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Our Rights. Our Future.

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2022-2023 ATLANTIC SALMON, PLAMU, CONSERVATION HARVESTING PLAN

Effective June 1, 2022 to May 31, 2023

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 16,245 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 was 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 1,244 salmon, and again adopted for 2022-2023. 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 grilse) 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 2018-2019 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 salmon allocations for SFA 20, 21 and 22.

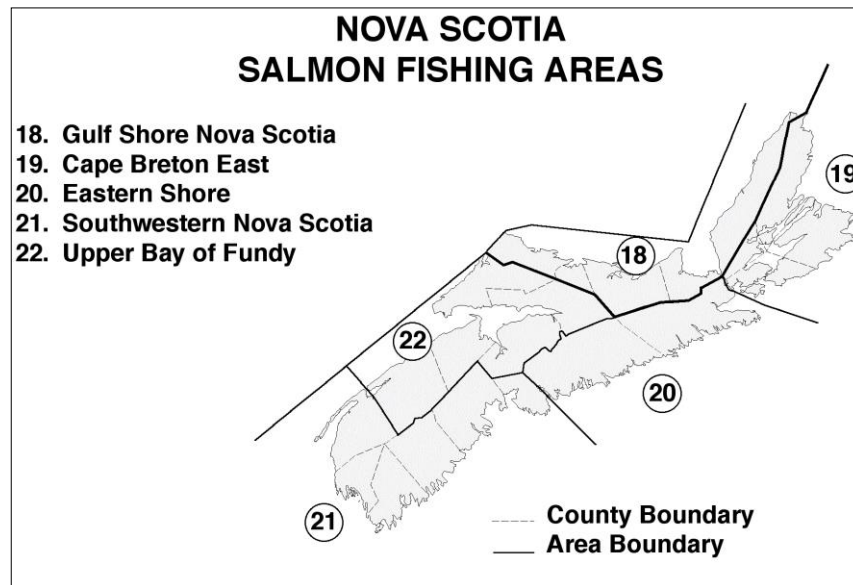


Fig. 1. Salmon management fishing zones in Nova Scotia. (Source: DFO. Retrieved from <http://novascotia.ca/fish/documents/regulations/salmonanglingseasons2015-e.pdf>)

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 Membertou, Sipekne'katik 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.

Reconciliation

In recognition and honor of the Indigenous-Crown's special constitutional relationship and the Government of Canada's commitment to achieving reconciliation with Indigenous peoples, the principles outlined in Respecting the Government of Canada's Relationship with Indigenous Peoples (Department of Justice Canada, 2018) are fundamental to the implementation of the 2019-2020 Conservation Harvest Plan for Atlantic Salmon (Plamu).

Objectives

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

Estimated 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 Gaspé Peninsula, as a Designatable Unit (DU) and assessed it as "Special Concern." Returns of Atlantic salmon to SFA 18 in 2012 to 2018 were among the lowest of the time series following historical peak values observed in 2011, for both large and small salmon. 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 to 2018.

In 2019, the estimate of large salmon to the Margaree River was 2,515 fish (median; 5th to 95th percentile range of 1,979 to 2,902), which is below the long-term average of 2,768 fish. The Margaree River has consistently met conservation requirements from 1987 to 2019 (DFO, 2020a). 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 successful 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).

DFO continued efforts to conduct mark-recapture experiments in 2017 and 2018. A trapnet was installed in the Margaree estuary; the trapnet was fished 24 days in 2017 (September 20th - October 24th) and 42 days in 2018 (August 8th – October 19th). A total of 28 salmon were caught in 2017 (21 large and 7 small salmon), and 13 salmon were caught in 2018 (12 large and 1 small salmon). Along with the hatchery broodstock, a total of 74 and 84 salmon were tagged in 2017 and 2018, respectively. Even with considerably more effort to capture adult salmon for tagging during 2017 and 2018, insufficient numbers were caught to generate a fisheries-

independent estimate. At present, returns of salmon in rivers on the mainland Nova Scotia are unknown (Breau, 2012; Biron & Breau, 2015).

Conservation requirements in SFA 18 were 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), consistent with the precautionary approach (DFO, 2009). 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 1.52 eggs/m² was defined as the LRP for SFA 18 rivers (DFO, 2018c). In its update of indicators of Atlantic Salmon in the Gulf Region SFAs 15-18 for 2018 (DFO, 2019a), DFO Gulf Region assessed status relative to the LRP of 1.52 eggs/m². Previous assessments were assessed relative to a conservation requirement of 2.4 eggs/m². Further work is required to complete the Precautionary Approach, including the definition of the Upper Stock Reference point, harvest strategies and harvest decision rules (DFO, 2018c). Until the PA process is completed, including consultation on the harvest strategies and harvest decision rules (DFO, 2018c) with the Mi'kmaq of Nova Scotia, the Mi'kmaq will continue to use the 2.4 eggs/m² deposition rate as a reference for the conservation requirement for 2019-2020. In 2019, the estimated eggs in the spawners of small salmon and large salmon combined were 582 eggs per 100 m² (median; 5th to 95th percentile range of 455 to 742 eggs per 100 m²), 3.8 times the LRP (DFO, 2020a).

In 2022 DFO Gulf Region produced an estimate of egg density for the Margaree River for 2020 and 2021. However, the recreational effort, used to produce the stock update remains significantly lower than in years when the model was parametrized, which poses a concern for the accuracy of the estimate. The science advice provided by DFO is to rely on long-term trends to assess the salmon population in the Margaree River. Over the 12 years preceding 2021 (approximately two Atlantic Salmon generations), the estimated egg density increased by 7% (DFO, 2022), while consistently exceeding the LRP (DFO 2020a). Electrofishing activities to assess the juvenile population were conducted by DFO in 2021 on the Margaree, West Antigonish, East Pictou, and Philip rivers. Over the 12 years preceding 2021, the long-term trends for juveniles show an increase in fry (between 147% and 403%) and parr (between 25% and 64%) on the Margaree, Antigonish and Pictou rivers, while on River Philip fry increased (11%) and parr decreased (-14%) (DFO 2022).

For the Maritimes Region, an egg deposition of 2.4 eggs/m² 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). 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. Again in 2021, abundance in Eastern Cape Breton was assessed in 3 index rivers (Middle, Baddeck and North rivers) as not meeting river specific conservation requirements (DFO, 2022). The North River, which was previously was estimated to be at 105% of the conservation requirement in 2013, consistently did not meet CER since 2014 (DFO, 2014; DFO, 2015b; DFO, 2017b, DFO, 2018b; DFO, 2020b; DFO, 2020c; DFO 2021; DFO 2022) but was estimated to be slightly above CER in 2020 (DFO, 2021) and declined again in 2021 (DFO, 2022). 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 or Mi’kmaq fisheries for salmon in SFAs 20-23.

Mi’kmaq Knowledge

Mi’kmaq experiential observations indicate that salmon abundance was higher in 2017 than 2016 with noticeable higher returns of small salmon to Margaree River. Also observed were salmon covered with white spots in the Margaree River. Similar spots were noticed in SFA 19 rivers (Middle, Baddeck and North Rivers). Concern is expressed for these salmon, especially those in the Margaree River as lethal gear is used to effectively retain fish but Mi’kmaq fishers are releasing salmon that are infected with lesions, pus pockets, and other marks.) Explorations in the fall of 2017 for presence/absence of juvenile salmon indicated that juvenile salmon were not present at the Northeast Mabou river. Electrofishing activities in the North East Mabou indicated 0 juvenile salmon were present at a previous (2006) DFO assessed site, however, juvenile salmon were present in 2018.

In 2018, Mi’kmaq fishers experienced challenges in capturing salmon due to fluctuating water levels and loss of traditional fishing areas. An increased effort was undertaken to locate other fishable pools. This poses some difficulty in maintaining continuity of Mi’kmaq knowledge as new fishing locations are being identified while others are disappearing.

High water levels in the Sanctuary in 2018 created challenges for spearing. While the area was available to the 2018 Mi’kmaq fishery, there were zero salmon reported as captured from the Sanctuary, and again in 2019. It was noted that algae growth in the Sanctuary in July and August 2018 was concerning, as were concerns for higher water temperature and questionable water quality that deterred fishing. Observations of increased removal of forested buffer, increased debris (logs) in Middle River, and sediments in North River were noted in 2018.

In 2020, an event was planned in late March with invited Mi’kmaq salmon fishers from Cape Breton and mainland Nova Scotia as part of UINR’s 2019-2020 Aboriginal Funds for Species at Risk project. The intent of the session was to improve our understanding of the salmon fishing in Unama’ki, plamue’kemkewey, and ways to refine current processes for the collection and sharing of Mi’kmaq knowledge to

contribute to decision-making processes. Unfortunately, the session could not be held. However, concerns remain for the continued catch and release salmon fishery in rivers where salmon populations are known to be assessed as ‘endangered’ remain. The continuation of the catch and release fishery goes against the principle of promoting the recovery of salmon in Nova Scotia rivers as mortality is assumed and taken into consideration when assessing salmon escapement.

In 2020 and early 2021, interviews and in-person sessions were held to discuss fishing experiences. Discussions focused on low water levels, observation of dead salmon in the river (10+ noted), and the delay in the catch and release closure for the Margaree River. While there is literature to support the impacts of temperature on mortality and morbidity, the impacts of catch and release fishing were noted in areas where salmon were aggregating. For example, hooking of salmon on other parts of their body and the behaviour of the fish when that does occur, such as trying to escape regardless of low water conditions. Low water levels as an equal criterion for closing the river to catch and release should also be considered, as well as observations of dead salmon in the river. Understandably, low water levels and high summer temperatures are not normally the case. Given the impact of changing climate and potential impacts to freshwater availability, enhancing the protocol to include other decision-making criteria may prevent future mortality of Atlantic salmon. Furthermore, there is an interest to develop Mi’kmaq harvest rules for the North River should the river continue to exceed the CER.

In 2021, large white lesions on brook trout were observed at Margaree Hatchery pool in the fall. The lesions progressively worsened as the season progressed.

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, scientific information on river specific relative abundances of salmon is lacking. Rivers in SFA 18 are described as dominated by large salmon that are mostly female. Small salmon are predominantly male, with females occurring in much smaller proportions (Breau & Chaput, 2012). For SFA 18, 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). Mi’kmaq harvests of salmon in 2018 and again in 2019 were well below 15.7%. From the communities participating in the plan, a total of 26

salmon were reported to be harvested between June 1 and December 31, 2018. An increase in catch and release of salmon was observed in 2018. Salmon that were released were large females with eggs and grilse. Between June 1 and December 31, 2019, 36 salmon were reported to be harvested in the Margaree River. In 2019, 2 salmon (2 MSW females; in addition to brown and brook trout) were harvested for the St. Anne's Mission on July 23, 2019. One large male salmon was reported to be released at the Hatchery Pool in 2019. Zero salmon were reported for the Mabou River. In 2020, 55 salmon were reported to be harvested from the Margaree River; 0 salmon were reported as harvested in the Middle, Baddeck, and Mabou Rivers between June 1, 2020 and December 31, 2020 and again between Jun 1 to Dec 31, 2021. The harvest report for the Margaree River in 2021 was 12 large and 11 small salmon. The majority of the harvest occurred in October.

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 and Mabou River and tributaries), and kelt as required (Margaree River only) are permitted (Jan. 1 to May 31, 2020). 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 from the Mabou River (recommendation 2.2. Minister's Advisory Committee on Atlantic Salmon, 2015). Harvests will not be encouraged on the Northeast Mabou River in 2021-2022 until further assessments have confirmed greater numbers of adult and/or juvenile salmon presence.

The Mi'kmaq kelt fishery is predominantly a by-catch fishery when fishing for trout in the Margaree River. Fishers, however, will retain kelt if the meat content and quality is determined to be consumable, as with recently spawned salmon. Fishers will also retain salmon if it may not survive because of the stress of the fishing activity. The reasons for retaining kelt are based on Mi'kmaq values expressed in Netukulimk and fishers do not want to waste salmon (UINR, 2017).

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 tributaries	Small (Grilse) < 63 cm fork length	Eskasoni (26 + 5 in trust for ceremonial use) Membertou (26) Potlotek (26) Wagmatcook (26) We’koqma’q (26) Acadia (14) Annapolis (14) Bear River (14) Glooscap (14)	191 Small (Grilse)
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 five Mi’kmaq communities indicated that 3 MSW, 0 grilse, and 0 Kelt were harvested from the North River in 2018; 0 in 2019. **Since 2014, the North River did not consistently meet the CER** (DFO, 2015b; DFO, 2016; DFO, 2017b; DFO, 2018b; DFO, 2020a; DFO, 2020b; DFO, 2020c DFO, 2021). The Mi’kmaq request that this allocation be maintained and will decide whether fishing will occur for 2022 following on DFO summer and fall counts, Mi’kmaq knowledge and meeting of the Unama’ki Mi’kmaw Salmon Advisory Committee. Communication regarding the status at that time will be directed to Mi’kmaw salmon fishers following the summer and fall surveys.

Wagmatcook will retain the allocation of 10 salmon as either MSW or grilse for food, social and ceremonial purposes for Middle River and Baddeck River. The community voluntarily does not fish these

allocations and actively discourage their members from harvesting salmon in these rivers. Signs to communicate the status of the salmon population are posted at each river.

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 MSW or Grilse	0
Baddeck River	0	0	0	10 MSW or Grilse	0

Governance

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). 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 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. As the CHP pertains to rivers in Mi’kmaq district of Unama’kik (Cape Breton), the governance committee is led by UINR.

The Unama’ki Mi’kmaq Salmon Advisory Committee consists of representation from UINR, KMKNO, the Mi’kmaq Grand Council, community fishery managers and salmon fishers. The committee provides a process for community input as the mechanism to advise the Mi’kmaq leadership on observed abundance of adult Atlantic salmon returns to the rivers of Unama’ki, and rivers currently identified in the Conservation Harvest Plan for Salmon (CHP). The goals of the committee are to share harvest information internally and externally, make recommendations to the Portfolio Lead based on the best available knowledge and guiding principle of Netukulimk, communicate recommendations to communities in an effective and timely manner, and provide the opportunity for communities to bring their concerns to the attention of UINR. The committee meets four times a year (winter, spring, summer, and fall) to initiate the progressive implementation of this CHP. If the salmon abundance is observed to be very 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 Catch Limits	Communities will set tag and/or catch limits for individual community members. The community may implement such limitations at their discretion.
Tag Distribution	Each community will be responsible for the distribution of tags, if they choose to use 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 ‘Unama’ki Mi’kmaw Salmon 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	<p>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.</p> <p>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. <i>Given the low estimate of salmon returns to Middle River in 2021, a working group meeting will be coordinated following the fall swim-thrus. This meeting will review the number of observed salmon to discuss if further conservation measures for the recreational catch and release fishery are required.</i></p> <p>Catch data must include river fished, number and sex of grilse (small salmon) and/or MSW (large salmon) caught between June 1, 2022 and December 31, 2022, to be reported to DFO by January 30, 2023. Kelt captures (salmon caught between Jan. 1 and May 31, 2023) will be reported to DFO by July 31, 2022. Additional information can be provided such as spawning condition, fishing days, methods and other observations.</p>

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, 2022 for bright salmon, and January 1 to May 31, 2023 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, 2022 to May 31, 2023. **These areas do not meet conservation requirements for salmon and salmon populations remain at critically low levels (DFO 2020b).**

The Mi'kmaq will respect the current closure upstream the area known as "The Benches" in the North River, as stated in Variation Order MAR-VAR-2018-059 s.2(e) despite the salmon population slightly exceeding the conservation egg requirement in 2020.

There will be no fishing for salmon for food, social and ceremonial needs in 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	<p>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.</p> <p>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 community's Chief or Fishery Manager must accompany the fisher.</p>
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	<p>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 and 2016. Harvest of salmon in 2016 were reported to be 7.1% of the current allocation.</p> <p>Since 2007, the Nova Scotia Department of Fisheries & Aquaculture carried out an Atlantic Salmon stocking program to benefit the sport fishery 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 2017, 85,000 smolts and 85,000 parr were released into Margaree River. A much smaller effort takes place on Mabou River where 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 2017, 21,000 parr were released into Middle River and 21,400 parr were released into Baddeck River, 16,500 parr were released into Mabou River and 11,000 fry and 12,000 parr were released into West River Antigonish. Approximately 83,000 smolt will have been released into the Margaree River by the end of May, 2018. In 2018, 22,400 parr were released into Middle River and 21,300 parr were released into Baddeck River; 29,000 parr were released into Mabou River and 17,500 parr were released into West River Antigonish. In 2018, 84,500 smolt were released in the Margaree River.</p>

In the Middle and Baddeck Rivers, the hatchery aims to collect 4 females and 4 males in the fall. Another 58,000 smolt will be released in the Margaree in 2019, in addition to 111,000 parr that were too small to fin clip in the fall of 2018. From the one pair of brookstock collected from the Grahams River near Judique, 5,600 parr were released in 2018.

In 2019, the NS Dept of Fisheries & Aquaculture hatchery staff, with the help of many volunteers, collected Atlantic salmon/Plamu broodstock from the following rivers: Margaree River (25 females; 25 males), Middle River, Victoria Co. (4 females; 3 males), Baddeck River (4 females; 4 Males), Mabou River (3 females; 3 males), West River Antigonish (5 females; 5 males) and West River Pictou (2 females; 2 males) for the Pictou County Rivers Association Fish Friends. Most of the broodstock from the Margaree River was collected in late summer. Broodstock collection for the remaining rivers occurred in late September and October. Water conditions for brookstock collection were favorable in 2019 and unlike 2018 when high water prevented collection in rivers with the exception of the Margaree and Baddeck. Broodstock from the Cape Breton Rivers was taken to the Margaree Fish Hatchery; those collected from mainland rivers were taken to the Fraser's Mills Hatchery in Antigonish County.

In the spring of 2019, the Margaree hatchery released both salmon parr and/or smolt into Margaree River. A total of 60,000 smolt from eggs collected in 2018 and 111,000 parr from eggs collected in 2018 were released in the spring of 2019. A total of 25,000 parr were released into the Middle River, Victoria County in the fall of 2019.

In 2020, the NS Dept of Fisheries & Aquaculture hatchery staff, with the help of volunteers, collected Atlantic salmon/Plamu broodstock from the following rivers: Margaree River (25 females; 25 males), Middle River, Victoria Co. (4 females; 4 males), Baddeck River (4 females; 4 Males). Salmon was not collected from the Mabou River in 2020. On the mainland of NS, broodstock was collected in West River Antigonish (5 females; 3 males) and Waughs River Pictou (5 females; 5 males). Most of the broodstock from the Margaree River was collected in late summer. Broodstock collection for the remaining rivers occurred in late September and October. Broodstock from the Cape Breton Rivers was taken to the Margaree Fish Hatchery; those collected from mainland rivers were taken to the Fraser's Mills Hatchery in Antigonish County. Similarly, in 2021, 25 male and 25 females were collected from the Margaree River; 4 males and 4 females from Middle River Victoria Co., and 2 males and 4 females were collected from Baddeck River. A total of 5 males and 4 females were collected from each of the West (Antigonish Co.,) and Waugh Rivers.

In the spring of 2020, the Margaree hatchery released 113,000 parr and 62,000 smolt into Margaree River. A total of 23,000 parr were released into the Middle River and 6,400 parr in Mabou River in the fall of 2020. Furthermore, 15,000 parr were released in Baddeck River. On the mainland of NS, 17,500 parr were released in West R. Antigonish County.

In 2021, the Margaree hatchery released 107,000 parr and 85,000 smolt into Margaree River. A total of 27,379 parr were released into the Middle River. Furthermore, 25,448 parr were released in Baddeck River. On the mainland of NS, 9,000 parr were released in West R. Antigonish County, and 10,000 parr were released in the Waugh's River.

KMKNO, UINR and MCG will work to develop communication material for the Mi'kmaq communities on the 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 assist DFO to conduct surveys to determine the status of salmon populations for rivers in question.

UINR will work collaboratively with DFO to develop a model to estimate Mi'kmaw salmon harvest.

UINR will pursue relationship-building opportunities with the recreational fishery such as attending annual association meetings to provide updates, improve communication, and enhance understanding of Mi'kmaq salmon fishing in Unama'ki (Cape Breton).

References

- Breau, C. (2012). Status of Atlantic salmon (*Salmo salar* L.) stocks in rivers of Nova Scotia flowing into the Gulf of St. Lawrence (SFA 18). DFO Can. Sci. Advis. Sec. Res. Doc. 2012/147. V + 54 p.
- Breau, C., & Chaput, G. (2012). Analysis of catch options for aboriginal and recreational fisheries for Atlantic salmon from the Margaree River (Nova Scotia) for 2012. DFO Can. Sci. Advis. Sec. Res. Doc. 2012/093. iv + 49 p.
- Biron, M., and Breau, C. (2015). Status of Atlantic salmon (*Salmo salar* L.) stocks in rivers of Nova Scotia flowing into the Gulf of St. Lawrence (SFA 18), 2012-2013. DFO Can. Sci. Advis. Sec. Res. Doc. 2015/043. viii + 40 p.
- Chaput, G. (2015). Considerations for defining reference points for Atlantic Salmon that conform to the Precautionary Approach. DFO Can. Sci. Advis. Sec. Res. Doc. 2015/074. v + 44 p.
- Department of Justice Canada. (2018). Principles Respecting the Government of Canada's Relationship with Indigenous Peoples. Available [On-line]: <http://www.justice.gc.ca/eng/csj-sjc/principles.pdf>
- Denny, S., Denny, A., Christmas, K., & Paul, T. (2013). Plamu Mi'kmaq Ecological Knowledge: Atlantic Salmon in Unama'ki. Unama'ki Institute of Natural Resources.
- Denny, S. & Fanning, L. (2016a). A Mi'kmaw perspective on advancing salmon governance in Nova Scotia, Canada: Setting the stage for collaborative co-existence. *International Indigenous Policy Journal* 7(4).
- Denny, S. & Fanning, L. (2016b). Balancing community autonomy with collective identity: Mi'kmaq Decision Making in Nova Scotia. *Can. J. Native Studies*, 39(2).
- DFO. (2009). A Fishery Decision-Making Framework Incorporating the Precautionary Approach. (Accessed July 2014).
- DFO. (2012). Reference Points Consistent with the Precautionary Approach for a Variety of Stocks in the Maritimes Region. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2012/035. 35 p.
- DFO. (2014). Status of Atlantic Salmon in Salmon Fishing Areas (SFAs) 19-21 and 23. DFO Can. Sci. Advis. Sec. Sci. Resp. 2014/037.
- DFO. (2015a). Development of reference points for Atlantic salmon (*Salmo salar*) that conform to the Precautionary Approach. DFO Can. Sci. Advis. Sec. Advis. Rep. 2015/058.
- DFO. (2015b). Status of Atlantic Salmon in Salmon Fishing Areas (SFAs) 19-21 and 23. DFO Can. Sci. Advis. Sec. Sci. Resp. 2015/021.
- DFO. (2016). Stock Status Update of Atlantic Salmon in Salmon Fishing Areas (SFAs) 19-21 and 23. DFO Can. Sci. Advis. Sec. Sci. Resp. 2016/029.
- DFO. (2017a). Update of indicators of Atlantic Salmon (*Salmo salar*) in DFO Gulf Region Salmon Fishing Areas 15-18 for 2016. DFO Can. Sci. Advis. Sec. Sci. Resp. 2017/013.
- DFO. (2017b). Stock Status Update of Atlantic Salmon Fishing Areas (SFAs) 19-21 and 23. DFO Can. Sci. Advis. Sec. Sci. Resp. 2017/020.

- DFO. (2018a). Update of indicators of Atlantic Salmon (*Salmo salar*) in DFO Gulf Region Salmon Fishing Areas 15-18 for 2017. DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/017.
- DFO. (2018b). Stock Status Update of Atlantic Salmon Fishing Areas (SFAs) 19-21 and 23. DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/038.
- DFO. (2018c). Limit Reference Points for Atlantic Salmon Rivers in DFO Gulf Region. DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/015.
- DFO (2019). Update of indicators of Atlantic Salmon (*Salmon salar*) in DFO Gulf Region Salmon Fishing Areas 15 – 18 for 2018. DFO Can. Sci. Advis. Sec. Sci. Resp. 2019/009.
- DFO (2020a). Update of indicators of Atlantic Salmon (*Salmon salar*) in DFO Gulf Region Salmon Fishing Areas 15 – 18 for 2018. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/xxxx (in press).
- DFO (2020b). Stock status update of Atlantic salmon (*Salmo salar*) in salmon fishing areas (SFAs) 19-21 and 23. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/0021.
- DFO (2020c). Stock status update of Atlantic salmon (*Salmo salar*) in salmon fishing areas (SFAs) 19-21 and 23. DFO Can. Sci. Advis. Sec. Sci. Resp. 2020/031.
- DFO. 2021. Stock Status Update of Atlantic Salmon in Salmon Fishing Area (SFA) 19. DFO Can. Sci. Advis. Sec. Sci. Resp. 2021/032.
- DFO. 2022. Stock Status Update of Atlantic Salmon in Salmon Fishing Area (SFA) 19. DFO Can. Sci. Advis. Sec. Sci. Resp. 2022/nnn (in press).
- DFO. (2022). Update of indicators of Atlantic Salmon (*Salmo salar*) in DFO Gulf Region Salmon Fishing Areas 15 - 18 to 2021. DFO Can. Sci. Advis. Sec. Sci. Resp. 2022/nnn (in press).
- Gibson, A.J.F., and R.R. Claytor. (2012). What is 2.4? Placing Atlantic Salmon Conservation Requirements in the Context of the Precautionary Approach to Fisheries Management in the Maritimes Region. DFO Can. Sci. Advis. Sec. Res. Doc. 2012/043. iv + 21 p.
- Minister's Advisory Committee. (2015). A Special Report on Wild Atlantic Salmon in Eastern Canada. Retrieved from <http://www.dfo-mpo.gc.ca/media/infocus-alaune/2015/salmon/MAC-Report-Aug-4-eng.pdf>.
- UINR. (2017). Exploring the significance of the Mi'kmaq kelt fishery. Workshop report (Internal). March 26, 2017.