2016-2017 ATLANTIC SALMON, PLAMU, CONSERVATION HARVESTING PLAN

Effective June 1, 2016 to May 31, 2017

Mi'kmaq, Salmon, and Traditional Practices

The Mi'kmaq people continue to rely on Atlantic salmon for food. Over time, the Mi'kmaq developed an intimate and sacred relationship with the salmon and sought ways to manage populations while sustaining themselves. This relationship continues today and the species remains an important part of the Mi'kmaq way of life.

The principles of Netukulimk guide the harvest of salmon. In particular, taking what is needed, preventing waste and wasteful use of salmon, treating salmon with respect, and giving back to Mother Earth what is not consumed. Traditional Mi'kmaq management of Atlantic salmon was flexible and based on a balance of life stage and watershed harvest strategies. The Mi'kmaq would harvest a balance of large and small salmon, in open waters and in rivers. For example, some harvesters would harvest large salmon as they felt they were nearing the end of their lives, while other harvesters would harvest smaller salmon to let the larger ones reproduce. A key component of traditional Mi'kmaq management of salmon is based on which salmon are at hand during the time of harvest. If more large salmon are present than small, then more large salmon would be taken than small. The delicate balance in nature must be respected and is reflected when harvesting (Denny & Fanning, 2016a).

Current allocations of Atlantic salmon are insufficient or not available for many of the Mi'kmaq people in Nova Scotia. At present, the Mi'kmaq communities of Nova Scotia have salmon allocations that are inadequate for a population of over 14,958 status Mi'kmaq registered to Nova Scotia bands. The Mi'kmaq propose to promote salmon fishing in areas that can support a FSC fishery while respecting the conservation needs of the salmon populations in Nova Scotia. The Mi'kmaq will continue to conservatively harvest MSW salmon in rivers exceeding the DFO determined conservation requirement to preserve the delicate balance between small and large salmon, and maintain the opportunity to use salmon eggs for food or ceremony.

The Mi'kmaq have constitutionally protected Aboriginal Rights to fish for food, social and ceremonial species, such as salmon, and these rights take priority, after conservation, over other uses of the resource. The proposed 2015 Conservation Harvesting Plan (CHP) for Atlantic Salmon in Nova Scotia was ***an interim CHP*** to serve as a benchmark for which to develop future requests for access, allocation and input into sustainable harvest plan. Future conservation harvest plans will be developed after the completion of Mi'kmaq to Mi'kmaq community consultations for input into sustainable harvest measures and will be based on available Mi'kmaq ecological knowledge and annual population status assessments. The CHP proposed for 2016-2017 is a reflection of such input and a new proposal from DFO in March 2016 for a regional allocation for Salmon Fishing Area (SFA) 18 (Fig. 1) of 1244 salmon. The equivalent regional allocation for the communities participating under the plan is 655 salmon as 469 large (≥ 63 cm fork length, also referred to as MSW) and 186 small (< 63 cm fork length, also referred to as grisle) for the communities of Acadia, Annapolis, Bear River, Eskasoni, Glooscap, Membertou, Potlotek, Wagmatcook and We'koqma'q. In addition, an allocation of 16 large and 5 small salmon will be available and held in trust by the community of Eskasoni, as specified on page 4 and in Table 1, bringing the total 2016-2017 allocation to 676 salmon. This value represents 54.3% of the regional allocation for 69% of the Mi'kmaq communities in Nova Scotia. A smaller allocation of 120 salmon (50 large and 70 small) to SFA 19 (Fig. 1) is provided to Eskasoni, Membertou, Potlotek, Wagmatcook and We'koqma'q communities. There are no allocations for SFA 20, 21 and 22.

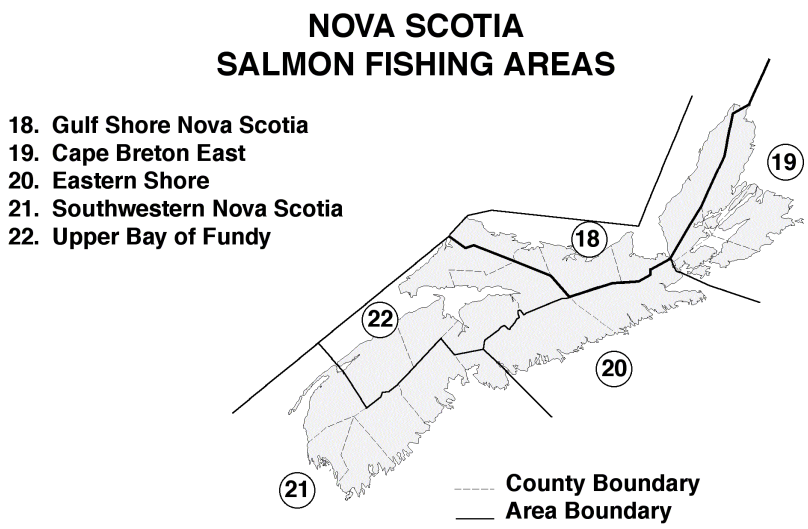

Fig. 1. Salmon management fishing zones in Nova Scotia. (Source: DFO. Retrieved from http://novascotia.ca/fish/documents/regulations/salmonanglingseasons2015-e.pdf)

The Assembly of Nova Scotia Mi'kmaq Chiefs (ANSMC) provided the ability to the lead Chief of the Fisheries portfolio to amend the CHP which may alter allocations as necessary based on recommendations by the newly established collaborative management advisory body (further information is provided under 'Governance'). The CHP is a plan for the Mi'kmaq of Nova Scotia (communities listed above) and the salmon harvested are for the sole benefit of the Mi'kmaq.

KMKNO is the administrative body working on behalf of the Assembly of Nova Scotia Chiefs. Currently, KMKNO does not represent Sipeknekatik and Millbrook First Nations in negotiations under the Made In Nova Scotia Process or consultations under the Terms Of Reference for a Mi'kmaq - Nova Scotia – Canada- Consultation Process.

Objective: The objectives of the conservation harvest plan are to:

- To respect conservation concerns for Atlantic salmon in Nova Scotia while balancing cultural needs of the Mi'kmaq and traditional management of salmon.
- At minimum, maintain current allocations negotiated by communities;
- Provide allocations for Mi'kmaq communities who currently do not have access to Atlantic salmon in Nova Scotia and stabilize that access into future submissions;
- Re-establish salmon access in SFA 18 rivers where Atlantic salmon are known to exist based on recreational fishery data and historical access prior to imposed measures by DFO in which there were no recent allocations for the Mi'kmaq;
- To align salmon harvest with recommendations provided by the Minister's Advisory Committee A Special Report on Wild Atlantic Salmon in Eastern Canada (2015) as Mi'kmaq commitment to sustainable harvesting of Atlantic Salmon; and

Biomass: In 2010, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) identified the rivers in the southern Gulf of St. Lawrence including rivers in the Gulf of St. Lawrence, and the Gaspe Peninsula, as a Designatable Unit (DU) and assessed it as "Special Concern.' Returns of Atlantic salmon to SFA 18 in 2012 to 2014 were among the lowest of the time series following historical peak values observed in 2011. The retention limits of small (grilse) salmon in the recreational

fishery was reduced from eight to four per licence in 2008 (Breau & Chaput, 2012), four to two in 2014, to zero retention in 2015 and 2016.

In 2015, estimates to the Margaree River returned to 10-year average levels for large and small salmon, and has consistently met conservation requirements from 1987 to 2015. Prior to 1996, recreational catch and effort data was used in conjunction with a mark-recapture experiment to generate adult return estimates for the Margaree. Since 1997, only recreational catch and effort data has been inputted into the model. There has been no mark-recapture experiment to validate the catchability coefficient or the quality of the recreational data inputted into the model. To address this concern raised by DFO Science in 2012, UINR in collaboration with DFO Science undertook a mark-recapture experiment from 2013 to 2015 to address these concerns. Unfortunately, insufficient numbers of adult salmon were caught each year to generate a fisheries independent estimate. Not enough salmon were caught to mark, coupled with the lower abundance of juveniles observed since 2009, raised further concerns about the accuracy of the adult return estimates. In 2016, DFO Science reinforced that concern and stated DFO should be prudent until DFO Science gathers data and verifies catchability coefficient used in the model to estimate adult salmon returns to the Margaree (Biron & Breau,2015). At present, returns of salmon in rivers on the mainland Nova Scotia are unknown (Breau, 2012; Biron & Breau, 2015). Conservation requirements in SFA 18 are based on preserving large salmon, also referred to as Multi-Sea Winter (MSW), to contribute eggs to meet river specific egg requirements for the conservation of the salmon population. This conservation egg requirement was developed as a formal definition of conservation for Atlantic Salmon following the 1990 *Sparrow* Decision (Chaput, 2015). A framework to establish limit reference points for rivers in the Gulf Region was established based on stock recruitment analysis (DFO, 2015a). The limit reference point in the Gulf Region was defined as the abundance of spawners resulting in less than 25% probability that recruitment will be less than half the maximum recruitment. An egg deposition of 2.4 eggs/m^2 is considered to be a Limit Reference Point in the context of DFO's Precautionary Approach Framework (DFO 2009; DFO 2012; Gibson and Claytor 2012) for DFO's Maritimes Region and conservation objective of maximizing freshwater production (DFO, 2015a).

For the Maritimes Region, COSEWIC assessed the Eastern Cape Breton (SFA 19), and Southern Upland, Inner Bay of Fundy and Outer Bay of Fundy DUs (SFAs 20-23) as 'Endangered' in 2010. In 2015, abundance in eastern Cape Breton was assessed in 3 index rivers (Middle, Baddeck and North rivers) as not meeting river specific conservation requirements, including the North River which was previously was estimated to be at 105% of the conservation requirement in 2013 (DFO, 2014). The North River also failed to meet CER in 2014 (DFO, 2015b). A recreational salmon catch and release fishery exists in SFA 19 in the Middle, North, and Baddeck rivers. Salmon populations for rivers in SFAs 20-23 are at very low abundance. There are no recreational fisheries for salmon in SFAs 20-23.

Exploitation Rate: Ideally, equal exploitation of both large and small salmon may be "the soundest conservation measure" (Chaput, 2015, p. 16) and is a similar traditional harvesting strategy used by the Mi'kmaq as

harvesting that are offered by Mother Earth (Denny & Fanning, 2016a). However, the lack of scientific information on river specific relative abundances of salmon is lacking. Rivers in SFA 18 are described as dominated by large that are mostly female. Small salmon are predominantly male, with females occurring in much smaller proportions (Breau & Chaput, 2012). Conservation requirements are based on the number of large salmon needed to produce a set amount of eggs within the river system.

Mi'kmaq knowledge indicates that salmon populations have been declining (Denny, Denny, Christmas & Paul, 2013). The exploitation rate of the large (MSW) and small (grilse) salmon will be maintained through a progressive operational plan implemented by the communities to ensure that this level is not to exceed 27.5%, as recommended by DFO Science (Breau & Chaput, 2012). Current allocations of large salmon are estimated to be at exploitation levels of 15.7% (Breau & Chaput, 2012).

SFA 18 TAC

A total maximum allowable harvest of 655 salmon as 485 large (MSW) (Margaree River and Estuary) and 191 small (grilse) (Margaree River, tributaries, and Estuary, Mabou River and tributaries, and Northeast Mabou River and tributaries), and kelt as required (Margaree River only) are permitted. Allocations of large and small salmon for communities that did not have previous access were calculated based on the proportion currently held by the Unama'ki communities. As Mabou River and the Northeast Mabou did not have recent community allocations and the status of that population is currently unknown, only small salmon (grilse) will be permitted to be harvested (recommendation 2.2. Minister's Advisory Committee on Atlantic Salmon, 2015).

The number of large (MSW) and small (grilse) salmon permitted to be harvested in the following rivers/estuaries by the following communities are specified in Table 1. A small allocation of 16 large and 5 small are held in trust by the community of Eskasoni for ceremonial uses such as the annual salmon feast following the cleaning of the statue of St. Anne's held during the annual Mission, or for other events as required.

Table 1. MSW and grilse allocations of SFA 18 Rivers. AR indicates "as required."

River System	Salmon	Communities	Total Maximum Allocation
Margaree River, tributaries & Estuary	Large (MSW) ≥63 cm fork length	Eskasoni (65 +16 in trust for ceremonial use) Membertou (65) Potlotek (65) Wagmatcook (65) We'koqma'q (65) Acadia (36) Annapolis (36) Bear River (36) Glooscap (36)	485 Large (MSW)
Margaree River and tributaries; Mabou River and	Small (Grilse) <63 cm fork length	Eskasoni (26 + 5 in trust for ceremonial use) Membertou (26)	191 Small (Grilse)

tributaries; and Northeast Mabou River and tributaries;		Potlotek (26) Wagmatcook (26) We'koqma'q (26) Acadia (14) Annapolis (14) Bear River (14) Glooscap (14)	
Margaree River	Kelt	Eskasoni Membertou Potlotek Wagmatcook We'koqma'q Acadia Annapolis Bear River Glooscap	As required

SFA 19 TAC

A total maximum allowable harvest of 50 MSW and 50 grilse is allocated to the Mi'kmaq communities of Eskasoni, Membertou, Potlotek, We'koqma'q and Wagmatcook (Table 2). Catch data from the 5 Mi'kmaq communities indicated that 0 MSW, 0 grilse, and 0 Kelt were harvested from the North River. **In 2014 and 2015, the North River did not meet the CER (DFO, 2015b; DFO, 2016).** The Mi'kmaq request that this allocation be maintained and will decide whether fishing will occur for 2016 following on DFO summer count, Mi'kmaq knowledge and meeting of the Mi'kmaq advisory body.

Wagmatcook will retain the allocation of 10 grilse for food, social and ceremonial purposes for Middle River and Baddeck River. The community voluntarily does not fish these allocations and are actively discouraging its members from harvesting salmon in these rivers.

Table 2. MSW and grilse allocations of for North, Baddeck and Middle Rivers. *Indicates "as required."

River	Eskasoni	Membertou	Potlotek	Wagmatcook	We'koqma'q
North River	10 MSW 10 Grilse Kelt*	10 MSW 10 Grilse Kelt*	10 MSW 10 Grilse Kelt*	10 MSW 10 Grilse Kelt*	10 MSW 10 Grilse Kelt*
Middle River	0	0	0	10 Grilse	0
Baddeck River	0	0	0	10 Grilse	0

Governance

The Chief with the fisheries portfolio, under the direction of the Assembly of Nova Scotia Chiefs may authorize changes to be made in this management plan due to the current status populations of salmon in any designated river system or region in Nova Scotia. The Portfolio Lead will take into consideration Mi'kmaq scientific advice, traditional knowledge and information from other sources as provided. The primary source of this information will be acquired through a newly created governance process for the Mi'kmaq. Fishery managers and salmon fishers will meet twice a year (July and October) to discuss current observations and areas where fishing should and should not

occur based on experiential knowledge, environmental conditions, and other assessment processes.

The Assembly of Nova Scotia Mi'kmaq Chiefs (ANSMC) is the governing body for the Mi'kmaq of Nova Scotia that strives to balance collective identity of the Mi'kmaq of Nova Scotia with community autonomy imposed through Indian Act legislation (Denny & Fanning, 2016b). Currently, a process exists for community input into decision-making. What is currently lacking for salmon FSC fishery, is a community level process for input into the FSC salmon fishery that will allow for in-season adjustment should the salmon population be observed to be at 2014 levels. As the CHP pertains to rivers in Mi'kmaq territory of Unama'ki (Cape Breton), UINR will establish an advisory committee consisting of fishery managers and experienced salmon fishers from each community to discuss current observations on the salmon populations and make recommendations to the ANSMC fisheries portfolio lead Chief. This group will meet in July and again in October prior to the onset of the majority of salmon harvesting to initiate the progressive implementation of this CHP. In the event that the salmon abundance is critically low as compared to experiential knowledge or other sources of information, the group will provide recommendations to the ANSMC that then goes to community leadership for support prior to implementation and/or amendment (Denny & Fanning, 2016b).

Individual Quota/Catch Limitations: Communities will set tag limits for individual community members. The community may implement catch limitations at their discretion.

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Tag Distribution: Each community will be responsible for the distribution of tags within the community. Given the conservative allocations for many of the rivers, tags will be distributed in a progressive manner for SFA 19 tags to the North River based on advice from community fishery managers, DFO assessments, and the 'in-season advisory committee' established under the Unama'ki Institute of Natural Resources (UINR).

Monitoring: Communities will be responsible for monitoring of their salmon harvest through community guardian programs or fishery department. UINR will coordinate guardian presence on the SFA 18b rivers during times of fishing as described in Recommendation 5.4 (Minister's Advisory Committee on Atlantic Salmon, 2015).

Responsibility: Catch data is important for annual population assessments. Aboriginal harvest data is necessary to estimate the number of MSW (large salmon) and number of grilse (small salmon) that reach the spawning grounds to spawn. Efforts have improved in the quantity, quality, and timing of catch statistics provided to DFO for their science assessments.

Improvement in providing catch information is recommended (recommendation 11.2, Minister's Advisory Committee on Atlantic Salmon, 2015). Catch data will be reported to community fishery departments from which the tag was issued. Communities will report catches to their coordinating

AAROM body (Unama'ki Institute of Natural Resources or Mi'kmaw Conservation Group) or to UINR if not represented by an AAROM organization, as required, which will provide the data to the Mi'kmaq Salmon Advisory Committee for inclusion in DFO's science assessments. In season reporting will be an essential part of the progressive advice coming from the AAROMs and the 'in-season advisory committee' with respect to tag distribution within each community.

Catch data must include tag number, number of grilse (small salmon) and/or MSW (large salmon) caught between June 1, 2016 and December 31, 2016, to be reported to DFO by January 30, 2017. Kelt captures (salmon caught between Jan. 1 and May 31, 2017) will be reported to DFO by July 31, 2017. Additional information can be provided such as spawning condition, fishing days, methods and other observations.

River Name	Month Of Capture	# Large Salmon (≥63 cm)			# Small salmon (<63 cm)		
		Female	Male	Unknown	Female	Male	Unknown

Quota Reconciliation: N/A

Regular Season: June 1 to December 31, 2016 for bright salmon, and January 1 to May 31, 2017 for Kelt.

Other Regular Closures: As allocations divided into large (MSW) and small (grilse) are the primary conservation measure, there will be no additional restrictions on timing of the fishery.

Closed Areas: There will be no fishing for salmon for food, social and ceremonial needs for Salmon Fishing Areas 20 (Eastern Shore), 21 (South Shore) and 22 (Bay of Fundy) between June 1, 2016 to May 31, 2017. **These areas do not meet conservation requirements for salmon and salmon populations are at critically low levels.**

The Mi'kmaq will respect the current closure upstream of the area known as "The Benches" in the North River.

There will be no fishing for salmon for food, social and ceremonial needs in 2016 on the Cheticamp River, which is under the jurisdiction of Parks Canada. KMKNO is currently negotiating access once a science assessment is completed. It is anticipated that Mi'kmaq will take part in the assessment.

Min/Max Size: Only salmon equal to and greater than 14 inches (35.6 cm) will be retained. They can be of wild or hatchery (adipose fin clipped) origin. Salmon (wild or hatchery) under the size of 14 inches (35.6 cm) will not be targeted for harvest or retained.

Small Fish Protocols: Parr and smolt will be carefully released and returned to the water quickly.

By-catches: When applicable, by-catch (species that are not Atlantic salmon) will be retained by the Mi'kmaq.

SARA: Atlantic salmon Inner Bay of Fundy (SFA 22) population is currently listed and protected under the Species at Risk Act. Salmon populations in other areas of Nova Scotia were assessed by COSEWIC as endangered (SFA 19, 20, 21) and special concern (SFA 18) and are currently under consultation for SARA listing.

Gear Limit: No more than one trap net per river permitted.

Gear Specifications: Traditional methods of fishing include spearing, snaring, dip netting, angling and fly. Night fishing with a light source is permitted. For community harvesting effort, seining, weirs, and trap nets are permitted for use in rivers.

Participants: The CHP applies to status Mi'kmaq from the communities of Acadia, Annapolis Valley, Bear River, Glooscap, Potlotek, We'koqma'q, Wagmatcook, Eskasoni, and Membertou.

Proof of identity and membership (valid status cards) must be carried when fishing. Should non-Mi'kmaq assist Mi'kmaq members of the communities of Acadia, Annapolis Valley, Bear River, Eskasoni, Glooscap, Membertou, Potlotek, Wagmatcook and We'koqma'q, documents issued and signed by either the Chief or Fishery Manager must accompany the fisher.

Vessels: The use of small vessels is permitted when fishing from a trap net or weir.

Observer Coverage: N/A

License Fees: N/A

Other: This plan is not intended to reduce community tag allocations. Due to recent concern with the salmon resource in many rivers in Nova Scotia, guardians and fishery managers in Mi'kmaq communities of Unama'ki issued an average of 17 tags per community in 2015.

Since 2007, the Nova Scotia Department of Fisheries & Aquaculture carried out an Atlantic Salmon stocking program to benefit the sportfishery and to offset mortalities from the catch and release fishery. In Cape Breton, four rivers are stocked: Margaree, Mabou, Middle and Baddeck. Approximately 40,000 smolts and 120,000 parr are released each year in the Margaree River from a broodstock collection of 25 females and 25 males. In 2015, 80,000 smolts and 83,000 parr were released. A much smaller effort takes place on the Mabou River. The hatchery aims to collect 5 females and 5 males annually as broodstock. In the Middle and Baddeck Rivers, the hatchery aims to collect 4 females and 4 males in the fall. In 2015, 15,000 parr were released into Middle River and 23,000 parr were released into the Baddeck River.

KMKNO, UINR and MCG will work to develop communication material for the Mi'kmaq communities on the current status of salmon populations in Nova Scotia.

KMKNO, UINR and MCG will assist communities with the development of harvest report cards for salmon.

UINR, KMKNO, and MCG will provide assistance to DFO to conduct surveys to determine the status of salmon populations for rivers in question.

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