way is to bury them whole in a river bank for a year. When unearthed, they will be black in color, have a slightly sweet flavor, and be ready to roast. The second method is to grind them into a coarse meal and soak the meal in many changes of cold water until the water remains clear. Boiling is the third method, and has several drawbacks, including loss of the nuts oils, a rather bland flavor, and a bitter taste from tannins. Boiling is the most common method and is used most often in making acorn flour. Charred acorns have been used as a substitute for coffee.



White oaks depend on birds and animals, especially blue jays and squirrels, to spread their seeds to new places so more white oaks can grow. Many oak trees in Minnesota are at risk from a disease called oak wilt, which is caused by a fungus, *ceratocystis fagacearum*.

WHITE OAK ACORNS PROVIDE FOOD FOR A VARIETY OF WILDLIFE:

- White-tailed deer
- Wild turkey
- Cottontail
- Mallard
- White-footed mouse
- Common crow
- Eastern gray squirrel
- Eastern chipmunk
- Blue jay
- Raccoon

GAAWAANDAG (OOG)

Common Name: White Spruce (s)

Latin Name: *Picea glauca*

White Spruce can also be referred to as Canadian Spruce and Skunk Spruce. They are found in many forests on Leech Lake and throughout northern Minnesota. They can live in a range of habitats including the dry soils associated with pine, and on moist soils



and in swamps with Balsam Fir and Tamarack. They can also be found with mixed hardwoods. White Spruce usually grows to heights of 40 to 60 feet – occasionally 100' — with diameter reaching 24 inches. Their bark is dark gray or grayish-brown and scaly. Leaves are needlelike, four-sided, pale bluish in color when young, and dark bluish green when mature. White Spruce has a slender cone about 2 inches long with narrow-winged seeds maturing in one season. Cones usually drop during winter after they have opened and shed their seeds.

Spruce trees were widely used without too much distinction between black or white as their wood, resin, and needles have essentially the same properties. Spruce has many medicinal properties. The pitch or resin is extracted and used for many things including chewing gum. This practice was shared with colonists who mixed it with beeswax. The chewing gum industry was started in 1848 when John Curtis started producing “State of Maine Pure Spruce Gum” for sale in Portland, Maine.

Scurvy, a disease resulting from vitamin C deficiency, plagued migrants, sailors and soldiers who came to Turtle Island. Scurvy was unheard of among Natives as they drank a wonderful, delicious tea from spruce needles, and spruce is very high in vitamin C. When Natives shared their knowledge of spruce and vitamin C with colonialists, they started making beer with it.

FUN FACT:

Spruce roots can be peeled and split to use for lacing and the resin used as caulking for canoe joints and as waterproofing for strips of hide used for binding.

LEAF SHAPES & FLOWER PARTS



Hastate



Lanceolate



Linear



Lobed



Cordate Heart Shaped



Elliptical



Oblanceolate



Oblong



Ovate



Obovate



Sagittate



Pinnate

LEAF SHAPES & FLOWER PARTS



Doubly Compound



Palmately Compound



Pinnately Compound



Simple



Alternate



Lobed



Crenate



Doubly Serrate



Coarsely Serrate



Finely Serrate



Undulate



Smooth



Opposite

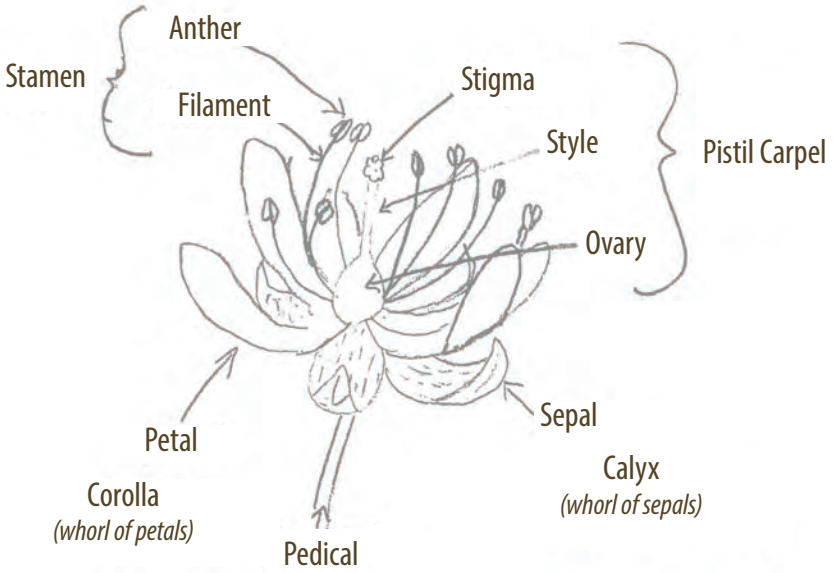


Whorled

LEAF SHAPES & FLOWER PARTS



LEAF SHAPES & FLOWER PARTS



Raceme



Spike



Umbel



PLANTS

Ookwemin (an) – *Black Cherry*

Wiikenh (yag) – *Blue Flag Iris*

Miin (an) – *Blueberry*

Apakweshk (ag) – *Cattail*

Azasawemin (an) – *Choke Cherry*

Maawidekwegozidiwashk – *Duckweed*

Ozaawijibik (oog) – *Goldenthread*

Bagaaniminzh (iig) – *Hazelnut*

Aniibimin (an) – *Highbush Cranberry*

Mashkiigojibik – *Labrador Tea*

Waabooyaabag (oog) – *Mullein*

Bawa'iminaan (an) – *Pin Cherry*

Agobizowin (an) – *Pink Lady's Slipper*

Bagesaanaatig (oog) – *Plum*

Miskomin (ag) – *Red Raspberry*

Ode' imin (an) – *Strawberry*

Wiingashk (oon) – *Sweet Grass*

Nikaanowashk (oog) – *Wild Calla*

Namepin (iig) – *Wild Ginger*

Bagawaj Zhigaagawinzh (iig) – *Wild Leek, Wild Onion*

Manoomin – *Wild Rice*

Oginii-waabigwan (iin) – *Wild Rose*

Waabizilpin – *Arrowhead*

OOKWEMIN (AN)

Common Name: Black Cherry (ies)

Latin Name: *Prunus serotina*

Black cherry trees grow to 30 to 60 feet in height and are shade tolerant. They can be found in mixed hardwood forests and along the edges of meadow. Their leaves are alternate, simple, oblong, lance-shaped, finely serrated, a lustrous dark green on top with a paler underside and turn yellow to yellowish red in fall. Flowers appear as small white flowers in hanging, narrow clusters 4-6 inches long in late spring, usually May. Their fruit (seed) are drooping clusters of pea-sized, dark red (nearly black) cherries, ripening in late summer.



Cherries can be mashed into a paste and then dried or powdered for winter use. The dried cherries can be mixed into cakes or added to soups. Pitted fruits are edible, eaten raw and used to make jams, jellies, syrups, juices. Wild cherries like pin and choke cherries have many medicinal uses and high nutritional value.



Wild cherries contain a cholesterol-lowering compound called beta-sitosterol and are a good source of Melatonin, a powerful anti oxidant and regulator of sleep.

Black cherry fruits are also important food for numerous species of passerine (perching) birds, game birds, and mammals, including the red fox, black bear, raccoon, squirrels, and rabbits.

Ookweminagaawanzh (iig) =

"Black Cherry Bush (es)"

WIKENH (YAG)

Common Name: Blue Flag Iris

Latin Name: *Iris versicolor*

Blue Flag Iris is typically found growing in marshes, swamps, or wet meadows, along shorelines, and in forested wetlands, preferring to grow in areas with unconsolidated soils high in organic content, and direct sunlight. Blue Flag will often tolerate standing water up to 6 inches deep.

Blue Flag have a basal leave arrangement growing from the lowest part of the stem. Their leaves are shaped like swords. The leaves grow from a thick, cylindrical stem that stands straight all the way to the flower. Blue Flag is a perennial (blooms every year) that flowers during May – June. The flower is formed of three petals and three larger sepals. The sepals tilt towards the ground with yellowish blotches at the base. The stamens and pistols are hidden between the sepals and the styles (the top petal-like structure above the sepals), making pollination selective to certain species. The fruit consists of a three-celled capsule containing two rows of densely packed seeds within each cell. The seeds are large and brown with a flattened round shape. There is an average of 18,000 seeds per pound!



As with most plants, Blue Flag has medicinal qualities. However, Blue Flag is known to be mildly poisonous to some individuals, and any use should be learned from a skilled mentor to avoid causing harm. This is true for all plants. The root mass of Blue Flag communities provides good shoreline protection. Many bugs such as bumblebees, skipper butterflies, and moths, are attracted to the flower for pollen. The root stock is a food source for muskrat.

MIIN (AN)

Common Name: Blueberry (ies)

Latin Name: *Vaccinium angustifolium* and *V. myrtilloides*

Miinikaa = "There are many berries" | Miinagaawanzh (iig) = "A blue berry plant (s)"

Miini-baashkiminasigani-biitoosijigani-bakwezhigan = "Blueberry Pie"

Miinan are a gift from Creator. They were sent from the stars to feed the people and keep them healthy. Creator marked the bottom of each berry with a star so the people would never forget where this berry came from. They can be found growing in acidic soils of open conifer woods, sandy or rocky barrens, and in bogs.



"I remember being a small girl and going blueberry picking with my grandmother. I would watch her small, wrinkled hands as she picked berries and told me stories of when she would go berry picking with her grandmother."

- Nicole Buckanaga

There are two types of Miinan: low-bush blueberries (*Vaccinium angustifolium*) and velvet leaf blueberries (*V. myrtilloides*). Both grow low to the ground as sprawling communities, woody perennial shrubs up to two feet high. Their leaves are narrow, elliptical with slightly rounded tips, deep green to bluish green.

Both plants have smooth leaves on top, but have a soft "velvety" underside. In May or early June, white to pale pink bell-shaped flowers appear. In July and August round blue berries, with a prominent five-pointed star on the bottom, grow in tight clusters.

Blueberries are important fruits in a traditional diet. Berries can be dried and used throughout the winter in soups and stews, mixed with wild rice or as a flavoring for meat.

There are many medicinal uses for blueberries. Be sure to ask a knowledgeable community member about these teachings. Blueberries are very nutritious. One cup contains 15% of your daily recommended Vitamin C. They are high in fiber and low in calories. The pigment that gives blueberries their color contains Anthocyanins, which are powerful antioxidants, and can be used as dye.

APAKWESHK (AG)

Common Name: Cattail (s)

Latin Name: *Typha latifolia*, *Typha angustifolia*

Cattails are very useful plants found growing in dense stands in marshes, ditches, shorelines, shallow areas of lakes, ponds, and slow streams; basically any quiet water up to 4 feet deep. You don't have to travel very far to find a cattail!

They have two ways to spread: Seeds from their flowers, and creeping roots called rhizomes.

In fact, an entire acre of cattails may consist of only a few individual plants.

They flower from May through July, but the tiny flowers have no petals.

They're packed into dense, cylindrical spikes; the

narrow upper part is the male, the wider lower part, is the female. In the spring, the entire spike is small and green. The male spike falls away after pollen is shed. In early fall, the brown flower heads expand, until they burst open releasing the fruit, tiny tufted nutlets that are less than 2 mm long! Wind, water, gravity, birds and animals distribute the fluffy seeds.



Dense Cattail stands help to prevent shoreline erosion and act as filter systems for storm water run-off. Cattails are also used in bioremediation (cleaning up a polluted site, using only nature) and cleansing water from waste water at treatment plants.

Cattails provide important food and cover for wildlife in a variety of ways. Red-winged blackbirds, marsh wrens and other birds perch and build their nests on them. Ducks and geese nest among them. Frogs and salamanders lay their eggs in the water on and between Cattail stalks. Fish hide, nest, and spawn among them. Many birds use the seed fluff to line their nests. Muskrats use the roots for food.

AZASAWEMIN (AN)

Common Name: Chokecherry (ies)

Latin Name: *Prunus virginiana*

The Chokecherry is a common shrub and can be found growing in a variety of places: mixed hardwood forests, clearings, slopes, as well as river and creek banks.

Chokecherry grows into a tall shrub on rich, loam soil or in low, moist, sunny places. On dry sandy soil, it tends to form a shorter, bushier form.

Chokecherry can be a large shrub growing up to 25 feet tall but often shorter. The bark is reddish-brown and smooth with visible lenticels (breathing pores). Their leaves are oval, smooth and alternate, dark green with paler undersides and finely toothed edges. Flowers appear as white clusters, in a loose 3-6 inch long terminal raceme, shortly after leaf out in May. Fruits appear the end of July-August as dark red to purple drupes. Each drupe contains a single egg-shaped pit (seed) which is fairly large in proportion to the flesh surrounding it.

Chokecherries are a food source for birds, wildlife and Anishinaabeg. **You can make delicious food and beverages from them.** Traditional dehydration is to simply place the fruit in full sun, on tightly woven tray type baskets. When the cherries become hard, the fruit is ready to be stored in a dry place. Paper bags work well for storage. Flour made from the dried cherries can change everyday baked goods into delicacies. Grinding one cup of fruit (pits included) will produce approximately 1/2 cup of flour, which can vary in consistency from powder to a coarse meal.



They also use the foliage to construct their houses. Muskrat houses can provide resting and nesting sites for water birds. Many insects eat and live on cattails.

Cattail has many medicinal uses, including poultices made from the split and bruised roots which can be applied to cuts, wounds, burns, and stings. Ash from burnt cattail leaves can be used as an antiseptic for wounds.

The utility of this cattail seems unlimited. They can be woven into baskets, mats, and beds. The dried seed heads attached to their stalks can be dipped into melted animal fat and used as torches. The seed heads and dried leaves can be used as tinder. The seed head fluff can be used for pillow and bedding stuffing or as a down-like insulation in clothing (try it in your gloves and mittens). The leaves can be used for construction of shelters or for woven seats and backs of chairs.

All of the cattail is edible. If you are lost and there are cattail nearby, you have a smorgasbord at your feet. However, if you only use cattails in an emergency, you are missing out on a delicious healthy food. The young cob-like tips of the plant are edible as well as the pollen, shoots, stalks and roots.

Apakweshkway Aniiibiish (an) = "Cattail Leaf (s)"

Apakweshkway Waabigwan (inn) = "Cattail Flower (s)"

Apakweshkway Ojiibik (an) = "Cattail Root (s)"

Apakweshkway (an) = "Cattail Mat (s)"

MAAWIDEKWEGOZIDIWASHK

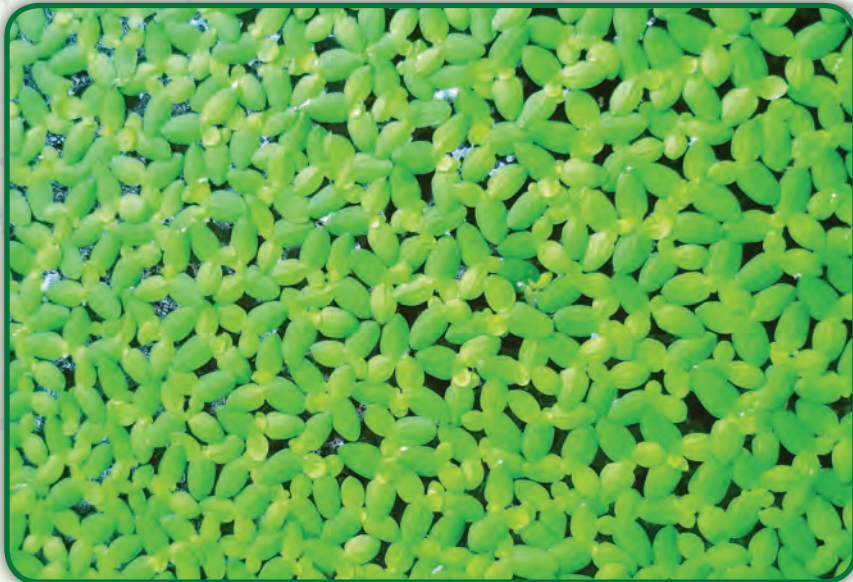
Common Name: Common Duckweed

Latin Name: *Lemna minor*

Common Duckweed grows in dense colonies in quiet, still water. As waters recede, duckweed can grow on wet mud. Plants develop buds (turions) in autumn which sink to the bottom of the body of water to overwintering. Buds rise to the surface in spring when water temperatures warm up.

Duckweed is one of the world's smallest flowering plants. Common duckweed is a herbaceous perennial. Each plant consists of an oval-rounded, flattened green frond (to 1/8" long) with a single downward-trailing root. Foliage is bright green. Duckweed rarely produces flowers but when this occurs, tiny white flowers appear.

The plant is called Duckweed because ducks (as well as other waterfowl) like to eat it. Fish also consume the plants. Duckweed is also an important food source for muskrats, beaver, birds (e.g., rails, herons) and small aquatic animals such as frogs.



OZAAWIJIBIK (OOG)

Common Name: Golden thread, yellow root

Latin Name: *Coptis trifolia*

Ozaawijiibik can be found growing in damp, slightly acidic soils under cedars, tamaracks, and black spruce. Ozaawijiibik derives her name from bright yellow, thread-like rhizomes (underground stems) which can be used to produce a yellow dye.

Ozaawijiibik is a perennial plant about 3-6 inches tall. The leaves are shiny, dark green above, and paler below. Ozaawijiibik forms dense mats as they spread by rhizome. The rhizomes are bright yellow in color. Flowering occurs in May-June and each plant may produce one flower, with 5-7 white petal-like sepals and 5 hollow, club-shaped golden yellow petals, which produce nectar at the tip. The petals are about half as long as the sepals. Fruits are a dry, cup-shaped pod (follicle) with a suture on the upper surface.



Ozaawijiibik is a very bitter tasting herb that has a number of medicinal uses, and can be used as a dye for quills and hides.

BAGAANIMINZH (IIG)

Common Name: American Hazelnut / Beaked Hazelnut (s)

Latin Name: *Corylus spp*

There are two varieties of hazelnuts growing at Leech Lake: The American hazelnut (*Corylus americana*) and the Beaked hazelnut (*C. cornuta*). Hazelnuts are a shrub growing about 10–15 feet in height; the Beaked hazelnut grows slightly shorter. Hazels have alternate simple leaves with doubly toothed margins. The twigs on American hazel have stiff glandular hairs while the twigs of Beaked hazel are smooth. The other notable difference is the covering of the edible nut. Beaked hazel's covering (involucre) is downy and forms a tube or beak while the American hazel's covering is rounded. The flowers are monoecious (individual flowers are either male or female, but both sexes can be found on the same plant) and are pollinated by wind. The plant is self-fertile. Hazelnut wood can be used to make arrows and their long, flexible shoots can be twisted into rope.



Hazelnuts provide great habitat with both cover and food available. Hazelnuts are eaten by squirrels, bear, deer, grouse and pheasant. The nut(s), called **bagaan(ag)**, should be picked in early fall, and can be roasted or eaten raw. They can be pounded into cakes with berries, meat, or animal fat. They can also be boiled to extract the oil to be used as flavoring.

They can be roasted many ways but a fun way is to dig a shallow bowl-shaped fire pit, line it with beach sand, and spread out harvested, cleaned (remove leafy cover) nuts in a single layer. Cover with about three inches of sand and build an average-sized camp fire on top. Let the fire burn out after an hour of good burn time. After the sand has cooled, scrape back the sand and collect your roasted hazelnuts.

ANIIBIMIN (AN)

Common Name: High-Bush Cranberry (ies)

Latin Name: *Viburnum trilobum*

High-bush Cranberries can be found in mixed-wood forests and thickets, swampy areas, river valleys and stream banks, edges and clearings. High-bush cranberry prefers full sun light, but will tolerate some shade.

High-Bush cranberry is a shrub, growing from 6-10 feet in height. Their leaves are opposite, 3-lobed maple-like leaves which are dull green in color and turn scarlet in the fall. Creamy-white flowers appear in late May-June. Each bloom has an outer ring of large sterile flowers with an inner ring of tiny fertile flowers. Fruits are bright, shiny reddish orange drupes growing in large beautiful clusters, ripening in September–October. Fruit hangs on the branches all winter.



High-bush Cranberries are high in vitamin A (20% of the Recommended Daily Allowance), vitamin C (25% of the Recommended Daily Allowance) and dietary fiber (28% of the Recommended Daily Allowance). One serving (½ cup) has 60 calories. High-bush cranberries are a rich source of antioxidants, a group of biochemicals shown to be an important part of the human diet.

High-bush cranberry provides wildlife food and cover for small mammals and birds. Twigs are eaten by deer, moose and beaver. Fruits are a staple winter food for ruffed grouse, and are eaten by at least five species of songbirds.

FUN FACT:

High-bush cranberries are not related to “true” cranberries which are a common food sold in grocery stores.

MASHKIIGOJIBIK

Common Name: Labrador Tea

Latin Name: *Ledum groenlandicum*

Wesawa'bagûk = “Yellow Leaf”

Mamîji'bagûk = “Hairy Leaf”

Mamîzhi'bagûk = “Woolly Leaf”

Description: Labrador tea is part of the heather or Heath family of plants, along with cranberry and blueberry. This is a shrubby plant growing 1-3 feet (.3-9 meters) tall. The narrow, leathery leaves are 1-2.5 inches (2-5 cm) long, alternate, and evergreen. The leaves are dark green above with edges that curl under along the edges, with a dense mat of orange-brown hairs on the underside. Numerous white flowers in tight clusters bloom from May to July. Each flower has a small five-toothed sepal tube with five separate petals, and 5-7 stamens. The fruit is a small, fuzzy capsule tipped with a persistent style.

Habitat and Range: Labrador tea thrives in acid peat bogs and forested peatland systems, despite very low nutrient levels. This plant grows throughout northern Minnesota including all of Leech Lake Reservation and the 1855 ceded territories. Companion plants include Black Spruce, Tamarack and White Cedar.



“I always pick enough to have on hand all winter, if somebody gets sick there is nothing like a hot cup of swamp tea to make you feel better.”

– Yvonne Hardy

There will always be a thick mat of sphagnum moss underfoot. Other heath species, including blueberry, cranberry, bog laurel, and bog rosemary may also be present.

Ecology: Labrador tea is well adapted for life in acidic bogs and swamps. It endures extremely low nutrient levels, cold winters, hot summers, flooding, and drought. Labrador tea conserves nutrients by not dropping its leaves. The edges of its leaves curl under to aid in reducing water loss. Thick leaves also help prevent the shrub from drying out in both extreme heat and cold. Labrador tea regenerates quickly following a fire. When burned “lightly“ (some above ground stem material survives) Labrador tea may sprout from stems. When complete top-killed, sprouting occurs from the root crown or rhizomes.

Traditional Use: Anishinaabeg used the leaves of Labrador tea to brew a fragrant and soothing tea. The leaves, fresh or dried, make a pale yellow tea, high in vitamin C. Dose: 1 teaspoon of leaves per cup of water.

Wildlife Use: The flowers of bog Labrador tea provide nectar for butterflies.



FUN FACT:

Leaves can also be used as flavoring when cooking meat as a bayleaf substitute. The leaves contain tannin. A brown dye can be obtained from the plant.

WAABOYABAG (OOG)

Common Name: Mullein (s)

Latin Name: *Verbascum thapsus L.*

Mullein is usually found in well drained sandy type soils, in direct sunlight. Some places to look are open meadows, pastures, along fence lines, roadsides, and other disturbed areas. Mullein is a tall straight biannual herb that grows up to 5



feet in height. The first year, Mullein leaves grow in a thick rosette formation which remains throughout the winter. The second year, Mullein produces a tall straight flowering stem. The woolly stem produces alternate oblong type leaves that are fuzzy bluish-green in color.

Flowers are attached to stem (sessile) borne on a long terminal spike. The flowers are bright yellow with 5 fused petals about 1 inch in diameter. Mullein dies after flowering. Mullein fruits are woolly oval capsules that split open once they mature, releasing 100,000 to 200,000 seeds from each parent plant. Seeds are dispersed by wind and animals, and can remain viable in the soil for over 100 years. Mullein reproduces only by seed dispersal. The root system is comprised of a deep taproot and fibrous roots.



Mullein is not indigenous to North America but has many medicinal uses, particularly for respiratory functions, and is sold as an herbal supplement. Many folks include Mullein in their Kinnickinnick mixtures. Leaves can be used to make a delicious tea, especially when combined with Rose Hips.

BAWA'IMINAAN (AN)

Common Name: Pin Cherry (ies)

Latin Name: *Prunus pensylvanica*

Bawa'iminagaawanzh (iig) =

"Pin Cherry Bush (es)"

Pin cherry is one of the first plants to grow after a forest fire travels through an area, and maybe why the plant is often referred to as the "Fire Cherry". Pin cherry can be found growing in clearings, cut over areas, and old fields, the edge of mixed hardwood forest, road sides, hillsides, well drained riverbanks and rock outcroppings.



Pin cherry is a small tree, sometimes looking much like a tall shrub growing from 3 to 25 feet tall. As with all cherry varieties in the area, the bark is reddish brown and smooth with lenticels (breathing pores). Their leaves are alternate, simple, and lance-shaped with finely serrated margins. The leaves are shiny green above, and slightly paler below. Flowers appear as small clusters (umbels) with 5 to 7 flowers per umbel. Individual flowers have 5 rounded white petals and numerous extended stamens with deep yellow anthers. Flowers mature to small bright red drupes each containing a single hard seed. Seeds are dispersed by birds, and other small creatures, and remain viable for many years.

AGOBIZOWIN (AN)

Common Name: Pink Lady's Slipper (s)

Latin Name: *Cypripedium acaule*

Many winters ago, on the shores of the Great Lake, lived a young Anishinaabe brother and sister. The young man was the best at doing everything young men



should know how to do. He tracked forest creatures and mimicked their calls. He was fast and silent in the woods and could swim like an otter! It was this young man's job to take messages between villages. His sister adored him and would often try to tag along, doing everything her brother did. Her brother would tell her to go home but she didn't listen very well.

One winter, an old woman in the village became sick. The next day, several others became ill. Soon nearly everyone in the village was ill with fever and weakness. No one knew what to do. A Healer lived in the village across the bay but the winter was windy, bitter cold and the snow was very deep. The Chief was not sure he should send the young man across the bay for medicine; he could be risking his life too. As more villagers became sick, the chief realized he had no choice. He would send the young man as soon as the sky became light the next morning.

That night, the young man became ill. His sister was beside him with her whole family; grandmother, father and mother, brother and others in the village all became ill. She decided to take his place and make the dangerous journey across the bay for medicine.

At first light, the young girl slipped out of her family's wigwam wrapped in a blanket and wearing her warmest clothes and the fur-lined moccasins that her mother and grandmother had made her. Through the blinding wind and snow she

could see the light of campfires in the village across the ice-covered bay. Head down to hide her face from the sting of cold and wind, she started out through the deepening snow.

The Healer welcomed her hours later when she reached the other side of the bay. Given a warm beaver robe and food, the young woman told of the illness that had struck her village. The

Healer mixed some medicines for her to take back to her village. The Healer said she should wait for the storm to break, and that his Grandson would accompany her in the morning. He warned her that traveling while tired, and in the darkness, would be foolish. She would not wait; she began the return journey immediately.

With the wind much stronger and the snow much deeper, she sank deeper into the snow with every step. Exhausted, she lay back in the snow breathing hard. Then she remembered watching otter playing in the snow as if it were water. Slowly, letting the snow support her, she began to slide her way through the deep snow.

When she reached the opposite shore, she was through the deepest snow, but somewhere along the way she had lost her moccasins! Now her feet were bare and cold. As she walked, her feet became red and raw. Sharp crystals of snow and ice cut her feet with every step. Each step left a blood stained footprint.

Sky had begun to lighten and she saw the shadowy outline of her village. Calling out for help, the worn-out girl stumbled on. The villagers heard and ran to help her. They carried the brave young woman home, wrapped her in warm robes and tended to her bleeding feet with healing ointments. The medicine she brought from across the bay saved her village.

The next spring, the young girl and her brother searched the woods and the lakeshore for her moccasins. Instead they found beautiful pink flowers shaped just like moccasins. There was one for every drop of blood that had fallen from the young girl's feet on her journey to bring medicine home from the other side of the lake.



Often you will see this story told with pictures of the Showy lady's slipper but the lady's slipper spoken about in this story is the pink lady slipper.

Most species of lady's slipper have three to several leaves growing from the base of the stem (basal), are

ovate to elliptical in shape and have distinct parallel veins. The smaller species may produce a few leaves at ground level with a single flower on a simple stalk while the larger species often have several leafy stems with multi-flowers on each stem. Their flowers are showy with the color of the petals and sepals, often contrasting (yellow and dark purple). Slipper or sac-shaped flowers usually appear in May to July. The flowers do not produce nectar, but insects are required to transfer pollen to the stigma. Pollinators seem to be attracted to the flower color and/or fragrance. The fruit are elliptical-shaped capsules (typical of orchids) which produce thousands of tiny seeds lacking a seed coat (endosperm), and require special conditions and fungal associates to successfully germinate.

All lady's slippers are at risk due to habitat loss. The Ram's-head lady's slipper is on an endangered list in the state of Minnesota, and the Showy Lady's-slipper is the state flower.



VARIETIES OF LADY'S SLIPPER ORCHIDS

You can find six varieties of lady's slipper orchids growing around the Leech Lake Reservation. They can be found growing in a variety of places: coniferous forests, mixed deciduous woods, bogs, fens, grasslands, and sandy shorelines.

Cypripedium acaule Stemless (Pink) lady's slipper

Cypripedium arietinum Ram's-head lady's slipper

Cypripedium parviflorum var. *makasin* Small Yellow lady's-slipper, **Makizan**

Cypripedium parviflorum var. *pubescens* Greater Yellow lady's slipper, **Makizan**

Cypripedium reginae Showy lady's slipper, **Agobizowin**

BAGESAANAATIG (OOG)

Common Name: American Plum

Latin Name: *Prunus americana*

The Wild Plum ranges in size from a tall shrub to a small tree 3-10 feet tall. It is thorny, winter-hardy, and thicket-forming. Leaves are alternate, egg-shaped to oval. The top of the leaf is shiny green and the underside is slightly hairy, with the leaf margins sharply toothed. Plums flower in late April-May, producing white flowers with 5 petals which grow in clusters of 2-5 at the end of branches. The fruit is a reddish-purple, fleshy oval plum. Each fruit contains one seed. Wild Plum flowers are insect-pollinated.



Wild Plums are another important traditional fruit, eaten fresh in the summer and dried for winter use. Plums can be cooked down to make plum butter. Plums are very nutritious, low in calories, high fiber and a great source of vitamin C. They are higher in carbohydrates than most fruit with a one-ounce serving having 24% of our daily value. Their red color is due to Anthocyanins, a powerful antioxidant. Plums are most healthful to us when eaten as raw fruit.



Plum thickets are valuable habitat for songbirds and animals, providing breeding and nesting habitats. Wild Plums are eaten by turkey, black bear, wolves, fox and many others.

MISKOMIN (AG)

Common Name: Red Raspberry (ies)

Latin Name: *Rubus idaeus*

Miskominaganzh (iig) =
"Raspberry Bush (es)"

Raspberries can be found in open type woods and forest edges, one of the first plants to appear in areas that have been burned or heavily disturbed. Raspberries are considered brambles (vine-like prickly shrubs) and often grow in thickets (dense groups). The stems of raspberries are called canes and grow up to 5 feet in height; although prickly they do not have thorns. The young canes are reddish to green in color, while older canes are brown.



Raspberry leaves grow alternately on the cane, and are compound. The flowers are white with five petals and appear in late May-early July. The fruit is a bright red globe consisting of multiple drupelets maturing mid-July to late August. Raspberry leaves can be harvested either before or after flowering, dried and used to make a delicious tea. Prepare the tea by steeping fresh or dried leaves in boiled water for 10 minutes. Raspberry leaf tea is full of vitamins and minerals.



Raspberry Salsa Recipe (see back pages)

ODE' IMIN (AN)

Common Name: Strawberry (ies)

Latin Name: *Fragaria virginiana*

Strawberry, the heart berry, has a tiny vine connecting each flowering plant just as we have invisible connections to other life around us. We need to be connected to live and feel alive. Ode' imin offers nourishment for our physical, mental, emotional and spiritual well-being.

One strawberry teaching is about forgiveness. Long ago, there was a family that chose not to live in their village because of fighting and ill will. They took their two young boys and moved deep into the forest. The father said, "The forest will nurture our children, the birds will sing them songs, and the animals will be their friends."

Tobacco was given and the forest far from their community became their new home. The boys grew tall and strong in their new home, but they also continued to wrestle and fight with one another. As they grew to become young men, their mom and dad told them it was time to give up these ways. The boys agreed to stop playing so rough with one another, but they did not! Secretly, they continued to wrestle and fight – they just went deeper into the woods so their parents would not know.

One day, they were wrestling and the older brother knocked his younger brother to the ground. The boy hit his head on a rock and died instantly. The oldest brother was filled with fear, regret and grief. He held his young brother, crying out in agony, "Please, please wake up... Please, please answer me." Nothing, just silence. After a time passed, a voice told him, "Bury your brother." He buried his brother there in the ground and returned home.

Acting tired and out of breath, he told his parents the younger brother was lost in the forest, and he couldn't find him. The family set out looking together, but they couldn't find him anywhere. The Dad returned to the community to get help. The community helped the family search for their boy, but they could not find him.

Every day the older brother would visit the grave of his younger brother and plead for him to wake up, for everything to be ok, but there was never an answer. This went on for years; as he grew into a man, he was always sad. He could not find joy in life.

Years passed with many visits to his younger brother's grave. One day, the elder brother saw a tiny plant growing, one he had never seen before. He watched it grow, flower, and turn to a heart-shaped berry. He heard a voice inside him tell him to pick the berry and eat it. So he did. The berry was sweet and delicious. When he ate the berry, he once again tasted the sweetness of life. He stopped blaming himself and mourning his little brother's death. After many years, he felt free.

Strawberry likes to live in well-drained soil with direct sunlight, maybe a little shade. Look for strawberries in disturbed areas, fields, meadows, open woodlands, or maybe even a sandy shoreline.

Strawberry is the first berry to appear, usually in late spring to early summer. They have coarsely toothed trifoliate compound leaves on a long, hairy stem. Stems are above ground runners (stolons).

Flowers appear from late April to June as clusters of white flowers, usually several blooming at a time and sometimes, nodding. Each flower has 5 round oval petals, about 20 yellow stamens surrounding a yellowish center, and 5 sharply pointed sepals. The fruit is a small red globe almost heart-shaped berries. The tiny seeds are held in shallow pits on the berry's surface.

FUN FACT:

Strawberries are an important fruit in a traditional diet. Nutritionally, strawberries are a great source of vitamin C. 1/2 cup contains 70% of the daily value!

Leaves



Flower



Fruit



Plant



WIINGASHK (OON)

Common Name: Sweet Grass (es)

Latin Name: *Hierochloe odorata*

Sweet grass is a native perennial grass. Its stems are upright, hollow and a reddish-purple color near the base, growing up to 24 inches tall from willowy spreading rhizomes. Leaves are elongated, narrow, flat, and hairless and have a strong vanilla scent due to a chemical compound called Coumrin. Sweet grass flowers from June through August. Sweet grass flowers consist of three spikelets, which are arranged in a golden brown panicle about 4 inches long. The spikelets are about 1/4 inch long. The lower two flowers are male and the upper flowers are perfect (having both stamens and pistils) and have shiny, hairless undersides. The fruit of sweet grass is a typical grass seed called Caryopsis; a caryopsis means the fruit and seed fuse into a single grain, corn being an example.



Sweet grass is usually found in moist soils of meadows, low prairies, and edges of woods, bogs, and marshes. Sweet grass is usually found growing among other grasses and shrubs, seldom found growing in pure stands.

Sweet grass can be used in pipe-smoking mixtures, along with Red willow and other plants. A tea can be brewed from the leaves to sooth a cough and sore throat. Strands of sweet grass can be coiled to make baskets, bowls, and flat mats.

Longer leaves from sterile shoots can be harvested several times during a growing season. Gather these leaves by grasping the shoots firmly near the ground and pulling until they break from the rootstock an inch or two below the surface of the soil. Take care not to pull up roots which will damage the plants. Never take all the plants from an area, take what you need and leave some for someone else. A good rule is to never harvest more than a quarter of all the plants. It used to be a common practice to leave a string or piece of cloth tied to one of the plants as a sign that harvesting had already occurred in that area.

NIKAANOWASHK (OOG)

Common Name: Wild Calla / Water Drum

Latin Name: *Calla palustris*

Wild calla is a perennial plant that likes to grow in acidic shallow slow moving waters of wetlands and marshes. These plants range from 4 to 8 inches tall, often

part of the stem is underwater.

The leaves of this plant are 2-4 inches long, waxy, smooth, and heart-shaped. The edges of the leaf curl inward. Calla blooms from June to August; the flower is a single cylindrical spike (spadix) about one inch long, studded with petal-less flowers and surrounded by a white oval spathe. The fruit is a pear-shaped berry that ripens to a bright red.



NAMEPIN (IIG)

Common Name: Wild Ginger (s)

Latin Name: *Asarum canadense*

Namepin can be found growing in moist (but well-drained) rich, organic soils of the maple basswood complex, in partial to full shade. Namepin is an herbaceous perennial, spreading by rhizomes. The two large leaves are heart-shaped flowers and velvety green, 3-6 inches across. They flower in April and May, producing a reddish brown cup-shaped flower with three long pointed lobes. The fruit is capsular, opening irregularly. The seeds are large, ovoid, and wrinkled.



BAGAWAJ ZHIGAAGAWINZH (IIG)

Common Name: Wild Leek, Ramp, Wild Onion (s)

Latin Name: *Allium tricoccum*

In early spring, before the leaves shade the moist rich soil of a mixed hardwood forest floor, and while Anishinaabe are still harvesting maple sap, some of the first plants to green up on the forest floor are wild leeks. In fact, you might even smell them before you see them.

Wild leek grows 4 to 12 inches with 2 or 3 broad, smooth green onion-scented leaves rising from underground bulbs. All parts of the plant, including the flower, have a strong onion odor. The leaves of the wild leek die back before the flower is fully expanded and functioning. The flower is a single umbrella-like flowering cluster (umbel) at the top of the scape (a round flowering stem). Wild Leeks produce 1/4-inch long, whitish green flowers that bloom in June-July. The fruits form a small ball-like cluster at the top of the stem. The fruit is a shiny 3-celled seed capsule with each cell containing one seed (the scientific name tricoccum is Latin for three-seeded).



Onions are high in sulfuric compounds such as thiosulfinates, sulfoxides, and other odorous cysteine sulfoxides. These compounds give onions their pungent flavor and are what make you cry when cutting them. Onions are extremely high in the antioxidant quercetin. Quercetin has been found to help the body fight free-radicals, and boosts the immune response. This may be why long ago, wild leeks would be sweetened with a little maple sugar and given to children suffering from a cold. The early leaves and bulb are delicious and can be dried for use later in soups and stews.



MANOOMIN

Common Name: Wild Rice

Latin Name: *Zizania palustris*

Manoomin, 'the good berry,' has played a major role in the life of Anishinaabeg. Oral traditions tell of a time when the Anishinaabeg followed a shell in the sky from the great waters of the East to the place where the food grows on the water. That food is wild rice, the only grain indigenous to North America. Manoomin has been a central food in ceremony and sustenance for our people ever since.

A truly healthy natural food, uncooked wild rice contains 14.5 percent protein compared to 12 percent protein in cultivated wild rice and 4 percent protein in white rice. Manoomin is gluten free, low in fat, and a good source of minerals such as iron, potassium and phosphorus, as well as vitamins like thiamine, riboflavin and niacin. Wild rice contains more niacin (vitamin B) than brown rice. In fact, Manoomin has more overall nutrition than any other food available to the traditional native diet. When finished correctly, wild rice can be stored for long periods of time, making wild rice a valuable food source when other foods are scarce.

Manoomin is an aquatic plant indigenous to North America. Manoomin grows in a range centered in the Great Lakes region of the United States and Canada. Manoomin provides an abundance of ecological value to lakes and streams and where Manoomin grows in abundance, it is generally an indicator of diverse biological communities. Manoomin is a critically important food source for migrating waterfowl such as mallards, blue-winged teal, ring-necked ducks, wood ducks and other species. Manoomin also benefits breeding waterfowl, providing roosting and resting areas for adults and protective cover for young.

FUN FACT:

Leech Lake is the Manoomin capital of the world, with over 13,000 natural stands. Many lakes across the state of Minnesota that used to produce healthy stands of wild rice have been diminished or completely lost due to pollution, development, dams, exotic species and recreation.

Manoomin provides other ecological contributions of food, cover, or physical structure for a wide range of fish and wildlife species. Manoomin provides habitat for a number of species ranging from invertebrates and insects to rails, red-wing black birds, and muskrats. Wild rice also helps maintain water quality by binding loose soils, tying-up nutrients and slowing winds across shallow wetlands. These factors can increase water clarity and reduce algae blooms. Wild rice is an ecological treasure.

Manoomin prefers the presence of flowing water, with rivers and flowages being optimal examples. Wild Rice also does well in lakes that have an inlet and outlet. Water depth is critical and grows best in 0.5 to 3 feet of water, with 1-2 feet being optimal. Clear water is preferred. Dark or turbid waters limit sunlight penetration hindering early plant development. However, moderately stained waters can support Manoomin, particularly where water depths are limited to about 2 feet or less. Annual water level fluctuations should not be too great, water levels during the growing season need to remain fairly stable for optimal growth. For wild rice stands growing in impoundments, dams should be operated to mimic natural water level fluctuation for optimal growth and production. Several inches of soft organic muck is considered best for Manoomin growth, but Manoomin is fairly tolerant and can be found growing on a wide variety of lake bottom types.

Manoomin is an annual aquatic grass. Seeds drop off the plant in fall and sink rapidly into the sediment. Seed remains dormant in the sediment until spring, when





warming water and low oxygen conditions stimulate germination. Although most seeds will usually germinate the first spring, some may remain dormant for years. Wild Rice goes through several distinct growth phases. By late May and early June, the plant is in the submerged leaf stage during which a cluster of 1-4 underwater basal leaves form. By mid-June, the plant reaches the floating leaf stage, when ribbon-like leaves lie flat on the water's surface. This is often considered a critical stage. The plant is buoyant. Wakes from watercraft, high winds or a rapid increase in water levels can uproot or drown entire stands. Another risk is large mats of algae which can cover the plant during the floating leaf stage, drowning the plant.

By the end of June, one or more aerial shoots have begun to develop. These shoots will continue to grow into August, reaching a height of 2-8 feet above the water. About late July, flowering begins. Male and female flowers develop on the same stalk, the female above the male. Female flowers open first; males open 3-4 days later. The pollen is wind-borne. Near the end of August, and into September, the seeds have matured and ripening occurs from the top down. Seeds reach maturity over a 10-14 day period. The gradual, uneven ripening allows Manoomin to be harvested repeatedly during the season.

OGINII-WAABIGWAN (IIN)

Common Name: Wild Rose (s)

Latin Name: *Rosa acicularis*

Wild rose is the most common rose native to Minnesota. It is differentiated from our other two species, Prairie rose (*Rosa arkansana*) and Prickly wild rose (*Rosa acicularis*), by its lack of thorny bristles on newer stems and branches. This plant prefers sandy soils in Jack pine, oak and conifer forests. Leaves are alternate and compound with 5 to 7 leaflets. The top of the leaf is dark green and sparsely hairy, while the underside is light green and hairy. New stems and branches are green and thornless, becoming woody and turning reddish brown to gray with age. The rose blooms in June and July. The flowers are a pale shade of pink, with five petals and a yellow center. The berries (rose hips) are globular and turn bright red in late summer.

Long time ago, roses were as beautiful and attractive as they are today but they had no thorns. Their stems were smooth and they made such delicious eating. Rabbits and others who loved grass and herbs, nibbled the pink petals and green leaves, and sometimes ate up the whole bush! After a time, there were only a few rose bushes left in all of Anishinaabe Aki.



The rose bushes called for a gathering of all who remained to talk about what was happening. They decided to go and find Nanaboozhoo and ask him for help.

Now Nanaboozhoo is hard to find, for sometimes he is a plant, sometimes he is an animal, and at other times a man. A trickster he is, but the rose bushes decided to look for him anyway, and they hurried away with the help of Noodin (Wind) who agreed to carry them. As they traveled, they asked every tree and animal they met, "Have you seen Nanaboozhoo?" Everyone said, "No we have not seen him."

Wind kept blowing the rose bushes along, and after a time, they met someone who said, "Nanaboozhoo is over by the mountains, planting a garden."

As the rose bushes got closer to the mountain, they heard Nanaboozhoo shouting, in a great rage. The rose bushes became frightened, and hid beside some Balsam Trees. They listened, watched and learned why Nanaboozhoo was angry.

A few weeks earlier he had planted a hedge of wild roses around his garden, they were beautiful, covered with spicy pink blossoms. Nanaboozhoo had to go away for a few days. Nanaboozhoo had just returned to his garden as the rose bushes were arriving. His rage was caused by finding that the Rabbits and others had eaten up all the wild roses.

When the rose bushes knew what caused Nanaboozhoo to shout with rage, they left their hiding-place to visit with Nanaboozhoo. He was surprised to see them. He thought that all rose bushes had been eaten up; but before he could say a word, they told him their troubles.

Nanaboozhoo listened, and, after talking things over with the rose bushes, he gave them a lot of small, thorn-like prickles to cover their branches and stems so that Rabbit and others would not be able to eat them. Ever since that day, all wild roses have had small prickly thorns.

FUN FACT:

Rose hips are very nutritional, berries need to be harvested after first frost and can be added to teas for extra nutrition and are an excellent source of vitamin C.

WAABIZILPIN

Common Name: Arrowhead

Latin Name: *Sagittaria latifolia*



It's often hard to find large, healthy patches of Arrowhead, but not that long ago Ojibwe prized arrowhead tubers as a high-valued food source. The tubers were consumed raw, boiled, dried, baked, roasted, mashed, ground into flour, or candied with maple sugar.



FLYERS

Ganawaabimogiiizisweshiinh (yag) – *American Bittern*

Opichi (wag) – *American Robin*

Bapakwaanaajinh (yag) – *Bat*

Memengwaa (g) – *Butterfly*

Gijigijigaaneshiinh (ag) – *Chickadee*

Aajigade (g) – *Coot, Mud Hen*

Aandeg (oog) – *Crow*

Oboodashkwaanishiinh (yag) – *Dragonfly*

Ozhaawashko-Bineshiinh (yag) – *Easter Bluebird*

Apateshiwish (wag) – *Eastern Wood-Pee-wee*

Waawaatesi (wag) – *Firefly, Lightning Bug*

Zhagashkaandawe (wag) – *Flying Squirrel*

Aginjibagwesi (wag) – *Goldfinch*

Nenookaasi (wag) – *Hummingbird*

Ogiishkimanisii (g) – *Kingfisher*

Omiimiisi (wag) – *Mayfly*

Mooningwane (g) – *Northern Flicker*

Asiginaak (wag) – *Red-Winged Blackbird*

Bine (wag) – *Ruffed Grouse*

Ajijaak (wag) – *Sandhill Crane*

Waabizii (g) – *Trumpeter Swan*

Wiinaange (g) – *Turkey Vulture*

Anaamisagadoweshiinh (yag) – *Wren*

GANAWAABIMOGIIZISWESHIINH (YAG)

Common Name: American Bittern (s)

Latin Name: *Botaurus lentiginosus*

You are more likely to hear his far-carrying distinctive booming call before you ever see American bittern because they like to keep under cover and are difficult to see. Bittern are stocky, well-camouflaged herons who live and breed in the dense reed beds of freshwater marshes with tall vegetation.

The nest of bittern is made on a foundation of emergent vegetation-like reeds, sedges, or cattails. It typically sits 3-8 inches above the water. The nest is lined with grasses with an outside diameter of about 10-16 inches. They lay 1-5 brown to olive colored eggs that hatch within 24-28 days. Young bitterns fledge the nest after about 14 days.

Bitterns typically hunt in low light conditions, catching food with their bill and killing prey with a biting or shaking movement. They eat insect, fish, crustaceans, amphibians, reptiles, and small mammals. Their preferred insects include dragonflies, water striders, water beetles, and grasshoppers; and frequently eat fish such as pickerel, sunfish, suckers, and perch.

The bittern is often heard at dusk, with a sound similar to water being pumped from an old style hand pump. Older folks often call this guy a “slew pump” because of his sound. His Ojibwe name is Ganawaabimogiizisweshiinh (the one who looks up at the sun) because when anyone is near, bittern camouflages himself by putting his head straight up toward the sky, making himself look like reed grass; he will even move slightly as if being swayed by the wind.



OPICHI (WAG)

Common Name: American Robin (s)

Latin Name: *Turdus migratorius*

Robin is a fairly large songbird with a rather rounded body, grayish brown color with an orange-colored breast. When robin is in flight, a white patch on the lower belly and under the tail is visible. You can find robin in the city as well as the forest.



Robins eat both invertebrates and fruit. During the spring and summer months, they eat a lot of earthworms, insects and some snails but they also eat chokecherries, and sumac fruits. Robins eat different types of food depending on the time of day. They eat more earthworms in the morning, switching to fruit later in the day. Robins forage for food on lawns, placing them at risk of pesticide poisoning.

Robins can raise three successful broods of young in one year. However, only 40% of the eggs laid will successfully hatch, and only 25% of young birds that fledge the nest will survive to November — harsh survival statistics for this little bird.

The female robin chooses the nest site, often preferring horizontal branches hidden in or below a layer of dense leaves. Nests are usually built in the lower half of a tree. Robins will also nest in gutters, on eaves, or on yard light fixtures of a house. Females construct the nest from the inside out by pressing dead grass and twigs into a cup shape. They will also use other building materials such as feathers, yarn, string and moss. Once the nest has the desired shape, soft mud is used to form reinforcement. Usually, between 3-5 bluish-colored eggs are laid and will hatch 12-14 days later.

Most people have a lot of fun noting the first robin they see each spring. Robins sing early in the morning and late into the evening, one of the many blessings of spring, summer and fall here on Leech Lake.

BAPAKWAANAAJIINH (YAG)

Common Name: Bat (s)

Latin Name: *Vespertilionid*

Bats are poorly understood, and many people say they do not like bats or want them around. However, we should remember that all beings are a gift and are important to the balance of everything. Seven species of bats are found in Minnesota: little brown myotis (the most common), northern myotis, big brown bat, tri-colored bat, silver-haired bat, eastern red bat and the hoary bat.

All species found in Minnesota are insectivores (feed on insects). They feed mostly on flying insects, including beetles, moths, and mosquitoes. They catch their prey by cupping their tail membranes as they fly through the air. Once they catch an insect, they transfer their prey to their mouth during flight. Bats locate insects and avoid obstacles by using echo-location. As they fly, they are constantly emitting supersonic cries. Their ears pick up echoes bouncing off objects. These echoes both guide bats toward prey and away from obstacles.

Long ago, Sun began to rise one morning. He came too close to Earth and got tangled up in the top branches of a very tall tree. The harder Sun tried to escape, the more he became caught. So, Dawn did not come.

At first, all of the birds and animals did not notice. Some of them woke up,

then went back to sleep, thinking they had made a mistake, and it was not time to get up. Other animals, who loved the night, like Panther and Owl, were really glad it stayed dark, and they continued to hunt. But after so much time had passed, the birds and animals knew something was wrong.

They gathered together in the dark to hold a council. "Sun has gotten lost," said the eagle. "We must look for him," said the bear. All of the birds and animals went out to look for Sun.

They looked in caves, in the deep forest, on mountains tops and in the swamps. But, Sun was not there. None of the birds and animals could find him. Then one of the animals, a small brown squirrel, had an idea. "Maybe Sun is caught in a tall tree," he said. Then, the small brown squirrel began to go from tree to tree, going further and further toward the east. At last, in the top of a very tall tree, he saw a glow of light. He climbed up and saw that it was Sun. Sun's light was pale and he looked weak.

"Help me, Little Brother," Sun said. The small brown squirrel came close and began to chew at the branches in which the Sun was caught. The closer he came to Sun, the hotter it got. The more branches that he chewed free, the brighter Sun's light became. "I must stop now," said the small brown squirrel. "My fur is

burning. It's all turning black."

"Help me," said Sun. "Don't stop now." The small brown squirrel continued to work, but the heat of Sun was very hot now as Sun grew even brighter. "My tail is burning away," said the small brown squirrel. "I can do no more." "Help me!" said Sun. "Soon I will be free." So, the small brown squirrel continued to chew. But, the light of Sun was very bright now. "I am growing blind," said the small brown squirrel. "I must stop." "Just a little more," said Sun. "I am almost free." Finally, the small brown squirrel chewed the last of the branches free.

As soon as he did, Sun broke free and rose up into the sky. Dawn spread across the land and it was day again. All over the world the birds and animals celebrated dawn. But, the small brown squirrel was not happy. He was blinded by the brightness of Sun. His long tail had been burned away and what fur he had left was now all black. His skin had scorched from the heat and he clung there to the top branches of that tall tree, unable to move.

Up in the sky, Sun looked down and felt sorry for the small brown squirrel. He had suffered so much to save him. "Little Brother," Sun said. "You



have helped me. Now, I will give you something. Is there anything that you have always wanted?"

"I have always wanted to fly," said the small brown squirrel. "But I am blinded now, and my tail is all burned away." Sun smiled "Little Brother," he said, "from now on you will be an even better flyer than the birds. Because you came too close to me, my light will always be too bright for you, but you will see in the dark and you will hear everything around you as you fly.

From this time on, you will sleep when I rise into the sky and when I say goodbye to the world each evening, you will wake." Then the small animal, which had once been a squirrel, dropped from the branch, spread its leathery wings and began to fly. He no longer missed his tail or his brown fur. He knew that when night came again, it would be his time.

He could not look at Sun, but he held the joy of Sun in his heart. And so it was, long ago, that Sun showed his thanks to the small brown squirrel, which was a squirrel no longer, but the first of the bats.

FUN FACT:

One Bat can eat up to 10,000 mosquitoes in an hour!

MEMENGWAA (G)

Common Name: Butterfly (ies)

Latin Name: *Lepidoptera*

Butterflies are insects with distinct body parts like all insects: a head, thorax (middle) and abdomen. All have a hard outer shell called an exoskeleton that covers their body and three pairs of legs. What makes butterflies so beautiful are their colorful wings! The wings are covered with tiny colorful scales, much like tiny fish scales. These scales overlap like shingles on the roof of a house overlap. These scales are very delicate and come off very easily, that's why it is best not to handle butterflies.

All butterflies go through four stages in their life cycle. They start out as tiny eggs which hatch out as caterpillars. Don't let the size of a caterpillar fool you. These guys have a huge appetite and eat almost nonstop. Caterpillars grow so fast their skin splits and they shed their old skin, called molting. Caterpillars may molt five or six times during this stage of their life cycle. During the last molt, the caterpillars spin a silk pad on a plant stem or some other secluded spot, and attach themselves to the pad at the abdomen. This stage is called pupa, or chrysalis. The monarch butterfly is known for its beautiful and distinctive chrysalis. For the next two weeks, caterpillars undergo a change into a butterfly. When the butterfly emerges from the chrysalis, they unfold their wings and wait for them to dry and harden. It can take a few hours before their wings are dry and hard enough to fly away. If you are lucky enough to see this someday, do not disturb the butterfly.

Both butterflies and moths belong to the family Lepidoptera. How can you tell them apart? Moths are most often dull in color and butterfly antennas are thin and end with a little bulb. Moths do not have a bulb at the end of their antennae.

Long time ago Spirit Woman gave birth to Twins. The animals loved, gifted and cared for the twins. Bear gave his flesh to keep them strong and his fur to keep them warm. Birds sang them beautiful songs, spider kept the flies away from them. Muskrat

FUN FACT:

There are 140 different kinds of butterflies in Minnesota!

and beaver kept them clean and brought them moss to lie on, Dog made them laugh and kept them safe.

After a time, the animals became concerned about the twins not moving around on their own. Bear summoned a meeting of all the animals. "My Relatives," said the bear, "the children do not walk. They do not run and play as our young do. What can we do to help them?" The animals noticed the twins waved their arm and legs around with great strength.

When Wenaboozhoo came to play with the children, the animals told him of their concern. Wenaboozhoo thought about this for a while and then said, "You have all cared for the twins very well. In fact, you have cared for them so well that they never need to do anything for themselves. All little ones need to reach out for what they want instead of always having everything handed to them. I will think of a way we can help these babies learn to walk."

Wenaboozhoo started on a journey to the west, to visit the land of high mountains. He climbed to the top where the cloudy peaks almost touch the sky. He called to the Great Spirit — "Great Spirit, what can be done to help teach the children to walk?" Great Spirit told him to search the slopes of the mountains where he would find tiny sparkling stones. He instructed Wenaboozhoo to collect as many stones as possible and of every color he could find. Soon Wenaboozhoo had a huge pile of tiny, gleaming stones.

Wenaboozhoo sat beside the pile of tiny gleaming stones. He sat there for some time but nothing happened. Wenaboozhoo grew restless waiting for something to happen so he grabbed a handful of stones and tossed them into the air. He held out his hand to catch as many as he could, but they did not fall back to earth. Wenaboozhoo looked up and was astonished to see the tiny gleaming stones had transformed into winged beings of every color and shape. The beautiful beings fluttered here and there and came to rest upon Wenaboozhoo. Soon he was surrounded by clouds of shifting colors. These were the first butterflies.

The Butterflies followed Wenaboozhoo back to the twins, who laughed with happiness, waving their arms and stretched their legs trying to touch these beautiful creatures. The butterflies always fluttered away just beyond the reach of the twins. Soon the twins began to crawl and then soon after, to walk, and a while later, to run after these beautiful, colorful butterflies. Children have been chasing after butterflies ever since this time.



GIJIGIIGAANESHIINH (AG)

Common Name: Black Capped Chickadee (s)

Latin Name: *Poecile atricapillus*

This familiar little bird is gray with a black cap and throat patch, a white chest and tan belly, with small, white wing markings. The male, female and juvenile birds all have the same coloring. Chickadees may be found in any habitat with trees or woody shrubs, from forests to residential neighborhoods and parks, and sometimes, weedy fields and cattail marshes.



They eat insects, seeds and fruit and often visit backyard feeders to eat seed and suet. Chickadee can be easily tamed to eat seed from your hand. They nest in cavities that both the male and female excavate. Once the nest chamber is hollowed out (8 inches deep), the female builds the cup-shaped nest inside, using moss

and other coarse material for the foundation and lining it with softer material such as rabbit fur. They frequently nest in birch or alder trees. They raise only one brood per year and usually lay 5-7 eggs that are white with fine brown markings. Eggs hatch in 11-13 days and young fledge the nest in about 18 days.

His song is a simple, pure 2 or 3-note whistled nishiimenh, nishiimenh, Omaa bii-zhaan, Omaa bii-zhaan, Omaa bii-namadabin, Omaa bii-namadabin. (Little Sister, Little Brother come over here, sit over here – a reminder of the Dibaajimowin (story) of Gejigijigaaneshiinzh miinawa mashkiigwaatig (Chickadee and Tamarack), a story of compassion, assistance, and humility.

FUN FACT:

Chickadee hides seeds and other food items to eat later. Each item is placed in a different spot and the chickadee can remember thousands of hiding places.

AAJIGADE (G)

Common Name: American Coot, mud hen (s)

Latin Name: *Fulica Americana*

Aajigade, is sometimes referred to as a mud hen, a dark, duck-like bird. You can recognize Aajigade by its chicken-like white bill, red eye, red spot at the top of its bill and yellow-green legs. Although he swims like a duck, Aajigade does not have webbed feet like a duck. Instead, each one of its long toes has broad lobes of skin that help it kick through the water.

Mud hens can be found in a wide variety of freshwater wetlands from prairie potholes to swamps, marshes and the shoreline of large lakes. Aajigadeg breed and nest in waters with heavy stands of emergent aquatic vegetation along the shoreline. The nest is usually a floating structure anchored to upright stalks of vegetation. The nest material is woven into a shallow basket with a hollow interior lined with finer smooth material to hold 8-12 eggs that hatch within 23-25 days. Egg color varies from buff to pink or even gray with brownish speckles.



Aajigade eat primarily aquatic plants like algae, duckweed, eelgrass, wild rice, sedges, wild celery, water lilies, cattails, and water milfoil. When on land they also pick at terrestrial plants and sometimes eat grains or leaves. They're not exclusive vegetarians. Sometimes they eat insects (beetles, dragonflies, and others), crustaceans, snails, and small vertebrates like tadpoles and salamanders.

Aajigade is not very good at taking off in flight. When they try to takeoff, they have to run along the surface of the water for a while before they become airborne.

Depending on where the Creation story is told, one variation is that it is Aajigade who brings up the mud that formed earth, rather than muskrat.

AANDEG (OOG)

Common Name: American Crow (s)

Latin Name: *Corvus brachyrhynchos*

When the Great Spirit was creating the flyers, all were given great purpose. Eagle was the people's messenger, and Loon was the teacher of love and relationships. Aandeg, however, felt he was without purpose.

He had no special color, his wings were not particularly powerful, and his beak wasn't special like Hummingbird's to drink from the flowers. So he flew around looking for purpose, much like people do today when they feel somewhat lost. Aandeg visited with Makwa (Bear) and asked the bear to teach him of his ways. Makwa did as Aandeg asked. Eventually, Aandeg got bored with Makwa; for some reason, the ways of the bear just didn't seem to fit. So Aandeg flew off to find a new way, one with purpose for him. Aandeg visited with muskrat, raccoon, wolf, turtle, and he even visited skunk. Still he could not find his purpose.

Then came the day where Aandeg heard squirrel crying in a hole of an old oak tree. So he flew over to squirrel to ask him what was wrong. "I am sad and feeling drained about my life." Aandeg advised Squirrel to visit with Makwa for some medicine for his health, and then they went to visit turtle because turtle is great at helping people find answers to what troubles them. Turtle travels slowly in all matters, never missing a thing. Sure enough squirrel felt better. He was happy and returned to his life with a refreshed spirit.

Aandeg flew around the bush feeling great about what had happened. He felt good about being able to help someone. Then there was another cry in the woods... sure enough Aandeg went to investigate and found Rabbit was crying in its hole.

Aandeg asked, "Wabooz, what is it that troubles you today? "I feel lost and out of sorts Aandeg." (sob sob) "What is it that makes you feel this way?" Wabooz was crying about Waagosh (fox) and how there is no peace with Waagosh around. So Aandeg listened like he had learned from Mikinaak (Turtle), then told Wabooz the purpose for his long legs and long ears... "Wabooz, surely you can out run Wagoosh." "Yes," Wabooz thought to himself, "I can, and I will feel good about it too. Miigwech Aandeg!"



As time went on, word traveled about this Flyer who had found his purpose in traveling about listening and making friends with all of creation. Aandeg's story is a reminder to us to become our purpose just like Aandeg did. Walk your path, listen, create good connections, work with a spirit of friendship, and help one another.



Crows are all black, and have a hoarse, cawing call. Crows are easily found in fields, open woodlands, and forests. They also seem to enjoy being around people. Crows will feed on almost anything, including grains, earthworms, insects and other small animals, also aquatic animals (fish, turtles, crayfish, clams), eggs from the nests of other birds, seeds, and fruit, but also garbage and carrion.

Crows prefer to build their nests in a crotch of an evergreen near the trunk or on a horizontal branch, towards the top of the tree. Both male and female work on building the nest, sometimes young birds from the previous year will help. Crows are very social, intelligent birds who are seldom seen alone. They roost and forage in numbers and work together to drive off predators. This behavior is called mobbing. Crows live in family groups made up of a breeding pair of adults and offspring from the past two or three years. Crows do not breed until they are at least two years old; some don't breed until they are four or older. This family dynamic is identical to that of wolves. The family unit works together to raise young. Crows can devise solutions to problems and have even been known to use tools.

OBOODASHKWAANISHIINH (YAG)

Common Name: Dragonfly (ies)

Latin Name: *Odonata* (dragonflies and damselflies)

Most folks don't know that dragonflies and damselflies spend a majority of their life as brown underwater larva. Like the Mayfly, Dragonflies and Damselflies have a three-stage life cycle: egg, larva (nymph), and adult. Depending on the species, maturing to adulthood can take one to three years.



The transition from larva to adult dragonfly usually takes place very early in the morning hours, with the larva hooking its claws into a vertical or diagonal surface such as a plant stem, rock face, tree trunk, or dock for a perch. The skin at the back of the larva's head starts to crack open and the thorax emerges. The split continues to crack open down the back until the head, folded wings, legs, and part of the abdomen are forced out of the casing. The adult dragonfly rests hanging from its abdomen. Once completely emerged, the legs harden. Holding the shed larval case with his legs, the dragonfly pulls himself entirely free from the now empty larval case. The wings start filling with blood and unfold. Now the new adult dragonfly needs to rest and let his wings dry for about an hour before his first flight. This transformation time is a very vulnerable time for the dragonfly. As much as 90% mortality can occur due to predation. If you see this happening you are lucky, please be respectful and never touch the Dragonfly.

OZHAAWASHKO-BINESHIINH (YAG)

Common Name: Eastern Bluebird (s)

Latin Name: *Sialia sialis*

Bluebirds can be found in open country, meadows and old fields with patchy vegetation and large trees. Bluebirds sit in the open, on power lines or along fences. When foraging for insects, they make quite a display by dropping to the ground fluttering their wings and quickly returning to their perches.

Bluebird is a vivid blue with a rusty red coloring on the throat and breast. As with most songbirds, the females are duller in color to provide camouflage for nesting. Their coloring is a grayish body with bluish wings and tail, and a duller orange-brown breast. The intensity of the blue color of the males will depend on light.

Bluebirds' main food source for most of the year consists of insects (caterpillars, beetles crickets, grasshoppers, and spiders). They also eat wild fruits. Bluebirds nest from late March through early August building little cup-like nests of grass or pine needles in tree cavities or nesting boxes.

Bluebird populations declined greatly from the 1930s to the 1960s. The cause was primarily habitat loss; however free roaming cats are a major predator. The Audubon Society of Minneapolis partnered with the Minnesota Department of Natural Resource's

Nongame Wildlife Program to establish the Bluebird Recovery Program. This program sponsored workshops, published educational materials and promoted the placement of bluebird houses across Minnesota to help recover Bluebird populations. Minnesota has one of the most successful bluebird recovery projects in the nation.



APATESHIWISH (WAG)

Common Name: Eastern Wood-Pee wee (s)

Latin Name: *Contopus virens*

Eastern wood-pee wees are medium-sized flycatchers. They are olive-gray in color with darker wings, the sides of their breast are darker with an off-white throat and belly. This coloring makes it look as if they are wearing a vest. Adult pee wees have thin, white wingbars; juveniles' wingbars are not as distinctively white. The underside of the bill is a yellowish-orange color, except in some juveniles.



Pee wees can be found in nearly any type of wooded area, including mature forests, backyards, along roadsides and orchards. They prefer deciduous forests, but will also live in conifer and mixed hardwood-conifer forests. They prefer to nest in deciduous trees and saplings such as oak, maple, and birch. Their nest is a small cup woven of grass, bark strips, pine needles, and other material. Pee wees cover the outside of their nest with lichens, providing excellent camouflage. Nests are about 3 inches across.

They produce one brood each season, laying 2-4 creamy white eggs with brown to purplish colored speckles.

Pee wees eat small flying insects, usually catching them while flying but can also capture insects from foliage or the ground. Their diet consists largely of flies, bugs, butterflies, moths, bees, wasps, beetles, grasshoppers, crickets, stoneflies, and mayflies. Pee wees will occasionally eat small amounts of berries and seeds such as blueberries and raspberries.

WAAWAATESI (WAG)

Common Name: Firefly, Lightning Bug (s)

Latin Name: *Lampyridae*

Thunderbirds are not like other birds. They have feathers that shine with many, many colors too bright for the human eye to see. Thunderbirds don't sing like most birds. Their song rumbles and echoes across the sky until it shakes the earth below and lightning flashes from their eyes. When fall arrives, Thunderbirds fly south.

Thunderbirds return when spring arrives, and the storms that follow them are mild because last year's young are older and less playful.

One spring when the world was young, the Thunderbirds flew north as usual. In their nesting grounds, they shaped their nests from scraps in the clouds woven around spring ice and sleet and sealed with night mists and frost. Then the female Thunderbirds laid their snowy, gold-flecked eggs.

The females were settled in and the male Thunderbirds began to race through the sky. They talked to one another about warm, lazy days in the sun. They talked even more about something strange they had seen on their way north. Their journey had taken them across the place that is now known as Michigan where they had seen great eagles dipping their beaks to the earth, producing powerful whirling winds. These winds were more powerful than any winds the Thunderbirds have ever created. As they talked about tornadoes, they grew so excited that they created a tremendous thunderstorm.

The nesting females were concerned about this storm but could not leave the eggs they were sitting on. They called to the male Thunderbirds, who upon hearing these calls returned to the nest.

That year, the young Thunderbirds hatched earlier than usual. The young were noisier, and rowdier than any group of young the Thunderbirds had ever seen. They clambered over one another, chirping in high and noisy bumps of thunder. They



were hungrier than most and demanded food, food, and more food. Their parents flew back and forth many times bringing the young Thunderbirds all the food they wanted.

When the young Thunderbirds left the nest, the tired parents breathed a sigh of relief. Now that the young Thunderbirds could feed themselves, the parents would be able to relax and enjoy some quiet. But this year, there was no time to rest. As soon as the young Thunderbirds took to the skies, the fighting began. The parents watched with growing concern as the young ones fought with each other.

When they came to the nests, they battled about positions near their mothers' warm breast. They tweaked out tail feathers, just to tease. They were always wrestling. The nests were very noisy and uncomfortable for all the Thunderbirds.

Not only were the young Thunderbirds troublesome at home in the nest, they looked for trouble in the sky. Their favorite trick was to pile clouds on top of one another until the lowest clouds turned heavy and black with great power.

Then the young Thunderbirds sent out their songs of thunder, and their eyes shot out tiny chains of lightning. The clouds tumbled down upon one another until the whole sky was a mottled grey. Then, of course, the naughty birds swooped back to the nests, and their parents had to end the storm.

The fathers did not know what to do about their troublesome children. At last, they decided to teach them to play lacrosse. They hoped that the young would tire themselves out, and order could be restored to the sky. The little Thunderbirds learned fast. As you would expect, however, they continued to be reckless as they played. They loved playing lacrosse and played from one end of the sky to the other, all day, and every day.

The ball they played with was made from the lightning of a powerful storm and their wings grew strong. They became stronger and quicker as they grew older but continued to be reckless. One day, a little Thunderbird gave the ball a mighty toss across the goal line, past the clouds that were building on the horizon and down to the earth below.

None of the young Thunderbirds were fast enough to catch the ball. One of them hurried to the parents for help, but they could do nothing. They all watched the ball plunge to the earth below and crash with such force the sky shook!

The ball created a large hole on the Earth that is now called Hudson Bay. Their ball broke into pieces creating little holes that would later fill with water and become all the small lakes in northern Ontario. This was followed by a great roar of thunder and flash of lightning!



So much noise, vibrations, and brightness were created by this event that several stars started to fall from the sky. When they hit the earth they broke into thousands of pieces, which blinked on and off, on and off. The fall had changed the stars into fireflies. People sometimes call them lightning bugs because they were created by thunder and lightning that shook the stars from the sky!

Fireflies are not actually flies, they are beetles and like all beetles, have a four-stage life cycle. The eggs are laid just below the surface of the ground, and eggs hatch after about a month. Larvae are luminous and are called glowworms. Larvae feed on snails, worms and other bugs found in the soil and are active until the next spring when they pupate. Adults emerge in summer, usually around early July.

Fireflies use light to attract mates; they also defend territory or warn of predators. In most species both sexes glow; often it is the male who flies up higher into the trees and the females stay lower to the ground hiding in tall grass or bushes. When a female sees a mate that is attractive to her, she signals him with a flash.

FUN FACT:

Two chemicals are found in a Firefly's tail, luciferase and luciferin. Luciferin is heat resistant, and it glows under the right conditions. Luciferase is an enzyme that triggers light emission.

ZHAGASHKAANDAWE (WAG)

Common Name: Southern Flying Squirrel (s), Northern Flying Squirrel (s)

Latin Name: *Glaucomys volans*, *Glaucomys sabrinus*

There are two species of flying squirrels in Minnesota. How do you tell them apart? The southern flying squirrel is about the size of a chipmunk, and the northern flying squirrel is slightly larger. Around Leech Lake Reservation, you are most likely to see the northern flying squirrel. Flying squirrels do not really fly; they glide from one perch to another. Their “flying” is made possible by a loose fold of skin (called a patagium) stretched between the front and hind feet. When squirrels legs are outstretched, the skin is stretched tautly to form a large planing surface, allowing them to glide up to 150 feet.

Flying squirrels’ preferred habitat is mature deciduous or mixed deciduous/coniferous forests with an abundance of various nut-producing trees. Flying squirrels eat seeds, nuts, insects, and small birds. Flying squirrels will visit backyard bird feeders. Some people have lights at the feeders so they can watch flying squirrels.

Flying squirrels live in tree hollows or leaf nests. Females of both species mate in early spring. After a five-week gestation period, they give birth to litters of three to five young. The young are born blind and naked. Flying squirrels do not hibernate, but do slow their body activity in winter and sometimes nest in groups to stay warm.



FUN FACT:

They can turn easily at right angles while gliding and control the direction of their glide by tensing and turning their legs, body and tail.

AGINJIBAGWESI (WAG)

Common Name: American Goldfinch (es)

Latin Name: *Spinus tristis*

Aginjibagwesiwag are the spirit keepers of Ojibwemowin.
(the Ojibwe Language)

Aginjibagwesi is a handsome little bird. In the spring and early summer, adult males are bright yellow with a black forehead, black wings with white markings, and white patches above and beneath the tail. Males undergo a dramatic color change in winter and turn a dull olive yellow similar to the female. Adult females are duller yellow beneath and olive above.



These are active little birds that cling to weed stocks and sometimes mill about in large numbers at backyard feeders or on the ground beneath them. Aginjibagwesiwag fly with a bouncy, undulating pattern and often call in flight.

Females build the nest, usually in a shrub or sapling in a fairly open setting rather than in forest. Nests are usually built high in a shrub where two or three vertical branches join; often shaded by leaves. The nest is an open cup of plant fibers lined with down, often woven so tightly that it can hold water. The female lashes the foundation to supporting branches using spider silk. They can raise up to two broods a year often laying 2-7 pale bluish white eggs which hatch within 12-14 days. Nestlings fledge (leave the nest) in 11-17 days.

It is said that when Aginjibagwesiwag is singing, he is counting the leaves. Aginjibagwesiwag almost exclusively eats seeds. Main types include seed from sunflowers, thistle, asters, grasses, and some tree seeds such as alder, birch, western red cedar, and elm. When eating from backyard feeders, they prefer Thistle (nyjer) and sunflower seed. You will often see Aginjibagwesiwag on dirt roads where they eat gravel which supplies them with minerals, salt and grit to grind seeds they have eaten.

NENOOKAASI (WAG)

Common Name: Humming Bird (Ruby Throated) (s)

Latin Name: *Archilochus colubris*

A flash of green and red, Minnesota's smallest bird is able to hover, fly up and down and is the only bird able to fly backwards, her tiny wings beating 60 or more times a second. Like tiny brilliant jewels zipping around in the sun, Nenookaasiwag bring a smile to everyone's face!

The nest is the size of a large thimble, built directly on top of the branch rather than in a fork. It's made of thistle or dandelion down held together with strands of spider silk which is extremely light and sticky, perfect material for such a small bird to work with. Spider silk also has the advantage of being strong and one of the most expandable materials on earth. It can stretch up to 40% of its length without breaking, allowing the nest to expand as eggs hatch and nestlings grow.

Nenookaasiwag feed on flower nectar, with a preference for red or orange tubular flowers such as trumpet creeper, cardinal flower, honeysuckle, jewelweed, bee-balm, red buckeye and red morning glory, as well as backyard feeders and, sometimes, tree sap. Nenookaasiwag will also catch and eat insects in midair or pull them out of spider webs. They enjoy mosquitoes, gnats, fruit flies, and small bees. They also eat spiders. Sometimes they will take insects attracted to sap wells or pick small caterpillars and aphids from leaves.



OGIISHKIMANISII (G)

Common Name: Belted Kingfisher (s)

Latin Name: *Ceryle alcyon*

Kingfisher is often seen along streams and shorelines. You'll probably hear him before you see him. Listen for a loud, rattling sound; this is his call. They like to perch on riverside branches and telephone wires to watch for fish. Once their prey is spotted, they dive headfirst, catching small fish, and return to their perch to eat.

Kingfisher is a rather stocky bird with a shaggy crest on the top and back of his head, which he got from Wenaboozhoo. Kingfisher's bill is long, thick and pointed. His tail is squared off at the end. Kingfishers are blue/gray in color with white spotting on his wings and tail. His belly is white with a broad, blue breast band. Females have a broad rusty band on their bellies. Young birds have irregular rusty spotting in the breast band.



Kingfishers live by streams, rivers, ponds, and lakes. They nest in burrows dug into soft soils on banks. Their nests are usually adjacent to or directly over water. Kingfisher eats mostly fish but will also eat crayfish, insects, frogs, mice, shrews, and even berries. Kingfishers do not overwinter here at Leech Lake; they move south to be near open water for continual access to aquatic foods.

OMIIMIISI (WAG)

Common Name: Mayfly (ies)

Latin Name: *Ephemeroptera*

Mayflies are aquatic insects that can be found living in almost all freshwater systems with adequate oxygen levels. Mayflies spend about 99% of their time in the immature year-long stage as nymphs (larval) feeding on algae, fungi and decaying plant material (detritus). The adult stage is very short-lived and lasts from a couple of hours to a couple of days.

Mayflies are the cornerstone of the aquatic food web. In the larval stage they provide food for birds, fish, mammals, amphibians and other invertebrates. As adults they are fed on by birds and bats.

As swarms of adults die, they often leave large mats of floating dead food for fish.

Seeing large hatches of Mayflies is a sign that the water quality in the area is good. Mayflies are very sensitive (keystone species) to chemical pollution, increased turbidity and decreased dissolved oxygen.



MOONINGWANE (G)

Common Name: Northern Flicker (s)

Latin Name: *Colaptes auratus*

Long ago, Sugar Maple was suffering from an intense itching caused by grubs and beetles burrowing beneath his bark. Even though he had many arms and fingers, he could not scratch himself. The itching became unbearable, and he was so uncomfortable. He could not find a way to relieve his suffering, so he called out to squirrel, porcupine, and beaver to please help him, but they were too busy to find a way to help, and they only offered their sympathy.



Mooningwanekaaning minis =

Madeline Island "Island of the yellow-shafted flicker"

ASIGINAAK (WAG)

So Sugar Maple put out a call to the bird nation for help. Once again, everyone felt bad for Sugar Maple but couldn't find a way to help — no one except the Flicker, who called his other long-billed friend Baapaase. They came up with a plan to use their long bills to dig into the bark and eat the grubs and beetles that were causing Sugar Maple to itch. They worked hard for a very long time until they had finally picked all the bugs from Sugar Maple's bark, and his itching stopped! What a relief! Sugar Maple was so grateful for all the woodpeckers' help.

Many years later Flicker was in distress. Not knowing what to do, he at last came to Sugar Maple. They had not seen each other for some time. Flicker told Sugar Maple how thirsty he was. It had been a long time since rain, and he was not feeling well due to his thirst. Sugar Maple remembered how Flicker had taken the time to help him and how grateful he was so he told Flicker, "Go to my trunk and drill some holes and they will fill up with sap." Flicker flew down and pecked away at Sugar Maple's trunk, making many holes. The holes filled up with sap, and Flicker drank and drank until he was no longer thirsty. He was so grateful for Sugar Maple's help. Today you will still see Woodpeckers drinking from the trees.

Flickers are large, brown woodpeckers with black markings that look somewhat like rickrack and have a white rump patch that's visible both in flight and when perched. The undersides of the wing and tail feathers are bright yellow. Flickers usually nest in holes in trees but occasionally, they nest in old, earthen burrows vacated by Kingfisher.

FUN FACT:

If you're out walking, don't be surprised if you see Flicker fly up from the ground! Flickers eat mainly ants and beetles, digging for them with their unusual, slightly curved bill. When they fly, you'll see a flash of yellow color on the wings.

Common Name: Red-Winged Blackbird (s)

Latin Name: *Agelaius phoeniceus*

Male red-winged blackbirds are hard to mistake. They are glossy black with red-and-yellow shoulder patches. Females and immature birds are a streaked, dark brownish color overall, paler on the breast, and often appear to have a whitish-colored eyebrow.

Red-winged blackbirds spend the breeding season in wet places like marshes, wet meadows or shallow open water with heavy vegetation. On rare occasions, red-winged blackbirds will nest in wooded areas along rivers or streams. Red-winged blackbirds build their nests among vertical shoots of marsh vegetation, shrubs, or trees. Male red-winged blackbirds spend much of the breeding season defending their nesting territories and singing. Females tend to move through reeds and grasses collecting food or nest material. Both males and females defend nests from



intruders and predators. Red-winged blackbirds nest in small groups of five or more. In the fall, red-winged blackbirds join with other blackbirds, often in flocks of thousands or millions of birds. Wild rice attracts many birds, including Red-winged blackbirds.

BINE (WAG)

Common Name: Ruffed Grouse (plural)

Latin Name: *Bonasa umbellus*

When you're walking in beautiful silent woods, it can be startling to have a ruffed grouse flush up near your feet, and even more surprising when a female, trying to protect her young, rushes toward you in an attempt to distract you from her brood.

Grouse have intricately patterned feathers with dark bars and spots on a background of either reddish-brown or gray. The tail is finely barred, with one wide, black band near the tip. Each spring you can hear the drumming of male grouse trying to attract a mate. The sound of "drumming" is accomplished by the male grouse compressing air beneath its wings. The peak of grouse mating season is late April. Nests are placed on the ground, usually in a depression next to a tree trunk, log, stump or rock.

Grouse are found in forests. Those made up of young to middle-aged aspen provide the best habitat but lowland alder and patches of gray dogwood are attractive habitat for grouse in summer and fall. In winter, grouse have feathery fringes on their toes that act like snowshoes, easing their travel on snow. However, they spend most of the time burrowed down in the snow. The snow-insulated space keeps them warm and protects them from predators.

A favorite food source of grouse is the buds and twigs of aspen, but they will also eat fruits from dogwood and mountain ash. They have been known to eat rose hips, strawberries, and some ferns, too. Grouse chicks eat primarily insects.



AJIJAAK (WAG)

Common Name: Sand Hill Crane (s)

Latin Name: *Grus Canadensis*

Ajijaak is one of Minnesota's largest birds. He stands about five feet tall with a wingspread of nearly seven feet. Ajijaakwag spend most of their time in wet meadows and open landscapes, migrating south for the winter. They are slate gray in color, often with a rusty tinge on the bellies. Adults have a pale cheek patch and a red crown. Juveniles are gray and rusty brown, without the pale cheek patch or red crown.

Adults have a distinctive bowing courtship ritual, and they mate for life. Females lay two eggs in a nest built of vegetation such as cattails, sedges, burr reeds, bulrushes, or grasses. They prefer areas with vegetation growing in standing water, but some nest on dry ground. Each pair raise one brood per year, with females usually laying two pale brown to yellowish eggs. The incubation period is 29-32 days; however, only one nestling usually survives to fledge. Mated pairs and their juvenile offspring stay together throughout the winter. Juveniles usually separate from their parents the following spring. Both sexes care for and defend the young, fending off both aerial and terrestrial (land) predators by kicking.

Although some start breeding at two years of age, Ajijaak may reach the age of seven before breeding.



FUN FACT:

Chicks can leave the nest within 8 hours of hatching, are very mobile and are capable of swimming.

WAABIZII (G)

Common Name: Trumpeter Swan (s)

Latin Name: *Cygnus buccinators*

Trumpeter swans could be found living throughout Minnesota until the mid-1800s. As Europeans moved into Minnesota, swans quickly became over-hunted, nearly to the point of extinction. Hunters were after swan feathers for hat decorations and their large flight feathers which were considered to be the best quality quills for pens. In 1885, only 27 years after statehood, the trumpeter swan was considered extirpated (gone forever) from Minnesota.



A recovery effort resulted in the reintroduction of breeding pairs to Minnesota and there are now several breeding pairs living on Leech Lake Reservation. However, threats like loss and degradation of wetland habitat, lead poisoning and illegal shooting continue to put this bird at risk.

FUN FACT:

Swans can live a long time. Wild Trumpeter Swans have been known to live longer than 24 years.

Trumpeter swans are large, white birds about 4-5.4 feet in length, with a wingspan of 6-8 feet. Adults birds are all white with black bills and feet. Juvenile birds are light gray in color with pink bills and feet that gradually turn black during their first year.

In the spring breeding season, trumpeter swans choose small ponds, lakes or bays of larger water bodies looking for areas heavily vegetated with cattails, bulrush, and sedges. Other features they look for are open water for take-off, stable water levels, lack of human presence or disturbance, and muskrat or beaver lodges for use as nesting platforms. Both sexes contribute to construction of the nest. Swans lay between 1-9 eggs, creamy white in color. Once hatched, young are covered with down and their eyes open. They leave the nest with the adults within 24 hours of hatching and are able to swim and feed at that point.

Adult trumpeter swans are mainly herbivorous, although they will occasionally feed on small crustaceans, fish, and fish eggs. One of their favorite foods in fall before migration is Arrowhead (*Sagittaria latifolia*) or Waabiziipin (swan potato)!

FUN FACT:

Trumpeter swans form bonding pairs when they are between three or four years old. The pair mates for life, staying together as they move in migratory populations. Some males that have lost their mates do not mate again.

WIINAANGE (G)

Common Name: Turkey Vulture (s)

Latin Name: *Cathartes aura*

Vulture is a large dark bird, with a featherless red head and legs. This is an adaptation to reduce the risk of fouling up feathers and picking up disease as they feed on carrion (dead flesh). Vultures are often mistaken for eagles or ospreys when they ride thermals in the sky, using their keen sense of smell to find fresh carcasses. You can distinguish vultures from other large birds by the way they hold their wings in a distinct “V” when soaring.



Vultures nest in rock crevices, caves, ledges, thickets, abandoned mammal burrows, hollow logs, fallen trees, abandoned hawk or heron nests, and abandoned buildings. They really don't build nests like other birds. They may simply scrape out a spot in the soil or leaf litter, pull aside obstacles, or arrange scraps of vegetation or rotting wood. Many of these nesting sites are used repeatedly for a decade or more.

They raise one brood per year and usually lay 1-3 creamy white eggs with brownish colored markings. Eggs hatch in 38-41 days and the young fledge in 66-88 days. Vultures do not have vocal organs to make songs like other birds. Most of their vocalizations come down to a form of low, guttural hiss made when they are irritated or vying for a better spot on a carcass. They also may give a low, nasal whine while in flight.

ANAAMISAGADOWESHIIN (YAG)

Common Name: Wren (s)

Latin Name: *Troglodytes aedon*

This little bird is small and compact, with a flat head and fairly long, curved beak. He has short-wings and often keeps his rather longish tail either cocked above the line of the body, or slightly drooped. Their coloring is a subdued brown overall with darker barring on the wings and tail.



In summer, wrens can be found almost anywhere from forests to swamps to backyards. They nest in old woodpecker holes, natural crevices, or nest boxes. They do like cover and rarely nest more than 100 feet from wood vegetation, yet avoid heavily wooded

nesting sites. The nest is cup-shaped and constructed of soft materials such as grasses, feathers, and animal hair. They often mound up a barrier between nest and entrance to protect the young from cold weather, predators, or cowbirds. Wrens can hatch up to two broods of young each year, usually laying 3-10 eggs which hatch in 9-16 days with nestlings fledging within 15-17 days.

FUN FACT:

Wrens nest inside tree holes and nest boxes. As the nesting season progresses nests can become infested with mites and other parasites that feed on nestlings. Wrens often add spider egg sacs into the materials they build their nests from. Once the spiders hatch, they help wrens by devouring the nest parasites.

Wrens eat a wide variety of insects including spiders, beetles, caterpillars, as well as smaller numbers of more mobile insects such as flies. They also eat snail shells, probably for the calcium they contain, and to provide grit for digestion.

CRAWLERS

Otawagameg (wag) – *Blue Spotted Salamander*

Miskwaashkade Ginebig (oog) – *Red-Bellied Snake*

Okaadiginebig (oog) – *Skink*

Ginebig (oog) – *Snake*

Otawagameg (wag) – *Tiger Salamander*



OTAWAGAMEG (WAG)

Common Name: Blue Spotted Salamander (s)

Latin Name: *Ambystoma laterale*

Commonly found in forested habitats, these small amphibians often go unnoticed because they spend much of their time under woody debris. Most salamanders can't tolerate dry habitats. Salamanders have jelly-coated eggs and

aquatic larvae.

Salamander larvae

look very different

from tadpoles. They

have external gills

allowing them to

breathe dissolved

oxygen from the

water. They also

differ from tadpoles

in that they have

front legs, even

as very young larvae. Older

larvae look similar to adults

without gills. After three

to four months, larvae

metamorphosize, lose their

gills, leave the pond, and start

using their lungs to breathe.

They will return to the ponds only

to mate and lay their eggs.



FUN FACT:

Blue Spotted Salamander is the most common salamander found in the Leech Lake area. They are grayish black in color and have bluish spots or flecks and are about 3-5 inches in length.

MISKWAASHKADE GINEBIG (OOG)

Common Name: Red-Bellied Snake (s)

Latin Name: *Colubridae*

The smallest of the snakes in Minnesota,

red-bellied snakes grow

between 8-10 inches in

length. They can be found

in the woods and in sandy

areas but always near a source of

water. They come in two color variations.

One phase is brown to reddish brown with

a single, lighter-colored

stripe; the other is gray

with four darker gray

stripes. Both have

red undersides. Red-

bellied snakes also

give live birth, and can

have litters as large as

20 or more young but

the average litter is

about 10 young. They

are about 3-4 inches

at birth. Red-bellies

eat insects, earth worms and slugs. They have many predators including foxes,

raccoons, mink, weasels, hawks, crows and ravens.



OKAADIGINEBIG (OOG)

Common Name: Skink, Five Lines Skink, Blue Tailed Skink (s)

Latin Name: *Plestiodon fasciatus*

Skinks are shiny-scaled lizards and the one found in Minnesota has five distinct yellow stripes on their sides, back, and tail. The center stripe diverges at the neck forming a “V” on the top of the head. The background



color varies with age and sex. Young skinks are dark brown to almost black with bright blue colored tails. Older adults are light brown with females having blue gray tails and males having grey tails. The face and throat of adult males have a reddish orange tinge. Adult skinks can range in length from 5-8.5 inches.

Skinks can be found in northern Minnesota hardwood forests and in fields along the forest edge. Skinks like a lot of cover to protect them from predators. They also like to have places to bask in the sun, on rocks, stumps and logs. Skinks start hibernating in early October and don't emerge until the end of sugar bush time in late April or early May. They hibernate in old mammal burrows, between crevices in rock formations, or rotting stumps and logs.

In late June, female skinks lay five to eighteen eggs. She will stay with them to guard against predators until they hatch. The young are born precocial (able to feed and care for themselves) and will leave the nest a couple of days after hatching. Skinks are carnivores (eat meat); their diet consists of snails, crickets, spiders, grasshoppers, beetles, moths, caterpillars and insect larvae.

The tail of a skink will break off if attacked by a predator that is holding onto its tail. The tail will continue to wiggle; this distracts the predator, and enables the skink to escape. Skink will re-grow a new tail, but the new tail is generally not as long or colorful as the original.

GINEBIG (OOG)

Common Name: Snake (s)

Latin Name: *Colubridae*

Although fifteen species of snake can be found in Minnesota, only two are commonly found on the Leech Lake Reservation. Other species may visit the area soon, as climate change has caused some animals, whose range is typically further south, to venture further north.

The common garter snake is of medium size, reaching lengths of up to three feet. They are black with three yellow stripes on their back and sides.



Garter snakes can be found in nearly any environment except very wet or aquatic type habitats. They hibernate from October until mid- to late April, depending on how warm the weather is. When they emerge from hibernation, they use their tongue to seek out pheromones from a potential mate. Garter snakes have a gestation period of two to three months and are ovoviviparous (give live birth). They give birth to as few as three to as many as 80 young, who are independent upon birth.

Garter snakes eat small mammals, frogs, earthworms and insects. They have many predators including foxes, raccoons, mink, weasels, hawks, crows and ravens. They are not venomous but they will bite if handled.

OTAWAGAMEG (WAG)

Common Name: Tiger Salamander (s)

Latin Name: *Ambystoma tigrinum*

Tiger salamander is black with yellow markings that vary in size and shape, and his under belly is greenish-brown.



Tiger salamanders spend most of their life underground. They emerge from their burrows in spring to migrate at night, usually during rain, to their breeding ponds. After mating, the female lays her eggs in a mass (25-30 eggs per mass) attached to twigs or weed stems under water. Eggs hatch after about a month and the larvae remain in the ponds until late July or early August. At this time, larvae transform into air-breathing sub-adults measuring between four and five inches. They leave the ponds at night during wet weather to begin their underground existence. It takes four to five years for the salamanders to reach sexual maturity, and they may live for 12-15 years. The tiger salamander eats insects, worms, spiders and snails.



WALKERS

Enigoons (ag) – *Ant*

Makwa (g) – *Bear*

Adik (wag) – *Caribou*

Waawaashkeshi (wag) – *Deer*

Omakakii (g) – *Frog*

Agoozimakakii (g) – *Treefrog*

Obiigomakakii (g) – *Toad*

Bizhiw (ag) – *Lynx*

Mooz (oog) – *Moose*

Wazhashk (oog) – *Muskrat*

Esiban (ag) – *Raccoon*

Zhigaag (wag) – *Skunk*

Waabooz (og) – *Snowshoe Hare*

Asabikeshiinh (yag) – *Spider*

Ma'iingan (ag) – *Wolf*

ENIGOONS (AG)

Common Name: Ant (s)

Latin Name: *Formicide*

Ants are very social insects. Depending on the species, the size of a colony can range from a few dozen to millions. Most colonies are made up of sterile, wingless females called workers or soldiers, some fertile male drones and one or more fertile queen ants. A new colony starts when a winged queen exits an existing colony. She flies into the air to mate with one of the colony's fertile male "drone" ants. When she lands, she breaks off her wings with her legs and begins building a nest for her eggs. The new location will depend on what type of ant she is. Worker ants care for the eggs, larvae, and pupae. They also look for food, keep the colony clean and take out the trash!



Like all insects, ants have six legs. Each leg has three joints. Their legs are very strong. Ants can lift 20 times their own body weight.

Ants play an important part in the world around them. They eat other insects as well as provide a food source for other animals, amphibians and birds. Blue jays have been known to pick up ants and rub them on their feathers, or sit on an ant hill and let ants crawl on them. This behavior is called *anting* and no one is quite sure why they do this. I guess that's a secret between Blue Jays and Ants.

Ants have many *symbiotic* relationships; one such relationship is with the Karner blue butterfly. Ants care for Karner caterpillars. In turn, the Karner caterpillars produce a nourishing liquid for the ants to eat. Some ants are pollinators. Some wild flowers like wild ginger, bloodroot, and trillium produce seeds with structures called *elaiosomes* that attract ants. As the ants move seeds underground for food, some seeds sprout.

FUN FACT:

Scientists have identified about 11,000 species of ants! There are 100 different species here in Minnesota.

MAKWA (G)

Common Name: Black Bear (s)

Latin Name: *Ursus americanus*

Black bears are large, stout, and almost tailless. They reach maturity at about four or five years of age and are about five to six feet long with a height at the shoulder of between 39 to 42 inches. Their weight can vary from 150 to 500 pounds.

The most common color for Makwa is black with a brownish muzzle. He sometimes has a white patch on his throat or chest. There are other color phases, such as brown, dark brown, blond, and cinnamon. Albino bears have white fur, red eyes, lack pigmentation on the nose, and are extremely rare.



Makwa used to range throughout Minnesota; however, populations are now generally restricted to the Northern part of the state. Makwa prefer to reside in secluded heavily wooded areas, including swamps. Bears wander great distances. The home range of a female may be up to 25 miles and males up to 65 miles.

Makwa is basically solitary except for mothers and young. Baby bears are born in late winter while the mother is denning up and hibernating. Baby bears do not hibernate. Cubs leave the den with their mother in early April and will stay with their mother for up to two years.

Makwa is an omnivore, eating both plants and flesh. Bears eat a lot of berries, grubs, acorns, hazelnuts and other plant material. Fish and meat from deer and other animals is a secondary source of nutrition.

Both male and female bears hibernate in the winter time, finding shelter for dens in a brush pile, windblown tree or rock ledge. During the winter hibernation, Makwa's body temperature drops only a few degrees, but their metabolism slows considerably. Makwa does not lose a lot of weight while hibernating, but loses a considerable amount when (s)he awakens to start foraging for food in spring, when food is scarce.

ADIK (WAG)

Common Name: Woodland Caribou (plural)

Latin Name: *Rangifer tarandus*

Woodland Caribou were native to much of northern Minnesota and were commonly found in the deep woods of north-central and north east. They were known to range as far south and west as the areas now known as Carlton, Mille Lacs and Kittson counties, but disappeared not long after the arrival of settlers due to timber harvests which created substantial alternations to the landscape.

The Woodland Caribou was last recorded in Minnesota in 1935, in the area between Upper Red Lake and Lake of the Woods. There was a failed attempt to reintroduce caribou in 1938-1942.

In the winter of 1980-81, Bill Peterson, then the DNR wildlife manager in Grand Marais, began hearing reports of woodland caribou along Highway 61. The sightings were confirmed by a wildlife biologist who spotted two caribou during an aerial survey. At the time, the nearest resident population of woodland caribou was due north in Ontario on the northwest side of Lake Nipigon near Armstrong. Caribou are known to be wanderers, so it is possible Canadian

Caribou wandered into Minnesota and stayed for a time because they found favorable habitat — rock outcrops and reindeer moss.

Wildlife biologists attribute the loss of caribou in Minnesota to several factors, including suggestions that Natives overhunted them. However, traditional knowledge is clear on the fact that the demise of caribou populations correlates exactly with introduction of commercial timber harvesting and agriculture which drastically changed the landscape, and were major factors in caribou moving north to find suitable habitat for survival.



Bill Peterson's photo of a Caribou in Cook County

WAAWAASHKESHI (WAG)

Common Name: Whitetail Deer (plural)

Latin Name: *Odocoileus virginianus*

Whitetails live in forests, swamps, wood lots and agricultural fields. They can be found in both rural and suburban areas. During the fall and winter months, Whitetails are a brownish gray color and shed out to a reddish color in summer. Piebald (white and brown) whitetails have been seen on Leech Lake Reservation. The whitetail rut (mating season) starts in November, ending in December. Young deer, called fawns or gidagaakoonsag, are born in May-June. There are often two, occasionally three, young, each weighing about eight pounds at birth. There is a story about fawns receiving a gift of white spots to camouflage them. They have the ability to lie still, unseen by others and free of any scent, so no one will detect them lying safely on the ground. Fawns remain with their mother and nurse for several months.

During the mating season, male deer (bucks) travel widely in search of females (does). Bucks also scrape small patches of ground on which they urinate. These scrapes may tell bucks that other bucks are in the area. Male whitetail deer grow and shed antlers every year. Antlers are bone. Antlers begin growing in late March or early April. At this time, they are covered with skin that contains many blood vessels (velvet). In late summer and early fall, testosterone levels increase, resulting in the antlers hardening. Bucks rub off the drying velvet. Antlers shed (drop off) when testosterone levels begin to drop, usually around January. Deer in good physical condition often shed their antlers later in the winter.

Whitetails eat acorns, mushrooms, grasses, tree leaves, buds, twigs and bark, wild grapes, apples and assorted shrubs. They will also eat garden foods of corn, beans and squash.



A long time ago, they say there was an old man with all his family grown. In fact, he had great, great-grandchildren. His wife had passed on, too, so he was considered to be quite elderly. The story of this old man is said to be the teaching of how we came to use asemaa (tobacco) before a hunt.

The old man knew he was getting into the winter of his life; it would not be too

long before he would take the journey to go back where he came from. He took a blanket, and walked away from his village. He went way out in the brush, found a high spot where he could look across the land and see far in each direction. There was a big pine tree there, so he sat down at the base of the tree and wrapped himself in his blanket. He felt all warm and relaxed. It was fall time and the forest was very colorful. He sat there content – thinking about his life, his family and his ancestors. He thought about how they lived such a good life. He felt at peace, drifted off to sleep and died.

But his spirit did not leave his body. It stayed until spring when a mother deer walked by him. At this point, his soul entered the womb and became the baby deer. When the mother deer gave birth and baby deer was born, he looked down at his legs and black hooves. When he looked up, he saw a big black nose and two beautiful soft brown eyes looking at him. “Who are you?” “I am your mother.” “What are we?” “We are waawaashkeshiwag.” He looked at his body as best he could and sure enough he was red, with spots. He said, “I am Deer!” “Geget, truly you are gitigakoons. You’re a fawn. I will call you Eyaabance, Little Buck.”



She licked him all over his head and his body, cleaned him up good with her saliva. Then she fed him, suckled him on her breasts – his first meal of warm sweet milk – and it tasted so good. Then after a time, she took him to meet his relatives. They traveled for some distance and came upon this big meadow, and there stood a whole herd of deer, Waawaashkeshiwagakinigago.

His mother introduced him to all his relatives; he had aunts, uncles, grandparents, and a large number of cousins. Whoa! All those little deer started running, chasing and playing. After a time, the older deer called all the young ones over. They said, “We have to teach you what food to eat and what food not to eat. Some plants that look like food can make you sick, even sick enough to die. Drink only the water that is moving. Don’t drink water that is standing still because it can make you sick. When winter comes and the snow starts to fall, we gather together around cedar, balsam trees and spruce trees; you’ll be protected there. When there is a flood, move

to high ground over here. And when the hunters come to kill us, this is how you run away.” They taught the little ones about the Creator, about creation and how the deer are part of creation along with all the other plants, animals, fish, water... everything on earth and in the sky above. They taught them about Anishinaabeg and they said, “Those Anishinaabeg make us Waawaashkeshiwag feel sad because they kill us. Gaawiin biindaakoojigesiwig. They don’t offer tobacco.

They don’t know how to do that yet. When one of us is killed, our spirit rises up, Sssshhhh, and it hisses and it travels all over the woods and the meadows; the fields making a hissing noise because we become lost and we will stay lost forever. We are concerned there will not be enough of us if they continue on this way.

Eyaabance took in all that they were telling him. He knew and understood all the teachings. He was about four or five years old at this point; he had grown big and strong and wandered about the forest by himself. At this time, it was fall and he found himself back in the village from where he had come as a man. It was early morning as he walked along the creek that ran by the village. A young hunter came out of his lodge and saw Eyaabance. The young man quickly went back in for his bow and arrows. Eyaabance was still there; the hunter aimed his arrow and heard the thud as it hit Eyaabance in the side. Eyaabance tried to run but the hunter drew another arrow and hit him again, Eyaabance fell to his knees. The young man was happy, he was thinking of the food and clothes that his family would have from this kill. As he walked up to Eyaabance, he drew his knife to cut his throat and field dress him, but when he bent over he saw an old man. He began to cry asking the old man to please forgive him – he was so sorry, he thought he was a deer. Because what he saw was the old man lying there on the ground with two arrows in his side panting with pain. The old man told the young man, “Listen. I have to tell you something. Do you remember me?” He said, “I died up in the woods.” “My spirit was born into a deer. I lived with the deer for many years now and I have learned that they are lost when Anishinaabe are killing them because we don’t put tobacco down, so then their spirits “Sssshhhh” around in the woods and become lost. But if Anishinaabe offer tobacco, their spirits will be born again in spring and there will always be deer.

This is how Anishinaabeg learned how and why we use tobacco. This teaching is not just about deer, it is for all beings, fish, wild rice, berries – anyone we take from the earth. If we offer asemaa for respect, there will always be more the next season.

OMAKAKII (G)

Common Name: Frog (s)

Latin Name: *Ranidae*

Frogs have smooth skin, long legs, and a tapered waist. Adults are typically larger than toads and tree frogs. Their fingers are not webbed, although their toes are joined by webs. True frogs have paired dorsolateral folds (visible raised ridges of skin that run down part or all of the length of the back), one on either side of the back.

Green frog – Females lay up to 40,000 eggs in May through July. Eggs hatch within a week. Tadpoles are dark green with black spots. Most of the young winter as tadpoles, then develop into frogs the following summer, with final maturation after two years. Like other frogs, green frogs have well-developed senses. Tadpoles eat diatoms and algae. Adults eat insects, worms, sometimes small fish and other frogs. Their bulging eyes allow them to see in many directions. The round spot behind the eye, called the tympanum, or eardrum, is used for hearing. This specialized patch of tissue vibrates when sound waves hit it. The vibrations are then interpreted as sound by the frog's brain.

Mink frog - The skin produces a musky odor similar to the scent of a mink when the frog is handled.

Northern leopard frog - Leopard frogs don't mate until they are two to three years old. Mating starts in late April. Male frogs call to attract females. Females lay more than 6,000 eggs in submerged masses in the north; in the south, egg masses tend to be laid in a film on the surface of the water. The eggs are black and attached to aquatic vegetation. In early August, young frogs leave the water to feed on land. Some leopard frogs have no spots. They are called Burnsi leopard frogs.

Wood frog - In very early spring, males and female wood frogs gather in ponds to breed (sometimes there is still ice on the water!). Females lay a blob of 1,000 to 3,000 eggs which hatch in three weeks, depending on the temperature. In six to nine weeks, tadpoles turn into frogs. Wood frogs are well-suited to a cold climate. They spend winters burrowed in the leaves litter from the previous fall. They stop breathing, their hearts stop beating, and ice crystals form within their hibernating bodies. Special antifreeze they produce keeps liquids from freezing inside their cells and killing them. Their fertilized eggs are not harmed by freezing either. Egg development simply stops until the water warms again. The wood frog is the only frog found north of the Arctic Circle.

Omakakii is a great example of the higher concepts found in the English language.

O

refers to 3rd person him/her

+

makak

container/box

+

aki

earth/dirt

AGOOZIMAKAKII (G)

Common Name: Tree Frog (s)

Latin Name: *Hylidae*

Tree frogs are considerably smaller than either toads or true frogs. All tree frogs have little toe pads. Toe pads aid in climbing high into trees to feed. Male tree frogs call from perches on vegetation in or near standing water during the breeding season. Female tree frogs lay their eggs singly or in small clusters, attached to aquatic vegetation.



Many species of tree frogs spend their winters in leaf litter or under rocks or logs. Some are capable of withstanding freezing temperatures by producing a type of antifreeze. Their liver converts glycogen into glucose (glycerol in gray tree frogs), which is pumped into their organs preventing ice crystal formation. Portions of their body cavity can tolerate the formation of ice crystals.

Cope's gray tree frog is usually a solid green or mottled gray in color with an orange-yellow coloring on inner surface of their hind legs. Mating takes place in spring and eggs are laid in loose clusters of up to 40 eggs, which are attached to vegetation near the surface of the water. Eggs hatch in within a week. Tadpoles transform into frogs within two months. They don't reach maturity until two years of age.

Gray tree frog can change color! Colors range from solid green to a mottled grayish green, to gray or creamy white. The inner thighs on the hind legs are yellow. They reach sexual maturity after two years. Gray Tree frogs start mating in May. Clusters of up to 30 eggs are attached to vegetation near the surface of water. Eggs hatch within one week, and tadpole transformation is complete within two months.

Northern cricket frog Spring Peepers are tan in color with a dark X on the back. They start breeding in March in wooded areas with ephemeral wetlands. Females lay 800-1,000 eggs, which are laid in clusters of two or three. Eggs hatch within a few days, and the transformation from tadpole to frog is complete within 8 weeks. Spring Peepers reach sexual maturity within one year.

Western chorus frog is one of Minnesota's smallest frogs. His skin ranges in color from tan to gray or red, with three dark stripes running from the head down the back. Western Chorus frogs begin mating begins in March. Females attach clumps of up to a 1,000 eggs to vegetation just above the water. Eggs hatch within three weeks (depending on the temperature), and the transformation from tadpole to frog is complete within three months.

OBIIGOMAKAKII (G)

Common Name: Toad (s)

Latin Name: *Bufo*idae

Toads have a thick, dry, and bumpy skin. This helps them tolerate dry environments. Toads have skin glands that create secretions with a bitter taste, making them unappetizing to most predators. Sometimes people say the toads cause warts. This is not true, but their skin secretions can be irritating and may be why this rumor got started.



Mature toads tend to breed in shallow water which warms quickly, speeding up tadpole development. Female toads lay **thousands of eggs** in long strings, which they attach to aquatic vegetation. Tadpoles transform more quickly and are smaller in size than frogs. Toads are capable of burrowing into the ground to escape the heat of summer. During the winter they escape freezing conditions by burrowing below the frost line.

FUN FACT:

Toads have shorter legs than frogs and hop instead of leap like frogs.

American toad is reddish brown in color with a white-colored chest speckled with dark spots. American toads start mating in May. Females can lay up to 20,000 eggs which hatch within one week. Tadpole transform into tiny toads takes place within six weeks. Full maturity is not reached for two to three years. During the winter, toad burrows beneath the ground — usually, in sandy soils and usually, just below the frost line. When frost sinks deeper into the ground, toads burrows deeper, sometimes reaching a depth of over three feet.

Canadian toad is brown to green with darker brown, reddish, or black spots. His underbelly is light with darker flecks. Canadian toads start mating in May. The female can lay up to 20,000 eggs; she lays them in shallow water at the edge of ponds, lakes and wetland area. Eggs hatch within a week. Tadpoles transform to toads within six weeks. Canadian toads overwinter in mounds of earth; each mound may have hundreds of resting toads.

BIZHIW (AG)

Common Name: Canadian Lynx (plural)

Latin Name: *Lynx lynx*



You might read that the Canadian Lynx is rarely found in Minnesota, that his historic range is Canada or near the northwest angle of Minnesota. They will occasionally come down as far as Leech Lake when the snowshoe hare population is low in the North. Anishinaabe People know that he was and still is here with us. The land has changed so much; development, timber harvests, roads and pipelines all impact the way animals travel and where they live. It has become difficult for many animals to find the habitat to support them.

Lynx are about three feet long, including a stubby little four inch bobtail. They live in dense forest habitats. An adult weighs between 25-45 pounds. Their colors include various shades of brown to gray while their underbelly is gray to white. They mate in late winter, with a 65 day gestation period, and deliver from 1-5 kittens. Kittens may stay with their mother for up to a year before venturing out on their own. The main diet for lynx is snowshoe hare. They can both be found living in the same dense forest habitats, and if there are no snowshoe hares, you will not find lynx. These two have strong connections, but lynx will eat other small mammals and birds.

Another connection they share is that they both have very large feet with dense thick fur covering them. This allows them to travel easily over deep snow.

MOOZ (OOG)

Common Name: Moose (plural)

Latin Name: *Alces alces*

Moose is the largest member of the deer family, standing about six feet tall and weighing on averaging 950 to 1,000 pounds, occasionally exceeding 1,200 pounds. Moose start growing their antlers in Iskigamizige-Giizis (April) and lose their velvet in Manoominike-Giizis (August). Antlers can measure up to five feet across and weigh up to 40 pounds. Antlers are usually shed in Manidoo-Giizisoons (December) or Gichi-Manidoo-Giizis (January).



FUN FACT:

A moose can store more than 100 pounds of food in its stomach.

Mooz have long legs and splayed hooves which enable them to move easily in marshy areas and along streams and lakes. They browse on aquatic vegetation and various types of willows and shrubs. Moose are capable of diving to the bottom of shallow ponds and lakes, where they rip up bottom-growing vegetation. They also like to feed on aspen, maple and cherry trees. Moose are relatively solitary, although they may gather in small groups, sometimes in response to a concentrated food source.

Before the evergreen forest of Minnesota was first logged off, Moose were abundant as far south as Chisago and west to Roseau Counties, but were uncommon in the north east where woodland caribou were the dominant deer.

Minnesota's Moose population is at risk. The state hunt was suspended in 2013. Minnesota has had two population concentrations of Mooz; the heartier of the two is located in the northeastern region of the state and is dwindling at around 2,700 animals, a 35% drop from 2012 and a startling 65% drop since 2008. There is, however, a potential correlation of the long-term Minnesota moose population collapse with climate change. During times of high temperatures, moose seek out shelter rather than eating, leading to malnourished animals which are more susceptible to predators and disease. In addition to high temperatures, Minnesota has been experiencing increased humidity during the night. High humidity adds additional stress to Moose, who have a thick coat allowing them to trap and conserve body heat for winter survival, but cause overheating in summer. Moose may well be the first notable indicator species of climate change in Minnesota.

FUN FACT:

Moose can run 35 mph and easily swim 10 miles without stopping.



WAZHASHK (OOG)

Common Name: Muskrat (s)

Latin Name: *Ondatra zibethicus*

Muskrats are found throughout Minnesota. They live in marshes, ponds and along streams and lakes. Muskrat and his cousin Amik (Beaver) are the only mammals that build their homes in the water! Although famous for their domed houses of mud and vegetation, they just as often make their homes in burrows. There is an old saying that when Muskrat builds his home tall, it's going to be a hard winter!

Muskrat swims low in the water, with his long, almost-hairless tail curling behind. Often, muskrats can be seen carrying aquatic vegetation as they swim. Muskrat is about 20 inches long, including his 9-inch tail. Adults weigh from 2 to 5 pounds.

Muskrats produce many young. An adult female can have two or three litters of up to 10 young in a summer. The young can survive independently after one month. Muskkrats eat a wide variety of food including the roots, stems, leaves, and fruits of many water plants, like cattail, wild rice, water lilies, and rushes. Muskrat's main diet is plants, but he also eats small fish, clams, snails, and even turtles. Muskrat does not store food in the winter and must travel out each day, sometimes making channels through the mud to find food under the ice.

Muskrat's main predators are mink and otters. Some birds of prey especially eagles and ospreys will attack swimming muskrats. When they are on land, muskrats are vulnerable to predation by foxes, coyotes and raccoons.



ESIBAN (AG)

Common Name: Raccoon (s)

Latin Name: *Procyon lotor*

Scientists talk about how raccoon came to have black around his eyes. Some say it helps reduce glare and enhances his nighttime vision. This may be true but there is a story that Wenaboozhoo had built two lodges — one for himself and another for two elderly warriors who had been slowly losing their sight and ability to hunt. The two warriors had done so much for the community that Wenaboozhoo decided to take care of these men as they grew old. He tied a rope from their lodge, making it easy for them to visit the lake, fetch water and wash-up.



Raccoon was walking by the old men's house one day and decided to play a trick on them. He went to the lake and moved their rope away from the water and into the woods. Later that day, one of the men went to get water for the house but when he reached the end of the rope, he was surprised to find nothing but dry ground!

"What happened? Has the lake dried up?" he cried out. When he arrived home, he told his friend why he had arrived home with no water.

The second man did not believe the story, and followed the rope to find out for himself. Raccoon had already moved the rope back, so the second man ended up at the lake. "Oh my goodness, my friend is lazy!" he said. "He just wanted to make me carry the water!"

When the second man returned home with water, he was in a bad mood. His friend had already prepared a dinner of wild rice and deer meat. When they sat down to eat, Raccoon snuck in to play another trick. He ran up and took all the deer meat before the two men could sit down to eat. "Why did you eat all my meat?" "I didn't!

Why did you take mine?" "I didn't." "Yes, you did and you're lazy too. The lake has not dried up!" The men began to wrestle with each other. Raccoon ate the deer meat and chuckled as the two old men rolled around on the floor yelling at each other.

As Raccoon was leaving to return home, he ran into Wenaboozhoo. "Hey Raccoon, do you know why the two old men are yelling and wrestling with each other?"

Raccoon could not look Wenaboozhoo in the face because he felt guilty. Wenaboozhoo realized Raccoon had been up to some trickery and dragged him back to where the old men were fighting. Wenaboozhoo made Raccoon apologize to the men and said, "For your meanness, Raccoon, I will punish you in three ways. First, from now on, you won't be able to eat without finding water first to wash your food. Second, you will only be allowed to hunt at night, when it is difficult to see. Third, I will wipe this soot over your eyes and tail, so everyone who sees you will know you are up to no good!"

Raccoons range in size from 24 to 38 inches in length excluding their tail. They can weigh between 14 to 23 lbs., depending upon habitat and available food. They have thick, heavy fur and bushy, ringed tails. Raccoon's hind legs are longer than his front legs making him looked hunched when walking or running. He has five toes on his front paws that are extremely dexterous, allowing them to grasp and manipulate food and a variety of other objects like doorknobs, jars, and latches. Touch is a heightened sense for Raccoons. They have very sensitive front paws, and this sensitivity increases underwater. Raccoon will examine objects in water when at all possible.

Raccoons can be found living in most wooded areas, finding shelter in hollow trees and dens. They remain in partial hibernation during most of the winter and often den in small groups. They are omnivorous, opportunistic eaters, with a diet heavily determined by what is readily available. They often eat fruits, plants, nuts, berries, insects, turtle eggs, rodents, frogs, bird eggs, clams, crayfish and small birds. They like to get into your garden and your garbage too!

FUN FACT:

Raccoons are good swimmers and can stay in the water for several hours.

ZHIGAAG (WAG)

Common Name: Skunk (s)

Latin Name: *Mephitis mephitis*

Skunk is a medium-sized mammal with a beautiful, glossy black coat with a thin white stripe between its eyes and two stripes on its back. Skunk has a rather small body, 25 to 30 inches long, with a tail being between 8 to 11



inches long. He weighs between 3-10 pounds. Skunk may be small, but he has few predators because few animals are willing to bother skunk due to his obnoxious odor. Some owls and other birds of prey with a poor sense of smell might occasionally feed on skunk.

Skunks sleep deeply for 3-4 months at a time during winter, but are not considered true hibernators. They will emerge periodically during warm weather and during the mating season — end of February and into March. Skunks are generally solitary but will den in small groups. Skunks may lose up to 38% of their body weight during the winter. In spring, females give birth to four to six naked, blind, and helpless young.

Skunks are omnivorous (eat both plants and animals) and will eat what they can find or catch. They have large feet with well developed claws that are good for digging. Some of their favorite foods are mice, voles, birds and their eggs, carrion (dead or decaying flesh), grasshoppers, beetles and their larvae, nuts, crawfish, mussels, and turtle eggs. Skunks give a warning before they spray. They turn to face the aggressor, arch their backs, raise their tails, stamp the ground, and shuffle backwards. Then, just before spraying, they bend into a "U" shape, so both their head and tail faces the target. Should you see any of these signals, back away slowly and quietly, and don't wave your arms around!



WAABOOZ (OG)

Common Name: Snowshoe Hare (s)

Latin Name: *Lepus americanus*

Snowshoe hare has his own camouflage, turning brown in the summer to blend into the shadows of the forest, and white in the winter, making him difficult to see against a snowy backdrop. Snowshoe hare has this name because the soles of his large



FUN FACT:

The Snowshoe Hare is slightly larger than the Eastern Cottontail and both are found on Leech Lake.

feet are heavily covered in thick dense fur, particularly in winter, enabling him to run across the top of soft snow without sinking. Their mating season is from February until July, with young being born 36 days after mating. A female can deliver three or four litters

a year. The nest consists of a simple depression scraped out on the ground. The young are born with their eyes open. They have all of their fur and are able to hop around soon after birth. The population can cycle dramatically and seems to follow a ten-year population cycle of highs and lows.

Waabooz live in dense forests and bogs. During the spring and summer they feed on herbaceous plants, and in winter feed on twigs, bark and buds. Snowshoe hare has many predators including coyote, wolf, bobcat, lynx, fisher, marten and owl. Snowshoe is an important part of a traditional subsistence diet.

"I remember when I was a small girl we ate rabbit. Oh we just loved rabbit. Nowadays, the rabbits have small bubbles on them after you skin them. They never used to be like that."

- Quote from a Leech Lake elder

ASABIKESHIINH (YAG)

Common Name: Spider (s)

Latin Name: *Araneae*

There are 4,000 species of spider in the United States, and 39 can be found in Minnesota. Spiders, like all insects, have an exoskeleton and jointed legs. The difference between spiders and insects is that spiders have eight legs, and usually eight eyes.



Spiders are divided into two groups: hunting spiders and web-building spiders. Hunting spiders do not construct a web, they are quick-moving, and they have good eyesight. Web builders live near their web, wait for food to come to them and usually, have poor eye sight, relying heavily on vibrations from their web to locate prey. Spiders feed primarily on insects and other spiders.

Glands inside the spider's abdomen produce spider silk. Spider silk is very strong and very elastic. Several types of silk are produced, such as sticky threads to trap prey and soft, fluffy silk to protect eggs. Each kind of silk is extruded in liquid from organs called "spinnerets." Spiders usually have at least two pairs of spinnerets and many spiders have special "combs" on their legs that help them spin silk strands.

When a spider finds a prime hunting spot, like near an outdoor light that attracts insects, he will release a stream of silk into the wind. The strand of silk will be carried on the wind till it catches and anchors on a wall or twig. This first thread is the frame of the web. It can take all night to construct a web and if the wind or some larger insect damages the web, the spider will eat the silk, thus recycling the silk proteins back into its body. Spider silk is regarded as the strongest natural fabric known, at least half as strong as a steel thread of the same thickness, and much more elastic.

MA'IINGAN (AG)

Common Name: Eastern Timber Wolf (Wolves)

Latin Name: *Canis lupis*

“We understand wolves to be our educators, teaching us about hunting and working together in extended family units. Wolves exemplify perseverance, guardianship, intelligence, and wisdom. In the Anishinaabe creation story, we are taught that Ma'iingan is a brother to the Original Man. The two traveled together throughout the earth naming everything. Once this task was completed, the Creator said that the two had to take separate paths, but indicated that whatever happened to one would happen to the other. Each would be feared, respected, and misunderstood by the people who would later join them on earth. Thus the health and survival of Anishinaabe people is tied to that of Ma'iingan” – Bob Shimek



Ma'iingan is currently the largest predator that inhabits the Leech Lake Reservation. He is also a species of cultural and spiritual importance to many. Once a common animal, wolf was extirpated from the reservation, as well as most of the rest of the continental United States, by the early 1960s, due to unrestricted hunting by humans.

The average male wolf weighs about 80 pounds with females averaging about 10 pounds less. It is rare for a wolf to exceed 120 pounds. They typically stand 32-34 inches high at the shoulder. Wolves breed in late winter and pups will be born in early summer in a secluded den. Typically, only the alpha male and female breed, the rest of the pack supports this litter of pups. The pups are born in late April or early May with an average litter size of 6-7. For the first couple of weeks, the alpha female stays with the pups to keep them warm and fed. During this time, she is totally dependent on the remainder of the pack to provide her with food. Once the pups are large enough to be alone, the female can leave them and also hunt to support the growing pack. Wolves have a difficult life, and there are many sources of mortality. Under typical conditions, about half the pups die before they reach six months of age, usually due to shortage of food or diseases. There is also a high mortality rate for older wolves — starvation and disease, vehicle collisions, and illegal killing being the most significant factors.

Wolf populations are known to contract a number of diseases and parasites including rabies, canine distemper, parvovirus, heartworm and sarcoptic mange. Tick disease such as Lyme may be impacting population health, but to date, there has been no study to determine what level of impact Lyme may have. Some of these diseases can cause high mortality, especially in pups. In the past decade, mange has also been reported in many of the wolves on the Reservation.

Wolves usually hunt in packs, as it enables them to catch and kill large prey they would not typically handle on their own. They are most suited to catch medium to large ungulates, but will also feed on smaller prey (rabbit) when available or out of necessity. In Northern Minnesota, and on the Leech Lake Reservation, this area historically supported Moose, Woodland Caribou, Plains Bison and Eastern Elk. However, statehood brought intensive commercial timber harvests and excessive hunting caused extirpation of these large ungulates, resulting in Whitetail deer being the primary food source for Ma'iingan.

Under most circumstances, wolves have a difficult time catching and killing a healthy mature animal. Therefore, much of the prey they eat are either young, injured, or old individuals of a population. In many respects, this helps to keep the prey population “healthy” by removing individuals that aren't as strong, or healthy.



Despite the perception that a pack of wolves has an easy time catching food, they are frequently unsuccessful and may go for long periods without food. It is risky to corner an ungulate, for a single well-placed kick can kill or seriously injure a wolf. Once a prey animal has been successfully killed, the entire pack will feed on the animal with the more dominant animals eating first.

In Minnesota, a wolf's home territory can be anywhere from 42 square miles (6.5 miles x 6.5 miles) to 100 square miles (10 miles x 10 miles), but territories as large as 200 square miles have been reported. Excluding large bodies of water and unsuitable habitat, the Leech Lake Reservation can provide habitat for upwards of a dozen wolf packs, some of which have territories that extend outside the reservation. At 5.3 individual wolves per pack this means that there are about 60 wolves on the reservation. Wolves tend to spend much of their time in the core of their territory and lesser amounts on the fringe where they are likely to have dangerous encounters with adjacent packs.

SWIMMERS

Awaasizii (g) – *Bullhead*

Mizay (ag) – *Eelpout*

Awadaashi (wag) – *Sunfish*

Asaawens (ag) – *Yellow Perch*

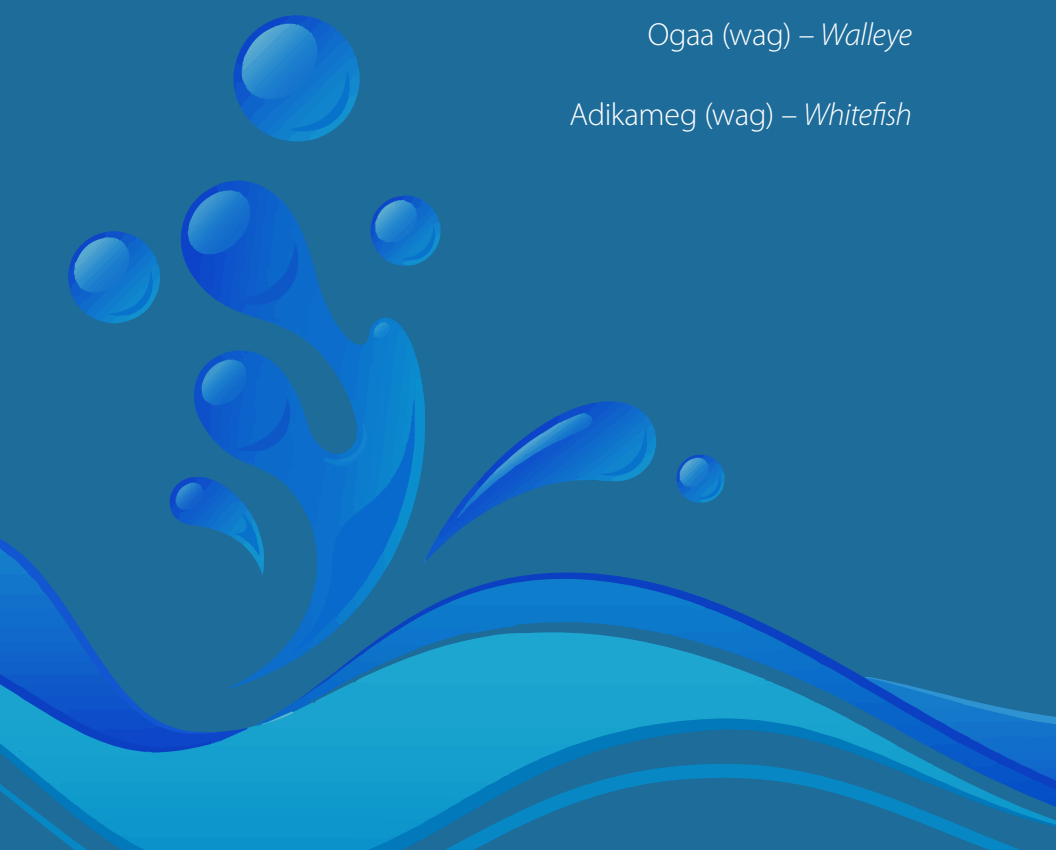
Gidagawadaashi (wag) – *Crappie*

Mikinaak (wag) – *Snapping Turtle*

Name (g) – *Sturgeon*

Ogaa (wag) – *Walleye*

Adikameg (wag) – *Whitefish*



AWAASIZII (G)

Common Name: Bullhead (s)

Latin Name: Black (*Ictalurus melas*) Brown (*Ictalurus nebulosus*)
Yellow (*Ictalurus natalis*)



Bullheads are members of the catfish family. All three species of bullheads are scale-less, with an average length of eight to ten inches. All three have thick, heavy heads, rounded snouts and wide mouths ringed with broad bands of tiny, needle-shaped teeth.

All have six whisker-like feelers (barbels) — one long barbel sweeping back from the upper jaw at each corner of the mouth and four in a line on the lower chin. These whiskers give bullheads a catlike appearance. The barbels are important sensory organs that alert the bullhead to the presence of food. Bullheads don't have scales, but they do have an estimated 100,000 taste receptors all over their bodies. These taste receptors make it easier for them to find food at night when they are most active. Snails, clams, insects, leeches, small fish, algae or crayfish are easily detected by their barbels and taste-sensitive skin.

Bullheads are gregarious fish, meaning they like to travel in large groups. Spawning begins when the water reaches 70 to 77°F. All three species have preferences as to where to build their nests. Black bullheads prefer mud bottoms, “browns”, rocky and sandy bottoms, and “yellows” heavy banks of weeds. Females build their nest by fanning their lower fins downward to excavate a saucer-shaped nest in areas sheltered by vegetation, logs, rocks, or overhanging banks. Sometimes, nests are built in hollow stumps or muskrat burrows. Female lay 2,000 to 14,000 eggs in gelatinous masses to be fertilized by the male's sperm (milt). Bullheads are amazing parents. Females guard the eggs for the first few days. After that, both males and females stand guard, fanning the egg mass with their fins to aerate the developing eggs. After the eggs hatch (in five to ten days), parent fish remain with the brood. After about two weeks, the adults complete their parental duties and young bullheads are on their own, but continue to travel in large schools.

FUN FACT:

Bullheads can survive out of water for hours, and there are stories of bullheads living for weeks in 'cocoon like' clods of nearly dried mud.

MIZAY (AG)

Common Name: Eelpout / Burbot (s)

Latin Name: *Lota lota*

Eelpout vary in color from very pale to a very dark olive with mottled, darker markings on the back and sides, fading to a yellowish-colored belly. They have large fins which are mottled with a dark border. They have a single whisker, called a barbel, on their chin and one by each nostril. They are protected by a heavy covering of mucus giving them a smooth, slippery feel when handled.

Eelpout is the first fish to spawn, starting mid-winter under the ice. They spawn at night, in shallow water over sand or gravel. Eelpout spawning usually occurs in lakes, but they will occasionally move into rivers to spawn. They are weak swimmers and require slow moving water to make their spawning migrations. Eelpout spawn together in a squirming mass moving along the lake bottom, males shed milt (seminal fluid) onto the tiny eggs laid by the females. Fertilized eggs will drift until they settle into cracks and spaces in the substrate. Depending on water temperatures, eggs will hatch about 30 days later. Eelpout go through a larval stage before growing into a fry.



While in the larval stage, juvenile eelpout feed on invertebrates. As adults, they hunt at night and are mainly piscivores (feed on fish) eating whitefish, young northern pike, suckers, and perch. At times, eelpout will feed on insects and other macro invertebrates, and have been known to eat frogs.

AGWADAASHI (WAG)

Common Name: Sun Fish

Latin Name: *Lepomis macrochirus*

This is a name that actually refers to several different kinds of fish including bluegills (largest), pumpkinseeds, orange spotted sunfish (smallest) and green sunfish! Sunfish spawn from May until well into the summer, nesting in colonies and defending their nests. Sunfish eat aquatic insects and other invertebrates. Young sunfish feed in heavy weeds to avoid predators. As the young grow, they often venture into more open water where they feed heavily on zooplankton.



Bluegill



Sunfish



Pumpkinseed Sunfish



Orange Spotted Sunfish

GIDAGAGWADAASHI (WAG)

Common Name: Crappie (s)

Latin Name: *Pomoxis nigromaculatus*

Crappies are also members of the sunfish family. There are

two kinds of crappie in Minnesota:

the Black and the White. It is very difficult

to distinguish between the two species. Crappies

spawn in May and June when the water temperature reaches mid-60°F. Crappies

build nests in shallow, calm water near vegetation. Nests are often built in groups. The

female can produce well over 100,000 eggs and the male will guard them until they

hatch about 3-5 days later. The male will continue to guard the fry (newly hatched

fish) for a few days until the young leave the nest. Young crappies prefer zooplankton

(microscopic animals); adults prefer fish, but will eat insects.



ASAAWENS (AG)

Common Name: Yellow Perch

Latin Name: *Perca flavescens*

Perch is a cousin of Ogaa

(Walleye). Perch are also

considered panfish

because they are

so small. Female

perch reach sexual

maturity at about 4 years of

age and males at 3 years. Perch spawn

in the spring and lay their eggs in gelatinous strings among dense vegetation, roots

or logs in shallow waters near shore. The diet of an adult perch consists of immature

insects, larger invertebrates like crayfish, and the eggs and young of other fish.



MIKINAAK (WAG)

Common Name: Snapping Turtle

Latin Name: *Chelydra serpentina*

Mikinaak minis =
"Turtle Island"

Mikinaak is the largest turtle you will find in our area. Their carapace (upper shell) on average is 14-19 inches, with weights of around 10-35 pounds. However, many people have reported seeing Mikinaakwag much larger than this on Leech Lake. The carapace is bumpy (toothed) and will vary in color from green to brown, even black, and is often covered with moss. The lower shell (plastron) is small and provides little protection. Mikinaak has a long tail with raised scales. They have a very powerful jaw and a rather long neck. Mikinaak has a generally calm nature but when they are on land will lunge forward snapping and hissing at anyone bothering them.

Breeding can occur at any time, but typically happens in the spring or fall. In June, females will travel to open, sunny, sandy soils perfect for nesting. They will travel a half mile or more to find the right conditions. Sometimes these places are sandy shoreline banks, gravel roads, open fields or even someone's lawn. She uses her hind feet to dig out a nest and lay between 25-50 eggs. She uses her hindfeet to guide the eggs into the nest. Eggs are whitish and have a leathery shell. Once the eggs have been laid, she will cover the eggs with sandy soil and return to her home. When the eggs hatch depends upon the weather conditions, but generally, somewhere between 50 to 125 days.

Incubation temperatures determine the sex of hatchling turtles. When temperatures are warmer, more females will hatch from the clutch, and more males if the temperatures are cooler. Hatchlings use a special egg tooth and claws to help them

Mikinaak is in our creation story and a great communicator for the Anishinaabe. You can find him in just about any aquatic habitat but they really like slow-moving, quiet water with a muddy substrate and lots of vegetation.

escape from their shells. After hatching, they have to dig their way out of the soil nest and find water. That's a lot of work for a tiny little turtle!

Eggs and young turtles are very vulnerable to predation by skunks, raccoons, foxes, mink and nest disturbance. Once young turtles reach water, they face predation from large fish, frogs and some birds.

Mikinaakwag must eat underwater as they require water pressure to swallow. Mikinaak is an omnivore (eating both plants and animals); their food sources include insects, tadpoles, frogs, aquatic plants, salamanders, snails, worms, clams, crayfish, and fish. A large Mikinaak's diet may occasionally include small mammals and birds. From late October to April, Mikinaak will find shallow waters and will sit on the bottom. They also shelter themselves by burrowing down into the mud or finding an overhang on the bank. Sometimes they will overwinter in groups.



This is Chris, a young snapping turtle being released into the wild.

NAME (G)

Common Name: Sturgeon (s)

Latin Name: *Acipenser rubicundus*

Name is one of the oldest species of fish in existence. It grows larger and lives longer than any other freshwater fish in North America. Nameg have few natural predators other than human beings, and can live to be 150 years old and grow to weigh nearly 400 pounds. They require large areas of shallow water to find food, and spend most of their lives near the bottom of lakes and rivers, shifting through sediment with their sucker-like mouth. They eat insect larvae and other invertebrates such as snails, small mussels, crayfish, leeches and small fish.

Nameg spawn between April and the early part of June. Often, groups can be seen in shallow waters near the shore. It is said that Nameg travel long distances to the same area where their parents spawned; this is often referred to as a Natal Area (traditional spawning grounds). Fertilized eggs are sticky and attach to gravel or rocks. Name's growth to maturity is slow (males, 8-17 years; females, 24-26 years), and spawning is intermittent (every 4-6 years for females, and 2-3 years for males).



Prior to European immigration to Minnesota, Nameg were abundant, and an important part of Anishinaabeg communities. Nameg were taken by spearing or by dragging nets between two canoes in early spring during spawning. Nameg provided food, skin, and oils. There is a legend telling of a family that transformed into sturgeon and became the Sturgeon Clan — a member of the fish clan.

The abundance of Nameg led to heavy exploitation by European immigrants in the 1800s. On Lake Winnipeg, commercial fishermen over harvested Name for its swim bladder (which contains isinglass, used in making alcohol) and its eggs, prized as caviar. After taking the swim bladders or eggs, fishermen would leave carcasses to rot on shore or burned them on land. On Lake of the Woods and the Rainy River, Nameg were fished heavily; in fact, the annual commercial harvest reached nearly 2 million pounds between 1883 and 1893.

Nameg are long-lived, slow to mature, and spawn infrequently; they could not reproduce fast enough to support such wasteful commercial practices, and their populations crashed before 1900. The construction of Dams added to population declines by blocking Name's traditional migration routes to spawning areas. In addition, commercial agriculture and timber harvesting have resulted in soil erosion and increased amounts of sedimentation, damaging traditional spawning grounds. There are many sites on Leech Lake with Name as a traditional place name.

OGAA (WAG)

Common Name: Walleye (s)

Latin Name: *Stizostedion vitreum*

Walleye are the largest member of the perch family and typical of perches, walleye have two separate dorsal fins. Their body is mottled with dark blotches on a yellowish-to-greenish brown background. Colors on their lower body shade to white on the belly. Walleyes are carnivores and have teeth in the jaws and on the roof of the mouth.

Walleye gets his English name for his bulging, marble-like eyes. The reflective layer behind the retina is called the *tapetum lucidum*. This improves his sight at night or in cloudy water, giving him an advantage over prey.

Walleye are early spring (late April, early May) spawners. Walleye are generally nocturnal with most of their activities, including spawning, occurring at night. Spawning begins when water temperatures reach 45-50° Fahrenheit. They begin to move upstream into rivers and creeks (tributaries). Females scatter their eggs randomly over rocky substrate where males then fertilize the eggs. Walleye do not build nests and neither eggs nor fry receive any parental care. Walleye eggs are adhesive and stick to the rocky substrate hatching out about seven days later, when water temperatures reach temperatures near 57° F. Walleye fry grow fast and may attain lengths of ten inches or more during their first year if conditions are favorable. Male walleye reach maturity between two and four years of age, and females, between three and six years of age.

Walleye fry consume crustaceans and various insects, while adult walleye are primarily piscivorous (feeding on fish) with small bass, trout, pike, yellow perch and sunfish as their primary prey, but will also eat crayfish, frogs and snails.



ADIKAMEG (WAG)

Common Name: Whitefish (plural)

Latin Name: *Coregonus clupeaformis*

There is a story about how whitefish were given to the Ojibwe, how they became one of three great gifts, and how they became a major food source because of their abundance in the fall and winter. Certain families were the catchers of the whitefish, and they followed certain protocols to ensure there were enough fish to feed the people.

One night, while the people were drying their fish over an open fire, they saw red lightning in the sky. They built little huts of wood around the fire, layering them with moss in an attempt to finish drying the fish before heavy rain could douse their fires. This is how the people learned to smoke whitefish. After the fish were done drying, there were little mounds of soil in the fire huts with tiny plants growing from them. One of the villagers had a dream that they were to place the guts of cleaned whitefish with the plants. This is how they learned to use fish as a fertilizer to help grow plants.



Whitefish are a slender elongated fish. Some people describe them as having a humpback because the head is small in relation to the length and size of the body. Their snout protrudes beyond their mouth, their tail is deeply forked, and they have an adipose fin (small fin located between the dorsal fin and tail). They are silvery white in color, with an olive to pale greenish-brown back. The fins are white, and the tail has a dark edge.

They are not found in every lake. They require cool, well-oxygenated water in the summertime. Whitefish are bottom dwellers, feeding on things near the bottom of the lake. Young whitefish eat zooplankton and begin to include small bottom-

dwelling insect larvae as they grow larger. Adult whitefish eat fingernail clams, scuds, snails, midge larvae, and small fish.

Whitefish spawn in the fall (mid-October) when shallow water temperatures fall below 45° F. Spawning usually occurs at night over gravelly, rocky substrates around shorelines. Whitefish swim to the surface of the water and back down in twos, threes, or greater numbers, releasing eggs and sperm. The fertilized eggs fall to the bottom and settle between the rock crevices. Eggs develop through the winter and hatch in early spring.

Happy fisherman is going to eat well! Smoking fish is a traditional preservation method.



*Fish gift us with good food.
Miigwech Giigoonyag!*



Gathering our food together keeps community close.

ANOOJ IGO GEGOO

Mawinzowin (Harvesting Berries) & Berry Calendar

Zhaaganaashiimowin (English Glossary)

Ojibwemowin (Ojibwe Glossary)

Recipes

Notes Pages

"We don't have to learn how to garden; we just have to remember how to garden."

- Shirley Nordrum

"For fun we were always swimming down at the bridge or down at the point. There were lots of trails, paths, no roads, with lots of berries along the way."

- Della Kingbird

"I am very proud for having grown up in Gould Lake with my grandparent, my mom, and brothers and sisters. We lived off a lot of wild things, fish, rabbit, and potatoes."

- Jean "Muzzinz" Beaulieu

MAWINZOWIN “HARVESTING BERRIES”

Nimawinzomin “We harvest berries”

Ode’imini-Giizis, the Strawberry Moon, is the start of the berry season in the Great Lakes region. Ojibwe women and children would go to the woods and gather berries to carry their families through the winter months. The Anishinaabe philosophy is to take only what you need, leaving some for others and also to assure there will be more berries the following year.

The weather is often hot when it’s time to harvest berries. The berries themselves may be hot from the sun as you pick them. Avoid closing them into any container until they have cooled down. Placing them in a closed container while they are still warm can cause condensation to develop. The combination of heat and the moisture will cause the berries to over ripen (rot).

How to Clean and Store

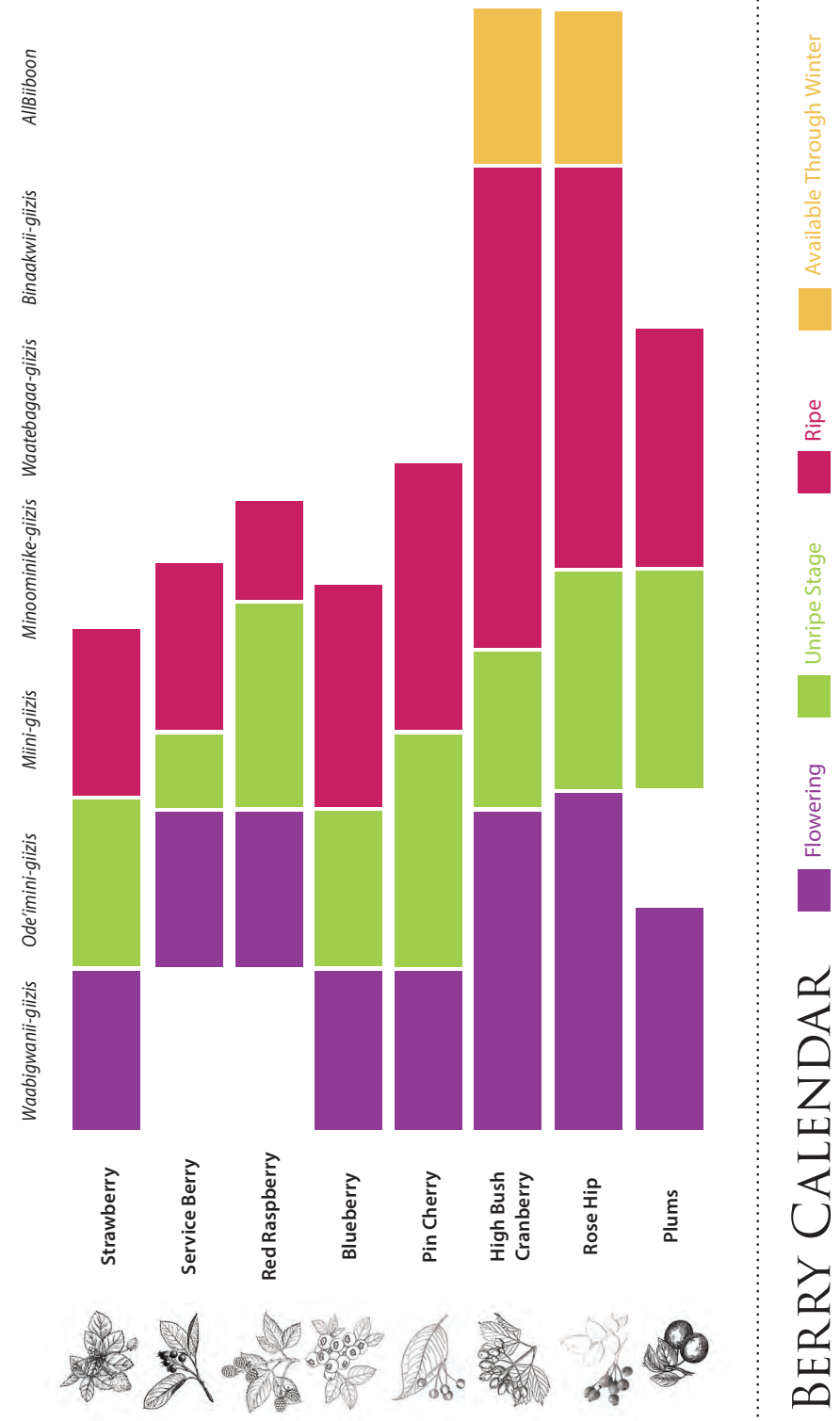
Spread a clean, dry, terry cloth towel over a slanted surface, such as a cutting board, with one end propped up a few inches above the other. Gently roll the berries down the towel; most of the debris and leaves will cling to the towel while the berries roll off. Berries should be covered in shallow containers to prevent crushing of the berries, and they should be stored in the refrigerator. If stored right, berries will keep fresh up to 3-4 days.

How to Freeze

Choose firm berries with glossy skins. Remove any stems or leaves and sort out shriveled berries. Wash, if needed, and drain before packaging into freezer containers. Berries can be spread in a single layer on a cookie sheet and placed in the freezer. When frozen, transfer to freezer bags or containers. Properly frozen berries will last up to two years.

The order of ripening for some of the berries that can be found in this area.

- | | |
|---------------------------------------|---------------------------------------|
| Ode’imin (an) – Strawberry (ies) | Miin (an) – Blueberry (ies) |
| Gozigwaakomin(ag) – Juneberry (ies) | Asasawemin (an) - Choke Cherry (ies) |
| Miskomin(ag) – Raspberry (ies) | Odatagaagomin (ag) - Blackberry (ies) |
| Bawa’imin (an) – Pin Cherry (ies) | Ookwemin (an) - Black Cherry (ies) |
| Odatagaagomin (ag) – Blackberry (ies) | Bagwaji bagesaan (ag) - Wild Plum (s) |



ENGLISH GLOSSARY

- **Achene** - A dry fruit with one seed.
- **Alternate** - leaves or flowers growing singly at different levels along a stem.
- **Basal** - situated or attached at the base.
- **Buttress** - a root growing from the above-ground stem or trunk, and providing support.
- **Calyx** - the outer whorl of a flower, usually green; the sepals of one flower collectively.
- **Compound** - composed of several parts; for instance, a leaf with leaflets.
- **Conifer** - a tree that bears cones and evergreen needlelike or scalelike leaves.
- **Crown** - the branches and foliage of a tree.
- **Dioecious** - of plant, when male and female reproductive structures develop on different individuals.
- **Diameter at Breast height (DBH)** - DBH is a standard and the most common method of measuring tree dimension apart from tree height. DBH refers to the diameter of tree trunk measured at breast level as a convenient way of measurement. In the United States, DBH is measured at a height 4½ ft. above ground.
- **Drupe** - a succulent fruit formed from one carpel; the single seed is enclosed by a layer of the fruit wall Endosperm - nutritive tissue in a seed; albumen.
- **Fissure** - a split or crack, often referring to fissured bark.
- **Floret** - a small flower; one of the small flowers forming the head of a composite plant.
- **Follicle** - a dry fruit formed from one carpel, splitting along a single suture, to which the seeds are attached. (ex: Bean pod)
- **Herbaceous** - not woody; usually green, and soft in texture.
- **Indehiscent** - A pod or fruit not splitting open to release the seeds when ripe Inflorescence - the grouping or arrangement of flowers on a plant.
- **Involucre** - A structure surrounding or supporting, usually a head of flowers.
- **Lenticel** - Typically lens-shaped porous tissue in bark with large intercellular spaces that allows direct exchange of gases between the internal tissues and atmosphere through the bark.
- **Monoecious** - where the male and female reproductive structures are in separate flowers but on the same plant.
- **Oblong** - length a few times greater than width, with sides almost parallel and ends rounded.
- **Opposite** - leaves or flowers grow at the same level but on opposite sides of the axis.
- **Perennial** - a plant that lives for more than two years. The term is often used to differentiate a plant from shorter-lived annuals.
- **Pinnately** - a compound leaf with leaflets arranged on each side of a common axis.
- **Raceme** - an indeterminate inflorescence in which the main axis produces a series of flowers on lateral stalks.
- **Rhizome** - a perennial underground stem, usually growing horizontally.
- **Samara** - a dry, indehiscent fruit with its wall expanded into a wing.
- **Scape** - a stem-like flowering stalk of a plant with radical leaves.
- **Sepals** - in a flower, one of the segments or divisions of the outer whorl of non-fertile parts surrounding the fertile organs.
- **Sessile** - without a stalk.
- **Simple** - undivided, a leaf not divided into leaflets.
- **Spadix** - a spicate inflorescence with a stout, often succulent axis.
- **Spathe** - a large bract surrounding an inflorescence.
- **Spikelets** - A small or secondary spike, characteristic of grasses and sedges, bearing one or more florets and usually subtended by one or two bracts.
- **Stolon** - slender or trailing stem, producing roots and sometimes shoots at its nodes.
- **Thicket** - a dense group of bushes or trees.
- **Trifoliolate** - a compound leaf of three leaflets; like a clover leaf (unless you're lucky and find a four-leaf clover!)
- **Turions** - a specialized overwintering bud produced by aquatic plants.
- **Umbrel** - inflorescence in which each flower stalks arise in a cluster at the top and are of about equal length.

OJIBWE GLOSSARY

- **Aagim (ag)** - snowshoe (snowshoes)
- **Aagimaak (oog)** - white ash tree (white ash trees)
- **Aandeg (oog)** - crow (crows)
- **Adik (wag)** - caribou (more than one caribou)
- **Adikameg (wag)** - whitefish (more than one whitefish)
- **Adoop (iin)** - speckled alder, popple (speckled alders, popples)
- **Ajijjaak (wag)** - sandhill crane (sandhill cranes)
- **Akikaandag (oog)** - Jackpine tree(s)
- **Anishinaabe (g)** - individual of Native American descent, Ojibwe word for, 'Native American.' This includes persons of all Nations/Tribes. (g represents Anishinaabe People in the plural)
- **Aniib (iig)** - American elm (American elms)
- **Aniibiiminan (ag)** - high-bush cranberry (high-bush cranberries)
- **Awaasazii (g)** - bullhead (bullheads)
- **Azasawemin (an)** - chokecherry (chokecherries)
- **Baapaagimaak (oog)** - black ash tree (black ash trees)
- **Bagesaanaatig (oog)** - plum (plums)
- **Bine (g)** - ruffed grouse (ruffed grouse)
- **Bizhiw (ag)** - lynx (more than one lynx)
- **Esiban (ag)** - raccoon (raccoons)
- **Ginebig (wag)** - snake (snakes)
- **Giizhikaandag (oog)** - white cedar tree (white cedar trees)
- **Inininaatig (oog)** - sugar maple tree (sugar maple trees)
- **Iskigamizige (win)** - someone is harvesting maple syrup (the harvesting of maple syrup, noun)
- **Kinnikinnick** - traditional form of tobacco for the Ojibwe people. Blends vary and contain plants that are indigenous to the area. There is no one way to make kinnikinnick.
- **Maananoons (ag)** - ironwood tree (ironwood trees)
- **Makwa (g)** - bear (bears)
- **Ma'iingan (ag)** - wolf (wolves)
- **Manidoo (g)** - spirit (spirits)
- **Manoomin** - wild rice
- **Mikinaak (wag)** - snapping turtle (snapping turtles)
- **Mikinaak minis** - turtle island
- **Miin (an)** - blueberry (blueberries)
- **Miskwaawaak (oog)** - red cedar tree (red cedar trees)
- **Mizay (ag)** - eelpout (eelpouts)
- **Moos (oog)** - moose (more than one moose)
- **Name (g)** - sturgeon (sturgeons)
- **Ode'imín (an)** - strawberry, heart fruit (strawberries)
- **Ogaa (wag)** - walleye (walleyes)
- **Okikaandag (oog)** - jackpine tree (jackpine trees)
- **Opichi (g)** - robin (robins)
- **Omakakii (g)** - frog (frogs)
- **Opwaaganaatig (oog)** - smooth sumac tree (smooth sumac trees)
- **Waaboos (oog)** - snowshoe hare, rabbit (snowshoe hares, rabbits)
- **Waawaashkeshi (wag)** - deer (more than one deer)
- **Wazhashk (oog)** - muskrat (muskrats)
- **Wenaboozhoo**
- **Wiikenh (yag)** - blue flag iris (blue flag irises)
- **Zigwan (g)** - spring (in the spring, when it is spring)
- **Zhigaag (oog)** - skunk (skunks)



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## CATTAIL TOP HOT DISH

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- Ingredients:** 2 cups chopped cattail tops
 ½ cup melted butter
 1 cup Scalded milk
 2 eggs
 ½ teaspoon Maple
 Dash black pepper black
 ½ cup grated Cheese

Directions: Scalded milk, blend all other ingredients in a bowl add scalded milk. Pour the mixture into a greased pan and top with grated cheese. Bake 275 degrees for 30 minutes.

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## CATTAIL POLLEN PANCAKES

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- Ingredients:** ½ cup Cattail Pollen
 ½ cup flour
 2 tablespoons baking powder
 1 large egg
 1 cup milk
 3 tablespoons bacon grease
 1 teaspoon salt

Directions: Combine dry ingredients, add liquid ingredients mixing well. Pour batter into a hot skillet or griddle in four-inch pancake amounts.



CHOKECHERRY FILLING

Ingredients: ½ cup of chokecherry flour (added to bread rolls)
2 tablespoons of water
3 tablespoons of maple syrup

Directions: While your bread dough is rising, blend the above ingredients. When your bread dough is ready to be shaped, pinch off a chunk to make a small loaf and roll it out into a half-inch-thick rectangle. Spread the chokecherry filling, roll it up, and place in a baking pan. Let your bread dough rise again, then bake at 400° for 30 minutes. Remove the bread and cover the loaf with foil and bake for 10 more minutes.

CHOKECHERRY PUDDING

Ingredients: ½ cup of Chokecherry flour
¾ cup of water (mix into a paste)

Mix: 1 cup of water
½ to ¾ cup of honey or maple syrup
¼ teaspoon of salt
1 egg
2 tablespoons of butter
2 tablespoons of cornstarch

Directions: Add the cherry flour mixture. Cook the pudding over low heat until it thickens. Stir in 1 teaspoon of vanilla. Chill for an hour before serving.



HIGH-BUSH CRANBERRY JUICE EXTRACT

Ingredients: 4 cups High-Bush Cranberries
1 cup water

Directions: Combine 4 cups clean High-Bush Cranberries with 1 cup water. Crush berries and simmer for 10 minutes. Filter through cheesecloth. For clear juice, do not twist or press the cheesecloth. For long-term storage, the juice should be frozen or canned. This recipe makes about 2 cups of juice.



HIGH-BUSH CRANBERRY ORANGE JUICE

Ingredients: 2 cups High Bush Cranberry juice
2 cup reconstituted orange juice
⅓ cup maple sugar or 1 Tbsp Maple syrup

Directions: Combine all ingredients and chill before serving.
Yield: 4 cups

PLUM BUTTER

Ingredients: 3½ pounds plums
1 cup sugar
¾ teaspoon ground cardamom
½ teaspoon ground cinnamon



Directions: Split plums in half, remove pits, and cut into 1 1/2-inch pieces. Do not peel. Place in a 6-quart saucepan, add 1 cup water and the sugar. Bring to a boil, reduce heat, and cook until fruit is very soft, about 20 minutes. Add cardamom and cinnamon. Cook over low heat, stirring frequently to prevent scorching, until thick enough to spread, 2 1/2 to 3 hours. Remove from heat and let cool. Store in an airtight container. Freeze for long-term storage.

RASPBERRY SALSA

Ingredients: 1 cup of fresh raspberries
½ cup chopped red bell peppers
½ cup finely chopped red onion
½ cup finely chopped tomato
2 teaspoons fresh, finely chopped cilantro
A dash of salt
Tortilla chips



Directions: Gently combine all ingredients, fold in the raspberries last so they remain whole. Chill in the refrigerator for an hour. Serve with tortilla chips!

ZHIGAAGAWINZHIIG MINAWA OPIN NABOOB

“WILD ONION & POTATO SOUP”

Ingredients: 2 large bunches (2 large handfuls) of wild onions
8 medium potatoes
2 Tbsp butter
Sea salt and freshly ground pepper
1 qt vegetable or chicken stock, or 1 qt water with vegetable or chicken bouillon
2 cups milk

Directions: Peel and dice potatoes. Melt butter in a medium-large soup pot, add diced potatoes, a dash of salt and sauté until beginning to color. Add stock or water and bouillon and bring to a simmer. Wash the Wild Leeks and cut into small pieces, add to soup pot. Simmer until the potatoes are tender. Blend half of the soup until smooth using a table top blender. Return to pot or use an immersion blender right in the pot and only partially puree soup to a creamy consistency with some chunks. Slowly add milk. Heat until hot, but do not boil. Stir and continue to warm but again; do not boil soup. Season with ground pepper and taste for saltiness. The bouillon contains salt, so be careful not to over-salt.



Without these beings, we could not exist.

This book serves as a tool to help you become familiar with these forms of life:

Water, Air, Fire, Rocks, Plants,
Trees and the Animals.



The contributors would first like to acknowledge Creator for gifting us with the ways of the *Anishinaabeg*, *Anishinaabemowin*, *miinawaa Mino-Bimaadiziwin*; the Language, this life and life around us.

