



# Mn'tmu'k

**Mi'kmaq Ecological Knowledge:  
Eastern Oysters in Unama'ki**



# Mn'tmu'k Mi'kmaq Ecological Knowledge Eastern Oysters in Unama'ki

by Shelley Denny, Angela Denny, Emma Garden, Tyson Paul

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(except photos where noted)

## Acknowledgements

We would like to thank the following people for their contributions and review of this publication. Wela'liog.

- |                   |                 |
|-------------------|-----------------|
| Norman Basque     | Judy Googoo     |
| Keith Christmas   | Dennis Isadore  |
| Stephen Dennis    | Ernest Johnson  |
| Terry Denny       | Albert Marshall |
| Charles Doucette  | Cameron Paul    |
| Fabian W. Francis | Nelson W. Paul  |
| Joe Googoo Sr.    | George Sylliboy |

We would like  
to dedicate this  
publication to  
Charlie Dennis  
Family of  
Peter Googoo  
Angus Googoo  
Gabriel Sylliboy

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## Introduction

Aboriginal Traditional Knowledge (ATK) is a broad description of an integrated package of knowledge that includes the local knowledge of species, environmental practices and management systems, social institutions that provide the rules for management systems, and world views that form the basis for our beliefs. ATK comes from watching and listening, through direct experience of song and ceremonies, through the activities of hunting and daily life, from trees and animals, and in dreams and visions.

Knowledge, values, and identity are passed down to the next generation through practice, ceremonies, legends, dance, or song. ATK and more specifically Mi'kmaq Ecological Knowledge (MEK) is derived from centuries of interaction, observation, and adaptation to the natural environment. It is the Mi'kmaq science of survival intertwined with the spirituality and culture unique to the Mi'kmaq.

The collection and preservation of ATK is becoming increasingly important. Initially used in land negotiations, ATK is gaining recognition for its relevance in scientific assessments, management plans, and recovery strategies for several species protected under Canadian legislation known as the Species at Risk Act. Demand for specific ecological knowledge held by the Mi'kmaq is growing because of its potential use for culturally important species such as katew (American eel) and plamu (Atlantic salmon). While there are protocols in place for the collection of MEK, little documentation has been produced for sharing this knowledge beyond the community.

Unama'ki Institute of Natural Resources (UINR) is an organization that represents the five Mi'kmaq communities of Unama'ki (Cape Breton Island, Nova Scotia) on natural resources issues. UINR contributes to an understanding and protection of the Bras d'Or Lakes' ecosystem through research, monitoring, education, management, and by integrating Mi'kmaq and conventional ways of understanding known as Two-Eyed Seeing. UINR was identified as the lead organization to collect, interpret, and store MEK for this region.



## Mi'kmaq World View

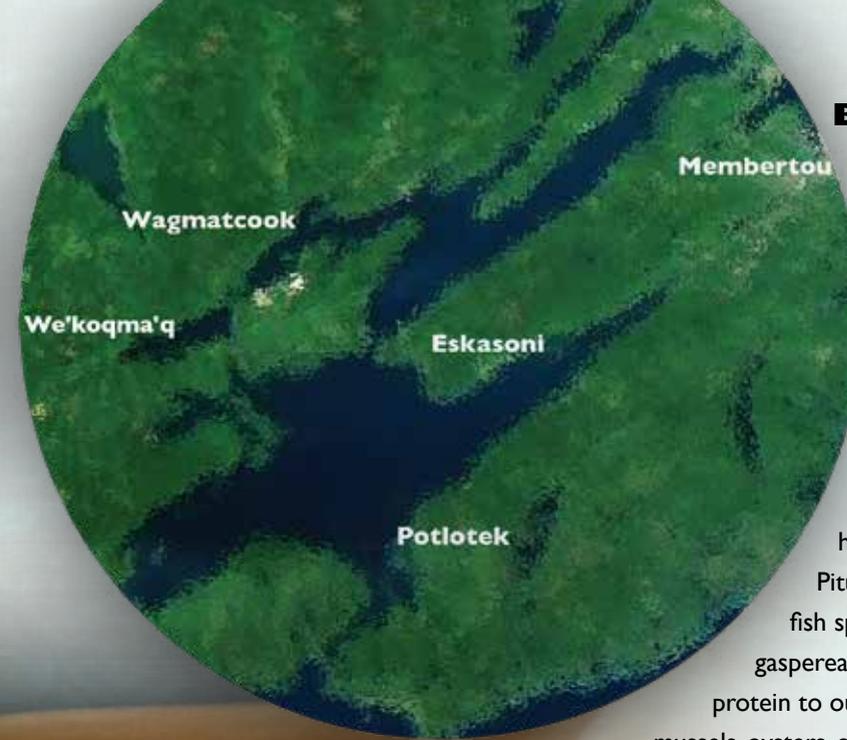
The Mi'kmaq are part of Wabanaki, the Algonquin-speaking confederacy that includes four other Nations: Maliseet, Passamaquoddy, Penobscot, and Abenaki. Mi'kma'ki (land of the Mi'kmaq) includes the five Atlantic provinces and northern Maine.

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. This view is very different from the Western view of land. 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, all spirits are acknowledged and respected as relatives and are offered tobacco, prayer, or ceremony (or in 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'kmaw word, Netukulimk.

The Mi'kmaw right to fish 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.



## Bras d'Or Lakes & Oyster Health

The Bras d'Or Lakes, situated in the center of Cape Breton Island, Nova Scotia, are a large estuarine body of interconnecting bays, barachois ponds, channels, and islands. The Bras d'Or Lakes formed approximately 10,000 years ago when the existing basin that was carved out of soft sandstone from the last glacial period became flooded by adjacent ocean water.

The Lakes are of great significance to Mi'kmaw heritage. The Mi'kmaw word for Bras d'Or Lakes is Pitu'paq, meaning "to which all things flow." Numerous fish species, such as mackerel, trout, salmon, smelt, gaspereau, cod, hake, flounder, herring, eel, and others provide protein to our diet, as do resident invertebrates such as lobster, mussels, oysters, clam, scallops, whelks, and quahogs. Many bird species, such as geese and duck, have thrived here and were hunted. These gifts are important to communal health and are intertwined in our culture. The Lakes are also a means of transportation between hunting and fishing areas and those used for spiritual solidarity, like Malikewe'j (Malagawatch) or Mniku (Chapel Island).

The disease, Multinucleated Sphere Unknown (MSX), was first identified in the Bras d'Or Lakes in 2002 when it decimated most of the oyster population. It is spread through an unknown host organism, leading to high mortality rates through tissue damage and progressive weakening of the oyster. Since there are no visual symptoms of the disease, it is only detectable using a microscope or through DNA testing. The distribution of MSX is limited by salinity and temperature: it prefers salt concentrations of at least 10 ppt and temperatures greater than 19°C. Since MSX's introduction, researchers have found that certain oysters developed a tolerance to the disease and some areas of oyster habitat appear to be unaffected. Although MSX affects oysters' health and survival, they are safe to eat.

Mi'kma'ki



MSX

Other diseases that have affected oysters in the Bras d'Or Lakes are Malpeque disease and shell disease. Malpeque disease, originating in Prince Edward Island, was found in 2007 in Unama'ki in St. Ann's Harbour and Orangedale. It is spread by a highly infectious, unknown organism that causes growth abnormalities inside the oyster including lesions and abscesses. Although it does not pose human health concerns, Malpeque disease results in greater than 90% mortality rates among oysters with no previous exposure. Alternatively, shell disease slowly attacks oyster shells over time. It can cause excessive shell growth and may interfere with the oyster's ability to close. Although safe to eat, physical shell deformities discourage buyers. Other diseases of concern include SSO (Seaside Organism), a relative of MSX detected in the Bras d'Or Lakes, and Dermo which has not been found in Canada but has devastated oyster populations in the United States.

Shellfish for sale in Canada are monitored and regulated through a federal collaboration called the Canadian Shellfish Sanitation Program (CSSP). Comprising the Canadian Food Inspection Agency, Health Canada, Environment Canada, and Fisheries and Oceans Canada, the goal of the CSSP is to protect the health of consumers by meeting food safety and health standards. An important part of the CSSP is the administration of shellfish closures. Harvesting areas can be closed because of known or potential contamination. Rainfall events are a significant contributor to shellfish closures because of their strong association with fecal coliforms. Algal blooms also result in closures due to build up of toxins that cause shellfish poisoning.

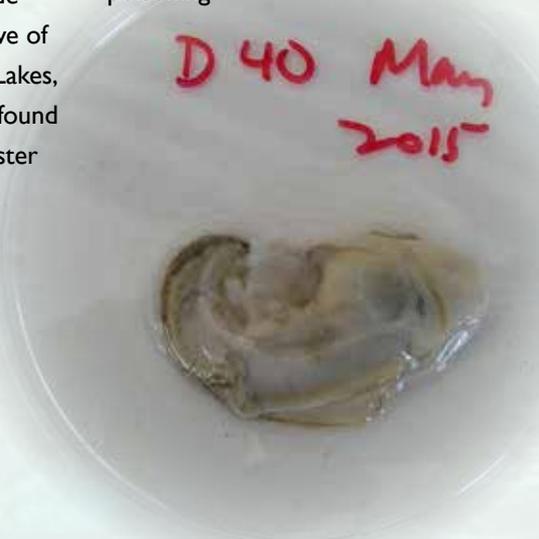


Photo: Rod Beresford, Cape Breton University, Unama'ki College



Following a closure, a site can be re-opened given sufficient time and when shellfish and water quality tests meet health standards. Sites can also be classified as conditionally open or remain closed depending on risk of contamination. In 2005, roughly 50% of the Lakes were open to shellfish harvesting, 0.5% were conditional, and 3% were closed. Most of the closures occurred in Whycomomagh Bay, River Denys, Head of West Bay, and parts of St. Patrick's Channel. Many sites in these areas were closed in 2012 and 2013 and have not been re-opened because of the presence of wharves, agricultural and wastewater effluent.

## Knowledge Gathering

Mi'kmaq Ecological Knowledge gathered for this report was collected from Mi'kmaw harvesters through a series of interviews and workshops. For knowledge collection and sharing, UINR follows MEK protocols established by the Assembly of Nova Scotia Mi'kmaq Chiefs, Mi'kmaq Ethics Watch (Unama'ki College), Unama'ki Parks Canada sites (prepared for Parks Canada by UINR in 2007), and advice of Elders and harvesters.

In September 2015, an application to collect MEK on oysters was submitted to Mi'kmaq Ethics Watch for approval. Approval was obtained in November 2015. That same month a workshop was held in Membertou, Cape Breton, Nova Scotia. Participants were selected to include a balance of Elders, current and past traditional harvesters, Aboriginal Fishery Guardians, and other knowledge holders. Selection of Elders was based on referral from UINR's Elder Advisor and others involved in oyster aquaculture. This publication also contains some content from Charlie Dennis' Oyster Garden series, stories published in UINR Marten newsletter from 2005–2014.

A workshop was held in January 2016 to add to existing knowledge and to review the content for correct interpretation.

## Knowledge

The views in this report may not represent those of the entire Mi'kmaw nation. Participation by UINR and Mi'kmaq in this workshop 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 in this report is strongly connected to Mi'kmaw tradition, the practice of harvesting in the Bras d'Or Lakes, and the transfer of knowledge between generations through stories and practice.

Considering the short time frame in which this knowledge was collected, this report should not be considered an exhaustive account of Mi'kmaq Ecological Knowledge.

MEK





Photo: UINR

### Mn'tmu'k in Unama'ki

Traditionally, oysters were harvested by the Mi'kmaq of Unama'ki. Although never a main staple, they were an important source of food that supplemented a communal way of life. They are also a source of food for other animals including raccoons, otters, and even eagles.

Following the introduction of the commercial oyster fishery, the purpose of harvesting oysters included economic gain. Once a thriving industry, it is now reduced to a few areas. Today, very few people harvest oysters for food and ceremonial purposes.

Oysters are also recognized for their ecological role as water filters. Maintaining oyster populations is important to preserve local water quality.



Photo: Owen Fitzgerald

### Mn'tmu'k Harvesting

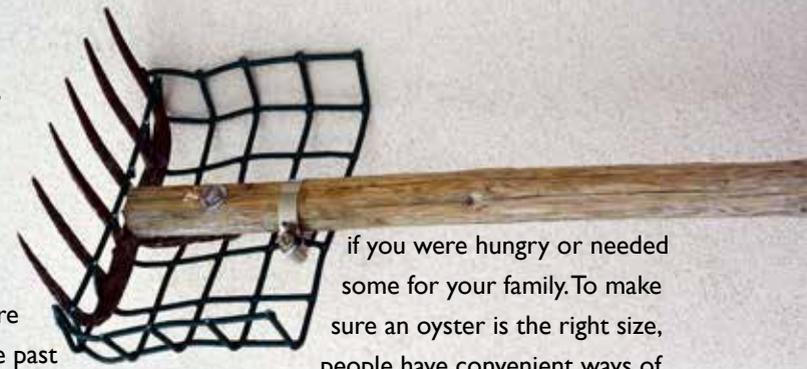
Oyster harvesting took place year round and was often conducted in conjunction with other fisheries such as spearing for eels in the fall. In the summer, many would wade into the water to gather oysters using rakes, diving, or snorkelling. Harvesters were very resourceful when making oyster rakes. They often used poles and chicken wire (and sometimes bicycle rims) fashioned into a small basket so they could scoop up oysters when gathering from a boat. Since oyster harvesting is based on the ability of the harvester to see oysters, the water must be calm and clear. If a breeze created small ripples on the surface, vegetable or cod liver oil was used to calm the water. It was thought that the best time to snorkel for oysters was when it was raining. In the winter, harvesters would make holes in the ice and use tongs.

Harvesters would collect and move oysters to areas where they had created oyster gardens, holding the oysters until their quality improved or they grew large enough to market or eat. Protection of oysters from fellow Mi'kmaq oyster harvesters was not needed. They respected each other's common interest in maintaining their

oyster gardens. If an area with abundant oysters was found, word got out quickly, and soon the area would be shared among harvesters.

The best areas for harvesting oysters were chest deep where the water was cooler. Harvesters stayed away from areas where there was garbage on the shore or where there were many cabins, or warm, smelly, and silty waters. For the past 15 years, oyster leases became the method to create ownership of certain areas. Many harvesters invested in leases and followed the guidelines and regulations created for the protection of human health. For example, oysters can not be harvested from closed areas and harvesters must wait ten days following a heavy rainfall before harvesting oysters intended for immediate consumption.

In general, people look for oysters between 3 and 4 inches long (76 to 101 mm). The legal size for commercial harvesting is thought to be 3 inches (76 mm), smaller than the 3.5 inch (88 mm) limit established 20 years ago. One person indicated that there is a cocktail oyster market with a legal size of 2 inches (50 mm) in oyster aquaculture. People who harvest for personal consumption would not take anything under 3 inches (76 mm), but felt size didn't matter as much



if you were hungry or needed some for your family. To make sure an oyster is the right size, people have convenient ways of measuring them using notches on oyster rakes and sticks, or markings on boats for reference.

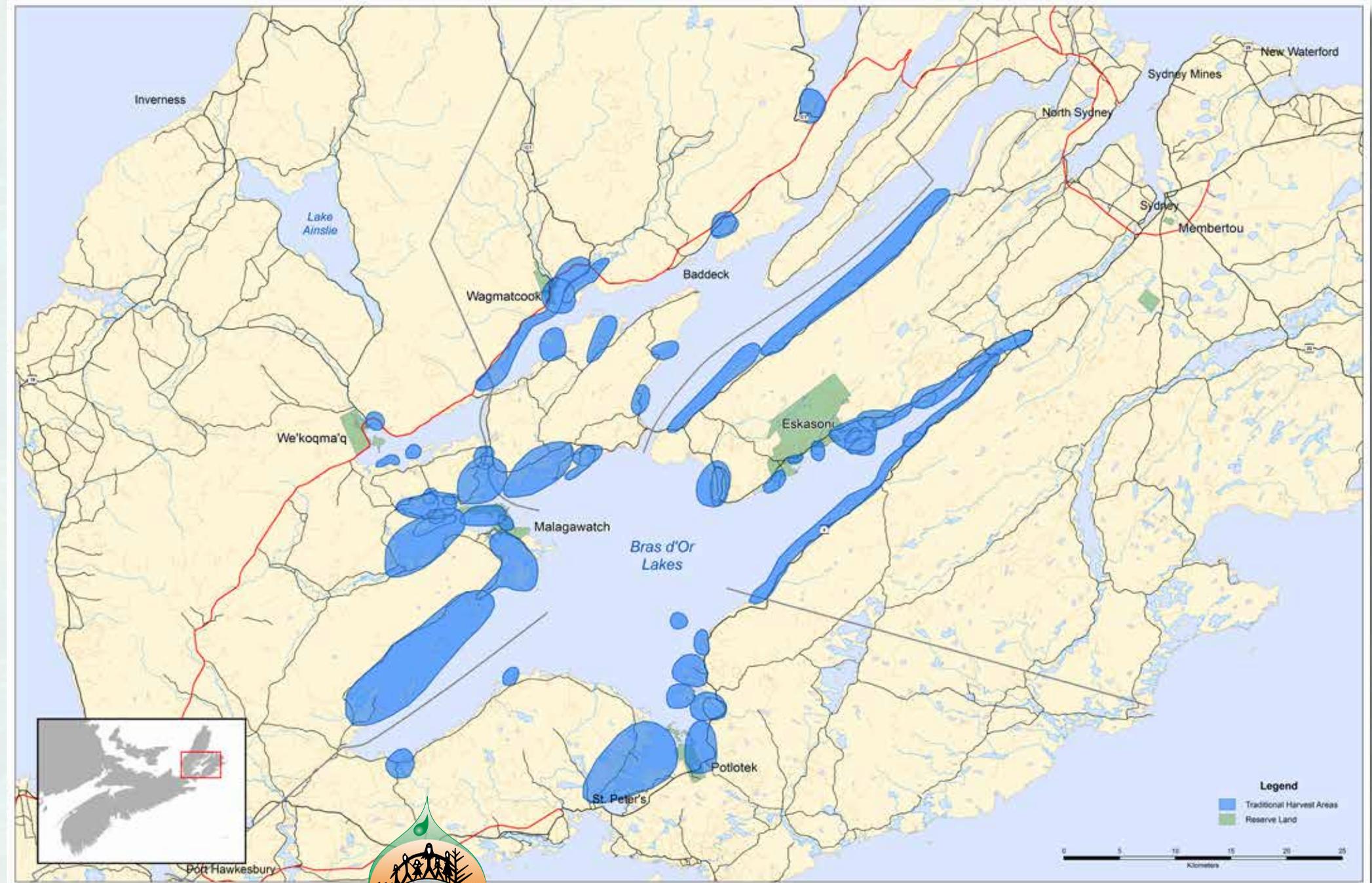
In the past, you used to be able to make a simple living from oysters. Today, few continue to harvest oysters for food in the waters outside Malikewe'j/Malagawatch, the shared community of the Unama'ki bands in the western portion of the Bras d'Or Lakes.

# Mn'tmu'k



## Historical Oyster Producing Areas

The majority of the historical oyster-producing areas are no longer harvested because there are too few oysters. Most harvesting today takes place around Malikewe'j and Big Harbour Island. Some coves in Whycocomagh Bay and Orangedale are believed to be improving, growing more oysters. Harvesters recommended that stocking take place in St. Ann's, Orangedale, Eskasoni (around Boom Island and between John Paul's Pond and Christmas Pond), Malikewe'j, Potlotek, McPhee Island (Island View), and Big Harbour Island. Ideal habitat, recent signs of oyster establishment, and protection from natural elements are qualities that make these areas suitable for stocking.



# Unama'ki





Photo: EFWC



### Habitats

Good oyster habitat is described as having a firm bottom underneath clear water. Eel grass surrounding the firm bottom is considered an attribute as it slows down the current and provides an area for oyster spat to settle. It is also an indicator of water quality. The best oysters are found in 2 to 5 ft (0.5–1.5 m) depths. Characteristics of the shoreline can be used to determine the bottom. If the area is too exposed to wind, the oysters will wash on shore or the sand will shift and cover the oysters. Areas that are too muddy will result in a poorly shaped oyster. Sometimes the bottom is firm but may not necessarily be good for oysters. Semi-enclosed areas protected by islands, especially areas that are not occupied by people, are the best areas for oysters and oyster harvesting. Knowledge of good habitat is important as many harvesters move oysters to create gardens for future use.

Habitats have been observed to change over time. Eel grass is no longer found in areas where it once thrived. The presence of algae growths make it difficult to find oysters. Erosion of banks and shorelines soften bottoms, burying oysters. These changes result in other animals inhabiting oyster areas such as mussels settling on small oysters, and tunicates covering eel grass and oysters.

Cabins along shorelines and other developments are thought to contribute to decline in oyster habitats. Many suspect sewage and grey water as the cause



of cloudy water and bubbles on the water along the shores. Oysters favour shallow coves that have eel grass. In Wagmatcook, there is a reduction of eel grass and increased appearance of algae that is thought to be related to sewage plant outflow. Eel abundance is also declining in this area. Habitat alterations, such as building causeways instead of bridges, reduce the flushing action and change the appearance of water from clear to cloudy and create a bad odour.





### Preparation, Use, and Value

#### Food

Oysters can be eaten raw or cooked depending on personal preference and purpose of harvest. Raw oysters are a convenient snack when harvesting and travelling along the shoreline. Others prefer to cook oysters in part because of concern over parasites. Oysters are commonly boiled, steamed, or fried, but they can also be dried or smoked. Although they are generally not cooked “in the field”, they can be prepared several ways using a fire on the shoreline. They can be placed on a rock on the perimeter of a fire (placing directly on heat causes them to explode), or wrapping in seaweed to steam them. Oysters can also be cooked by digging a pit, placing them in the sand with the shell opening pointing upward, and then covered with warm rocks.

Today, many people who cook oysters like them fried with butter and/or onions. They can also be prepared as part of a stew or served with ingredients like lemon, Tabasco sauce, or salsa. In the past, leftover oysters were dried or bottled for winter. If cooked in salt water and kept cool, oysters will stay fresh for up to ten days. They last longer in the fall because of cooler temperatures. Historically, access to ice and refrigerators was limited. Using a form of natural storage, oysters that couldn't be eaten right away could be put somewhere close to shore, to be retrieved later.

#### Other Uses

All parts of the oyster had a use. In addition to food, oyster meat was used as fish bait. To help harden the shells of chickens' eggs, jike'saqn/oyster shells were crushed and added to their feed. Crushed oyster shells were also used as fertilizer and spread around gardens, trees, and even sweetgrass. This helped to neutralize the acidity of the soils in Unama'ki. Jike'saqn were added to the water that hides were soaking in, increasing its alkalinity which was believed to facilitate hair removal. Shells were used as smudge bowls and ashtrays. They weren't typically used for decoration because they are heavy and brittle although today they are sometimes used in crafts.

#### Value

Mi'kmaq continue to harvest oysters for enjoyment because it is traditional and tied to our culture. For some it brings back memories of family and friends and time spent along the shoreline picking oysters. Oyster harvesting was an opportunity to socialize: fishers would often meet in their boats and share a meal of oysters while swapping stories. Oysters were viewed as back-up for emergency food or income. Many harvesters relied on oysters to supplement their incomes, especially before Christmas. Oysters were also bartered for other food items. Traditionally, oysters were a supplemental source of food, full of nutrients and protein. Today, oysters are served as a traditional food at gatherings such as pow wows, and are enjoyed by Elders. Those who harvest oysters like to share them with people who appreciate them because mn'tmuket/oystering is hard work.

# Tradition



## Netukulimk: Traditional Oyster Management

Many oyster practices, including aquaculture techniques, were passed down through generations. Often children would accompany older male relatives to see how these were done. Maturity rather than age was a deciding factor to let children go harvesting without guardians. Safety and respect for sustainability was taught at a young age. Although the majority of oyster harvesters have been male, it was not uncommon to see women out harvesting as well.

Prior to operating leases, harvesters collected oysters in open areas and rotated among sites every two years. Harvesters did not deplete areas and graded their oysters on-site, ensuring the small ones remained. People would also walk along the shoreline and throw the ones that washed ashore back into the water.

Generally, rain impedes visibility and is a potential contamination source, so water and weather conditions are important factors to consider before harvesting. Harvesters wait one week to ten days after a heavy rainfall before collecting oysters and today follow provincial oyster-harvesting regulations.

Harvesters stay away from sites littered with garbage or areas where water quality is questionable due to high rainfall. In the past, oysters would be moved to better quality areas.

Harvesting oysters in the summer is avoided. Oysters are at their reproductive peak during this time and have poor meat quality. Many would set up oyster gardens in open areas that were not leased or were closed due to potential sources of shellfish contamination. Smaller oysters would be kept in these areas despite the risk that others may harvest them. The idea was to collect them, put them in a good habitat and sell them later in the fall. In the past, respect for each other's gardens was proper etiquette among Mi'kmaw oyster harvesters.

Many harvesters used boats to get oysters from greater depths. There was a perception that the oysters were better because they were in cooler water with less disturbance. Rakes were modified to go deeper to harvest oysters from these depths. Harvesters would use canola, vegetable, or cod liver oil to calm the water so they could see the bottom to take what they needed. However, raking would result in stirring up sand and killing eel grass. Diving enabled the harvester to target choice oysters at greater depths. This method also prevented disturbance of the Lakes' bottom.

Ideally, not all oysters would be removed from an area. It was important to leave some to reproduce. Harvesters would leave both small and very large oysters as they were valuable reproducers. Juveniles are the next generation of harvestable oysters and the large one are "our spawners", also referred to as "jumbos" in the oyster industry. The big oysters are also collectors for other oysters to settle on forming clusters. Respect was given to the very large oysters. Many felt that since they lived that long to get that large, they deserved to stay alive. Others felt that there was no market for them so it was best to leave them.

Often the demand determined how many oysters to harvest. Oysters were served to supplement a meal. When harvesting for personal consumption, you would only take as many as you could eat or needed.

Most harvesters respect oysters and want to see them taken care of. Harvesting itself is thought to assist in oyster conservation because of the use of traditional management strategies and close monitoring of oyster population. Harvesters want to preserve what is left so they can teach younger generations about oysters. However, many participants in the workshops felt that young people don't respect the ecological value of the oyster and focus on economic incentives which leads to oyster beds being "fished out".



## Current State of Oysters in Bras d'Or Lakes

In the past, serious oyster harvesters would take between 35 and 40 boxes from an area and about half of the oysters were choice grade. Very few areas are left to harvest oysters for food, social, or ceremonial needs. Most harvesting is conducted as part of the oyster aquaculture lease arrangements with the Province of Nova Scotia. Many fear red tide or other toxins affecting oysters and refrain from harvesting. Prior to MSX disease, many Mi'kmaw harvesters tended their leases from April to November selling their product in the fall when the oysters were in better condition (plump meat) and prices were higher. For the past several years, lease fees were waived since many could not sell their product.



# Decline

There are many reasons for the lack of oysters in the Bras d'Or Lakes. Modification of gear and use of boats enabled harvesters to take many oysters of various sizes quickly so that oysters could not re-establish in the area. Areas outside cottages are depleted and traditional harvest areas are no longer available or accessible as many are now leased. Larger oysters are difficult to find even in places they were once considered abundant (MacKinnon's Harbour, for example). MSX and increased freshwater inputs are believed to be responsible for recent oyster losses. In the past, it would take a day of oyster harvesting to fill up a boat. Today, it would take a week.

Oysters were a reliable food source but now they are few in number and of questionable quality. Fear of shellfish contamination has discouraged people from enjoying a feed of oysters. One person reported they had been unable to eat an oyster in ten years.

## Mi'kmaw Concerns

Aquaculture leases prevent traditional food, social, and ceremonial oyster harvesting from occurring in those locations. All the "good spots" traditionally harvested by Mi'kmaq are leased by local residents and non-Mi'kmaq. One person recounted that home owners in MacKinnon's Harbour acquired a lease to keep Mi'kmaw oyster harvesters away from their properties.

The declining oyster population has led to fewer Mi'kmaw people continuing the practices of oyster harvesting. People are relying less on oysters as sustenance because of their scarcity, concern for their population, and fear of food poisoning. As a result, oysters and oyster harvesting have become less prominent socially and as a source of food in Mi'kmaw culture. As nature's water filters, the decline of the oyster population may have wider implications that contribute to the degradation of water quality in the Bras d'Or Lakes.

Habitat changes, such as increasing water temperature, and how they affect the oyster population are also a concern. Many people worry about the effect of climate change on oysters.

In the Bras d'Or Lakes, protection from invasive species is based on best management practices but despite this, the Lakes' ecosystem is still vulnerable to the effects of ballast water discharged by large ships. Current management is founded on the economic potential of oysters. A greater emphasis on conserving oysters to maintain the ecological integrity of the Bras d'Or Lakes and the cultural integrity of Mi'kmaw people is needed.



# Concerns



### **A Call for Action**

Preventing further damage, population enhancement, innovative measures, and education and awareness are approaches to promote sustainability and conservation of oysters.

Oyster stocks in the Bras d'Or Lakes are severely depleted. To conserve what is left, we need to prevent further damage to the oyster population. This involves taking action to achieve good water quality and preservation of oyster habitat. Clean water and firm lake bottoms are needed for good oyster growth which is currently threatened by silt, sewage, and pollution from cabins and homes. This pollution needs to be addressed through best management practices and regulated through by-laws. Sewage treatment should be upgraded. Mechanisms to prevent further siltation are needed, especially around coves and other areas shielded from wave action. These efforts will require cooperation between local communities, policy makers, and leaders.

Photo: EFWC

Before moving forward with population enhancement, an oyster population assessment should be completed. Once the current state of oysters is known, a sustainable yield (limit to ensure there are oysters for future generations) should be established. Netukulimk needs to be practiced among all harvesters by alternating harvesting years, rotating harvesting areas, and protecting brood stock by leaving small and large oysters. A Netukulimk oyster certification program should be developed to promote these techniques.

In order to help re-establish the oyster population, commercial harvesting should be limited (or even stopped completely) for ten years while maintaining non-commercial harvesting for food, social, and ceremonial purposes. This is not only important for preserving oyster harvesting as a cultural practice and food source, but also as a way of integrating traditional oyster management into the recovery process. Increasing access to key oyster producing areas is critical. Traditional oyster harvesting areas leased to other users should be reclaimed by Mi'kmaw communities.

Mi'kmaw communities of Unama'ki need to work together to help bring back the oyster population. Spat collectors could be placed in each community, then used to stock potential growing areas. Community fishery guardians could incorporate oyster harvesting into a joint patrol to limit illegal harvesting and promote Netukulimk among harvesters.

Steps should be taken to prevent introduction of additional non-native species and diseases that may negatively affect oysters. Innovative technology such as ballast water sterilization or treatment on-site could significantly reduce the threat of invasive species. A mandatory ballast water treatment facility could be set up near the entrance of the Bras d'Or Lakes or in a convenient location to reduce the introduction of ballast water pathogens and parasites.

Finally, education and awareness are important to the future of oysters. Since their decline in the Bras d'Or Lakes, they aren't as much a social concern. Awareness campaigns, including signs and brochures, about oysters and their threats should be produced. Oysters should be incorporated into educational activities such as taking a school trip to an oyster garden, or included in a traditional, survival skills workshop. Developing strong partnerships in research, monitoring, education, and enforcement will lead to greater awareness and increased knowledge about our oysters.



## Interesting Observations

Oysters can survive freezing.

Oyster spat collects on anything.

You can count the rings on the oyster shell to determine its age.

Larger oysters are saltier and many prefer the taste.

Oysters are shucked by inserting a tool (knife, screwdriver) into the hinge, which makes the oyster pop open. If you don't have a tool, you can smash them on a rock but you get dirt and shell pieces in the meat.

Oysters will stay alive out of water for 3-4 days.

No one in the group had gotten sick from oysters, but had heard of people getting sick from eating polluted ones.

You can test to see if an oyster is inside a shell by tapping it with a spike or piece of metal. If there is an oyster it sounds like wood, if it is empty it has a hollow sound. After a while you can hear if they are dead or alive.

Oyster shells have been seen underneath eagles' nests.

Oysters are eaten by racoons.

Otters eat oysters.

It takes 2.5 weeks to clean themselves in clean water if they are contaminated.

Some restaurants will clean out the nice shells and re-use them for presentation.

Oysters are rich in zinc.

Oysters don't seem to live to 2 or 3 years now.

It's hard to find oysters over 120 mm.

Some harvesters are more than happy to give oysters away but felt that some people did not appreciate them. They would rather them refuse than give them to someone who doesn't want them.

Open shells on the shoreline are not from humans.

If there aren't oysters you can't teach others to harvest them.

Harvesting gear is kept in the family.

Kids acquire a taste for them by daring each other and seeing their parents eating them.

Green oysters taste better.

Oysters can be kept in the fridge for a couple of months if they are "cup down".

Oyster harvesters use a variety of containers to store their oysters including fish totes/tubs and buckets. Differences in container sizes makes quantifying oyster harvests difficult.

A peck can have anywhere from 25 to 40 oysters depending their size and weight.

The goal for oyster harvesting used to be 15 boxes per week.

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