

# **Tiam**

# Mi'kmaq Ecological Knowledge: Moose in Unama'ki

Written by Nadine Lefort with Clifford Paul, Ernest Johnson, and Charlie Dennis © Unama'ki Institute of Natural Resources 2014



We would like to thank the following people for their time, generosity, guidance and knowledge. Wela'lioq.

Rodney Alex Norman Basque Priscilla Beadle Allison Bernard Blair Bernard Pauline Bernard Phillip Bernard Chip Bird Yves Bosse lames Bridgland Keith Christmas Steven Christmas **Betty Cougal** Michael Cox Charlie Dennis Dianna Denny lean Doris Charles Doucette Christopher Francis Frankie Francis Alex Googoo Frank Googoo Pearl Googoo

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We dedicate
this publication
to the
Elders of Unama'ki,
who reminded us
of our promise
to the First Moose,
and asked to
bring back
the traditional
moose hunt.

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#### Introduction

Knowledge gathered for this publication came from the Moose Working Group, a province-wide initiative that deals with matters of moose and moose management in Unama'ki (Cape Breton). The group is made up of members of Mi'kmaq, Provincial, and Federal governments, including members from Unama'ki Institute of Natural Resources (UINR), Kwilmu'kw Maw-klusuaqn (KMK) – Mi'kmaq Rights Initiative, Parks Canada, Nova Scotia Office of Aboriginal Affairs, Nova Scotia Department of Natural Resources, Nova Scotia Department of the Environment, First Nations Conservation Officers, and Guardians.

UINR-Unama'ki Institute of Natural Resources-is Cape Breton's Mi'kmaq voice on natural resources and the environment. Forestry, marine science research, species management, traditional Mi'kmaq knowledge, water quality monitoring, and environmental partnerships are among the organization's responsibilities.

Representing the five Mi'kmaq communities in Unama'ki–(Eskasoni, Membertou, Potlotek, Wagmatcook and We'koqma'q) on natural resources issues, UINR contributes to an understanding and protection of Unama'ki's ecosystem through research, monitoring, education, and management. By integrating netukulimk (traditional Mi'kmaq management) with traditional and conventional ways of understanding, known as Two-Eyed Seeing, UINR takes the lead on bestmanagement practices in Unama'ki.

MELC-Mi'kmaq Environmental Learning Centre—is a partner with UINR whose mission is to provide leadership and share knowledge on local natural resource management, and keeping traditional values and perspectives alive in Mi'kmaq communities. Established in 2010 as a tribute to Mi'kmaq Elders, MELC is involved in many education and outreach projects in our communities.

MELC's goals are to collect and preserve traditional Mi'kmaq knowledge on environmental sustainability, create and deliver educational programs to promote and share Mi'kmaq traditional knowledge, and partner with other groups sharing the desire to promote environmental sustainability for the benefit of future generations.



# Mi'kmaq World View

The Mi'kmaq are part of Wabanaki, the Alqonquin speaking confederacy that includes four other Nations; Maliseet, Passamaquoddy, Penobscot, and Abenaki. Mi'kma'ki (land of the Mi'kmaq) includes the Atlantic provinces, eastern Quebec, and northern Maine.

Mi'kma'ki was held in communal ownership. Land and its resources were not commodities that could be bought and sold but were considered gifts from the Creator. As Mi'kmaq, we were the caretakers of the seven districts of Mi'kma'ki and we strived to live in harmony. This belief remains strong in our culture today.

We view the world and all that is in it as having spirit. We consider all life equal to our own and treat it with respect. We developed an intimate understanding of the relationships between the living and non-living so that each plant, animal, constellation, full moon, or red sky tells a story that guides our people so they can survive. These beliefs affect the manner in which we treat the natural world for sustenance and survival. Animals and plants are not taken if they are not needed. When taken, their spirits are acknowledged and respected as relatives and are offered tobacco, prayer, ceremony or a combination. No part of an animal is wasted. All parts that cannot be used are returned to the Creator. This consciousness is described by the Mi'kmaq word, netukulimk.

The Mi'kmaq right to harvest for food, social, and ceremonial needs, and for a moderate livelihood, is recognized by the Supreme Court of Canada and protected by the Constitution of Canada.

Kespek Siknikt **Epekwitk aq Piktuk** Unama'kik Eskikewa'kik Sipekni'katik Kespukwitk

"When we take ownership over anything, we like to preserve it, we like to protect it, we like to nourish it, and we like to provide for it in the same way that it provides for us."

Ernest Johnson



# Knowledge

The views in this report may not represent those of the entire Mi'kmaq nation. Participation by UINR and the Mi'kmaq in the Moose Working Group is not, and should not be, construed as consultation. Any new areas being proposed by the Crown(s) to have expanded legal protection would require separate consultation under the Mi'kmaq-Nova Scotia-Canada Consultation process.

The knowledge contained in this report is strongly connected to Mi'kmaq tradition, our practice of moose harvesting in Unama'ki, and transfer of knowledge between generations through stories and practice. Despite having missed several generations of moose harvesting, the stories survived and continue to be told. Now, the practice of harvesting grows stronger.



#### Moose In Una'maki

Moose in Unama'ki are genetically different from moose on the mainland. They are a different sub-species, or "tribe" as many people call it. Alces alces americana are the moose that traditionally lived in Cape Breton and continue to live on the mainland. In the late 1800s, moose in Cape Breton were over-hunted and extirpated.

In the 1940s, Parks Canada decided to reintroduce moose (subspecies Alces alces andersoni) from Elk Island National Park, Alberta. Eight moose were brought in by train in 1947, and another ten in 1948. According to memos describing the event, RCMP were stationed at train stops along the way to keep onlookers away.

Like moose in other areas, moose in Unama'ki mate in September and October. During the rut, both sexes call to each other; males produce a heavy grunting sound and females wail. Males will fight for access to females. A smaller bull may reteat or engage in a battle with their antlers.

Like moose elsewhere, female moose have an eight-month gestation period, usually bearing one calf in May or June. If food is plentiful, she may bear twins. The young will stay with the mother until just before the next young are born.

Moose can live up to 20 years or more but normally, few moose live over 10.

Moose are mostly found in cooler, northern boreal forests, and occasionally outside these regions. In Nova Scotia, the only boreal forests, bogs, and barrens are found in Cape Breton, especially in the Highlands. Cape Breton Highlands seem better for moose than most of mainland Nova Scotia due to climate, land use, predators, and lack of parasites.

Black bears, humans, and possibly coyotes are the few predators of moose in Unama'ki. There are no wolves in Cape Breton (they were extirpated in the 1800s) and no winter ticks or other significant parasites to compromise the health of moose. They are relatively free to roam throughout the Island, although they prefer areas with clearings where parts of the forest have been disturbed by wildfire, insects, or forestry because these disturbances encourage growth of the young trees that moose love to eat.



# **Population**

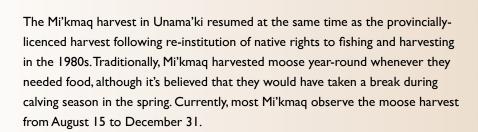
Re-introduced in the late 1940s, Unama'ki's moose population grew steadily, although not quickly, until the 1970s when there was a large infestation of spruce budworm. Huge parcels of land were cleared in the southern Cape Breton Highlands, trees harvested quickly to avoid losing timber to the budworm. The harvested and infested areas left vast, wide-open pieces of land that, within a few seasons, turned into prime browsing grounds for moose. Their population exploded.

The most recent population survey on moose in Unama'ki was conducted in 2008 indicated there were approximately 4,000 to 5,000 moose in the 3,900 km² Highlands area. There may be another 1,000 throughout the remainder of Unama'ki. Surveys show more twins are born in forest-harvested areas and there are fewer bulls where harvesting occurs.



#### The Moose Harvest

For most of the 20th century, moose harvesting was illegal, both for Mi'kmaq and non-native harvesters, however, with moose numbers growing throughout the 1970s, the first provincially-approved harvest was established in 1980 as a way to manage the population. It was an experimental, limited harvest with 60 licences awarded by lottery. The population was deemed able to support this limited harvest and over the next decade it grew to 200 licences, and then more. In 2013, the Province awarded 355 licences limited to five different zones in three-to-five-day "seasons," from the end of September to early December. Harvesting occurs only in Unama'ki, as the moose population on mainland Nova Scotia is not strong enough to support a harvest. Considered an endangered species since 2003, the population of moose in mainland Nova Scotia is limited to approximately 1,000 in isolated sub-populations.





#### **Return of the Traditional Moose Harvest**

For many years, the traditions of the moose harvest were lost because there were no moose. With the re-introduction of moose to Unama'ki, and the growth of the population throughout the century and, later, with the reinstatement of Mi'kmaq rights, the traditional ways are being rediscovered. More and more harvesters are starting to weave some of their ancestors' traditions into their harvest.

To prepare for a harvest, all equipment and safety gear is put in order: ammunition, camping supplies, fuel, water, food, extra clothing, and footwear. Some harvests are day trips, while others are over a period of several days. Overnight trips are spent in trailers, teepees, tents, wigwams, lean-tos, or some

harvesters prefer to sleep in their vehicles. It

is also the responsibility of the harvesters to be familiar with the terrain and be ready for harsh weather conditions. To be prepared as much as possible ultimately lends to a safer and more enjoyable harvesting experience.

Safety is the number one rule on a harvest. Gun and bow regulations are enforced, and harvesters are required to wear a hunter's orange vest and cap. All harvesting guidelines for Mi'kmaq are outlined in the publication, "Tia'muwe'l Netuklimkewe'l—Unama'ki Moose Harvesting According to Netukulimk," a booklet coordinated by the Moose Working Group and published by the Assembly of Nova Scotia Mi'kmaq Chiefs.





#### A Successful Harvest

Prior to the harvest, traditional harvesters smudge themselves, their equipment, and vehicles, and they make an offering of food or drink to let our ancestors know that their ways have not been forgotten. They pray to offer respect for the moose and for their environment, and they pray for a safe and successful harvest. This ceremony is done at the base or top of the mountain.

Harvesting approaches vary greatly. Some harvest with bows and arrows, others with guns. Some travel on foot (far fewer now than traditionally), others in trucks, or on ATVs. Moose don't rely heavily on their eyesight, but have very keen hearing and sense of smell. Traditionally, sometimes moose were tracked for days, but with guns and cleared roads, moose can often be harvested much more quickly.

Traditionally, harvesters felt they couldn't kill a moose unless it was prepared to offer itself to them. In gratitude for this offering, it is the responsibility of the harvester to take the animal as quickly and humanely as possible so the moose does not suffer needlessly.

Once killed, the traditional harvester lays a circle of tobacco around the moose and says a prayer in gratitude for the earth's offering. The bell or dewlap (the loose skin that hangs on the lower jaw) is removed and hung in a tree as a sign to other animals that the moose was harvested in a sacred way. A pipe ceremony is initiated by the harvester to help release the animal's spirit, to ask forgiveness for taking its life, and to let it know that the gift of its life is appreciated.

After this care and respect has been given, the harvesters clean the animal and take everything that is needed. What's left is an offering to Mother Earth and to animals such as coyotes and eagles.

Success is not based on whether or not a moose is harvested, but what is learned. For example, if you learn about harvesting protocol or about moose behaviour, it is a success.

If a moose is harvested, it is considered a blessing in addition to the other gifts gained."

Clifford Paul

"Anyone can kill an animal, but do they know that animal? It makes me think...what do I know about the moose? What call do I need to use? Where is he going to run? Where does he hang out? Those are the things you need to know...to learn its behaviour, to become the animal."

Daniel Paul



#### Netukulimk

The concept and tradition of netukulimk (ned-oo-gu-limnk) is the central philosophy of traditional Mi'kmaq management. It is a philosophy of care and respect for the land. Resource management that aligns with netukulimk honours the integrity, diversity, and productivity of our environment, both for present and future generations.

Netukulimk is a culturally-rooted concept of responsible co-existence and interdependence with Earth's resources and each other. It is best described as the use of the natural bounty provided by the Creator for the self-support and wellbeing of the individual and the community at large. Netukulimk is about achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity, or productivity of the environment.

Harvesting has always been an important part of Mi'kmaq culture and netukulimk remains at the heart of everything we do. We have been taught how a single animal can provide a wealth of resources (including shelter, clothing, tools, crafts, medicines, and food) and we have an inherent right to access and use resources in a sustainable way.

Mi'kmaq culture is built on long-term vision, being mindful that decisions made today should have a positive impact on the next seven generations. Conservation and management of resources has been, and continues to be, an important part of our culture.

"We are hunting for community needs, doing something that we are meant to do."

Kerry Prosper



# TIAM: The Whole Moose

When a moose is harvested, the meat is taken for food. Some families like the heart, liver, kidneys, tongue, and some harvesters take just the main meat, leaving the innards as offerings. It depends on family needs and preferences. The meat that spoils quickly or that doesn't slice easily (like the meat near the ribs) is eaten first, while big pieces of meat are sliced and dried.

As for the rest of the moose, every aspect of the body has a potential use. In fact, all parts needed for hunting, cleaning, and preparing a moose are contained within a moose's body. Most parts of the body have names that are associated with the specific use it provides.

A bone is named when its use is determined and, often, names change when the use or context changes.

For example, the hide is called amaqn, but after it is tanned and prepared as leather, its name is mekeqn.

Three of the most valued bones in the harvested moose are the **shoulder blade**, the **thigh bone**, and the **jaw bone**, although all bones can be used in one way or another.

The **shoulder blade** is an ideal cutting tool because it is thick and strong and needs only a slight alteration to be ready for use.

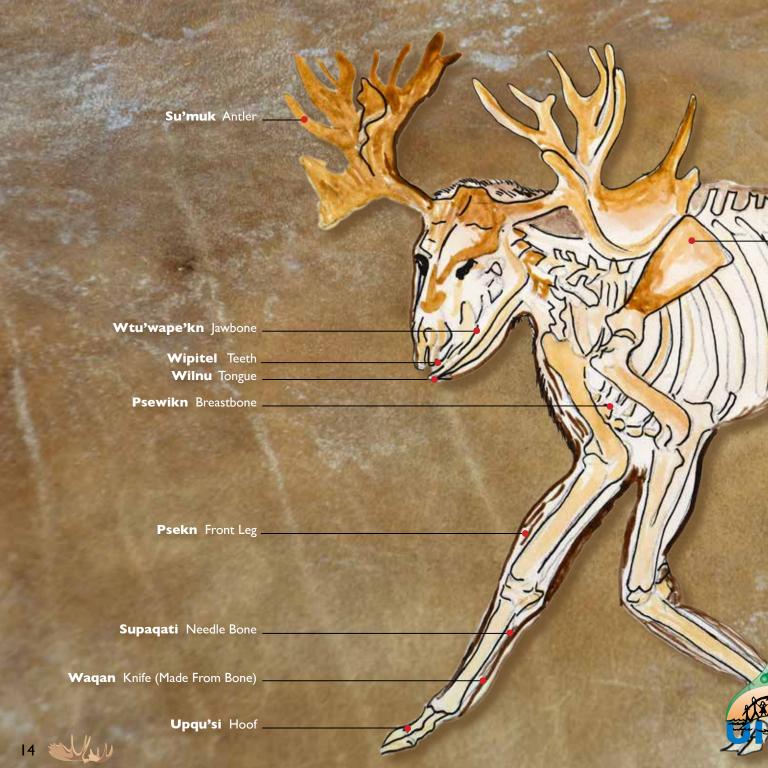
The **thigh bone** is dense and can be used for things that require strength and durability. They can be used as arrowheads (Unama'ki doesn't have much chert or flint, used elsewhere) and for waltes pieces, which need to be very hard. The dull rounded bones, like the thigh bone of the rear legs, can be used as a pestle, or can be used with the **needle bone** as an awl for punching holes in leather.

The **jaw bone** is a perfectly formed hook and can be used on a stick for catching big fish. No other bone is as perfectly formed—it needs no alterations before use. It can also be used as a knife handle.

Any **long bone** can be used for a knife, scraper, or flesher, but it is best to find strong bones, that don't need a great deal of shaping. The front shins, which are stronger than the back, have a bone that is an ideal knife or scraper, and another bone that is a ready-made needle (all it needs is a hole). All bones that are not useful for knives can be used for soup, or ground up and eaten.

Moose **hair** is the best hair for fly-fishing baits. It can also be woven like wool, if prepared and separated with lye.

Tendons are prized and moose have a lot of tendons! The biggest ones are on the back and along the stomach. They are cleaned with a scraper and become transparent when dry. They are pounded until they break down into sinew which, because of the many strands, is incredibly strong. It is used for bindings and bowstrings, and can be made as thick or as thin (like thread) as needed.



# TIAM: The Whole Moose

Amaqn Hide

Mekeqn Leather

Sapun Hair

remental



**K'low** Shoulder Bone

**K'lowow** Knife Made From This Bone

Pikaqn Ribs

Suku'ni Tail

Wteqn Back Leg

A'papi'j Tendons

Wisqn Bladder

Wumejun Moose Droppings

Weneskey Stomach

**Waqn** Knife or Scraper Made from Bone



Moose **hide** has many uses. To tan skin, the brain (which is very acidic) is mixed with marrow or fat from the liver, boiled to make a dressing, and rubbed into the skin. It is left to settle in and repeated several times until the skin won't accept more. Skin can be smoked before or after tanning, depending on preference.

If preferred, the hair can be left on or it can be removed by sweating it off, putting it in a river so the water can beat it off, or rubbing it with wood ashes to alter the pH. The hair will fall out using any

of these methods.

The big pieces of hide are used for canoes, wigwams, or clothing, but small pieces are useful too. Flesh from the shin and ankle can be used to make a

simple moccasin.

Pieces not used as leather can be boiled down to get the glue out. This glue can be mixed with pitch and used for canoes or anything that needs fastening.

**Fat** from the rump and belly is collected. Different regions and families render fat differently depending on preference. It is used mostly for skin ailments and insect repellent.

**Antlers** are used as bowls, good for grinding. They are also cut and carved for beads, buttons, fishhooks, arrowheads, knife handles, and more.

**Teeth** are sometimes used as buttons.

**Bladders** are used as water containers, like a canteen. To prepare, it's turned inside out, scraped clean, and then turned right-side-out again. It can be filled with water and tied or sewn up. Because it is a strong material, it can be used as a pacifier for babies to chew and suck on.

#### Intestines

are used as thick ropes. While not as strong as sinew, they can be used for hammocks, clotheslines, or to tie a wigwam at the top.

The **stomach** is used as medicine, cut up in small strips. Turned inside out, it can be used whole as a backpack to store things.

**Spines** are not very useful because they are such soft bones. They are sometimes used for a rattle. Likewise, ribs are soft, and can be used as dog food.

Moose **droppings** are used as fertilizer and as a firestarter.

Any **leftover parts** can be used as fertilizer. The head, if buried in a garden, makes a great fertilizer. Leftovers are given as offerings to Mother Earth, and to scavengers in the forest.





For over 10,000 years, Mi'kmaq have been harvesting mammals, birds, fish, and plants in and around Mi'kma'ki, our traditional territory, part of which is present-day Nova Scotia.

The 1982 Constitution Act recognized Aboriginal and Treaty Rights and, as a result, courts have upheld the Mi'kmaq right to harvest natural resources in Nova Scotia. The Moose Working Group was formed in response to a concern expressed by Mi'kmaq Elders in the late 1990s. about the behaviour of some Mi'kmaq harvesters who were harvesting in a non-sustainable manner. Specifically, individuals were harvesting too many moose and too much of the animal was being left behind. Elders believed these behaviours might be detrimental to the hard-fought

Mi'kmaq treaty rights and to the health of the moose population. They said that they would rather stop the harvest than harvest in a way that harmed the moose population.

The Elders brought their concerns to Mi'kmaq Grand Council who, in turn, asked Charlie Dennis at UINR to take on moose management as part of his duties. It was time to take a closer look at the importance of balance, conservation, and preservation of the herd. The time had come to look at Mi'kmaq self-management, to re-establish ourselves as traditional managers and stewards of moose and moose habitat, and to return to the promise made to that First Moose.

The First Moose

In the face of an incredible winter dilemma, a Mi'kmaq family found themselves in a life and death situation.

An early and harsh winter lay before them and prospects of surviving were slim unless an adequate supply of meat was harvested.

With this, the protector provider for the family prayed for sustenance.

The very next day, a moose appeared at the wigwam of the hunters. He told them that if they treated the moose with respect by taking a moose only when in need, by making offerings over the body of the moose, by treating all parts of the animal as sacred. he would always return to feed the people. If they disrespected the moose, however, then the moose would leave and never return.

In the early 2000s, two discussion committees were formed, initiated by Parks Canada and UINR. One discussed matters regarding the Cape Breton Highlands National Park's property, and the other focused on moose issues. Both groups consisted of members from the Mi'kmaq community, Unama'ki Guardians, Parks Canada, and Nova Scotia Department of Natural Resources.

Elders requested an opportunity to bring people together to discuss moose harvesting. A workshop was held in Wagmatcook in the winter of 2002, with four main topics:

- non-native accompaniment
- 2. setting up harvester advisory committees in each community
- 3. seasonality (when the harvest should occur)
- 4. livelihood (how many moose is "too many"?)

As a result of this workshop, the Moose Guidelines booklet was developed and made available to all Mi'kmag communities.

Meanwhile, as talks progressed, especially as they pertained to Mi'kmaq moose harvesting and self-management practices, it became clear that the Assembly of

Nova Scotia Mi'kmaq Chiefs needed to be brought in to address Mi'kmaq rights. As a result, Kwilmu'kw Mawklusuaqn (KMK) established the Moose Working Group in 2005 and moose management became an important first issue to establish Mi'kmaq rights and unify the concerns of Nova Scotia Mi'kmaq communities.

People continue to work together so our children, and the next seven generations, will continue to enjoy the bounty of our natural environment.

#### Mi'kmaq Concerns

Many of the concerns that Elders brought forward in the late 1990s and early 2000s have been widely addressed. However, harvesting protocol (too many moose being taken, too much left behind in the woods, jacking) continues to worry some people. Another concern is lead poisoning from bullets, and the need for harvesters to change their ammunition.

These issues continue to be on the table for the Moose Working Group, as does anything that affects moose and moose harvesters.









# The Working Group In Action: Addressing Concerns

The Moose Working Group continues its work to ensure a sustainable moose population and to address any emerging concerns about moose and moose harvesting. At the time of publication, The Moose Working Group's focus was on:

- an education and outreach initiative involving presentations in schools, colleges, and universities about moose, traditional management, Netukulimk, and Two-Eyed Seeing
- a harvester education program to inform people on the Tia'muwe'l Netukulimkewe'l publication that may involve a training camp in the future
- promotion of non-lead ammunition
- a revitalization of Community Authority and Harvesting Advisory Groups, as put forth in the Tia'muwe'l Netukulimkewe'l publication, to help address any new community concerns.



# **Strengthening Our Communities**

Mi'kmaq communities are happy to have revitalized the traditional moose harvest and participate in several practices and events to help celebrate its restoration.

Many communities in Unama'ki provide community meat that was harvested by people from that community and then offered for communal use. In some communities, there is a community meat freezer, and families can take meat as they need it. This allows the entire community to benefit from the harvest.

Traditionally considered a right of passage to manhood for Mi'kmaq boys, young individuals (male and female) have started saying, "I want to hunt." Youth harvests have been organized in all Unama'ki Mi'kmaq communities and several on the mainland, to allow experienced harvesters to teach youth traditions woven with contemporary techniques.

UINR hosts an annual Moose Feast in the Highlands in October on Hunters Mountain. Elders, youth, harvesters, natural resource managers, and general community members are all invited to share in a feast of traditional foods. Gathering to share stories and food reminds everyone about the importance of keeping the focus on community and passing on values to the next generation.

The traditional moose harvest is about more than just moose. It's about community.

When harvesting a moose, there is value in the moose itself, and there is value in relationships: with moose, with Unama'ki ecosystems, and with our communities. Returning to the traditional moose harvest has revived an appreciation for traditional ways, and allows people to act as facilitators between animal and community.

Following the tradition of netukulimk, our moose harvest supports a healthy moose population, promotes traditional Mi'kmaq values, and strengthens our communities.







