

Margaree Salmon Association

NEWSLETTER

SUMMER 2023



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Margaree Salmon Museum Hours

Open 5 days a week (Seasonal)

Wednesday to Sunday from 9AM to 4PM

OPERATED BY THE MARGAREE ANGLERS ASSOCIATION

Access our Newsletter
and other publications
directly from our website



 /margareesalmonassociation

www.margareesalmon.ca

President's Message

Summer 2023, looking back over the past 6 months since our last newsletter I have a great feeling of optimism about our River and the community within which it flows. The last 3 years have been tough but we seem to have weathered the storm of COVID and its after effects. This summer salmon returned in great numbers and locals/tourists are enjoying the many community events in our area.

Our strategic plan has evolved to include a long term monitoring plan. Habitat Suitability Index (HSI) promoted by NSSA started in our watershed with surveys being completed on a number of our brooks (article for details). As well our normal instream work crew are well underway improving habitat and with their help a number of bridge/ waterway signs have been placed in our area. This year to help Aaron (our habitat rehabilitation coordinator since 2022) we hired a conservation technologist to help complete the HSI program for 2023.

In July we once again had to close portions of the river due to warm waters, our Warm Water Protocol established in 2019 continues to help us protect our salmon stocks during critical warm water periods. Fortunately the closure did not last as long as last year and as of publishing we hope waters will stay high and cool for the rest of the fishing season.

DFO activity once again is supported by your association, kelt capture and tagging, electro-fishing, smolt wheel and salmon count swim throughs are some of the many ways DFO staff help monitor salmon stocks. Each year we also support inland fisheries and hatchery staff capture brood stock for the annual salmon stocking program.

2023 is also the year your association joined with the Atlantic Salmon Federation (ASF) and other community groups in a new program. Wild Salmon Watersheds (WSW) is something you will begin to hear more about in the coming months, the program will be launched in our area in late August.

October 6th and 7th, keep those dates free, our AGM and dinner auction need your support.

– **Paul MacNeil, President**
The Margaree Salmon Association



UINR Salmon Ceremony

A very special event was hosted by the Unama'ki Institute of Natural Resources (UINR) at the Margaree Salmon Hatchery on June 27th, 2023. The event, honouring the salmon, included a spiritual

smudging for all in attendance, a feast of Margaree salmon and a closing ceremony representing returning salmon to the river. A moving, spiritual experience for all in attendance.



Dr. Shelly Denny addresses participants



Mr. Dan Paul explains the salmon's cultural significance



Mr. Dan Paul provided a smudging ceremony

A feast of fresh caught Margaree salmon was shared by all in attendance. (*see cover*)

Each year this event grows in popularity. The attendance has increased from 70 in 2022 to 125 in 2023. The hatchery is an appropriate venue, and is provided by the provincial Department of Inland Fisheries. This ceremony is an opportunity to appreciate Mi'Kmaq culture. It also provides the opportunity to reflect upon and support reconciliation.

Marked Salmon Recapture Project 2023

In the Spring of 2023, several members of the Margaree Salmon Association (MSA) participated in this project. This work is coordinated by Department of Fisheries & Oceans (DFO) Biologist Abby Daigle. Each year, DFO tags 100 or more adult salmon.



The following spring, MSA anglers catch, release and record data on salmon (kelts) exiting the watershed. This information is used to help establish the health and number of salmon in the Margaree. Floating lines and barbless single hook flies are used. In 2023, data was collected on 95 salmon. Success is very weather dependent, especially concerning water levels. Moderate stable water levels usually result in angling success. Annual catch numbers are typically 100 to 200 salmon.



Fly fishing in February and March may sound a little extreme, but there are sunny, calm days when the temperature may reach 12°C. Even during winter conditions, there are still regular hatches of stoneflies on the riverbanks.



During the last decade, DFO has significantly increased its investment in science based activities in the Margaree watershed. Activities now include smolt wheel operation, installing and operating a salmon counting trap, tagging smolt & adult salmon, water temperature monitoring and electrofishing. MSA is pleased to partner and support DFO as opportunities arise.



River Bank Restoration 2023/2024

The next river restoration work will take place at the Swimming Hole Pool. This is following site visits by and advice from both an Engineer and a Habitat Restoration Specialist. As you can see in the photos, the previous armour rock work has remained intact but needs some repair. The 125 metres immediately above requires attention. This pool has the benefit of the outflow of Lake O'Law brook, good structure and a depth of 5 metres. It is no wonder that it is an excellent holding pool, even at times of low, warm water.



2023 - Swimming Hole, lower bank in good condition, may need minor work



2023 - Swimming Hole, bank stabilization and refuse removal priority for 2023



2023 - Swimming Hole, refuse exposed by erosion

Become a Member of the Margaree Salmon Association

Print and send the completed form to:

The Margaree Salmon Association

P.O. Box 108, Margaree Centre. NS, Canada. B0E1Z0.

You can also become a member or renew your membership by visiting:

www.margareesalmon.ca/membership/

- PLEASE PRINT -

NAME: _____

TEL.: _____

EMAIL: _____

SELECT ANNUAL MEMBERSHIP TYPE:

ADDRESS: _____

☐ \$30 REGULAR ☐ \$10 JUNIOR (UNDER 14)

☐ \$50 FAMILY ☐ \$300 INDIVIDUAL LIFETIME

PAYMENT: ☐ **PLEASE SEE ENCLOSED CHEQUE** - O R -

☐ **CHARGE MY CREDIT CARD (SEE BELOW)**

NAME ON CARD: _____

EXP. YR.: _____ EXP. MONTH: _____

CARD NO.: _____

CVC NO.: _____ CARD TYPE: _____

Sydney Mines Hunting & Fishing Show 2023/24 - *Ashley Coombs, Aaron Allen*

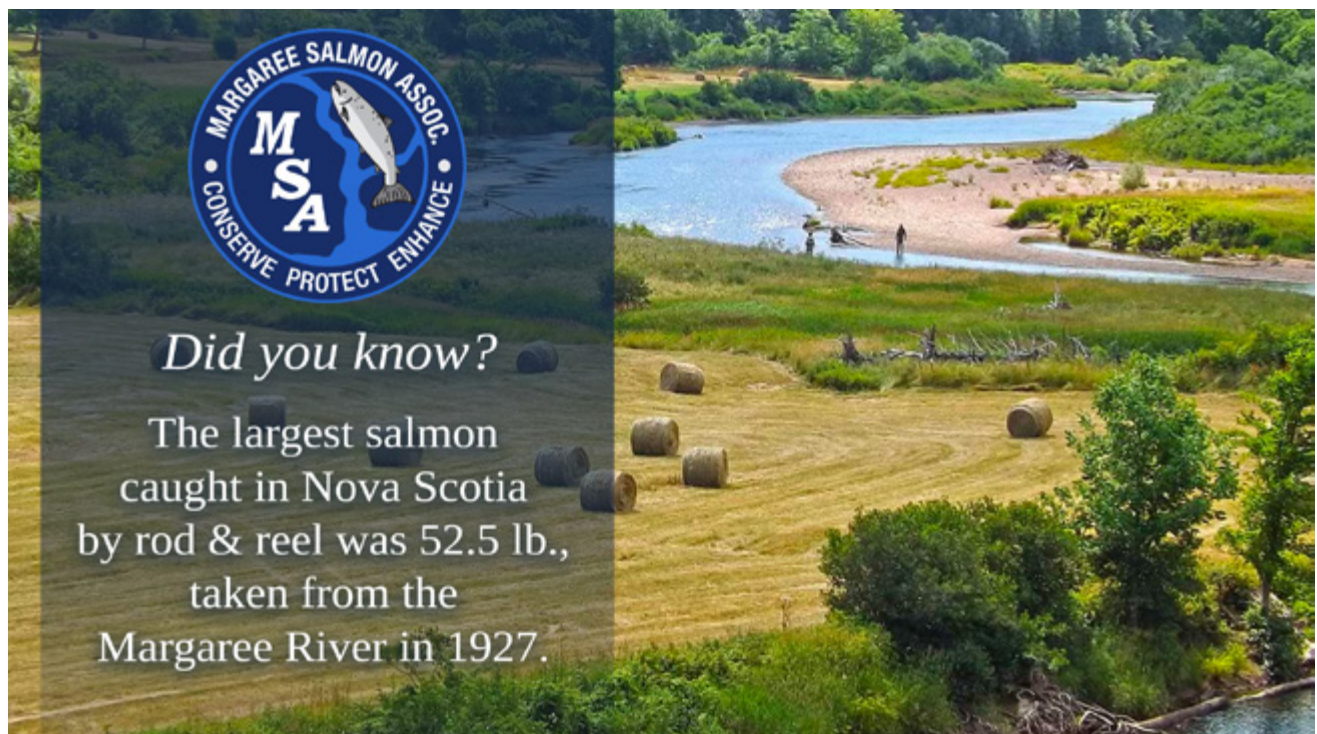
On Saturday, June 3rd and Sunday, June 4th, the Margaree Salmon Association took part in the 7th Annual Sydney Mines Fishing and Hunting Outdoor Weekend for the first time since 2019 (due to the COVID 19 pandemic). Hosted by the Sydney Mines Fire Department and held at the Sydney Mines and District Community Centre, the show was well attended with many new vendors filling spaces of those unable to return after the pandemic turned the world upside down.



Aaron Allen & Ashley Coombs

This event was a great opportunity to see and chat with members of the fishing community across Cape Breton. We saw many familiar faces and shared information on the work MSA is conducting to improve habitat conditions on the Margaree. We sold a couple hundred tickets for the Pieroway Spey Rod with the Margaree Pool Map on the handle (draw Oct. 7th, visit the MSA office for tickets), got a few new memberships, and gave away a bunch of swag to help spread the MSA word.

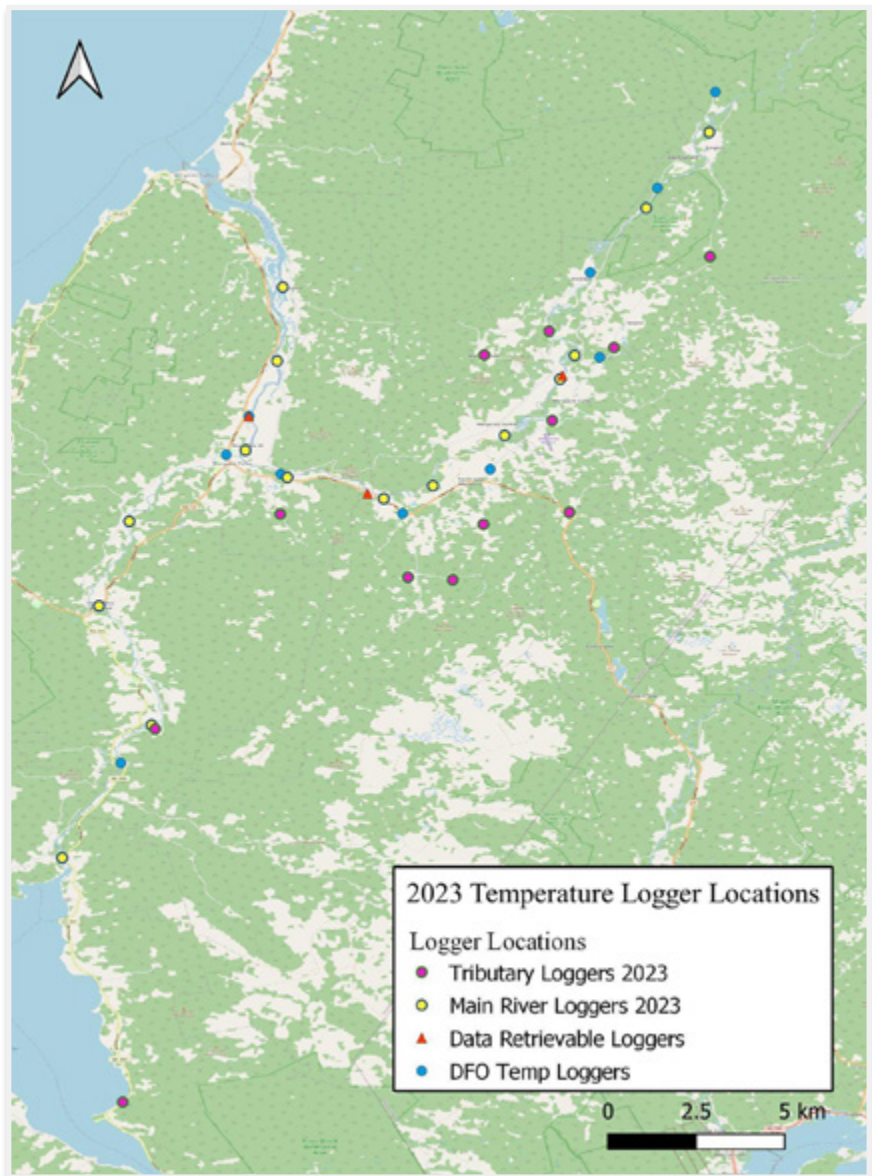
We learned a lot about the Margaree Highland Games from our booth neighbor to the right, and the Department of Natural Resources and Renewables donated their remaining 150 spruce trees that we will use for riparian planting and bank stabilization on the Margaree. Overall it was great to see that the show is back on track and we hope that it will continue to grow to what it once was. We are very much looking forward to next year.



Temperature Monitoring 2023 - *Aaron Allen*

We all know that cold water is incredibly important to the survival of Atlantic salmon and Brook trout. For the past four years MSA has collaborated with the Nova Scotia Salmon Association (NSSA) to monitor temperatures in the Margaree river as well as its tributaries. Fisheries and Oceans Science (DFO) also monitors temperatures within the watershed, and has used their temperature monitors to establish a thermal profile used in the warm water protocol. This thermal profile allows DFO science to monitor one site (at Big MacDaniel pool) and use that data to determine which areas of the Margaree will be too warm to angle, prompting closures to sections laid out in the warm water protocol (see our website for more details).

In planning our 2023 monitoring activities we worked closely with NSSA and DFO to determine areas of the river that were lacking temperature data. We found that the Southwest Margaree has a couple long stretches that didn't have any monitors, while in the Northeast many of the monitors are located within the tributaries leaving gaps in the main channel. With this in mind we were able to increase the number of monitoring locations within the watershed from 26 (10 from DFO, 15 from MSA, 1 from ECCC) to 41. MSA had only 5 loggers in the main channels of the NE and SW Margaree; now we have 15 and an additional 14 in the tributaries to continue our restoration monitoring. This data will be scrubbed and shared with DFO in order to improve the thermal profile of the river and help better our decision making during the warm water protocol meetings.



Two of the MSA temperature loggers are bluetooth compatible allowing us to access them and download the data mid-season to help give a better picture of the water temperatures when the warm water protocol has been triggered. We share this data with DFO before our meetings and they are taken into consideration before the WWP team makes a decision to close a section of the river. Below is an example of the data we get from one of the bluetooth loggers (see figure A). It shows data collected from July 15th until July 19th at 7:00am when I retrieved the data before our meeting. This chart shows the curve of highs and lows representing daily temperatures slowly increasing and approaching a point, on July 18th, where the minimum temperature is only barely below 20°C. Even with the slight bump of rain on July 19th, it wasn't significant enough to keep the whole river open; sections 1 and 3, that includes from Doyle's Bridge to the East Margaree Bridge as well as the Southwest Margaree, was closed by 4pm on July 19th.

With temperatures being so important to the survival of Atlantic Salmon it is amazing to see so many groups work collaboratively on this important issue. While DFO holds the pen having regulatory authority, all partners involved (DFO, Nova Scotia Salmon Association, Atlantic Salmon Federation, Dept. of Inland Fisheries, Unima'ki Institute of Natural Resources, and the Margaree Salmon Association) have an opportunity to voice their thoughts and opinions on opening and closing sections of the Margaree. These meetings give importance to all groups involved and the collaborative nature ensures that many angles are considered creating a better relationship between the government entities holding the pen and the stakeholders involved.

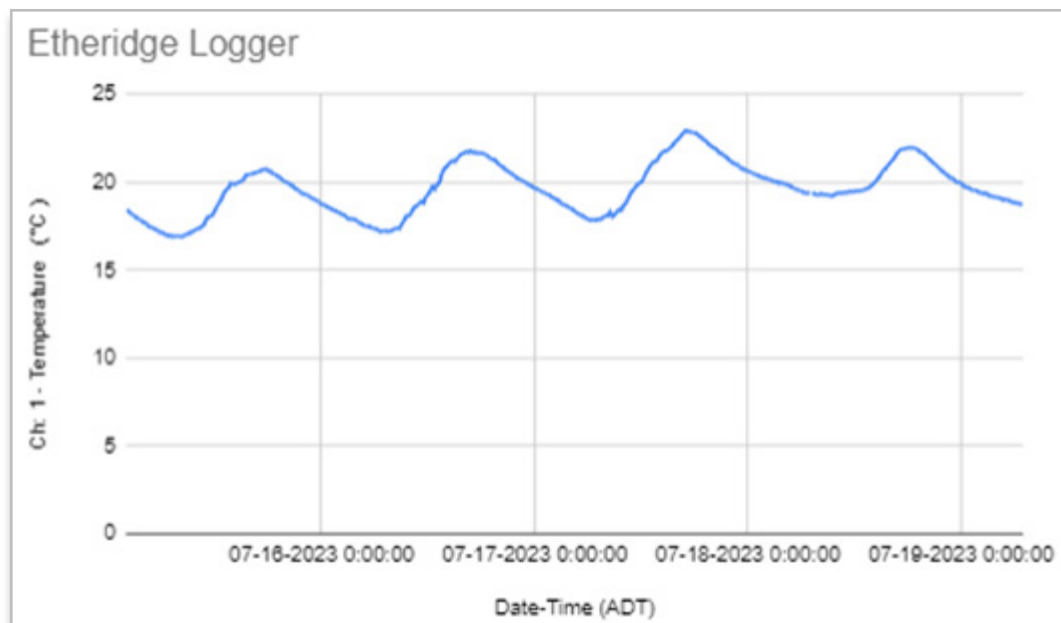


Figure A

Monitoring Plan - Reports from the Field - *Aaron Allen*

The 2023 field season saw the implementation of the Margaree Salmon Association (MSA) monitoring plan. MSA has been conducting monitoring of water temperatures, problematic erosion, and CABIN studies with ACAPCB for a number of years. 2023 brought the expansion of our monitoring through a more formalized plan. This being its first iteration, 2023 has been a building year designed to flesh out what we're capable of completing in a field season and determining the best methods for data collection.

The planning phase of our monitoring plan started in January when the NSSA Gulf Priority Rivers (Inverness South Anglers Association, Antigonish Rivers Association and MSA) were meeting with the Nova Scotia Salmon Association (NSSA) to discuss how to move forward this season. We developed monitoring plans for our respective watersheds and had NSSA review them to ensure we're asking good questions and collecting high quality, useful, and shareable data. We also worked with DFO science in Margaree to develop methods of data collection that would be comparable should we share in the future.



Measuring HSI Transects

The Margaree monitoring plan includes temperature monitoring, habitat suitability index assessments (HSI), invasive species monitoring for smallmouth bass through eDNA, and population estimates through electrofishing, redd counts and snorkel surveys, as well as erosion monitoring.



eDNA Filtering at MSA's Headquarter

Habitat suitability assessments require the most time commitment and is the largest portion of our monitoring plan; HSI surveys take into account many variables including water quality, channel cross-sections, substrate, cover riverbanks and riparian area, as well as benthic macroinvertebrates (aquatic bugs). We planned for each tributary that we assess to have 10 - 20 sites in order to get a good picture of the tributary's condition. Each site requires about 45 minutes of measurement and we bit off between 150 and 175 sites to complete over the summer. We picked away slowly at HSI sites in May and June, with the bulk of the sites being assessed in July; we will finish our assessments by mid-August. We won't be able to finish assessing all that we planned for the season but we will have assessed Ingraham Brook in two locations, Lake O'Law in two locations, Marsh Brook in two

locations, Trout Brook, Tompkin's Brook, Mill Brook, and Mount Pleasant Brook completing about 70% of our planned sites. This work will help inform us as to which tributaries are in need of the most attention in planning our restoration work. While we worked through our habitat suitability assessments, dodging the unusual amounts of rain that kept the water levels too high to work, we started prepping our eDNA study, snorkel surveys, electrofishing, and redd counts planned for later in the summer.



Deployment of Temperature Logger

Our invasive species monitoring for smallmouth bass is designed around an eDNA study to determine the range of smallmouth bass (SMB) within the watershed. To do this, we focused on looking for SMB in areas they would be most likely to occur. With lake Ainsley absolutely brimming with small mouth bass it made sense to look for them first in the tributaries surrounding

Lake Ainsley as well as the tributaries along the SW Margaree. We also included sampling points as high up the Northeast as Portree to determine if smallmouth bass have established a population. Ashley, our field technician, and I collected samples on July 26th, and had them preserved and shipped to the lab in Guelph by the 28th; we expect results within 10 days or so.

Counting fish in order to get accurate estimates of returns is very difficult, arguably impossible. Every method we use to estimate population brings us closer to a real number and helps inform the decision makers of how the Atlantic Salmon population is doing. While right now DFO uses exclusively their own data collection to inform their decisions, we are taking the steps to help expand their programs giving a bigger picture of the population. No promises have been made, but they're working with us to develop methods so we can have comparable data in the future. For the 2023 season, we have paired up with Jillian, the coordinator for the Cheticamp River Salmon Association (CRSA), in order to pull together a team of certified electrofishers to work on both the Cheticamp and Margaree rivers with plans to help out Inverness South Anglers Association on the Mabou in the future. Due to delays getting equipment and the seemingly constant pushing of field work due to high water, we are pulling back on our plans to electrofish a few sites within the watershed and instead are joining DFO when they electrofish to ensure we're using the same methods. This will ensure that we're using the same techniques for future data sharing and collaboration. In 2024 MSA will pair with CRHA again to conduct electrofishing independent of DFO in both Margaree and Cheticamp once we have equipment and methods sorted.

Snorkel surveys in recent years have occurred in collaboration with the Dept. of Inland Fisheries when they go to collect brood stock for the hatchery. These unofficial surveys are a good indicator of adult density in particular pools, but this data isn't collected to inform more than the question "are there enough fish in the pool to collect brood stock for the hatchery?". This season MSA is adopting and adapting the methods used on the Clyburn snorkel survey, run by Parks Canada, for the Margaree. We're planning on snorkeling two sections of river, The first section will include pools from Upper Ledges down to Sunday Run encompassing 5 pools. The second section will be from Brook pool down to Wash pool including 4 pools along the way. This work is planned for the middle of August, when water levels are usually low making it easier to survey; hopefully the weather will cooperate.

Redd surveys again, are something that MSA has participated in for years out of general interest of our board members, but this year we are planning to make it official by formally collecting this data for comparison in the future. In addition we will compare redd surveys to electrofishing data to determine juvenile survivability in the following season.

Overall the monitoring plan that we put forth is going well with only a few minor hiccups along the way, most of them beyond our control like water levels, weather, and a ban on going in the woods during the peak fire season. We have already learned a lot about what we're able to accomplish, making the planning for next season easier and more realistic. With any luck we'll have the same team return next field-season and be able to hit the ground running accomplishing even more in 2024.

The Margaree - *Paddy Poirier*

Here is a fly I tied years back, well over 10 years ago now. Not many of these have been given out; less than 50 I think. I call it "The Margaree" looking back I don't recall, and can't find a fly by the same name. The closest I've found is Margaree Sunrise, so I present to you "*The Margaree*"

Materials

Hook	Mustard #2
Thread	Main body uni-thread 8/0 White
Tag	Silver oval tinsel
Butt(s)	Light orange/sun yellow, orange, Golden pheasant crest, Ostrich hurl
Body	Holographic copper mylar
Rib	Silver oval tinsel
Underwing	Mallard flank
Throat	Mallard flank
Wing	Grey squirrel dyed Yellow
Eyes	Jungle cock
Collar	Ostrich hurl
Head	Chartreuse uni-stretch
Finish Thread	Uni-thread 8/0 Black



The Margaree by Paddy Poirier



Margaree Salmon Association

Established in 1982, the Margaree Salmon Association is a volunteer, non-profit organization, dedicated to the conservation, protection and enhancement of Atlantic salmon, trout and their habitat.

ORGANIZATION DIRECTORS

OFFICERS

President – Paul MacNeil
First VP – Paddy Poirier
Second VP – Julie Marie Campbell
Secretary – Greg Lovely
Treasurer – John Stinson

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PHOTO CREDITS

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