ANNUAL REPORT 2022

MIRAMICHI SALMON ASSOCIATION INC.



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FOREWORD

Message from the MSA Chair

As the MSA reaches its 70th anniversary, and I reflect back over the past 35+ years I have spent fishing on the headwaters and all over our great watershed, it is clear to me the importance of the MSA and the work we are doing together. My time on the headwaters as a youth created the passion I have today for Atlantic salmon and the Miramichi River. I can thank my dad for that.

I am honored to be serving as your Chair, and as I talk to fellow MSA directors, members, and supporters, I can see that many of us share this same passion for the Miramichi watershed and everything it has to offer. We have so many great people, past and present, who have contributed so much to the MSA and our fight to protect the Atlantic salmon and our watershed.

We all know the challenges in front of us, and that Atlantic salmon are struggling. We also know there are many imbalances in our watershed and beyond, but we also have reasons for great optimism. We have a great team at the office and hatchery who are so dedicated to the MSA and the work we are doing. We have a great Board of Directors and many volunteers who donate so much of their time "...many of us share this same passion for the Miramichi watershed..."

and expertise. We have a state-of-the-art hatchery, conservation, and research facility the longest continually operating hatchery in North America. Last but not least,



we have great river-based conservation programs with a unique boots-on-the-ground approach. I could go on.

I am excited about the improvements we continue to make to our organization, our processes, and our strategy. I want to thank everyone for their hard work and contributions and encourage you to continue working together to ensure we are here for another 70 years. Tight lines!





Message from the MSA US Chair

It was sure great to get back on the Miramichi for a full season in 2022. The June run of fish was quite good, and as it often is in the early going the best fishing was upriver of the mouth of the Cains. Enough salmon slowed down sufficient-

ly to take a fly in the lower stretches though, to keep it interesting. Andy Dumaine stopped by for a few days and had under his belt some good fishing from over on the NW Miramichi.

From mid-summer on, the Cains had a good run. Salmon took advantage of the strong flows of water to go further upriver than they normally do. When we arrived for fall fishing there were lots of fish holding in various locations in the Cains; fishing was quite good. Unfortunately, the fall run was somewhat disappointing, though a fresh push did come into the river at the end, much later than usual. We were left feeling that there was a good body of fish present on the spawning gravel and in the end that is what nature intended. Over the course of the season, I had a number of those great days when I ended up remembering why the MSA's conservation efforts are so worth supporting.

The MSA did what the MSA does best in 2022, and that is to battle away at the obstacles that the world seems to like throwing in the way of Atlantic salmon. Staff, volunteers, and contractors worked at cold water enhancement, parr monitoring, beaver dam breaching, fry stocking, and of course the herculean effort to rid the Miramichi of smallmouth bass. I am glad that the USA has a role in these undertakings and I look forward to continuing the efforts in 2023.

INTRODUCTION

President's Report

The Miramichi Salmon Association continued its important work in 2022 thanks to many supporters, volunteers, and staff members. Although COVID-19 still impacted certain programs, we were able to return to in-person events and fundraisers, including a Brian Moore Legacy Fund luncheon, a joint MSA-Miramichi Watershed Management Committee Science Day, the Icebreaker Event, First Cast, Fredericton Dinner, Saint John Autumn Dinner, and a board meeting held in Freeport, Maine. We continued with online auctions and raffles but were able to restart key in-person events to better engage with members and supporters.

Elise Collet was our 2022 Jack Fenety Scholarship recipient and Ellie Smallwood was our first Brian Moore Legacy Fund student. Both students made significant contributions to Atlantic salmon conservation - Elise with thermal research and Ellie with communications about our programs.

The MSA was awarded major grants in 2022, including through ACOA's Tourism Relief Fund, New Brunswick's Regional Development Corporation, the Canada Nature Fund for Aquatic Species at Risk, the Atlantic Salmon Conservation Foundation, the New Brunswick Wildlife Trust Fund, and others. In tandem with our generous supporters, we were able to continue key conservation programs and even begin new ones - like our innovative fry stocking research program on the Dungarvon River.

We continue to advocate for better management decisions, including formally requesting a third-party review for striped bass Limit Reference Points, pushing for a return to higher catch and release limits, and working on the Warm Water Protocol Committee and the Recreational Fisheries Advisory Committee. We are part of the working group for smallmouth bass eradication that successfully treated Lake Brook and a portion of the Southwest Miramichi River in



September 2022, and continue to advocate for government leadership to complete the eradication at Miramichi Lake. We work with partners including Anqotum Resource Management, the New Brunswick Salmon Council, the University of New Brunswick, the Atlantic Salmon Federation, and the Miramichi Watershed Management Committee.

There is much to be optimistic for as we turn to 2023 - the 70th anniversary celebration for the Miramichi Salmon Association, the 150th anniversary celebration for our hatchery, and exciting programs that we will continue - including fry stocking, novel cold water restoration, and smolt estimates.

Thank you for supporting our boots-on-the-ground efforts to sustain and enhance Atlantic salmon in the Miramichi River - we could not accomplish what we do without you.

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Our mission is exemplary, river-based leadership, stewardship, and conservation practices for the Miramichi Watershed to continuously preserve and balance its environmental integrity for the benefit of all native species, in particular the Atlantic salmon. Since 1953, the MSA and its members have directed their capabilities and their funds to the protection of the entire Miramichi River system.

For seven decades, the MSA has watched over the Miramichi as a champion of conservation on behalf of anglers, outfitters, guides, and all others with economic, environmental, and recreational interests in the river.

Managed by volunteers from Canada, the USA, and abroad, as officers and directors, the MSA remains cooperative with, but independent of, government or special interests influence. It responds in the end only to its growing conservation membership. The net result is a well-managed river system that today, thanks in part to the MSA's championing of its cause, has more miles of salmon angling water and traditionally holds larger and healthier populations of Atlantic salmon than most salmon rivers in North America.

Mission and Mandate

INTRODUCTION

Spotlight

Our Climate Change Policy was developed in 2022 to guide our organization as we continue to work and care for the environment.

Whereas it is widely accepted that our changing climate is having deleterious effects on Eastern North America's populations of wild Atlantic salmon (Salmo salar), including the Miramichi Salmon as well as many other important fish and aquatic species found within the Miramichi River watershed; and whereas the mission of the Miramichi Salmon Association (MSA) is to provide 'global-class leadership, stewardship, and conservation practices for the Miramichi Watershed to continuously preserve and advance its environmental integrity for the benefit of all species, in particular the Atlantic salmon'; be it resolved, the Miramichi Salmon Association (MSA) Board of Directors and Staff will incorporate climate change considerations and mitigating conservation actions into its corporate and operational DNA, including but not limited to:

1. Staying current with 'climate change' science, in particular its negative impact on wild anadromous fish, in particular wild Atlantic salmon, trout, and other important Miramichi River fish species.

2. To continuously evaluate and minimize its 'carbon footprint' when determining and/or undertaking any field programs and/or organizational administrative duties and activities.

3. To continuously work at reducing and/or conserving the use of both renewable and non-renewable resources throughout its physical buildings, offices, and hatchery operations, including the type(s) of equipment purchased/utilized.

4. To maintain a vigorous recycling effort within its physical buildings, offices, and hatchery operations.

5. To invest in conservation activities/projects that will help mitigate the negative threats and impacts our changing climate is having on the Miramichi River's salmon and other fish populations.

6. To advocate for conservation-minded land use practices and the protection of priority landscape(s) throughout the Miramichi watershed by industry, government agencies, and private land-owners.

7. To continuously work at educating the general public, particularly youth, about the growing threats and influences the changing climate is having on the Miramichi River watershed and its salmon and other fish populations.

8. To continuously promote the socio-economic benefits and importance a healthy and productive recreational salmon fishing industry provides to the Miramichi Valley region and the Province of New Brunswick.

9. To publish an annual update/summary of the various efforts and activities the organization has undertaken as a means of measuring how it has/is responding to the challenges of climate change.

10. To pursue other climate change mitigation efforts and activities as they are identified.

Field Programs

Salmon Protection Barriers

Our organization operated two salmon protection barriers in 2022 - the Dungarvon Barrier and the Northwest Barrier. These barriers act to protect salmon until spawning season and the data we collect from them are shared with the government and the public. We thank the two foremen, Paul Norrad and Ed Stewart, and their teams for all the hard work they put into running these barriers successfully. We continue to work with the NB Department of Natural Resources and Energy Development to keep these barriers operational.

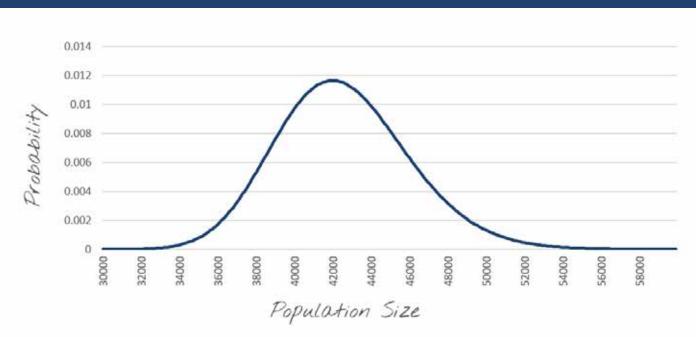
Smolt Estimates

During the spring run, the Miramichi Salmon Association conducts smolt population estimates on the Miramichi River using a mark-recapture system. In 2022, the MSA assembled two rotary screw traps on the Northwest Miramichi River and one on the Dungarvon River. Applying a 10% mortality rate to our population estimate (using the Bayesian method), it was estimated that 42,300 (95% CI 36,200 - 39,000) smolts migrated from the Northwest River in the spring of 2022. To compare, the 2021 smolt estimate on the Northwest Miramichi was 27,900 (95% CI 23,400 - 33,900). The Dungarvon estimate for 2022 was 7,255 (95% CI 5,650 - 9,475) smolts. To compare, the Dungarvon esti-

mate for 2021 was 27,100 (95% Cl 13,600 - 37,300) smolts.

This valuable information helps conservation groups and regulators make important decisions about the management of the Miramichi watershed.





2022 NORTHWEST MIRAMICHI RIVER SMOLT POPULATION ESTIMATE

Cold Water Restoration

Cold water brooks provide critically important habitat for adult and juvenile salmon during warm water events in the main stem of a river. The presence of these thermal refuge areas are crucial during times of high water temperatures, where large numbers of salmon and trout, of various life stages, can hold position until surrounding water temperatures decrease. Without isolated pockets of cold water, these fish would be forced to remain exposed to warm water conditions that lead to physiological stress and potential mortality.

The MSA collaborates with other conservation groups to restore and enhance cold water pools throughout the Miramichi watershed, and revisits previously restored sites each year to assess if the restorations are still functioning and carry out necessary maintenance work.

The Miramichi Salmon Association field team visited ten previously restored sites in 2022, where they removed overgrowth and debris and took temperature readings. Snorkel surveys were conducted at Indiantown Brook, Salmon Brook, and Government Pool. Fish were found to be present at all ten sites.

2022 COLD WATER POOL MAINTENANCE

| Locations | Stream Obstructions |
|------------------|---------------------|
| Donnelly Brook | 8 |
| Doak Brook | 4 |
| Indiantown Brook | 0 |
| Otter Brook | 7 |
| Pat's Brook | 5 |
| Parks Brook | 0 |
| Hudson Brook | 2 |
| Salmon Brook | 1 |
| Burntland Brook | 0 |
| Government Pool | 0 |



Spotlight

Black Brook Pool was selected as a site for a major cold water restoration project in 2022. The aim of this project was to select strategic cold water inputs and pools that could benefit from some management tactics to maximize cold water reaching the river stem and cold water pools. Enhancing strategic cold water pools and thermal refuge sites is one of the ways we can immediately and directly protect and sustain Atlantic salmon on the Miramichi.

The site at Black Brook was included in our long-term study and restoration efforts based on its ideal structure and cold water inputs. Dr. Antóin O'Sullivan has been studying river thermal regimes and refuges on the Miramichi for years now, and this site at Black Brook is one of the most ideal for Atlantic salmon refuge.



Once funding was secured, Dr. O'Sullivan conducted site visits, obtained necessary permits, and worked with the nearby Black Brook Salmon Club to implement site work in 2022. This project was able to happen fairly quickly because of Dr. O'Sullivan's extensive background on the Miramichi and supportive guides and members of the Black Brook Salmon Club.

The purpose of this project was to optimize the cold water flow and minimize energy requirements for Atlantic salmon to remain in the Black Brook pool thermal refuge. Boulders were placed strategically (and also provide protection from predators), a Newbury riffle was added (helped to redirect sediment build up), and so was a deflection bar. Overall, these actions assisted cold water inputs to get to the thermal refuge for fish without much mixing of the warmer river water. Monitoring is two-fold: we are conducting pre-and post-construction monitoring through temperature readings, snorkel surveys, and drone-based imaging.

This project is novel in that we are working with nature. Dr. O'Sullivan examined what was occurring naturally and incorporated those aspects into the project. We used site-specific evidence acquired from drone-based sensors, through thermal infrared and hyperspectral imagery, as well as hydrodynamic modelling, to guide the design for this site.

Funding and support were provided by the Canada Nature Fund for Aquatic Species at Risk, the Miramichi Salmon Association, the Black Brook Salmon Club, the University of New Brunswick, the Canadian Rivers Institute, and O'Sullivan EcoHydraulics Inc.

Our members support these initiatives as they can see the difference they make. In the face of climate change, this is a tangible action we can take to help salmon and other native fish species on the Miramichi. We appreciate the funding support offered from groups like the Canada Nature Fund for Aquatic Species at Risk, and are looking forward to our next sites.

Juvenile Assessment

The MSA conducts an electrofishing program to assess the distribution of juvenile Atlantic salmon in the headwater areas of the Miramichi River which may not be easily accessible to spawning adults. Data collected from these surveys helps the MSA, government, and other organizations make river management decisions, and allows us to assess the success of past conservation activities.

A total of 80 electrofishing sites were assessed by the MSA and DFO on the Miramichi River during the 2022 field season. The MSA independently surveyed 32 sites, while the MSA and DFO combined efforts to survey 48 sites. Juvenile assessment results in 2022 showed the lasting impact that reduced programs in 2020, due to COVID-19, had on Atlantic salmon fry counts in the Miramichi River. Our dam removal and broodstock collection programs resumed in 2021 and areas above notched dams showed increased numbers of fry in 2022 compared to 2021. Stocked areas from 2022 also showed an abundance of fry when they were surveyed weeks later, compared to 2021, which indicates successful stocking. Some new sites surveyed as potential stocking locations exhibited low fry and parr numbers, suggesting stocking efforts could be increased in these areas. These results depict the critical impact our programs have on juvenile salmon numbers in various Miramichi tributaries.

Beaver Dam Management

Beaver dams are known barriers to adult Atlantic salmon migrating upstream to spawn, blocking access to habitat in the upper reaches of brooks and streams. Improving access to upstream habitat on individual streams could benefit egg survival and juvenile production. Beavers can repair active dams within a 24-hour time frame, which means the notching or removal of the dams must be correctly timed with the upstream migrations of the salmon so as not to waste time and resources.

In 2022 the MSA team successfully notched 15 dams within the Miramichi area to allow critical salmon migrations during spawning. The MSA continues to research new technology, such as flow devices, that offer long-term solutions to spawning obstructions.

Beaver Dam Flow Device

On October 12th, the MSA installed a beaver dam flow device at a well-established beaver dam on Betts Mills Brook on the Southwest Miramichi. This device allows adult salmon to migrate upriver through the obstruction. This was the second device installed by the MSA to optimize fish movement for spawning while minimizing disturbance to the beaver colony. The dam was structurally maintained during the installation in an effort to keep the upstream habitat stable for juvenile salmon. The MSA conducted juvenile assessments pre-installation on August 29th, and plan to conduct a post-installation assessment in 2023. The post-installation assessment will determine the efficacy of this and other fish passage devices on the Miramichi River.

By implementing these devices, the MSA is promoting the movement of cold water from the base of beaver dams, which is critical for salmon habitat refuge, particularly during our hot, dry summers that continue to increase in frequency with climate change. This project considered the need for beavers and Atlantic salmon to live in harmony and involved immediate and tangible conservation benefits.



2022 MSA JUVENILE ASSESSMENT SITES

| 2022 MSA JUVENILE ASSESSMENT SITES | | | | |
|------------------------------------|-------------------|-----------|------------|--|
| River | Site | Latitude | Longitude | |
| Cains | Muzzeroll | 46.483870 | -66.061789 | |
| Cains | Muzzeroll | 46.531677 | -65.854560 | |
| Cains | North Branch | 46.337544 | -66.322097 | |
| Cains | Otter Brook | 46.376184 | -66.248483 | |
| Cains | Otter Brook | 46.386143 | -66.269731 | |
| Cains | Sabbies | 46.519038 | -65.743178 | |
| Cains | Salmon Brook | 46.606572 | -65.706065 | |
| Cains | Salmon Brook | 46.644611 | -65.613352 | |
| Cains | Six Mile | 46.494208 | -65.800023 | |
| Cains | Six Mile | 46.482953 | -65.827572 | |
| Dungarvon | Main Branch | 46.821648 | -66.643742 | |
| Dungarvon | North Branch | 46.821382 | -66.658958 | |
| Dungarvon | North Branch | 46.830018 | -66.666598 | |
| Main Southwest | Betts Mills Brook | 46.530900 | -66.179473 | |
| Main Southwest | Betts Mills Brook | 46.538690 | -66.186812 | |
| Main Southwest | Big Hole Brook | 46.560505 | -66.197034 | |
| Main Southwest | Big Hole Brook | 46.592616 | -66.319442 | |
| Main Southwest | Big Teague | 46.557853 | -67.233178 | |
| Main Southwest | Big Teague | 46.563034 | -67.243092 | |
| Main Southwest | Big Teague | 46.573169 | -67.248669 | |
| Main Southwest | Clearwater Brook | 46.518696 | -67.178016 | |
| Main Southwest | Doak Brook | 46.559313 | -66.122947 | |
| Main Southwest | Elliot Brook | 46.615542 | -67.342322 | |
| Main Southwest | Elliot Brook | 46.582656 | -67.307039 | |
| Main Southwest | Juniper Brook | 46.539194 | -67.184540 | |
| Main Southwest | Lake Brook | 46.528639 | -67.308427 | |
| Main Southwest | Lake Brook | 46.554883 | -67.287962 | |
| Main Southwest | Lake Brook | 46.518856 | -67.332042 | |
| Main Southwest | Lake Brook | 46.520522 | -67.332717 | |
| Main Southwest | Lake Brook | 46.530301 | -67.309513 | |
| Main Southwest | Porter Cove | 46.481968 | -66.473515 | |
| Main Southwest | South Branch | 46.554263 | -67.245176 | |
| | | | | |

Fry Stocking

In 2022, the MSA was able to stock approximately 19,853 fry along the Cains River tributaries and 50,950 fry around the Juniper area along the SW Miramichi River. These fry were the result of annual broodstock collections in autumn 2021. Adult fish were brought to the Miramichi Salmon Conservation Centre (MSCC), spawned, and then released, and the eggs were incubated over the winter for release as fry the following spring.

Broodstock Collection and Spawning

The MSA has collected adult broodstock from the Miramichi River for decades to aid in improving juvenile production in targeted areas that are under-utilized or inaccessible to wild spawning adults. In 2022, broodstock were collected from two locations on the Southwest branch of the Miramichi River - the Cains River and the Main Southwest Miramichi River in Juniper. The fish from the Cains, 5 females and 3 males, were collected from two salmon pools, with the help of anglers, from mid-September until mid-October. The fish from the Southwest Miramichi River, 10 females and 13 males, were collected at the Juniper bridge, with the help of NBCC students from Miramichi, on October 6th. The adults were spawned in October and early November and then released; the eggs are safely incubating at our facility in South Esk. From this program, we will stock approximately 75,000 first-feeding fry into their natal streams in the spring/early summer of 2023. We want to thank everyone involved for their help with this conservation effort.

The MSA also held broodstock for two additional conservation groups – Parks Canada and Friends of the Kouchibouguacis. Adults from these groups were kept at the MSCC in the fall, spawned, and the eggs were collected post-fertilization and transported back to their river of origin, along with the adults. This partnership

has been ongoing for many years, and we are happy to help our fellow salmon conservationists!

"...we are happy to help our fellow conservationists!"

A new collaboration was formed in 2022 with Pabineau

First Nation and salmon eggs from the Nepisiguit River. Broodstock were collected by Pabineau First Nation staff and spawned on-location near the river, after which fertilized eggs were brought to the MSCC for incubation over the winter. The group will return in late winter/early spring 2023 to pick up the eggs and return them to their natal waters.





Discarded monofilament fishing lines are harmful to wildlife and can last over 600 years in the environment. In 2022, the MSA partnered with the Hammond River Angling Association to place five fishing line recycling bins at accessible locations throughout the Miramichi watershed.

Smallmouth Bass Eradication

The Miramichi Salmon Association was once again part of the Working Group for Smallmouth Bass Eradication. The working group includes the North Shore Micmac District Council, Anqotum Resource Management, the Atlantic Salmon Federation, the New Brunswick Salmon Council, the Miramichi Watershed Management Committee, the New Brunswick Wildlife Federation, and the MSA.

The working group faced similar challenges to last year with protestors blocking access to Miramichi Lake and initiating legal action. The working group successfully treated Lake Brook and a portion of the Southwest Miramichi River in September which helped turn the clock back on the river invasion. Treatment and deactivation in flowing waters went according to plan. The successful flowing water treatment was due to great persistence and our volunteer base of 150 + individuals. The working group continues to advocate for the treatment of Miramichi Lake, the source of the invasive smallmouth bass. The MSA led efforts to install, maintain, and take down the large barrier on the Southwest Miramichi, coordinate fish rescue (moving non-target fish below the barrier and out of the treatment zone), and conduct water quality monitoring. We were also involved in electrofishing, setting up deactivation, and participating in other critical tasks. Each working group partner brought unique strengths and assets to the project.

Moving forward, the working group is advocating the Province of New Brunswick to take over as proponent and is supporting calls for an

improved barrier at the Miramichi Lake outlet, as well as enhanced electrofishing efforts for removal of invasive smallmouth bass. With no clear path forward for the Miramichi Lake treatment, we cannot slacken on other removal methods.



Hatchery Operations

The Miramichi Salmon Conservation Centre has been in operation since 1873 – making us the oldest continuously operating fish hatchery in North America. In 2023 we will be celebrating our 150th anniversary!

"...making us the oldest continuously operating fish hatchery in North America."

Our footprint has grown on the property over the last century, as we have added more buildings and greenhouses to increase our fish-rearing capabilities. We have five fish-rearing buildings on site: the Egg Building, the Quarantine Building, the Broodstock Building, the Small Green House, and the Grow-Out Building. We also have extra storage buildings for field gear, tools, and equipment which includes nets, rain gear and boots, waders, cables, tools, fish slings, buckets, life jackets, motors and running cans, buoys, rope, sorting totes, etc. The main office building has six individual offices, three public washrooms, a wet lab, a conference room, additional storage space, and a fully furnished apartment with four bedrooms to house students and researchers who are involved with salmon research on the Miramichi River. Department of Fisheries and Oceans Conservation and Protection also rents a portion of this building for their South Esk home base, with space for up to four officers.

Our fish-rearing buildings have seen upgrades and renovations in the last decade to help us improve our biosecurity protocols and take the best care of the fish that we can. These types of improvements include foot baths, hand sanitizer stations, and upgraded infrastructure and equipment that can be disinfected (like plastic, rubber, or aluminum) instead of wood or other porous materials. In 2022, our Broodstock Building was completely renovated to increase our egg/fry holding capacity for the Dungarvon fry stocking initiative. Our focus on salmon conservation has shifted to a fry stocking program in recent years and we needed this building upgraded to be able to carry out this work.

The year 2022 was also the first year we introduced two new fish-handling additives to decrease the effects of handling and confinement stress. Vidalife is a mucous coat protectant that reduces abrasions and scale loss and is used when fish are handled and transported. SupraTect[™] is a non-toxic fish health product that helps as prophylactic fungal control and is used in conjunction with salt baths to help keep the fish feeling their best! We work to improve each year on our fish care practices and the survival rate of smolts collected in May of 2022, after six months in our Quarantine Building, was almost 95% - the best year we have ever had. We hope to see this high survival rate continue in years to come.



The first mature adults, collected as smolts in 2020, for our Dungarvon fry stocking initiative were spawned in our Grow-Out Building in October 2022. The eggs are incubating and the fry will be stocked back into the Dungarvon River in the early summer of 2023.

A major transition took place at the hatchery in 2022 as Holly Labadie moved from Assistant Hatchery Manager to Hatchery Manager following the retirement of the previous hatchery manager, Mark Hambrook. Holly has been with the MSA for eight years and in the Assistant Hatchery Manager position for five years.

"The transition has gone smoothly between Mark and me and I am grateful for all his advice and help. Although he leaves big shoes to fill, I am excited about the future of the Miramichi Salmon Conservation Centre and all the amazing work we can do for Atlantic salmon on the Miramichi River," says Holly.

Spotlight

Atlantic Canada Opportunities Agency and NB Regional Development Corporation

provided the MSA with funding that allowed us to update key infrastructure to support tourism and fry stocking initiatives. In 2022, our organization accessed \$276,000 from ACOA's Tourism Relief Fund and \$95,000 from New Brunswick's Regional Development Corporation.

The focus of these funds was to update our Broodstock Building, originally built in the 1980s. In order to welcome tours to this building, biosecurity measures needed to be updated. An epoxy finish was applied to the building interior, most of the wood was removed, easy to clean material was added to the walls, and new tanks were installed (Combi Tanks, an innovative way to incubate eggs and hatch fry before release). Windows and doors were replaced, heating and cooling systems were updated to improve

energy efficiency, and additional biosecurity measures were implemented. Transparent tank covers were installed to allow visitors to see fish while maintaining fish safety. Additionally, roofing repairs were made to the Broodstock Building and our Egg Room. Shifting cement slabs in the parking lot were replaced with asphalt paving to improve visitor safety, and signage was updated throughout the property.

The 18 new Combi Tanks installed in the Broodstock Building will allow us to incubate 25,000 eggs each - potentially supporting 450,000 eggs for future fry stocking programs. This capacity was much needed as we work on traditional and innovative fry stocking programs throughout the watershed, and for other organizations. We thank ACOA and RDC for recognizing the value of our hatchery and supporting our work to welcome visitors to this historic site.





River Management

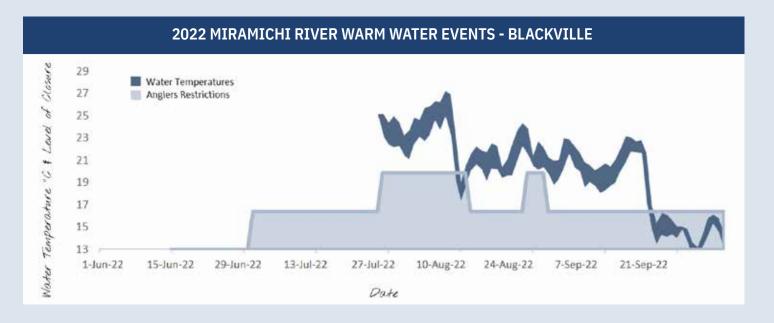
Warm Water Protocol

The MSA once again participated in the DFO-led Warm Water Protocol Committee for the Miramichi River in 2022.

The committee considers protocol guidelines and input from stakeholders to make decisions about closing and reopening important cold water pools during angling season, in order to protect Atlantic salmon during stressful warm water conditions. When water temperature is greater than 20°C but less than 23°C for two consecutive days, 32 key cold water pools are closed to fishing. Water temperatures are considered as well as water levels and fish behaviour. When water temperature exceeds 23°C for two consecutive days, morning only fishing may be implemented elsewhere in the watershed.

In 2022, the committee worked with DFO to introduce 'pre-notice closures', allowing for speedier notification of closures and reopenings to stakeholders. The MSA once again helped to share this information through notifying outfitters, posting on our website ,and via our social media channels.

Overall, 2022 saw fewer closures than in 2021.



2022 MIRAMICHI RIVER WARM WATER EVENTS - TROUT BROOK



Recreational Fisheries

The MSA participates in the Eastern New Brunswick Coastal and Inland Recreational Fisheries Advisory Committee. The Committee meets regularly and the MSA offers feedback about Atlantic salmon and striped bass fishing regulations as well as DFO's population assessment reports.

Some of the major agenda items that the MSA continues to push for are river management that reflects scientific evidence, a balanced ecosystem for striped bass and Atlantic salmon, more enforcement against poaching, and the return to four fish per day for catch and release. The MSA's position on these topics is consistent with that of other conservation groups.

Precautionary Approach for Striped Bass

The Precautionary Approach is a framework for assessing and acting upon stock declines. This method of fisheries management is used all over the world and has been adopted by the Department of Fisheries and Oceans as a way to manage Atlantic salmon and striped bass fisheries.

The MSA is concerned with a DFO 2021 report stating at least 330,000 striped bass spawners are needed in the Northwest Miramichi River each year. We are worried this imbalance will continue to negatively impact Atlantic salmon and other native species including gaspereau, mackerel, and smelts. In 2022, the MSA joined other conservation partners - Anqotum Resource Management, the North Shore Micmac District Council, the Atlantic Salmon Federation, the New Brunswick Salmon Council, the New Brunswick Wildlife Federation, and the Miramichi Watershed Management Committee - to officially request a third party review of striped bass populations in the Miramichi River. This process is ongoing. As well, DFO has formed a Working Group for the Striped Bass Precautionary Approach made up of various organizations throughout Atlantic Canada, including the MSA.

At the end of 2022, DFO Science was still reviewing the Precautionary Approach for Atlantic salmon. The Miramichi Salmon Association and local conservation partners continue to advocate for ecosystem equilibrium in the Miramichi watershed.

Natural Protected Areas

The Government of New Brunswick has led a provincial initiative since 2019 to double the amount of protected land in New Brunswick. On December 13, 2022, Minister of Natural Resources and Energy Development Mike Holland announced the establishment of 435 new Nature Legacy protected areas totaling 274,560ha. This brings the total number of Nature Legacy protected areas to 552 (384,789ha) and 10% of the province, meeting the goal that was set in 2019.

A press release from DNRED said, "This accomplishment re-affirms New Brunswick's commitment to responsible resource management, the safeguarding of biodiversity and climate resilient landscapes, and the protection of spaces that connect people with nature. Areas such as forests, wetlands, and rivers that provide habitat for much of the province's wildlife will now remain intact so that they can be enjoyed for generations to come."

Education

Jack T.H. Fenety Conservation Scholarship

The Miramichi Salmon Association offers a major scholarship for salmon research in honour of its long-time former President, Jack Fenety of Fredericton. This scholarship is awarded each year to a selected graduate student attending a university who is conducting meaningful research about wild Atlantic salmon, and/or its habitat, which will have relevance for the Miramichi watershed.

The 2022 recipient of the Jack T.H. Fenety Scholarship was Elise Collet, who is pursuing graduate studies at the University of New Brunswick. Elise's work on thermal river regimes and how salmon thermoregulate will help guide river management during warm water events.

Brian D. Moore Legacy Fund

The Brian D. Moore Legacy Fund is an endowment fund established to support a student annually. This initiative is a tribute to past MSA Chair and long-time MSA Director Brian Moore for his lifelong dedication to Atlantic salmon conservation.

In April, the MSA announced that Ellie Smallwood was the inaugural recipient of this fund. Ellie has been a student with the MSA for two years and did a special Brian D. Moore Legacy Fund project creating videos from the field and hatchery to better share what we do. Ellie is working on her Bachelor of Science degree at Mount Allison University.

Did you know?

The MSA is featured as part of Blackville's new Miramichi River Interpretive Walk! This self-guided trail allows community members and tourists to connect with nature and learn about our great river and Atlantic salmon.

Student Outreach

The MSA recognizes the importance of engaging with youth and students. In 2022, engagement activities included speaking with Dr. Josh Kurek's class from Mt. A about cold water restoration at Otter Brook, working with Sara Lloyd's environmental science class from NBCC to collect broodstock, hosting a high school co-op student (who then became a fantastic summer student), hosting high school tours for spawning, and welcoming numerous elementary and middle school students as part of the Fish Friends program.



Art and Writing Contest

For over 50 years, a focused part of MSA education has been engaging the future generation of conservationists through school art and writing programs that promote river and salmon conservation and advocacy. The MSA would like to thank all schools who participated in our 2022 Bruno Bobak Memorial Art Contest and our writing and printing contests. Grade two student Diep Nguyen from King Street Elementary was selected as our overall winner and awarded a framed Bruno Bobak art print donated by Alex Bobak.

Science Day

The joint Miramichi Salmon Association/Miramichi Watershed Management Committee Annual Science Day was held on May 6th at the Fredericton Inn and broadcast virtually via Zoom. We welcomed more than 50 in-person participants and many more online.

The theme of Science Day was "Conservation in a Changing Climate" and included presentations from researchers and biologists at the University of New Brunswick, Canadian Rivers Institute, Ducks Unlimited, and the Department of Natural Resources and Energy Development. A highlight of the conference was a presentation by Travis Van Leeuwen of Fisheries and Oceans Canada and Mark Young of the Newfoundland Department of Fisheries, Forestry and Agriculture on the long-term survival of Atlantic salmon following catch and release. New for 2022, each presentation was recorded and uploaded to YouTube to allow for further engagement and information sharing.

Spotlight

First Cast is an annual weekend educational program hosted by the MSA. This program is an introduction to fly fishing with no age limit. First Cast is an excellent chance for a "relatively experienced" fisherman to bring along someone who is new to the sport and, with the help of volunteers from the MSA, participate in a two-day mentoring experience guaranteed to be the start of a life-time of fly fishing.

The MSA's 10th Annual First Cast took place from June 25th to 26th and included a casual classroom session, tour of the Atlantic Salmon Museum and Miramichi Canoes, a riverside casting instruction, and a full day of supervised fishing. Gear and lunch were provided by the MSA and the Atlantic Salmon Museum.



Communications

The MSA Communications Committee met regularly throughout 2022 to collaborate on projects that convey information about the MSA's mission and work. We continued to use social media posts to highlight who we are and what we do, and email campaigns allowed us to send key updates to members and supporters. The MSA communications team worked on updating and improving website content throughout the year and preparing for the MSA's 70th anniversary.

2023 MSA Calendar

Celebrating 70 Years of Conservation



The Leaper

The MSA's monthly newsletter, The Leaper, is a valuable communications tool and a great resource for our members and supporters. The Leaper includes monthly features like the President's Update and the Miramichi Fishing Report, as well as updates about our conservation work, details about upcoming events, and important notices and press releases.

Calendar

The Miramichi Salmon Association takes great pride in our annual calendar and we know our members look forward to receiving one each fall in the mail. In celebration of the MSA's 70th anniversary, the theme of our 2023 MSA Calendar was "70 Years of Conservation". Each month included historical photos and stories that highlighted the work the MSA has carried out over the last seven decades. Staff prepared and mailed over 900 calendars to members of the Miramichi Salmon Association and our calendar sponsors.

Photo Contest

Our MSA Photo Contest is an annual event that runs from April 15th until October 15th and is open to all amateur photographers. Once again, the MSA Photo Contest offered a cash prize to the top winners in each category, sponsored by AV Group NB Inc. Congratulations to all our 2022 winners!

2022 MSA Photo Contest First Place Winner "Guide on the River" by Iris Ciecko.

Spotlight

Miramichi River Stories is a project which began in 2018. MSA Communications Committee Chair Greg Sprague and fellow committee member Dawson Hovey set out to capture historic stories on video by interviewing iconic guides, sports, and MSA supporters along the Miramichi River.

In June of 2022, the MSA launched the first episode of Miramichi River Stories, which featured a story from Mervin Green about the elements of a good fishing trip. New episodes of this series are shared on the first Tuesday of each month and have included stories from Sydney Matchett (pictured), Debbie Norton, Bud Bird, and more.



FUNDRAISING

Events

Having mitigated much of the uncertainty surrounding fundraising over the last few years, the MSA Development Committee was optimistic that 2022 would prove to be another successful fundraising year - and that was certainly the case. Building on what we learned in 2021, the MSA utilized online auctions and raffles to maximize reach and revenue, and we were excited to be able to return to in-person fundraising events. The MSA Finance Committee optimistically budgeted \$190k in gross fundraising revenue in 2022, but by the end of the fundraising season we had well-exceeded our budgeted amount, netting close to \$250k, excluding what was fundraised through the MSA US.

"Working together and focusing on a common goal have been the keys to the MSA's success..."

The terrific success of our fundraising initiatives is directly attributable to the dedication, hard work, and generosity of our directors, members, and supporters. We would like to thank everyone who contributed to the success of our fundraisers through donated items, sponsorships, and the purchase of dinner tickets and auction items. Working together and focusing on a common goal has been the keys to the MSA's success in the past, and it continues to be the case today. We look forward to an even better year in 2023 as we celebrate important milestones for both the MSA and the Miramichi Fish Hatchery located at the MSCC.

Salmon Celebration

The 2022 Salmon Celebration was a fundraising event held by the MSA US on February 5th. This was a virtual event which included a livestream, online auction, raffles, and a paddle raise. Attendees had the option of enjoying a delivered gourmet meal while viewing presentations from Brad Burns, Robyn McCallum, and Rip Cunningham. The evening also incorporated historic fly-fishing videos from Essanay Museum and Lee and Joan Wulff. Thank you to the MSA US Event Committee for their hard work in pulling this successful fundraiser together.

Spring into the Season Auction & Raffle

The MSA once again hosted a "Spring into the Season" Online Auction and Fishing Trip Raffle which, combined, netted over \$35k. The Spring into the Season Fishing Trip Raffle launched on March 3rd and ran until April 30th. The Spring into the Season Online Auction was a joint fundraising event between the MSA and the Northumberland

2022 MSA FUNDRAISING SUMMARY

| Fundraiser | Net Revenue |
|-------------------------|-------------|
| Salmon Celebration | \$68,382 |
| Spring Raffle | \$6,850 |
| Spring Auction | \$28,962 |
| Saint John Luncheon | \$10,000 |
| IceBreaker BBQ | \$13,142 |
| Fredericton Gala Dinner | \$43,489 |
| MSA Autumn Dinner | \$77,460 |
| Carleton County Auction | \$19,920 |
| Christmas Raffle | \$5,650 |
| NY Rocky Brook Trip | \$23,500 |
| End of Season Ask | \$19,825 |

Salmon Protection Association which ran from April 25th until May 8th. The MSA would like to thank Grant Brenan and Rocky Bend Fishing Camp for generously donating two fishing trips for MSA fundraising purposes. We owe a special thank you to MSA members and directors in the Moncton area who were able to gather several significant donations and sponsorships in support of this auction.

Saint John Luncheon

On April 27th, supporters and organizers gathered for a 2022 Kickstarter Luncheon at the Union Club in Saint John to celebrate fundraising efforts for the Brian Moore Legacy Fund (BMLF), and announce the first BMLF student, Ellie Smallwood. Between 2021 and 2022, fundraising efforts for the BMLF have exceeded \$98k. This event recognized the generous financial contributions made in support of this important scholarship initiative in honour of past MSA Chair, Brian Moore. Thank you to the MSA committee of committed individuals, and to director Stephen Tonning who stepped up and took the lead in making this important scholarship a reality.

FUNDRAISING

IceBreaker BBQ & Auction

In summer 2022, the MSA returned to larger scale events beginning with the Icebreaker BBQ & Auction which took place on June 4th. Unlike past Icebreaker dinners, this fun and casual event was held in the "Dome" across the street from the Central NB Woodmen's Museum. Having an increased capacity and the ability to socially distance was helpful in filling the house. We had over 160 individuals attend the Icebreaker. This event honoured the Wade family for their tremendous contributions to the outfitting industry. The evening featured a live and silent auction, a delicious meal, and a band who played music throughout the evening. A special thank you goes out to Reece Cain and his crew who worked the grill and Cooke Aquaculture for donating some delicious salmon kabobs. The MSA would also like to thank the local volunteers from the Boiestown area who put in a few hard days preparing for this event.

Fredericton Gala Dinner & Auction

On October 5th, the MSA packed the house at the Fredericton Inn and welcomed almost 300 guests for our annual Fredericton dinner in recognition of long time MSA employee Jo-Anne Linton. Jo-Anne was the heart and soul of the MSA for many years and MSA is grateful for her dedication and years of service.

This event included a delicious meal, a live and silent auc-



tion, and some fun raffles. Thank you to all organizers, donors, and attendees for making this event a tremendous fundraising success. From an engagement perspective, it was nice to finally mingle with so many of our members and supporters again who were eager to gather and discuss salmon conservation.

MSA Officers a supporters at t Fredericton Ga Dinner & Auction 20

FUNDRAISING

MSA Autumn Dinner

The MSA Autumn Dinner took place in Saint John at the Delta Brunswick Square on November 4th. This was the first stand-alone MSA Saint John dinner in quite a while and, once again, the MSA was able to fill the house. This year's dinner was in honour of Cooke Aquaculture in recognition of the tremendous support they have provided over the years to the MSA and our hatchery facility in South Esk. In addition, the Saint John dinner was the kickoff celebration for the MSA's 70th anniversary milestone and the Miramichi Fish Hatchery's 150th anniversary happening in 2023.

Of particular note was the sale of a trip to Rocky Brook Camp, donated by International Paper, which raised \$51k. This was one of two trips donated to the MSA by Rocky Brook, the second of which was split with ASF. A big thank you to everyone who had a hand in making this event a success and thank you to all the bidders on our donated fishing trips.

Carleton County Christmas Auction and Raffle

MSA closed out the year with our annual Carleton County Christmas auction and "Hooked for the Holidays" fishing trip raffle. The Carleton County Christmas Auction ran from November 28th until December 5th. Our Hooked for the Holidays fishing trip raffle ran throughout December and was drawn on Christmas Day. We are pleased to report that, like last year, these combined events raised over \$25k. Thank you to MSA Chair, Joe Palmer, for donating a luxurious three-day fishing trip to the Ledges Inn in Doaktown and to the committee for putting together such a great auction.

Spotlight

J.W. Bud Bird turned 90 years old on March 22nd. Bud has actively served on the MSA Board of Directors as President, Board Chair, and Chairman Emeritus, and is now recognized as a Honourary Director. To celebrate Bud and his committment to salmon conservation, the MSA and the Atlantic Salmon Federation (ASF) jointly hosted a 90th birthday reception for Bud. Notable guests included Premier Blaine Higgs, former Chief of Staff Louis Legere, members of the Fredericton business community, MSA directors and members, and the Regional Chief for NB and PEI Assembly of First Nations (AFN) Chief, Roger Augustine. This engagement event was very well-attended and was a refreshing in-person start to a great fundraising year.



Campaigns

Planned Giving

At the MSA, we are doing important work that will benefit generations to come. Planned Giving is an ongoing fundraising campaign that allows MSA supporters to donate in a way that lets their legacy and passion for Atlantic salmon conservation live on. Those that include the MSA in their financial and estate planning become part of the MSA Trust. Planned gifts can be made to the MSA through will bequests, gifts of stocks or securities, insurance policies, assets, or charitable trusts and annuities.

End of Season Ask

The MSA's annual End of Season campaign took place at the beginning of November. This mailout campaign was sent to all current MSA members and included an ask letter from Miramichi Salmon Association President Dr. Robyn McCallum and a free copy of our 2023 MSA Calendar. The Miramichi Salmon Association would like to thank everyone who found room in their budget to make a final yearend donation to our important conservation programs and endowment fund.

FINANCE

MSA Finances

The MSA had a successful year of fundraising, bringing in \$367,523.31 through events and donations and exceeding our original fundraising budget. The MSA received \$203,042.42 in government funding, which helps to cover conservation programs, student wages, and improvements to infrastructure. Of that amount, \$118,500 was accessed from the Canada Nature Fund for Aquatic Species at Risk for cold water work on the Miramichi River. We also accessed several funding programs to upgrade our hatchery facility. These renovations were necessary to advance certain programs like our long-term fry stocking study, enhance biosecurity and the opportunity to conduct tours, and improve energy efficiency. Leasehold improvements totaled \$261,626.88 in 2022 and will allow us to resume facility tours to conduct key conservation programs while putting fish health and biosecurity first.

The MSA financial statements were not audited ahead of this publication. The 2022 audit will be completed by Allen, Paquet & Arseneau, LLP. in accordance with Canadian accounting standards.



2022 CONSOLIDATED MSA REVENUE

| \$10,135.00 |
|--------------|
| \$367,523.31 |
| \$106,568.32 |
| \$126,809.75 |
| \$212,500.00 |
| \$118,500.00 |
| \$31,387.20 |
| \$6,000.00 |
| \$5,244.85 |
| \$79,951.09 |
| \$58,387.00 |
| |

2022 MSA ENDOWMENT GIFTS

| Brian Moore Campaign | \$7,250.00 |
|----------------------|-------------|
| Donations | \$12,570.00 |
| Life Memberships | \$4,750.00 |

MSA US Finances

The MSA US financials are independent of the Miramichi Salmon Association, and the organization makes an annual transfer to the MSA which goes towards our conservation programs. The 2022 MSA US transfer was for \$79,951.09 CAD. These funds directly supported our 2022 field programs including smolt population estimates, fry stocking, cold water restoration, beaver dam notching, juvenile population assessments through electrofishing, and smallmouth bass eradication. The MSA US financial statements will be prepared and audited by Gary Plante, CPA.

2022 MSA US ENDOWMENT GIFTS Membership \$5,975.00

| Fundraising & Donations | \$85,029.45 |
|-------------------------|-------------|

FINANCE

Investments

The principles of the Environment, Social, and Governance (ESG) model are incorporated in everything we do, including our finances. The Miramichi Salmon Association works with the Mais Reynolds Financial Group on our Canadian investment portfolios. Mais Reynolds, and the larger CIBC Private Wealth group, have signed on to the United Nations-supported Principles for Responsible Investment. This is a commitment to manage and monitor investments internally and strict guidelines are used to select sub-advisors to the portfolio. This approach balances our need to generate revenue to support our organization, and concern for the environment, climate change, and social justice.

The Finance Committee prepared a Statement of Investment Policies and Procedures in 2022, a valuable document used to guide our investment parameters. This document is one more way the MSA is committed to transparency and financial accountability for the betterment of our organization and Atlantic salmon conservation.

The MSA acknowledges past capital contributions from Bud and Peggy Bird, Bruno Bobak, Samuel E. Burgess, Rex Freeze, Jacqueline Girouard, Kevin Harris, J.D. Irving, the John E. Irving family, the Kaley family, the Laurie Savage family, Denis and Cecile Losier, Doug and Gloria MacDonald, Ernie and Susanne McFadzen, Frank and Julie McKenna, the McQuaid family, Hon Michael E. Meighen, the Norton family of Upper Oxbow, Punchy Walker, David and Elizabeth Wilson Family Foundation, Scotiabank, and TD Bank Community Relations.

Spotlight

MSA Campaign 60: Miramichi Forever Funds was a major fundraising initiative led by past MSA President Bud Bird which contributed over \$2.6mil in donations towards the MSA's endowment funds. Nearly a decade later, we continue to recognize the support of all donors and volunteers who made this campaign possible. Legacy gifts, such as those given to Campaign 60, help sustain the MSA's important conservation work so that future generations will inherit a healthy and vibrant Miramichi River.



Executive

MSA Officers

Robyn McCallum, President Joe Palmer, Chair Richard McGuigan, Vice Chair Bradford Burns, Vice Chair (US) Debbie Norton, Past Chair Kenneth Kyle, Treasurer W. Ross Bingham, Legal Counsel

MSA (US) Officers

Bradford Burns, President David Fenderson, Vice President Gary Plante, Treasurer

MSA Committee Chairs

Chris Smith, Nominations Gordon Mouland, Land Use Greg Sprague, Communications Joe Palmer, Human Resources Kevin Harris, Strategic Planning Laura Gilks, Education Manley Price, Conservation Planning Rick Pryde, Finance Stan Knowles, Membership Tristan Hovey, Development

Board of Directors

MSA Directors Alexis Miles Allan Wilson Allen Curry Andrew Willett Anthony Boynton Ben Kaley **Brad Burns** Brent Locke **Brock Curtis** Chandler Dumaine Chris Smith Christopher (Kit) Barrow **Christopher Lloyd** Colin (Rip) Cunningham Dan Cain David Alward **Debbie Norton Deborah Power** Doug MacDonald **Everett Taylor** Francois Emond Gary Tanner Gordon Mouland Grant Brenan Grant Ross **Greg Sprague** Ian Cavanagh Jacqueline Girouard James Blackwell

Janice Cormier Jason Curtis Jeff Morris Joe Palmer John C. Fitzpatrick, Jr. John Swan Jonathan Flemming Joseph Walsh Kenneth Kyle **Kevin Harris** Laura Gilks Manley Price Marc Cabot Marc-Antoine Chiasson Mark Delaney Mark Hambrook Mark Holleran Martyn Vickers Matt Alexander Mike O'Blenis Muriel MacKenzie Natalie Kenny Paul Baker Paul Valeri Peter Worth **Reece Cain Richard McGuigan Rick Cunjak Rick Pryde** Shawn Betts

Shawn Riley Stan Knowles Stephen Tonning Trevor Rowe Tristan Hovey Tyler Coughlan Vincent Swazey W. Ross Bingham Wayne O'Donnell William Utley

MSA (US) Directors

Alexis Miles Anthony Boynton Ben Carmichael **Bob Bonczek Bradford Burns Chandler Dumaine** Christopher (Kit) Barrow Colin (Rip) Cunningham **David Fenderson** David Huntress **Gary Plante Gary Tanner** James Blackwell Joe Palmer John Gerstmayr John Swan Joseph Walsh **Kevin Harris**

Marc Cabot Martyn Vickers Patrick Boland Peter Howell Ralph Vitale Robert Norton Roger Earle Stephen Hibbard Whitney Beals William Utley

Honourary Directors Alex Mills Andrew Goode Byron Coughlan David Hashey David Oxley Gayden Curtis Hadley Ford J.W. Bud Bird James McQuaid Jim Hughson John Dillon Keith Wilson Ralph Archibald Ted Reevey

Staff

Office Staff

Robyn McCallum, President Lyndsay Jay-Keating, Biologist Butch Dalton, Development Coordinator Marilyn Carter, Finance Coordinator Vanessa McLaughlin, Administrative Assistant Barb Hambrook, Custodian

Summer Students

Ally Taylor, University of New Brunswick Amelia-Mae Walker, University of New Brunswick Caleb Koch, University of New Brunswick Cole Johnson, Mount Allison University David Cassidy, University of New Brunswick Ellie Smallwood, Mount Allison University Katelyn Augustine, University of New Brunswick

Hatchery Staff

Holly Labadie, Hatchery Manager Mark Hambrook, Past Hatchery Mananger Dylan Hyland, Hatchery Technician

Barrier Staff

Bradley Smith, Dungarvon Donald Beek, Dungarvon Edward Stewart, Northwest Harold Hare, Northwest Herbert Sturgeon, Northwest Joseph Fowler, Dungarvon Lawrence Somers, Northwest Paul Norrad, Dungarvon Ronald Jagoe, Northwest Steven Fowler, Dungarvon





Past President Mark Hambrook retired from the Miramichi Salmon Association in 2022 after dedicating 21 years to the organization. Mark's passion and dedication for salmon conservation have helped to make the Miramichi known as one of the best-managed salmon rivers in the world.

Born and raised on the Miramichi in Renous, Mark graduated from the University of New Brunswick and began his career as a fish technician with the Department of Fisheries and Oceans (DFO). After seven years, he was promoted to the role of biologist and began managing the fish hatchery in South Esk. Mark worked at DFO for over 18 years.

When the federal government announced the closure of the hatchery in 1997,

Mark partnered with the Miramichi Salmon Association as a private investor to acquire the hatchery from DFO. Through the Miramichi Watershed Management Committee, the MSA assumed full operation of the hatchery in 2000. Mark took on the role of MSA President and continued to guide the hatchery's operations for the next two decades.

Mark Hambrook stepped down as MSA President in 2020, but carried on as Hatchery Manager before officially retiring in 2022. Mark continues to volunteer for the Miramichi Salmon Association on the Board of Directors. Over the course of his 39-year long career in salmon conservation, his knowledge and experience has been extended to numerous rivers and organizations interested in salmon conservation, and he has become a recognized leader in salmon management throughout North America.

Life Members

A. Scott Fraser Adrienne Thornton Alan Graham Albert Putnam III Albert Vogt Aldea Landry Alex Bobak Alex Mills Alexander Hindmarsh **Alexander Steeves** Allan Wilson Allen Moore Allison McCain Allister Cummings Andrea Northrup Andrew Clarke Andrew Goode Andrew Harrington Andrew McCain Andrew Page Andrew St. Pierre Angela McQuaid Murphy Ann Wrobleski Anne Barrow Anne MacBeath Anne MacLennan Anne Oxley Annette Powers Anthony Boynton Arne Youngberg Arnold Alward Arthur Irving Arthur Lee-White **Arunas Pleckaitis** Axel Lerche Barbara Hambrook Barry Kyle **Bart Miller** Beaver Brokerage Inc. Ben Kaley Ben Pryde **Benjamin Thornton Betty Fitzpatrick Betty Ward Beverly Dillon Bill Adams Bill Barrett Bill Dreyer**

Bill Gould **Bill Hennessev Bill Powers** Bill Westaway **Bob Allain Bobby Norton Brad Toole Bradford Burns** Brent Anderson **Brian Cunningham Brian Fitzpatrick Brian Fox Brian Green** Brian Johnson Brian Ritchie **Brian Snow Brian Thompson Brock Curtis** Bruce Bauman **Bruce Bezanson** Bruce Elliot **Bruce MacDonald** Bruce Sinclair **Bryan Burgess** Byron Coughlan C. Allan McGathey C.D. Bruce C.H. Anthony Little **Cameron MacDonald** Carleton Ealy Carol Houser Caroline St. Pierre Taylor Carolvn Arnold **Carroll Denham Catharine Barrow Catherine Sherer** Cecile Mallais-Losier Cellvvn Harris Chandler Dumaine **Chantal Arsenault Charles Cartmill Charles Grine Charles Harriman** Charles LeBlanc Charles Munn **Charles Ward Charles Wiesner** Charles Wood

Charles Zoulias Chris Jensen Chris Smith **Christian Michaud** Christina Molt Christopher Arnold **Christopher Barrow** Christopher Llovd **Churchill Rood** Ciaran and Hilary Baker **Clarke Payne Clay Davis Clearwater Fishing Club** Clifford McAvity Colin Cunningham Colin Cunningham Dale Knox **Dale Mallais** Dale Norton Dale Thibodeau Dale Weldon Damon Black Dan Cain Dan Morrison Daniel Bullock Daniel Pettit **Daniel Porter** Daphne Hallowell Darin Lenihan **Darren Sutherland** Daryll Stothart Dave Coady David Alward David Balmain David Bewick David Cole David Cox **David Creighton** David Crosby **David Duncan Young** David Hashev **David Hawkins** David Hav David Hildebrand David Innes David Mann David Matchett David Oxlev

David Riley **David Sawler** David Stevenson David Wade David Wilson **Debbie Norton Deborah Power** Dede Bullock **Denis Losier Dennis Hepburn** Dennis Oland **Derek Burchill** Derek Oland Devin Matchett Dianna Baker **Dick Daigle** Don Wilson Donald Burry **Donald Calder** Donald Doucet **Donald Forte Donald MacNeill** Donald Walker **Doug Urguhart Douglas Crane Douglas MacDonald Douglas Morehouse Douglas Walmsley Douglas Woollings Duncan MacKinlay** E.B. Bert Berkley E. Fraser Sherrard Earl Brewer Ed Barrett Ed Rotticci Eddie Cantillon Edward McNally **Edward Travis** Edwin Baker Edwin DeVilbiss **Elaine Colter Elizabeth Irving** Elizabeth McGraw **Elizabeth Wilson** Ellen Bishop **Emily Newell** Eric Hicks **Eric Hildebrand**

Eric Roberts Ernie McFadzen Errol Amos **Everett Taylor** Faith Matchett Fernand Girouard Francesco Princiotta Francois Emond Frank & Julie McKenna Frank Harrington Frederick G.F. Arnold **Frederick Pape** G. Dale Fox Gail Gould **Garfield Hargrove** Gary Anderson Gary Bruce **Gary Foster** Gary H. Stairs **Gary Spicer** Gary Tanner Gayden Curtis George Colter George Mumford **George Peppin** Georges Family Fdn. **Gianfranco Chiang** Glen Davis Glen Umlah **Glenn Beaumont** Gordon Mouland Graham Starratt Grant Parr Grant Ross Greg Hartz Greg Munn **Greg Sprague** Gregg Gorham **Gregory Petrini Gregory Thornton** Guy French Hadley Ford Hans Klohn Hans Olsen Harris Parsons Harry Foreman Harry Groome Harry McSheffery Hazel Swazey Hoagy Carmichael Hollie Matchett

Howard Ludington Howard Rossbach **Hugh Cameron Hugh Flemming** Hunter Hallowell **Hymie Surkis** Ian Cavanagh Ian Gilchrist Ian Hatheway Ian Oliver Ian Stead Irene McCardle Isabelle Loughead J. Carl Graybill Jr. J. Charles Caty J. David O'Keefe J. David Wimberly J. Hugh Whalen J.A. Hughson J.S. Fiske J.W. Bud Bird Jack Brennan Jack Northrup Jacqueline Girouard Jacqueline Oland Jacques Dube **Jacques Fiechter** Jacques Pinet Jake Allen James (Doug) Charters James A. Potter James Anderson James Blackwell James Fargher James Henderson James Hoffman James Irving James Izzard James Kelly James Ladd James Lawley James McQuaid James Mumford James Rossbach James Steeves James Stewart James York Jamie Leblanc Janet MacLaren Janice Cormier Janice Hashey

Jason White Jean-Paul Bisnaire Jeff Dovle Jeff Keith Jeff Morris Jeff Potter Jeffrey Roy Jeffrey Williamson Jennifer Reid Jerome Farnsworth Jerome Molloy Jerry Doak Jim Hatheway Jim Pryde Jim Truelove Jim Walker Jim Yerxa Jo-Anne Linton Joe Blaze Joe Cairns Joe Palmer John & Sheila Fitzpatrick John Anderson John Anderson John Buck John Castellani John Cleghorn John Cole John Dillon John Douglas Jr. John Fraser John Gerstmayr John Hapgood John Hickman John Hogan John Irving John Keddy John Kileel John Lawrence John MacFarlane John McNally John Price John Swan John Thorndike John Tobin John W.S. McMullen Jon Eggleston Jonathan Larrabee Jonathan Winthrop Jordan Green Joseph Arsenault

Joseph Perella Joseph Sherer Joshua Barrett Judith King Julie Kyle Kalevi Kotkas Karen Brennan Karla Gaffney Katherine Ellard Kathleen Coull Kathleen Rossbach **Keith Sherrard** Keith Wilson Ken Dean Kenneth Kyle **Kenneth Wright** Kensyle Cogswell Kent Orlando Kerry MacQuarrie **Kevin Chapman Kevin Harris Kevin MacDonald Kim Sharpe Krista Fenety** L.H. Lockhart Larry Davidson Larry Hunt Larry Kinden Larry Phillips Larry Smith Laurence Savage Laurie Carr Lee Stairs Leo Johnson Leslie Hull Linden Fenety Linehan Family Fdn. Lino Celeste Lisa Haldane Lloyd Webb Lois Walker Louis Leger Louis Theriault Louise McCleave Lucillia Wilson Luke Kyle Lyle (Chip) Sutherland Mac Fox Malcolm Dunfield **Manley Price** Marc Cabot

Marcel Caissie Margaret Blackwell Marion Barrow Mark Coy Mark Delaney Mark Hambrook Mark Holleran Mark Watson Marshall Field Marshall Hoffman Martha Bullock Martyn Vickers Mary Ann Stevens **Matthew Harris** Meg Pryde Mel McGuigan Melissa McQuaid Mervin Green Michael Batza Jr. **Michael Bishop** Michael Cherry **Michael Cherwek** Michael Connors Michael Herman **Michael Hughson** Michael McCormick **Michael Meighen** Michael Webb Mike Bishop Mike Flanagan Mike O'Blenis Mildred Weiss Muriel MacKenzie **Murray Coulter** Myrna Green Nancy Dube **Neil DuPlessis** Nicholas Guitard Nola Chiasson Norman Fraser **Owen MacNeil** Pamela Gerstmayr Patricia Payne Patricia Price Patrick Cobler Patrick Gillespie **Patrick Jones** Paul Baker Paul Creaghan **Paul DeMerchant** Paul Elson

Paul Goobie Paul Taylor Paul Valeri Perry Flann Peter Canoni Peter Graham Peter Howell Peter Jobe Peter Kane Peter Reid Peter Rodgers Peter Worth **Pierre Nadeau** R. Allan Hughson R. Brian Connell R. Bruce Eddy **R. Edward Lawrence** R. Glen MacDonald **Ralph Archibald Ralph Norrad Ralph Vitale Randall Hartlen** Randolph Giffin **Randy Seymour Ray Davidson** Ray Woodill **Renate Bullock** Rex Garrett **Rich Breuner Richard Berlin Richard Carpenter Richard Eusanio Richard McGuigan Richard Miller Richard Molt Richard Wade Richard Warren Rick Pryde Robert Albee Robert Calhoun Robert Creamer Robert Crosbie Robert Haines Robert Hinckley Robert Lauer Robert MacDonald Robert McQuaid Robert Mosher Robert Pinette Robert Reid Robert Richardson**

Robert Robb Robert Roy Robert Wilson Robin Wilber Rod Doyle **Roderick Nolan Rodney Ouellette Roger Coffin Roger Earle Roger Jenkins Ron Jenkins Ron Shannahan** Ronald Cox **Ronald Stafford Ross Perry** Ryan Wilson Salar Haven Fishing Club Sally Wilson Sam Burgess Sandra Doyle Sandy A.G. MacDonald Sandy Dunnett Santiago Arbelaez Saul Michaud Scott Langin Scott Robidoux Serge Dupuis Shawn Bilerman Shepard McKenney Sophia Northrup Stacy Dick Stan Knowles Stephen Coull Stephen Hibbard Stephen Johnson Stephen Loring Stephen McCain Stephen O'Brien **Stephen Palmer Stephen Thornton** Stephen Tonning Stephen Wilson Steve Smith Steven Burns Stuart Cragin Sue Moore Susan Barrow Susan Thorp Barrow Suzanne Irving Suzanne Wonham Tammy Ross

Ted Reevey Ted Silver Ted Wojtech Terrence L.S. Teed Terry Wilson Thomas Allen Thomas Doyle **Thomas Evans Thomas McKay Thomas Tierney Thomas Vander Salm** Thomas Weckman **Timothy Foster Timothy Lyons Todd Youmans** Tom MacLaren Tom Merrick Tom Vardy **Tony Spares Travis Dickinson** Trish Ash Tristan Hovey Tyler Coughlan Vince Swazey Vincent Koehler Virginia Hibbard W. Peter Cherry W. Ross Bingham Wade Humphreys Wallace Turnbull Walter Buchan Warren Cresswell Warren Long Wayne Fowler Wesley Curtis Whitehall Investments Whitney Beals William McDougall William Apold William Baker William Barrett William Bullock William C.D. Fraser William Claflin William Comeau William Haldane William Heaney William Henderson William Hoel William Knobloch William MacKinnon

William McMackin William Munger William Pounds William Stanley William Utley

Pledged Life

David Dorr Edmond Cournoyer Elenor Coburn Smith Hugh Hawley Jason Woollard Jeff Mose John Elmo Kole Renwick Neil Freeman Robert Ahearn Tom Alexander Travis Jones William Kean Professional

Memorial Life

A. Ross Walker Allen Watts Anne Harriman Arthur Mitton Bruce Howe Bryant Freeman Carl Andersen Charles Ferree **Charles Norrad Charles Wade Charles Winslow Pond** Clarence E.P. Crauer **David Colter Donald Curry Donald Malcolm Neill** Edward Mitton **Edward Seward Stevens Eldrid D Bailey** Eric LeDrew Freeman Dunnett G. Guthrie Conyngham **George Connely** George McAvity Gerry Cherry Harold Gumble Henrick Tonning Herb Wade Howard Brown J. Louis Newell J.E. MacKay Jack Walsh Jacques Page James Wilber Jeff McGuigan Joan Barrett John A.G. Page John Behan John L. McDowell

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Thanks to the members, directors, staff, and partners that support us, the MSA is able to do great things. The MSA counts on its supporters to aid our in-the-field programs, help generate revenue, and be our organization's voice when advocating for Atlantic salmon and their habitat on the Miramichi River.

Special Mentions

Atlantic Canada Opportunities Agency and the NB Regional Development Corporation - Thank you for funding repairs to the MSCC.

Black Brook Salmon Club and Canada Nature Fund for Aquatic Species at Risk - Thank you for supporting our cold water restoration work.

Cooke Aquaculture - Thank you for donating 18 Combi Tanks to the MSCC.

Debbie Norton - Thank you for your exemplary service to the MSA as chair over the last two years.

International Paper and Rocky Brook Camp - Thank you for donating two fishing trips towards our 2022 fundraising efforts.

Wilson Family Foundation - Thank you for making a generous annual donation towards our general operations.

Acknowledgments

The Miramichi Salmon Association would like to acknowledge and thank all unlisted supporters, including in-kind gift donors, event attendees, contributing non-members, and volunteers. If you are interested in supporting the Miramichi Salmon Association by becoming a member or making a donation please scan the QR code on the back cover or visit our website at https://miramichisalmon.ca. All monetary contributions are eligible for a tax-deductible receipt. MSA staff are continuing to do their best to record and report accurate data. If you notice any errors in the 2022 Annual Report or have any comments or questions, please let us know by contacting our office. Our office can be reached by emailing admin@miramichisalmon.ca or calling (506) 622-4000. We value input from all our supporters. Notifying our team about errors helps us fill gaps in our records and to do better moving forward. Thank you for your consideration!

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