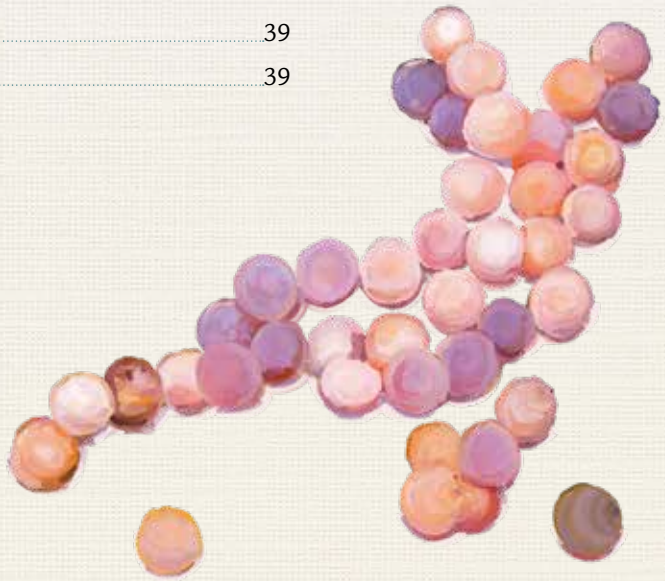
The Atlantic Salmon Conservation Foundation

# ANNUAL REPORT 2020

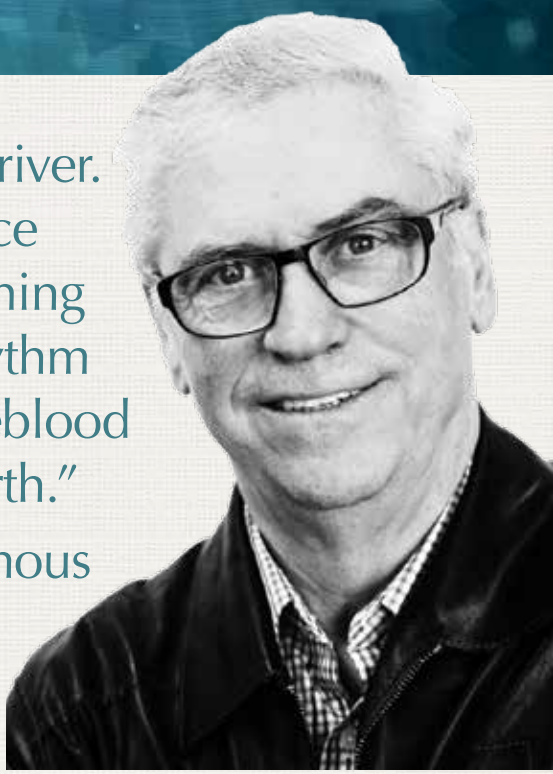
# TABLE OF CONTENTS





# MESSAGE FROM THE CHAIRMAN

Proud to be a partnership-based conservation organization.



"Sit by a river. Find peace and meaning in the rhythm of the lifeblood of the Earth."
- Anonymous

Honourable Rémi Bujold, P.C., C.M.
*Chairman of the Board of Directors*

In this annual report we are reviewing the year 2020, our fourteenth year in operation. As in previous years, 2020 was an exceptional year of facilitating the wild Atlantic salmon conservation efforts. Despite Covid-19, multiple community groups, Indigenous organizations, researchers and others persevered in their efforts to attain new conservation gains in across Atlantic Canada and Québec.

The Atlantic Salmon Conservation Foundation has an excellent record in helping improve the conservation status of wild Atlantic salmon in Canada. This is simply explained by examining the business model followed by the Foundation. First, we listen carefully to our expert advisory committees for their advice on conservation priorities and the project proposals the Foundation should fund. Secondly, we are fully responsive to the advice we receive from our recipient groups how we can improve our processes. Thirdly, we continually seek improvements to make our Foundation as responsive and facilitative as possible, while observing due diligence in all of our activities.

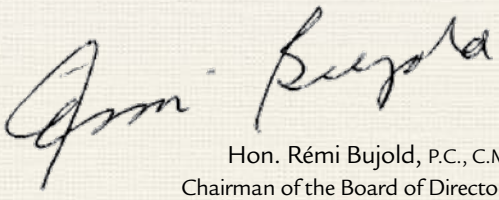
It was in 2005 that six committed salmon conservationists founded the Atlantic Salmon Conservation Foundation. In the short, intervening period we have been rewarded to witness how far this Foundation has progressed in becoming a strong and permanent force, helping to improve wild Atlantic salmon conservation. At the same time, we have a much clearer recognition of how much conservation action is necessary if we are to save this iconic animal species.

In 2020 we were proud to have been able to maintain our annual conservation grant of $1.2 million. This was significant because we were able to exceed the original goal of providing a sustained $1 million toward the grant pool when this Foundation was first conceived. Significantly, the annual pool of funding we make available to conservation project funding is firmly rooted in our long-term financial plan. Even though financial markets of 2020 declined significantly due to the adverse impact of Covid-19, we were fortunate of the rebound in financial markets later in the year. Throughout the year, our financial plan ensured resilience in our role of providing conservation grants, while observing the fiscal prudence expected by our Funding Agreement with the Government.

We are proud to be a partnership-based conservation organization. Partnership is central to our business approach, whereby the contribution of diverse individuals is brought together and focused to help achieve greater conservation results. Our greatest pool of partners are the sixty committed volunteer experts serving on our Board of Directors and our six advisory committees. The Board guides our policy, while the advisory committees guide the quality of the projects that we help support. These volunteers freely dedicate their time and expertise to this Foundation to ensure we support the most effective conservation action to maintain the Foundation as an effective force in salmon conservation.

I am also deeply appreciative of the exceptional work of our talented staff. Our staff – Darla, Allyson and Stephen provide the daily leadership and solid management to the Foundation that allows our policy and program to grow and innovate. Our staff are the main factor in building and maintaining the strong relationships we enjoy with so many partners and stakeholders.

I am proud of the great team represented by our volunteers, our staff and our recipient organizations. They are genuine leaders of the conservation of wild Atlantic salmon.



Hon. Rémi Bujold, P.C., C.M.
Chairman of the Board of Directors

# EXECUTIVE DIRECTOR'S REPORT

Continuing our open, transparent and effect approach to funding worthy initiatives.

I am always impressed to reflect on another, successful year of helping the many community groups, Indigenous organizations and researchers drive out their conservation projects across five provinces. Every year, we add to our record of helping fund wild Atlantic salmon conservation projects unfold across Atlantic Canada and Quebec. We are proud to have experienced fourteen years of impressive growth in both the demand for and quality of salmon conservation projects in each province. Importantly, we continue to witness major depth of effort exhibited by our recipient organizations, all of which contributes to the advancement of wild Atlantic salmon conservation, river by river, community by community.

The Atlantic Salmon Conservation Foundation was created to fulfil its wild Atlantic salmon conservation mandate in perpetuity. It is a unique entity for its open, transparent and effective approach to funding worthy initiatives. Without question, the ASCF is an excellent example of how government can help create a self-sustaining source of funding to benefit the community forever.

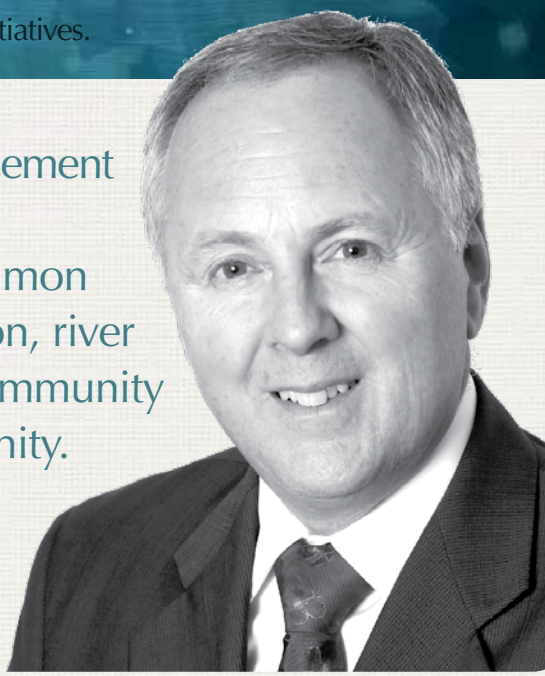
In our fourteen years experience we have helped nurture ever higher quality funding proposals. The improved focus of these projects conforms to our priority of funding initiatives derived from river and watershed management plans, with the goal of getting the best bang from the limited resources available, to help salmon conservation. The improved quality of project proposals is directly attributed to better planning and priority setting by project proponents.

We have also noted significant growth in the demand (read: need) for funding over our thirteen years. We attribute this growth to two factors; a gradual increase in funding proposals over the years as the Foundations becomes better known; and as community and Indigenous groups become more focused on plans and priorities, the scale of project proposals and request for funding has increased. It's a bittersweet situation, in which there is a clear need project funding, while the Foundation is stretched in its ability to deliver adequate funds. We estimate that we are able to fund approximately 50 percent of those good conservation project submissions.

We are proud of the reputation we have developed as a reliable granting entity and true partner to conservation groups. Every day we actively practice our mantra of "facilitating, not frustrating" the efforts of our conservation group partners. At the same time, we pursue our work with a high degree of rigour in project approvals and in project oversight. I believe this way of managing this exceptional organization has contributed to the success of our project partner recipients and our success.

In managing the Foundation's grant funding program, I have come to understand that wild Atlantic salmon conservation is only possible if we encourage and sustain the committed volunteers who stand ready to pursue salmon conservation at the local level. Governments cannot save the salmon on their own. Therefore, it is imperative that the volunteer element remain engaged in salmon conservation action.

...the advancement of wild Atlantic Salmon conservation, river by river, community by community.

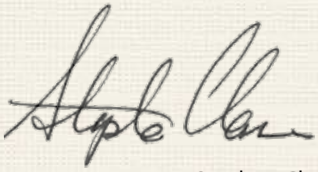


Stephen Chase
*Executive Director*

The Foundation follows a fiscally prudent, long-term financial plan. 2020 saw our trust fund market value plunge well below the year-opening value due to the adverse impact of Covid-19 on financial markets. Fortunately, markets rebounded by years-end to recover the losses, thereby enabling the Foundation to maintain its 2021 grant pool at $1.2 million in project funding. In 2020 we funded sixty-nine grants. These projects represented a balanced mix of one-year and multi-year conservation project grants, bringing our overall twelve-year contribution to $9.5 million with 604 funded projects. By selecting the best funding proposals, our leveraging (cash and in-kind) reached nearly $48 million, providing an impressive 4:1 ratio.

Often lost on observers, is the fact that ASCF project funding helps sustain hundreds of jobs, primarily in rural areas of Atlantic Canada and Quebec. Many of these jobs are seasonal workers, as well as students, who are gaining valuable work experience on which to base their careers. These jobs represent an important and significant contribution to rural economies often in areas where other economic opportunities are limited.

It is also important to note that ASCF funded projects often help improve opportunities to sustain eco-tourism. Even in the face of declining salmon populations, eco-tourism in the rivers and watershed is becoming an ever more important basis of economic development.



Stephen Chase
Executive Director

# ANNUAL REPORT 2020

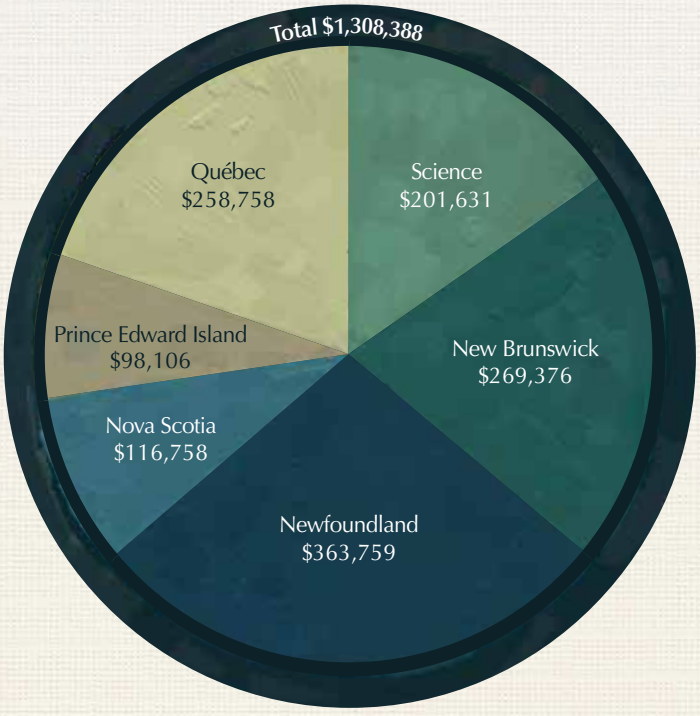
An Effective and Permanent Supporter of Wild Atlantic Salmon Conservation!

## Introduction

The Atlantic Salmon Conservation Foundation is a permanent source of funding and conservation advice supporting community groups, First Nations, researchers and other organizations across five provinces in Canada. Our Foundation has proven itself as a reliable and facilitative factor in helping improve conservation of wild Atlantic salmon in the Atlantic provinces and Quebec. We understand the many challenges affecting salmon conservation and fully subscribe to long-term goal of achieving abundant wild salmon populations. That's why we strive to facilitate conservation action, through rigorous processes to help ensure wise use of funding and the attainment of project outcomes. We are proud of our approach; business-like while being user-friendly.

The Atlantic Salmon Conservation Foundation is a non-profit, charitable organization dedicated to improving and strengthening the conservation of wild Atlantic salmon and its habitat in Atlantic Canada and Quebec. We are a volunteer-based organization that opened our doors in February 2007. The Board of Directors of the Foundation are volunteers, along with all of the volunteer experts on our six advisory committees, who have come together to ensure the wise use of the trust fund for its intended conservation purposes.

The Foundation has the dual mandate of prudently investing the trust funds to generate income while preserving capital and ensuring that the organization is well-managed, so it can provide funding to eligible salmon conservation initiatives in Atlantic Canada and Quebec, in perpetuity.




Grants Amounts Approved in 2020

A significant feature of the Foundation model is the inclusion of volunteer experts drawn from conservation groups, Indigenous organizations and federal and provincial governments in all of its advisory processes. The Board of Directors of the Foundation actively relies on advice and recommendations from the six technical-advisory committees to guide the work of the Foundation. It is a model of partnership and inclusiveness that is unique in the conservation world.

This annual report reflects the Foundation's fourteenth year of operation. In 2020, the Foundation continued to build on the successful operational structure it created over the first fourteen years, to support and extend salmon conservation initiatives. The year also witnessed completion of the Foundation's thirteenth round of grants in support of community salmon conservation projects as well as the 2021 call for funding proposals which closed in November 2020.

## Background

The Atlantic Salmon Conservation Foundation (the Foundation) was formed by a group of volunteers who incorporated a non-profit organization in 2005 to prepare a proposal to the Minister of Fisheries and Oceans to accept responsibility for the Atlantic Salmon Endowment Fund (ASEF) Program. The ASEF was created by the Government of Canada as a permanent source of funding to help conserve, restore and protect wild Atlantic salmon and their habitat in Atlantic Canada and in Québec.

The ASEF reflected, and continues to reflect, the calls of conservation organizations, Indigenous groups and government officials for a permanent source of funding to help watershed and community organizations working on a range of wild Atlantic salmon habitat, enhancement, monitoring and conservation initiatives.

The organization that was created as a result of the federal investment was structured to meet the following objectives:

1. Be managed at arms-length from DFO by an incorporated organization;
2. Be a charitable organization;
3. Invest appropriated funds and hold them in trust;
4. Draw on contributions from other public and private sources;
5. Deliver the program from income generated on the principal amount; and
6. Facilitate partnership with the provinces, government agencies, Indigenous groups and community volunteer organizations.

These objectives have been attained very successfully and continue to drive the organization and its way of doing business. The ASCF operates in the large and complex geographic, political and stock status environment of Atlantic Canada and Québec. To address these complexities, the Foundation relies completely on inclusive, expert advisory committees that are unique in opening all processes to broad and meaningful involvement as well as full transparency.

# ANNUAL REPORT 2020

An Effective and Permanent Supporter of Wild Atlantic Salmon Conservation!

In addition to the requirement to submit an annual report and an annual business plan to the Minister of Fisheries and Oceans, the Foundation is subject to periodic review of its performance by the Government of Canada. A value for money audit was carried-out in 2012 by the Department of Fisheries and Oceans based on performance measures identified in the funding agreement and several other factors associated with the Foundation's approach to business, management of its files and recipient group feedback. The audit found that the Foundation represents excellent value for money, is demonstrating measurable progress on several fronts, and its strongly supported by its broad range of recipients and others interested in salmon conservation.

## Foundation Mission Statement and Goals

The mission statement of the Foundation is "To promote enhanced community partnerships in the conservation of wild Atlantic salmon and its habitat in Atlantic Canada and Québec".

Four goals flow from this statement, around which our strategic direction is built and from which our granting process flows:

- To be **an effective source of funding for community volunteer organizations** in conserving, restoring and protecting wild Atlantic salmon and its habitat.
- To **enhance cooperation and partnership** among governments, Indigenous organizations, community volunteer groups and others in the interests of conserving, restoring and protecting wild Atlantic salmon and its habitat.
- To **promote and improve conservation planning and management at the watershed level** as the basis for ensuring effective use of and accountability for funds made available for wild Atlantic salmon conservation initiatives.
- To **improve public awareness, education and research** respecting the conservation of wild Atlantic salmon and salmon habitat.

## The Granting Process

The Foundation is interested in funding innovative projects that will have a high probability of success with measurable results for on-the-ground conservation of wild Atlantic salmon and its habitat. It considers eligible projects related to the following categories:

- Development of salmon and salmon habitat conservation plans for a watershed or sub-watershed (watershed planning)
- Conservation, rebuilding and restoration of wild Atlantic salmon and salmon habitat
- Restoring access of wild Atlantic salmon to salmon habitat
- Public education and awareness of the importance of conservation of wild Atlantic salmon and its habitat

Emphasis is placed on improved conservation planning and management at the watershed level as an ecological and geographic unit, as a way to promote most effective use of, and accountability for, project funds.

The Foundation holds one call for proposals annually. Proposals may be submitted on-line from April to a closing date for receipt of proposals in mid-November. Proposals for funding are reviewed by staff for completeness then forwarded to the advisory committees for review and recommendation during the period January to March.

Each advisory committee follows a standard proposal assessment and scoring procedures designed by the Scientific Advisory Committee. The proposals recommended by the advisory committees are reviewed and approved by the Board in early spring to enable all final approvals to be given and successful recipients notified well before the opening of the conservation field season. In addition, each unsuccessful project proponent is provided an explanation why it was unsuccessful both for information and to encourage future submissions.

## Advisory Committees

The Foundation relies heavily on its volunteer advisory committee structure to make good decisions on the projects that should be funded. Our advisory committee model is unique in the world of salmon conservation. It's a strategic direction that promotes inclusiveness of the many interests in wild salmon conservation as well as partnership among them. Most importantly, the advisory committees ensure the Foundation receives excellent advice in recommending conservation projects that respond to the unique salmon conservation imperatives faced in each of the five provinces.

There are six advisory committees consisting of a Scientific Advisory Committee and five Provincial Advisory Committees. Each appointee to these committees is an expert volunteer identified in consultation with stakeholder groups and governments. Our advisory committees have proven to be a very successful way of including people in our decision-making processes and ensuring full transparency in the granting process.

The Scientific Advisory Committee (SAC) is the natural evolution from the former Central Advisory Committee. This is a world-class advisory group with the dual roles of ensuring wise investment in applied research scientific projects, as well as assisting the Board of Directors to develop and maintain effective policy, procedures and strategic direction. The SAC is comprised of eminent scientists capable of guiding the Foundation as it moves to strategically target scientific projects that will make a difference in salmon conservation.

Each of the five provincial advisory committees is responsible for identifying the salmon conservation priorities unique to its province; reviewing proposals for conservation funding and making recommendations on which projects should be approved for funding. They also participate actively in monitoring approved projects to help ensure they are progressing as intended. These committees meet twice annually to carry-out their responsibilities.

# FOUNDATION OBJECTIVES 2020

A report on objectives met, as stated in the 2020 Business Plan.

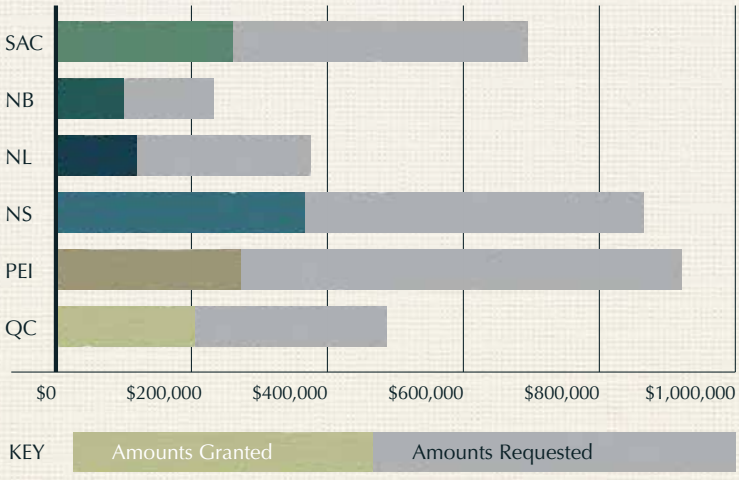
*The following objectives were stated in the 2020 Business Plan. The following is a report on the extent to which those objectives were met:*

### Objective 1: To strengthen our prudent investment and financial strategy to maintain the Atlantic Salmon Endowment Fund at or above Funding Agreement requirements.

**2020 Actions:** The Foundation's investment portfolio is managed in accordance with a very prudent long-term investment and financial management plan overseen by the Investment Committee. This plan conforms to an Investment Policy and an Investment Strategy developed pursuant to the requirements of the Funding Agreement with the Government. This approach to investment and fiscal management enables the Foundation to ensure a minimum of $1 million dollars is available for project funding on a go-forward basis.

The long-term financial plan, the investment policy and the investment strategy are annually reviewed by the Board of Directors. They have been designed to maintain the investment fund to projected inflation adjusted value while also making provision for maintaining a projected annual distribution of project funding over the same period, taking into account financial market performance, and Funding Agreement requirements.

The Foundation's investment portfolio experienced a significant decline in the months following the onset of the Covid-19 pandemic but regained most of the loss by year-end. Our prudent investment strategy was successful in enabling this recovery to occur making it possible for the market value of the trust fund to return to exceed the inflation adjusted book value of the trust fund as required by the Funding Agreement. Importantly, sufficient income was generated to maintain the annual grant pool at $1,200,000 for 2021.




Amounts granted & amounts requested in 2020

### Objective 2: To observe a funding allocation model that is reflective of and responsive to the various conservation needs and priorities of each province.

**2020 Actions:** As at 31 December 2020 the market value of the fund was reported as just over $43 million. As noted above, the market value of the trust fund is higher than the projected 2020 year-end amount as projected in the long-term financial strategy, notwithstanding the decline in market value experienced earlier in the year.

The Foundation follows a funding allocation model developed by the Scientific Advisory Committee (SAC) and intended to ensure that "fair geographic distribution of funds required by the Funding Agreement. The formula is designed to optimize the Foundation's response to the respective conservation needs of each province with a basic fixed allocation to each province, supplemented with a funding distribution reflective of individual provincial conservation variables. In 2019, the Board incorporated minor adjustments to the various elements of the funding formula resulting in some changes to provincial funding allocations going forward.

The funding formula also provides ten percent of the overall grant pool to fund applied research and other scientific projects identified as conservation priority topics by the Scientific Advisory Committee.

### Objective 3: To strategically allocate funding to key, priority applied research scientific projects.

**2020 Actions:** The Scientific Advisory Committee has identified a range of range of critical conservation issues affecting the survival and strengthening of wild Atlantic salmon populations in Canada. These conservation issues are reviewed annually and are designed to guide the allocation of funding to the most critical applied research initiatives being funded by the Foundation.

The prioritization of applied research funding represents an intelligent and proactive approach to awarding ASCF funding. Funding is directed to specific applied research topics that are considered to have the greatest on-the-ground impact for salmon conservation through a Request for Proposal process. The RFP is sent to potential respondents with responses evaluated and funding awarded by the SAC.

### Objective 4: To maintain and strengthen a results-based management approach to funding Foundation projects.

**2020 Actions:** The Foundation conducts its business in accordance with its comprehensive *Audit and Evaluation Strategy* – provided in the annual Business Plan. All projects report their performance in a uniform manner which facilitates population of a database developed by the Scientific Advisory Committee.

# FOUNDATION OBJECTIVES 2020

The following objectives were stated in the 2020 Business Plan

The standard project report for each project grant is designed to reflect the performance of each project and to enable cumulative reporting against the Foundation's performance measures as outlined in the Funding Agreement. The performance measures contribute to a database which enables the Foundation to report clearly on its attainment of objectives and other performance criteria. Thus, the Foundation fulfils its commitment to being a results-based management organization.

During 2020 additional refinements were made to project report forms through feedback from grant recipients and advisory committees to ensure that necessary data was reported but also to simplify required reporting. In addition, the Foundation implemented a new database reporting system to facilitate data access and reporting ability.

Since 2008, (ASCF) has granted $9.5 million to 604 projects from more than 900 funding proposals following a rigorous assessment process.

ASCF total funding distributed to the five provinces (all years) is as follows:

| | |
|---|---|
| • New Brunswick | $2.4 million |
| • Newfoundland & Labrador | $2.3 million |
| • Nova Scotia | $1 million |
| • Prince Edward Island | $1 million |
| • Quebec | $1.8 million |
| • Scientific Advisory Committee | $1 million |

ASCF funds have leveraged more than **$48 million** in overall project valuation from other sources, for an impressive **leveraging ratio of 4:1** (to 2019).

ASCF funded projects have resulted in major conservation improvements (to 2019):

- **53 million** square meters of **habitat access** opened
- **1.7 million** square meters of **improved habitat**
- **7,691 volunteers** contributed **192,028 hours** of effort
- **109,810 individuals** involved in **education & awareness**
- **$1.1 million** contributed to **60 Indigenous organization projects**
- **$2 million** contributed to **64 applied scientific research** grants, aimed at improving the effectiveness of conservation effort
- **2,404 jobs sustained**, mostly in rural areas
- **Eco-tourism** opportunity improved: ASCF funded projects help strengthen an eco-tourism industry worth several hundred million dollars annually in 5 provinces

**Objective 5: To broadly share information through innovative methods such as the web-based "Salmon Hub" utility and the webinar series.**

**2020 Actions:** The "*Salmon Hub*", launched in late 2015, is a "one stop" web-based source to facilitate access to salmon conservation information. This portal provides easy access to ASCF funded project reports, government and NGO created technical and scientific reports and other sources of material related to salmon conservation. Information sharing is major line of business for the Foundation and the Salmon Hub builds on the already significant Foundation website sharing of project reports and social media.

The Salmon Hub experiences high access and has been widely acclaimed, nationally and internationally. Throughout the year staff and several subscribers added more new material to the Salmon Hub. Recruitment of new sources of information and links to build content is a priority initiative.

Friends of the Kouchibouguacis - NB

# FOUNDATION OBJECTIVES 2020

The following objectives were stated in the 2020 Business Plan

**Objective 6: To strengthen the Foundation's relationships and communications with current and potential stakeholders/beneficiaries, the public, and potential supporters.**

**2020 Actions:** Throughout 2020 the Foundation carefully followed the direction identified in the communications plan, which is designed to facilitate the Foundation in establishing a distinct profile; building public understanding of wild Atlantic salmon conservation needs and, building public support for salmon conservation.

The Foundation posted several items on its website, as well as sending periodic email messages to its constituents and interested stakeholders, throughout the year. The Annual Report and the Business Plan are both designed to promote understanding of and support for the Foundation and are frequently shared with external groups. Also in 2020, the Foundation regularly updated to Facebook and Twitter to keep followers informed of developments. The number of followers on both social media increased significantly during the year.

In addition, a schedule of webinars featuring well-known speakers on a broad range of fish and freshwater issues was held. Several expert individuals from Canada and abroad were invited to present the topics and lead discussion on-line with regular attendance by representatives of First Nations, NGOs, governments, academic institutions and businesses. The series has provided major new opportunities for information sharing and partnership building. In 2020, 9 webinars were hosted with a total of 946 participants.

Cheticamp River Salmon Association - NS

In 2018, the Foundation was the recipient of a $60,000 grant from Canadian National Railway for allocation of $20,000 each year over three years to a salmon river conservation project located in a watershed with a CN river crossing in Quebec, New Brunswick or Nova Scotia. In 2020 the final $20,000 allocation was made to a project in New Brunswick.

**Objective 7: To seek new sources of funding to build the Foundation's trust fund in support of meeting increased and reasonable demand for conservation project funding.**

**2020 Actions:** By 2020, with thirteen years of experience in issuing project funding grants, the Foundation was in an excellent position to assess the degree to which available funding is meeting the actual need for conservation project funding. The number and the quality of funding proposals received by the Foundation has consistently increased over the years and an analysis by the expert advisory committees indicated that approximately 50 percent of the demand for project funding in 2020 was being met and that several very reasonable and strong conservation project proposals could not be funded.

The fiscally prudent business model followed by the Foundation, and required by the Funding Agreement, places a limit on the annual allocation of grant funding to a level that will not erode the capital of the trust fund. In order to fund the additional and demonstrated need for conservation project funding, the Board determined that a larger trust fund would be necessary. A request was sent to the Minister to consider providing $5 million to match the top-up given to the Pacific Salmon Foundation in 2019.

# 2020 PROJECT PROFILES • NL

Conserving wild Atlantic salmon and protect salmon habitat in Newfoundland and the Labrador Straits

Encouraging the engagement of members of the general public in Atlantic salmon conservation and stressing the urgency of the current and worsening situation is, an arms-length but critical, function. The salmon angling/conservation community in North America is too small to generate much political clout all by itself. Broad public sympathy for the cause is badly needed to bring political will to the table.

The 2020 Intervale project, $39,640 of which was funded by ASCF, was designed to strengthen and enlarge the "Living Rivers" initiative with four objectives: 1. encourage reports of illegal fishing and sale of wild salmon; 2. prevent threats to salmon habitat; 3. teach best practices and educate about the importance of salmon conservation in Newfoundland; and 4. extend the reach to new areas of the province.

Core activity focuses around important salmon rivers and hot spots of known poaching. Partners assisted with posting an additional 40 and maintaining 137 signs in eastern, central and western Newfoundland. Intervale increased its outreach by participating in scheduled public events for large audiences across the Island.

Intervale gave informational presentations to adult and youth groups and organized two fly-tying workshops. The group contributed to the goal of salmon and salmon habitat conservation through measures of people engaged, knowledge increased, poaching reduced, waste collection in rivers and habitat conservation.

Intervale Associates Inc.

# 2020 PROJECT PROFILES • QC

## Characterization and protection of thermal refuge drainage areas of Matapédia River

Our new normal (assumed to be as a result of global warming) seems to be drought conditions every summer now. The impact on migrating Atlantic salmon has the potential to be catastrophic. A solution is needed. Work on the Matapedia River is a start.

The Gespe'gewaq Mi'gmaq Resource Council has continued building knowledge about thermal refuges on Matapédia with a second year of approved funding of $13,530 from the ASCF fund in 2020. With its thermal refuges database and various geomatic tools, the GMRC has been identifying thermal refuges of interest for Atlantic salmon. The mapping of drainage areas of thermal refuges that has been undertaken will enable the GMRC to identify the refuge water catchment area and identify its weaknesses.

By educating and engaging riverfront owners, the GMRC is working towards the conservation of these essential habitats and the increase of the resilience of in-stream Atlantic salmon habitat quality in response to climate change. The conservation of an optimal habitat for Atlantic salmon sustainable stocks in Matapédia River is closely linked to freshwater temperature regimes. In addition, this project will help initiate new approaches for soil inventory and uses, with private owners and the forest industry, to protect thermal refuges. The GMRC has worked with the regional biologist of the Department of Forests, Wildlife and Parks to ensure that the data building protocol is adequate and that it meets the department requirements.


Gespe'gewaq Mi'gmaq Resource Council

# 2020 PROJECT PROFILES • NB

## Nepisiguit salmon enhancement and assessment 2020

In 2020, a project led by Nepisiguit Salmon Association, with $13,000 funded by ASCF, was carried out in the Nepisiguit and area rivers.

Salmon fry were stocked into the Nepisiguit, Gordon Meadow and Pabineau Brooks after eyed eggs were reared in streamside incubation boxes. Continuing work started in 2019. A dam inventory in Gordon Meadow Brook and Pabineau Brook was completed and breaching conducted where most important.

In response to general concerns about frequent summer drought conditions in the past few years, NSA also continued to collect water temperature data from data recorders, not only for tracking seasonal water temperatures but to be used in the Warm Water Protocol, which will allow DFO to determine if a Variance Order is needed to reduce fishing hours on the Nepisiguit.

The balance of the summer was spent conducting electrofishing surveys of designated watercourses to build up an ongoing picture of the relationship between juveniles and returning adults and also to check on previous spawning. Water quality, predator and environmental/habitat surveys were also carried out. Data collection/compilation was carried out in September. Favourable water conditions also permitted spawning surveys to be carried out in late October and early November.

Nepisiguit Salmon Association

# 2020 PROJECT PROFILES • NS

## Developing a model for acid-stress restoration of regional waterways on the West River.

Nova Scotia is singularly impacted by acid rain. Because of a unique geology, many of the province's salmon streams remain seriously damaged while the problem has been resolved in most other vulnerable locations in North American and Europe. The issue is mainly naturally occurring aluminum which is released into rivers by the acidity. Aluminum can accumulate on the surface of a fish's gill, leading to respiratory dysfunction and even death.

Since 2005, funds were initially mostly privately raised to emulate the successful liming projects applied in Norway. The West River Acid Mitigation Project, headlined by the Nova Scotia Salmon Association and partially funded by ASCF in the amount of $20,460 in 2020, has been easing the impacts of acid rain and resultantly increasing the annual production of wild Atlantic Salmon smolts by more than 300 per cent. The West River was developed as a model for the restoration of acid-stressed rivers in the region.

Both lime dosers operated well during the season and low water conditions reduced the liming budget. Helicopter watershed liming (successfully pioneered in Norway) has been added to the project and expanded to the nearby St Mary's River for the first time.

Success is being measured by long-term monitoring of juvenile densities with electrofishing at six reference sites in the watershed.

Recently, NSSA has secured funding and has begun planning for similar projects on seven other priority watersheds. NSSA requires defensible and scientifically-sound monitoring data to assess the impact of restoration activities. This project will support a widespread summer electrofishing program, the design and trial of a new fall salmon redd count and widespread water chemistry surveys.

Nova Scotia Salmon Association

# 2020 PROJECT PROFILES • PEI

Habitat improvement for important stocks on Island rivers.

The project titled "Atlantic salmon habitat restoration and enhancement, phase two", led by Hillsborough River Association with $7,479 funded by ASCF, has implemented recommendations from a renewed Conservation Strategy for Atlantic Salmon on PEI (2019) on Pisquid River, Clark's Creek, Vernon River and Head of Hillsborough.

In response to the alarming rate of decline of Atlantic salmon (Salmo salar) across Prince Edward Island, in 2008 the Atlantic Salmon Conservation Foundation commissioned a comprehensive conservation strategy for Atlantic salmon on the Island. A decade later, the findings and recommendations of that strategy were revisited by the Oak Meadows group.

The number of rivers with salmon runs had dropped from about 70 prior to European settlement, to an estimated 28 in 2000-2002, with a further drop to 22 in 2007-2008. There is little question as to why this is happening. Prince Edward Island is one of the most densely populated provinces in Canada with intensive agricultural development and a changing climate.

"It will require major changes in the way crops are produced in PEI, as current agricultural practices are unsustainable. The costs associated with dealing with the issues of erosion, sedimentation and chemical contamination of air, land and water will only increase in the future."

The findings of the current study do, however, show some promising signs that Atlantic salmon are responding to the intensive conservation efforts of local watershed groups.

The Hillsborough River Association maintained beaver-free zones, worked with landowners in Vernon River to extend the beaver-free zone, exposed gravel-cobble on mainstreams of Clark's Creek and Pisquid River, maintained salmon access, expanded temperature monitoring in salmon rearing habitat to four watersheds, continued salmon monitoring with redd surveys and electrofishing, and mentored and educated student employees and local elementary school students.

In addition, HRA installed two rock weirs to create new holding pools, installed brush mats, planted native tree and shrub species to enrich diversity and create stream shade, installed cover structures primarily on Clark's Creek, tested water for nitrates, made posts to social media, and removed silt from Head of Hillsborough in-stream silt traps.

Hillsborough Rivers Association

# 2020 PROJECT PROFILES • SAC

## Researching temperature-dependent effects of sea lice on Atlantic Salmon

Sea lice are a naturally occurring phenomenon, whereby the parasites infect wild migrating salmon – usually without serious harm because the lice fall off when the salmon enter fresh water. Open net-pen salmon farms pack wildly unnatural numbers of farmed Atlantic salmon in coastal locations, which results in exaggerated, unnatural blooms of parasitic sea lice that transfer between wild and farmed fish. Since the farmed salmon are trapped and do not enter fresh water, the lice are able to cause extensive serious harm to the adult caged fish.

In 2020, Dalhousie University's Dr. Jeff Hutchings was approved for a second year of funding from ASCF totaling $40,350, to continue researching temperature-dependent effects of sea lice on Atlantic Salmon.

In Norway, Scotland, Ireland and Pacific Canada, huge numbers of sea lice from salmon farms have been implicated in declines of wild populations due to high infestation and resulting mortality levels in wild juvenile salmon as they migrate in close proximity to the cages.

Sea lice affect the growth, survival, physiology and behaviour of wild salmon and it's possible that these effects will worsen as our coastal waters continue to warm from climate change. To investigate the temperature-dependent effects of sea lice on Atlantic salmon, a laboratory experiment was conducted in which juvenile Atlantic salmon were infected with sea lice across a range of temperatures. Survival was tracked and body growth and organ development of the fish were measured throughout the experiment. Blood, skin and kidney samples were also collected to assess the stress and immune responses of the hosts.

Using these results, this project will evaluate how temperature and sea-louse infestation affect stress and immune responses, growth, mortality and organ development of Atlantic salmon. The results of this project will be shared with scientists, DFO managers and the public.

Dalhousie University (Hutchings)

# GRANTS & STATUS

2020 Project Grants

## Science Advisory Committee

**Project Number:** SAC-2019-01
**Recipient:** University of New Brunswick (Gray)
**Title:** Atlantic Salmon embryo development and population assessment in the Tobique River Basin: potential for impacts from industry activities
**Approved amount:** $19,150 for 2019-20
(2 of 3 years, total: $54,590)
**Funding provided to date:** $49,440
**Summary:** The Tobique River catchment is a major spawning area for Atlantic Salmon in northwestern NB and features industrial land-use practices adjacent to rivers. This project will investigate a salmon embryo deformity phenomenon that has been observed in parts of the Tobique system. Relative abundance and condition of salmon populations will be assessed. Additionally, salmon embryos will be placed in incubators, buried in river substrates and monitored for development and survival.

Dalhousie University (Sterling)

**Project Number:** SAC-2020-01
**Recipient:** Conseil de gestion du bassin versant de la rivière Restigouche
**Title:** Linking Equivalent Cut Areas with Atlantic salmon habitat quality in the Restigouche River watershed
**Approved amount:** $11,000 for 2019-20
(1 of 2 years, total: $23,000)
**Funding provided to date:** $8,250
**Summary:** This project is studying the impact of the size and distribution of logging on Atlantic Salmon habitat. The calculation tool "Equivalent cut areas" (ECA) will be updated and the impact of different percentages of ECA on water regime and salmon habitat will be evaluated. Forest harvesting methods will be synthesized to develop mitigation measures. CGBVRR will also coordinate a workshop to bring together researchers studying the impact of forestry on salmon.

**Project Number:** SAC-2020-02
**Recipient:** Dalhousie University (Hutchings)
**Title:** Temperature-dependent effects of sea lice on Atlantic salmon
**Approved amount:** $40,350 for 2019-20
**Funding provided to date:** $28,245
**Summary:** To investigate the temperature-dependent effects of sea lice on Atlantic salmon, a laboratory experiment was conducted in which juvenile Atlantic salmon were infected with sea lice across a range of temperatures. Using these results, this project will evaluate how temperature and sea-louse infestation affect stress and immune responses, growth, mortality, and organ development of Atlantic salmon.

**Project Number:** SAC-2020-03
**Recipient:** Dalhousie University (Sterling)
**Title:** Are toxic ionic aluminum concentrations increasing or decreasing in high priority salmon rivers in Nova Scotia
**Approved amount:** $49,805 for 2019-20
**Funding provided to date:** $34,863
**Summary:** Ionic aluminium (Ali) is toxic to Atlantic salmon and is known to be a key cause of population declines. Total aluminum (Alt) consists of Ali + organically complexed aluminum (Alo). A critical knowledge gap remains: is Alo driving the Alt trends and Ali levels staying stable or decreasing? Or are Ali levels increasing as well? This project will answer this question by extend Ali monitoring programme in four key indicator NS Rivers, using models calibrated to field observed Ali concentrations to project Ali trends.

**Project Number:** SAC-2020-04
**Recipient:** Fédération québécoise pour le saumon atlantique
**Title:** Development of a methodology for assessing the hydro-geomorphological sensitivity associated with logging in the watersheds of the salmon rivers of Gaspésie and Bas-Saint-Laurent
**Approved amount:** $25,000 for 2019-20
**Funding provided to date:** $18,750
**Summary:** This project will conduct a literature review on: hydrogeomorphological and biological risks associated with forest harvesting; standards for minimizing the negative impacts; watershed assessment methods; and ecological risk analysis grids. The project will also propose grids and/or decision trees and/or indicators to assess sensitivity as a decision-making tool. Geomorphological features of watersheds, forestry operations and forest hydrology considerations as well as river habitat of salmon will all be considered.

Contact: Contact: Myriam Bergeron, 418-847-9191 extension 3, mbergeron@fqsa.ca

# GRANTS & STATUS

## 2020 Project Grants

**Project Number:** SAC-2020-05
**Recipient:** Fort Folly First Nation
**Title:** Indigenous and academic collaboration for the recovery of priority species in the heart of the inner Bay of Fundy
**Approved amount:** $16,326 for 2019-20
**Funding provided to date:** $16,326
**Summary:** The focus of this project was the development of a targeted research program, with clear and measurable objectives, to scientifically evaluate the smolt-to-adult supplementation technique currently underway on the Petitcodiac River. The program reviewed available data from the Petitcodiac River Salmon Recovery Program and draw from the strategies of the associated Fundy Salmon Recovery program, to conduct a preliminary assessment of program and its results.

**Project Number:** SAC-2020-06
**Recipient:** University of New Brunswick (O'Sullivan & Curry)
**Title:** How physiography and climate change influences the effects of forest harvesting on Atlantic salmon habitats
**Approved amount:** $40,000 for 2019-20
(1 of 2 years, total: $75,000)
**Funding provided to date:** $30,000
**Summary:** The project will examine the influences of forest harvesting on stream flow, temperature, and geomorphology in differing physiographic regions in watersheds in the Edmunston Highlands, Chaleur Uplands, Miramichi Highlands, and the Maritime Plains. Gaining an understanding of how the landscape regulates hydrological processes is absolutely imperative to (a) identifying hydrological resilient regions (both flow and thermal), and (b) developing management plans that best protect habitats for Atlantic Salmon.

### New Brunswick

**Project Number:** NB-2019-05
**Recipient:** Hammond River Angling Association
**Title:** Electrofishing and redd count surveys to inform future Hammond River management decisions
**Approved amount:** $5,000 for 2020 (2 of 2 years, total: $12,000)
**Funding provided to date:** $7,000 (remainder of grants funds were returned to grant pool for future grants)
**Summary:** Due to weather conditions, some components of the project could not completed and, as a result, the second year was cancelled by mutual agreement.

**Project Number:** NB-2019-10
**Recipient:** Nashwaak Watershed Association Inc.
**Title:** Assessing and restoring aquatic connectivity in the central Nashwaak watershed
**Approved amount:** $10,00 for 2020 (2 of 2 years, total: $23,049)
**Funding provided to date:** $23,049
**Summary:** NWAI continued efforts to identify, prioritize, and restore barriers to fish passage. The objectives of this project included: continuing to improve knowledge about the fragmentation of the watershed by surveying stream crossings; increasing the amount of available upstream aquatic habitat by remediating barrier culverts; and increasing public awareness about aquatic connectivity.

Groupe de bassin versant de la région de Cap-Pelé - NB

**Project Number:** NB-2019-13
**Recipient:** Petitcodiac Watershed Alliance Inc.
**Title:** Broken Brooks: Increasing access to salmon habitat through diverse partnerships
**Approved amount:** $5,000 for 2020 (2 of 2 years, total: $21,125)
**Funding provided to date:** $18,625 (remainder of grants funds were returned to grant pool for future grants)
**Summary:** In this project, the PWA worked to remediate fish passage through barrier culverts. The PWA also continued to work with partners and to collect aquatic connectivity data by assessing culverts and promoting citizen science assessments.

**Project Number:** NB-2019-17
**Recipient:** University of New Brunswick (Samways)
**Title:** Restoring ecosystems and wild origin Inner Bay of Fundy Atlantic salmon through marine conservation rearing
**Approved amount:** $33,293 for 2020 (2 of 2 years, total: $66,586)
**Funding provided to date:** $66,586
**Summary:** The objectives of this project were to (1) assess the adult salmon population (released and returning wild origin) in the Upper Salmon River, (2) evaluate wild produced (offspring without any cap-

# GRANTS & STATUS

## 2020 Project Grants

tive exposure) smolt survival and migration resulting from adult introductions, (3) evaluate how freshwater production and productivity influence inter-stage survival of wild produced juvenile salmon, and (4) Identify how substrate transport potentially reduces overwintering egg survival.

**Project Number:** NB-2020-01
**Recipient:** ACAP Saint John
**Title:** Letting rivers run wild: A survey of fish passage barriers, development of watershed conservation plans and restoration efforts in four inner Bay of Fundy (iBoF) Rivers
**Approved amount:** $10,000
**Funding provided to date:** $10,000
**Summary:** This project developped conservation management plans for four iBoF rivers. Stream surveys included collecting data on fish presence/absence using electrofishing gear, fin clips to genetically identify iBoF Salmon, and eDNA analysis of lotic water samples. Physical assessments included location and presence of barriers, water quality, channel cross sections, substrate and cover observations, and notes on areas in need of restoration. The development of these management plans will lead to prioritization of barrier removal and riparian improvements.

University of New Brunswick

**Project Number:** NB-2020-02
**Recipient:** Conseil de gestion du bassin versant de la rivière Restigouche
**Title:** Debris and logjam cleaning 2020 – Restigouche watershed
**Approved amount:** $7,000
**Funding provided to date:** $7,000
**Summary:** The goal of this project was to remove major woody debris on sections of selected rivers to prevent the creation of jams which are harmful for salmon habitat. Another goal of the project was to locate beaver colonies on those rivers sections to characterize obstruction risks during low-water periods.

**Project Number:** NB-2020-03
**Recipient:** Conservation Council of New Brunswick
**Title:** Teaching New Brunswick children and youth about the Atlantic salmon and the need for conservation
**Approved amount:** $5,000
**Funding provided to date:** $3,750
**Summary:** CCNB has developed hands-on Atlantic salmon modules, each consisting of a number of outdoor activities that teach students about Atlantic salmon biology, its economic and cultural importance, and what we can do to help salmon populations survive and increase in number. In this project, CCNB will continue to deliver the curriculum linked salmon activities linked to existing curriculum outcomes around the province in elementary, middle and high school levels. CCNB will also purchase materials to create additional activity kits to be available for teachers to borrow.

**Project Number:** NB-2020-04
**Recipient:** Eel River Bar First Nation
**Title:** Eel River Atlantic salmon habitat recovery project 2020
**Approved amount:** $20,000
**Funding provided to date:** $20,000
**Summary:** This project continued to build upon strategic and operational fisheries management plans for the Eel River and Restigouche County. The following management and restoration activities were undertaken in 2020: electrofishing surveys, collection and transport Atlantic salmon broodstock to the Charlo Salmonid Enhancement facility for egg incubation with Scotty boxes, salmon redd surveys, culvert assessment surveys and community outreach.

**Project Number:** NB-2020-05
**Recipient:** Fort Folly First Nation
**Title:** Ongoing restoration of endangered inner Bay of Fundy Atlantic salmon to the Petitcodiac River
**Approved amount:** $35,000
**Funding provided to date:** $35,000
**Summary:** The goal of this project was to carry out inner Bay of Fundy Atlantic (iBoF) salmon recovery actions on Petitcodiac River tributaries including fry releases, use of counting fence and fyke nets to capture smolt, transport of smolt to Fundy Salmon Recover marine

conservation farm, monitor adult salmon (antenna detection array, snorkel surveys, redd counts), eletrofishing, release adult salmon to Petitcodiac (Fundy Salmon Recovery and Live Gene Bank), and public outreach and engagement.

**Project Number:** NB-2020-06
**Recipient:** Friends of the Kouchibouguacis
**Title:** Wild Atlantic salmon restoration and stewardship
**Approved amount:** $11,000
**Funding provided to date:** $11,000
**Summary:** Different monitoring methods were used to collect data on salmon population, available habitat, migration, age, along with water quality and environmental parameters. Salmon eggs/milt were also collected for incubation purposes. Public outreach and engagement were also undertaken through social media.

**Project Number:** NB-2020-07
**Recipient:** Groupe du bassin versant de la région de Cap-Pelé
**Title:** Surveillance of water temperature and electrofishing surveys for Atlantic salmon rivers
**Approved amount:** $5,286
**Funding provided to date:** $5,286
**Summary:** Certified employees of Groupe du bassin versant de la région de Cap-Pelé conducted electrofishing surveys on the Aboujagane, Kouchibouguac, Kinnear and Tedish rivers to determine if there is variation in salmon population and year-class from one year to another. The survey technique of DFO's was used. Five water temperature recorders (logger) were installed to evaluate average and maximum water temperatures.

**Project Number:** NB-2020-08
**Recipient:** Hammond River Angling Association
**Title:** Conserving future Atlantic salmon population through monitoring and education
**Approved amount:** $6,797
**Funding provided to date:** $6,797
**Summary:** HRAA monitored juvenile Atlantic salmon populations by electrofishing 10 index sites in the Hammond River Watershed to further our understanding of population dynamics. HRAA has an extensive dataset, extending from 1978-2019, and wish to continue such robust monitoring to support location prioritization of restoration activities to improve salmon habitat. An Atlantic Salmon redd survey was conducted and data was summarized.

**Project Number:** NB-2020-09
**Recipient:** Kennebecasis Watershed Restoration Committee
**Title:** Passekeag Creek enhancement project
**Approved amount:** $14,000
**Funding provided to date:** $14,000
**Summary:** KWRC worked to improve fish passage and habitat connectivity on the Passekeag Creek while also improving riparian zone habitats so that stream temperatures are buffered during warmer summer periods. This greatly enhanced salmon and trout habitat in the Creek and allowed them to more readily access refuge habitat and escape possible predation from larger fish species.

**Project Number:** NB-2020-10
**Recipient:** Miramichi River Environmental Assessment Committee
**Title:** Atlantic salmon management plan - Bay du Vin River
**Approved amount:** $8,000
**Funding provided to date:** $8,000
**Summary:** MREAC prepared a watershed management plan for Atlantic salmon for the the Bay du Vin River Drainage Basin. Prior to writing the plan additional monitoring was undertaken to supplement data already available. Water temperature was monitored on the main branch and significant tributaries. Habitat conditions were explored along with the prospect of applying special protective measures to area that show better habitat conditions. Electrofishing sites were established and assessed for juvenile salmon to establish their current status on this watercourse.

**Project Number:** NB-2020-11
**Recipient:** Nashwaak Watershed Association
**Title:** Dam removal on Campbell Creek, tributary of the Nashwaak River, in Fredericton, New Brunswick, between its confluence with the Nashwaak and Route 8
**Approved amount:** $15,000
**Funding provided to date:** $15,000
**Summary:** Campbell Creek Dam, property of the City of Fredericton, has been impeding fish passage to a cold-water tributary for almost a century and is one of the worst barriers to fish passage in the Nashwaak River watershed. The City has approved its removal. By removing the dam and restoring access to Campbell Creek, anadromous species like Atlantic salmon will be provided with a net gain of quality spawning and rearing habitat. Water quality will be improved, and cold water will provide salmon thermal refuge.

**Project Number:** NB-2020-12
**Recipient:** Nepisiguit Salmon Association
**Title:** Nepisiguit salmon enhancement and assessment 2020
**Approved amount:** $13,000
**Funding provided to date:** $13,000
**Summary:** Salmon fry were stocked into the Nepisiguit, Gordon Meadow and Pabineau Brooks after eyed eggs were reared in streamside incubation boxes. Continuing work started last year, a dam inventory in Gordon Meadow Brook and Pabineau Brook was completed and breaching conducted where most important. NSA collected water temperature data, conducted electrofishing surveys, and completed water quality, predator and environmental/habitat surveys.

**Project Number:** NB-2020-13
**Recipient:** North Shore MicMac District Council
**Title:** Miramichi cold-water enhancement program

# GRANTS & STATUS

2020 Project Grants

**Approved amount:** $30,000
**Funding provided to date:** $20,000 (remainder of grants funds were returned to grant pool for future grants)
**Summary:** This project worked to create a climate-change resilient river system by enhancing cold-water habitats to serve as thermal refugia for adult and juvenile Atlantic salmon during high temperature events. This project completed enhancement work at 2 refugia sites.

**Project Number:** NB-2020-14
**Recipient:** Oromocto River Watershed Association
**Title:** Atlantic salmon population assessment, Oromocto River
**Approved amount:** $11,000
**Funding provided to date:** $11,000
**Summary:** Using closed site electrofishing, ORWA identified sites that have healthy salmon populations, good water quality, and adequate water temperatures. This allows focusing of future resources to those areas which require additional work such as culvert remediation or removal, additional buffer zones, or public education. ORWAI's electrofishing surveys are important to both help DFO collect data and educate others who are not aware of these remnant populations.

**Project Number:** NB-2020-15
**Recipient:** Petitcodiac Watershed Alliance: Broken brooks
**Title:** Increasing access and improving habitat for inner Bay of Fundy Atlantic salmon through environmental stewardship and innovative restoration techniques
**Approved amount:** $11,000
**Funding provided to date:** $11,000
**Summary:** In this project, PWA conducted habitat assessments of the watershed's rivers and tributaries to better prioritize sites in need of restoration and expand restoration efforts beyond watercourse crossings. Furthermore, PWA improved salmon habitat at up to four sites using various restoration techniques. Finally, the PWA continued to collect aquatic connectivity data at watercourse-crossing sites each year in our watershed and promote our citizen science culvert assessment protocol to expand Atlantic salmon recovery efforts in the Bay of Fundy.

**Project Number:** NB-2020-16
**Recipient:** University of New Brunswick (Linnansaari & Helminen)
**Title:** Effects of striped bass predation on Atlantic salmon smolts in the Miramichi River using new predation technology
**Approved amount:** $14,000 for 2020 (1 of 2 years, total: $28,000)
**Funding provided to date:** $10,500
**Summary:** This Project will use new 69 kHz acoustic "predation tags" to tag pre-smolt Atlantic salmon and follow their migration through the Miramichi estuary in two consecutive spring seasons when striped bass enter the river to spawn. Intensive active (CRI/UNB and the Anqotum) and passive (the ASF and the OTN) tracking will be utilized in spring. Predation tags produce explicit signal of predation occurrences, and a combination of receiver lines and active tracking will pinpoint the specific location of any predation events.

## Newfoundland & Labrador

**Project Number:** NL-2019-10
**Recipient:** Memorial University of Newfoundland (van Zyll de Jong)
**Title:** Evidence synthesis and analysis of river restoration effort in Newfoundland and Labrador.
**Approved amount:** $18,000 for 2020 (2 of 3 years, total: $64,000)
**Funding provided to date:** $41,500
**Summary:** This project aims to fill the gap of knowledge of the collection, synthesis, and evaluation of restoration projects as data can be fragmented or incomplete by building a database by cataloguing all projects in Newfoundland for the past 30 years. The research team will also undertake a survey with restoration practitioners to assess project motivations, metrics, and project evaluation to estimate the proportion of projects that set and met criteria for ecologically successful river restoration projects.

Cheticamp River Salmon Association - NS

**Project Number:** NL-2020-01
**Recipient:** Bay St. George South Area Development Association
**Title:** Develop habitat conservation plans and restoration for rivers in Bay St. George
**Approved amount:** $49,828
**Funding provided to date:** $44,828 (remainder of grants funds were returned to grant pool for future grants)
**Summary:** This project further developed Habitat Conservation/Improvement Plans for rivers in Bay St. George. They compiled exist-

ing available habitat information and conducted surveys of tributary streams to compile a current inventory of habitat factors that could or are affecting salmon production. Natural barriers were removed, manmade obstructions recorded, and recommendations were made on how to remove these barriers. Remedial work was conducted to improve fish passage.

**Project Number:** NL-2020-02
**Recipient:** Bay St. George South Area Development Association
**Title:** Evaluate the success of the 2004 watershed conservation strategies for Atlantic salmon in Bay St. George rivers, and develop a new conservation strategy
**Approved amount:** $49,896
**Funding provided to date:** $49,896
**Summary:** This project evaluated the success of the Atlantic Salmon Management Plan for Bay St. George Rivers implemented in 2004 that will help develop a new conservation plan. Current status was determined by monitoring salmon returning by counting fence and estimating spawners through snorkel surveys. Catch and effort data and biological characteristics data was collected from anglers by River Guardians and fence attendants.

**Project Number:** NL-2020-03
**Recipient:** Canadian Parks and Wilderness Society of Newfoundland and Labrador
**Title:** Special Aquatic Areas (SAA) in Newfoundland and Labrador interactive map
**Approved amount:** $45,724 for 2020 (1 of 3 years, total: $98,224)
**Funding provided to date:** $45,724
**Summary:** The Special Aquatic Areas (SAA) Interactive Map will be a beneficial tool for an array of users, hosting data layers of aquatic industry activities, habitats, protected areas, tourism, and more. It will focus on providing users with knowledge of salmon rivers (and historic salmon rivers), population trends, freshwater quality such as temperature, scheduled salmon rivers, and be able to visualize the interaction these concepts have with human activities and habitats in Newfoundland and Labrador.

**Project Number:** NL-2020-04
**Recipient:** Ducks Unlimited Canada
**Title:** Rebuilding the fish ladder at Birchy Basin on the Upper Humber River
**Approved amount:** $15,000
**Funding provided to date:** $15,000
**Summary:** DUC repaired the damaged fish ladder baffles at the Birchy Basin dam site to ensure Atlantic Salmon passage was maintained as the original fish ladder was more than 25 years old and had become a barrier to Atlantic salmon migrating to upstream spawning grounds.

**Project Number:** NL-2020-05
**Recipient:** Environment Resources Management Association
**Title:** Rattling Brook creel census
**Approved amount:** $5,000 for 2020 (1 of 2 years, total: $28,795)
**Funding provided to date:** $5,000
**Summary:** ERMA will conduct a creel census for the 2021 winter angling season within the Rattling Brook watershed. The purpose of this project is to determine if misidentification of fish by recreational anglers is negatively impacting kelt returns and thus possibly effecting the restoration of Atlantic salmon populations in this watershed. Biological data will be collected through the physical sampling of angled fish. With DFO analysis, identification as either kelt or Quananiche will prove if overwintering kelt are being accidentally angled and therefore reducing kelt populations returning to sea.

**Project Number:** NL-2020-06
**Recipient:** Environment Resources Management Association
**Title:** Exploits River creel census
**Approved amount:** $22,280
**Funding provided to date:** $22,280
**Summary:** ERMA conducted a creel census on the main stem of the Exploits River during the 2020 summer Atlantic salmon angling seasons. The principal objective of this project was to establish a current data baseline for Atlantic salmon angling on the main stem of the Exploits River. This was done by quantifying rod days, harvest rates, collecting demographic information of anglers and biological data through the physical sampling of angled fish.

**Project Number:** NL-2020-07
**Recipient:** Freshwater Alexander Bays Ecosystem Corporation
**Title:** Evaluation of success of habitat expansion and enhancement on Upper Terra Nova River Atlantic, phase 5
**Approved amount:** $41,300
**Funding provided to date:** $30,975
**Summary:** This project will help to create a valuable time series of data on the health of salmon stocks in the upper Terra Nova River. The project will continue to evaluate whether the Terra Nova River conservation plan is appropriate or needs to be reevaluated. The project will monitor salmon returns at Mollyguajeck and Grant Falls and the data will help to evaluate changes in abundance of salmon prior to and after enhancement activities. The effectiveness of the new water diversion wall at Mollyguajeck Falls fishway will continue to be evaluated.

**Project Number:** NL-2020-08
**Recipient:** Friends of Salmonier Nature Park
**Title:** Atlantic salmon and wetlands awareness
**Approved amount:** $9,000
**Funding provided to date:** $6,750

# GRANTS & STATUS

## 2020 Project Grants

**Summary:** The goal of the project is to increase awareness, understanding and education on Atlantic salmon and wetlands in Newfoundland & Labrador. The project will have 3 components:

1. Interpretive signage will be placed along this back-country trail addressing best practices on wetland management and Atlantic salmon. 2. Deliver provincial outreach programs addressing salmon conservation and freshwater ecology throughout the province. 3. Expand the Salmon ecology trailside exhibit area within Salmonier Nature Park to better educate visitors.

**Project Number:** NL-2020-09
**Recipient:** Humber Arm Environmental Association Inc.
**Title:** Restoring connectivity on tributaries throughout Western NL; addressing hanging culverts
**Approved amount:** $28,091

Cheticamp River Salmon Association - NS

**Funding provided to date:** $21,068.25
**Summary:** The project will use data acquired through the 2019/20 culvert surveys to identify hanging culverts that disrupt the connectivity of the river system. Using a weighted matrix that considers the culvert drop, area of upstream habitat to be made assessible, etc. culverts will be prioritized for the installation of 20 chutes to facilitate the passage for Atlantic salmon and other species.

**Project Number:** NL-2020-10
**Recipient:** Intervale Assocates Inc.
**Title:** Using education, engagement, and signage to conserve wild Atlantic salmon and protect salmon habitat in Newfoundland and the Labrador straits
**Approved amount:** $39,640
**Funding provided to date:** $39,640
**Summary:** Intervale strengthened and enlarged the "Living Rivers" initiative with four objectives: 1) encourage reports of illegal fishing and sale of wild salmon, 2) prevent threats to salmon habitat, 3) teach best practices and educate about the importance of salmon conservation in NL, and 4) extend the reach to new areas of the Province. Partners assisted with posting and maintaining 177 signs in Eastern, central, and Western Newfoundland.

**Project Number:** NL-2020-11
**Recipient:** Stewardship Association of Municipalities
**Title:** Municipal leadership in Atlantic salmon habitat securement and enhancement
**Approved amount:** $40,000
**Funding provided to date:** $40,000
**Summary:** SAM conducted a GIS analysis to detect important salmon habitat found within municipal planning boundaries and sought to find connectivity within important watersheds. A prioritization exercise was conducted, and mapping results shared. SAM sought to protect habitat from future development of at least 1000 acres of priority riparian habitat by facilitating the signing of formal conservation agreements between municipal councils and the province and helped municipalities update individual Habitat Conservation Plans.

### Nova Scotia

**Project Number:** NS-2020-01
**Recipient:** Cheticamp River Salmon Association
**Title:** Expansion of Cheticamp River plan with a focus on thermal mapping and management & Farm Brook restoration work to address problem berm
**Approved amount:** $13,548
**Funding provided to date:** $13,548
**Summary:** The CRSA had strong support for expanding the 2019 Cheticamp River conservation plan with a focus on developing a thermal map of the river and corresponding thermal management recommendations, as well as conducting further habitat and popula-

tion assessments, and including a post-restoration report to evaluate the effectiveness of a recently completed 5-year restoration project. The CRSA prepared a second edition of the Cheticamp River plan with the above gaps filled and plans additional stream restoration work on Farm Brook.

**Project Number:** NS-2020-02
**Recipient:** Dalhousie University (Sterling)
**Title:** Acidification mitigation plan for high priority salmon watersheds: effectiveness of liming to reduce toxic aluminum levels
**Approved amount:** $10,000
**Funding provided to date:** $7,000
**Summary:** Ionic aluminium (Ali) is toxic to Salmo salar and is known to be a key cause of population declines. The results of the 2014-17 ASCF Dalhousie Ali survey show that all rivers tested have toxic levels of Ali. This project will be using the past survey information to determine how best to address the problem using liming by sampling Ali levels in control and treatment catchments in NS. This information will be used to determine which liming method is best for reducing Ali levels.

**Project Number:** NS-2020-03
**Recipient:** Inverness South Anglers Association
**Title:** Mabou/Mull watercourse restoration plan and continuation of habitat restoration on the Southwest Mabou River
**Approved amount:** $13,750
**Funding provided to date:** $13,750
**Summary:** ISAA had two main objectives for the 2020 season: 1) To complete a comprehensive Salmonid Habitat Restoration Plan for the Mabou/Mull River system located in the Mabou Harbour Watershed. 2) To ensure continuous migratory fish access of wild salmon, and salmonid habitat; and conservation, rebuilding and restoring salmonid fish habitat. ISAA ensured the access to the existing natural and enhanced spawning/holding grounds of the salmonid species were restored.

**Project Number:** NS-2020-04
**Recipient:** Margaree Salmon Association
**Title:** Margaree River watershed in-stream restoration activity for 2020
**Approved amount:** $18,000
**Funding provided to date:** $13,500
**Summary:** In 2020 Margaree Salmon Association will be looking at several brooks to improve the habitat and repair damage done during high water events. MSA will hire a consultant to help identify priority projects on the main river (including tree planting for bank stabilization) and help develop a long-term feeder stream plan for our watershed.

**Project Number:** NS-2020-05
**Recipient:** Nova Scotia Salmon Association
**Title:** The West River acid mitigation project
**Approved amount:** $20,460
**Funding provided to date:** $20,460
**Summary:** Since 2005, the West River Acid Mitigation Project has been mitigating the impacts of acid rain and, resultantly, increasing the annual production of wild Atlantic Salmon smolts > 300%. NSSA requires defensible and scientifically-sound monitoring data to assess the impact of restoration activities. This project supported: (a) a widespread summer electrofishing program, (b) the design and trial of a new fall salmon redd count, and (c) widespread water chemistry surveys.

**Project Number:** NS-2020-06
**Recipient:** Sackville Rivers Association
**Title:** River restoration 2020
**Approved amount:** $18,000
**Funding provided to date:** $9,000
**Summary:** The project will restore habitat through the installation of habitat restoration structures on two watercourses in the Sackville River Watershed – Jackladder Brook and the Little Sackville River. Electrofishing will also take place to track progress of our past and current projects.

**Project Number:** NS-2020-07
**Recipient:** St. Mary's River Association
**Title:** Salmon habitat enhancement (West River St. Mary's)
**Approved amount:** $23,000
**Funding provided to date:** $23,000
**Summary:** This project reduced the average West River bank between Chisholm Brook and Beaver Brook. Groynes and deflectors were placed to trap bed load and help narrow the channel. Sills were installed about every 180 meters. The cold-water springs/brook was utilized to create a refuge as shown on the aerial photo below brook for both adults and juveniles; this is similar to what was done to use other cold-water sites.

## Prince Edward Island

**Project Number:** PE-2019-05
**Recipient:** University of Prince Edward Island – van den Heuvel
**Title:** Determination of factors affecting poor survival from egg to juvenile in Northeastern PEI
**Approved amount:** $5,000 for 2020 (2 of 2 years, total: $19,627)
**Funding provided to date:** $15,970.25
**Summary:** This project will examine survival from two rivers on PEI, North Lake Creek and Priest Pond Creek. Instream and hyporheic environmental variables were monitored such as temperature, oxygen, conductivity, ice cover, flow, spawning habitat and interstitial cover from redds located in the mainstem of each river. Emergence traps were used to quantify the density of alevins emerging from redds and water temperature was used to build models for climate change scenarios.

# GRANTS & STATUS

## 2020 Project Grants

**Project Number:** PE-2020-01
**Recipient:** Central Queens Branch of the PEI Wildlife Federation
**Title:** Restoration of cold, freshwater habitat for Atlantic salmon on the West and Clyde Rivers, PEI
**Approved amount:** $26,000
**Funding provided to date:** $26,000
**Summary:** This project aimed to improve habitat reaches for all stages of the Atlantic salmon life cycle. Major riffle areas below Bolger Park Rd were intensively worked on by creating boulder clusters and manually un-embedding coarse substrate to improve/increase juvenile habitat. Enhancing and creating additional spawning habitat was also a major focus. Nova Scotia river rock was added to potential spawning areas to improve spawning conditions which will hopefully translate into higher juvenile survival.

Central Queens Branch of the Prince Edward Island Wildlife Federation

**Project Number:** PE-2020-02
**Recipient:** Hillsborough River Association
**Title:** Atlantic salmon habitat restoration and enhancement, phase 2
**Approved amount:** $7,479
**Funding provided to date:** $7,479
**Summary:** This project implemented recommendations from a renewed Conservation Strategy for Atlantic Salmon on PEI (2019) on Pisquid River, Clark's Creek, Vernon River, and Head of Hillsborough. This included maintaining beaver-free zones, exposing gravel-cobble, expanding temperature monitoring and water quality testing in salmon rearing habitats, and surveying for redds. In addition, HRA improved in-stream habitat and restored riparian zones by installing rock weirs to create new holding pools and by planting native shrubs and trees.

**Project Number:** PE-2020-03
**Recipient:** Souris and Area Branch of the PEI Wildlife Federation
**Title:** Atlantic salmon population baseline watershed survey in Hay River, phase 2
**Approved amount:** $25,000
**Funding provided to date:** $18,750
**Summary:** SAB will conduct extensive monitoring in Hay River to compile benchmark data to validate and challenge previous assumptions of population numbers. Sex ratio of total returning adult salmon in comparison to redd numbers will be used to help us understand watershed health and what effects they may have on salmon production and survival. Analyzing monitoring data will help to determine correlation between environmental conditions and limiting factors which will aid in retaining and improving salmon stocks in PEI through future restoration and monitoring initiatives.

**Project Number:** PE-2020-04
**Recipient:** Trout Unlimited Canada Prince County Chapter
**Title:** TUPCC salmon habitat maintenance, rehabilitation & management planning 2020
**Approved amount:** $25,000
**Funding provided to date:** $18,750
**Summary:** This project will focus on clearing out major blockages created from blow downs from hurricane Doiron. All three Atlantic salmon rivers in the TUCPCC watersheds will require this work. The goal is to address approximately 15 km of river this year. This project will include stream channel work to establish floodplain access during flood events in the MacAusland's Pond basin. The work will help the stream establish proper stream meander pattern that will naturally result in salmon habitat creation.

# GRANTS & STATUS

2020 Project Grants

## Québec

**Project Number:** QC-2019-02
**Recipient:** Association de protection de la rivière Moisie
**Title:** Impact of rail transport on Atlantic salmon embryos survival in Nipissis River
**Approved amount:** $21,900 for 2020 (2 of 2 years, total: $43,940)
**Funding provided to date:** $38,465
**Summary:** The project will determine if trains passing repeatedly along Nipissis River increases the mortality rate of salmon eggs laid on the riverbed. The project will 1) quantify vibrations of the Nipissis riverbed caused by passing trains, 2) quantify by a lab experiment the impact of measured vibration ranges on Nipissis riverbed on the survival of Atlantic salmon embryos, and 3) develop, as the case may be, management recommendations to limit the impact.

**Project Number:** QC-2019-04
**Recipient:** Contact Nature Rivière-à-Mars
**Title:** Knowledge acquisition on sedimentary dynamics of Rivière-à-Mars for Atlantic salmon habitat restauration
**Approved amount:** $8,750 for 2020 (2 of 3 years, total: $31,500)
**Funding provided to date:** $22,750
**Summary:** In partnership with the Université du Québec in Chicoutimi (UQAC), Contact Nature will start by developing sedimentary balances of Rivière-à-Mars. Those balances will help characterize transport intensity before the rockfill dismantling in the short and long term to quantify processes on a large time scale and to ensure monitoring after the dismantling. The long-term goal is to preserve and rebuild wild salmon habitat on the first 10 kilometers of Rivière-à-Mars.

**Project Number:** QC-2019-08
**Recipient:** Gespe'gewaq Mi'gmaq Resource Council
**Title:** Characterization and protection of thermal refuges drainage area on Matapédia River
**Approved amount:** $13,530 (2 of 2 years, total: $39,683)
**Funding provided to date:** $39,683
**Summary:** The GMRC continued to acquire knowledge on thermal refuges on Matapédia River. With its thermal refuges database and various geomatic tools, the GMRC identified thermal refuges of interest for Atlantic salmon. By educating and engaging riverfront owners, the GMRC worked for the conservation of these critical habitats and for an increased resilience of in-stream Atlantic salmon habitat quality in response to climate change.

**Project Number:** QC-2020-01
**Recipient:** Conseil de la Nation huronne-wendat
**Title:** Identification and characterization of thermal refuges potentially used by salmon in Jacques-Cartier River
**Approved amount:** $10,178 for 2020 (1 of 3 years, total: $32,620)
**Funding provided to date:** $10,178
**Summary:** The goal of this project is to complete an inventory of thermal refuges in Jacques-Cartier River and its main tributaries using a thermal camera attached to a helicopter, and to characterize this sensitive habitat by aquatic and terrestrial monitoring to identify key zones for resource conservation. The specific objectives of the project are to locate thermal refuges, identify and characterize them, validate their use by salmon, and prioritize them for resource protection and conservation.

**Project Number:** QC-2020-02
**Recipient:** Corporation de gestion de la rivière à saumon des Escoumins
**Title:** Characterize short-term and long-term sediment transport to restore hydrogeomorphological (HGM) processes in order to improve Atlantic salmon habitat
**Approved amount:** $8,000 for 2020 (1 of 3 years, total: $24,000)
**Funding provided to date:** $8,000
**Summary:** The goal of the project is to solve the most urgent problem identified in the conservation plan developed in 2019, namely the lack of habitat especially for juveniles. This project will analyze historic hydrogeomorphological pathway of the Escoumins River using aerial photos and analyze the sediment dynamics using a morphologic approach as well as active transponders. Ultimately, this information will be used to develop a preliminary plan that shows targeted and relevant interventions and the prioritization of these activities.

**Project Number:** QC-2020-03
**Recipient:** Corporation de gestion de la rivière Malbaie
**Title:** Atlantic salmon conservation plan for Malbaie River
**Approved amount:** $6,000
**Funding provided to date:** $6,000
**Summary:** The development an Atlantic salmon conservation plan for Malbaie River enabled CGRM to gather and analyze all studies, documents and articles about the river to assess the state of the salmon population and its habitat. This analysis identified problems, information gaps and river-specific issues. The plan will be used in future decision-making and recommendations will be prioritized. Thermographs were also installed to monitor river temperature.

**Project Number:** QC-2020-04
**Recipient:** Corporation de gestion des rivières Matapédia et Patapédia
**Title:** Characterization of the ice regime at Les Marais pool, Causapscal River
**Approved amount:** $10,000
**Funding provided to date:** $10,000
**Summary:** Severe erosion has created secondary breaches which deflected the flow and altered the critical Les Marais pool. A 40 m section of the bank has been stabilized but to continue, the ice re-

# GRANTS & STATUS

## 2020 Project Grants

gime and its strength must be characterized. This characterization is required to ensure that the bank stabilization projects will last at least 50 years. The ice dynamics study is a prerequisite of MDDELCC and CEHQ for legal environmental approval and continuation of bank and habitat rehabilitation to ensure salmon protection and conservation at Les Marais pool.

**Project Number:** QC-2020-05
**Recipient:** Corporation du bassin de la Jacques-Cartier
**Title:** Enhancement of the CBJC salmon fishway
**Approved amount:** $25,000
**Funding provided to date:** $0 (grant funds were reallocated to another project with the remainder returned to grant pool for future grants)
**Summary:** This project was cancelled at the request of the grant recipient due a lack of matching funding.

**Project Number:** QC-2020-06
**Recipient:** Fédération québécoise pour le saumon atlantique
**Title:** National strategy for counting fence deployment on Quebec salmon rivers 2020
**Approved amount:** $12,800
**Funding provided to date:** $12,800
**Summary:** The second generation Ichtyos automatic counter developed by the WSP firm is an efficient tool to count salmon that enter the river in summer, thus the number of salmon that can spawn in the fall. This information is essential for the fine-scale river by river management. Use of this technology is a long-term project connected to the 2016-2026 Atlantic salmon management plan of Quebec. The FQSA worked closely with managers and the MFFP on this major project.

**Project Number:** QC-2020-07
**Recipient:** Fédération québécoise pour le saumon atlantique
**Title:** Challenges, concerns and solutions concerning the adaptation of Quebec salmon fishing industry to climate change
**Approved amount:** $12,800
**Funding provided to date:** $9,600
**Summary:** The FQSA, river managers, anglers, MFFP and MELCC are concerned about the adaptation to climate change. The FQSA will assess the challenges, concerns and anticipated impacts and solutions proposed by managers. It is important to better understand the angler's perception of these challenges and educate them on this subject. This process will enhance the discussion already started by MFFP which includes consideration of changes to water temperatures and regimes connected to climate change.

**Project Number:** QC-2020-08
**Recipient:** Fédération québécoise pour le saumon atlantique
**Title:** Development of educational component "La vie de Salmo avec les Premières Nations" for Histoire du saumon educational program

Société saumon de la rivière Romaine - QC

**Approved amount:** $32,000
**Funding provided to date:** $24,000
**Summary:** FQSA is working to increase awareness among young people of the history and culture of First Nations of Quebec. Working in partnership with local organizations, FQSA will collect salmon stories built around First Nations. FQSA will create partnerships with communities close to salmon to help them create their own committee where they will write their story about salmon. FQSA will coordinate the project, create collective efforts, help communities based on their needs, and prepare educational material, as an online activity in the form of a story map (ArcGIS Online).

**Project Number:** QC-2020-09
**Recipient:** INRS (St-Hilaire)
**Title:** Salmon habitat in Nunavik
**Approved amount:** $10,000 for 2020 (1 of 3 years, total: $30,000)
**Funding provided to date:** $7,500
**Summary:** Climate change is leading to major changes which may increase the number of Atlantic salmon in Nunavik watercourses. This project will give managers an initial appreciation of future changes related to availability of salmon habitats in Nunavik. To this end, we

will 1) use models to generate future water temperature scenarios for Nunavik major watercourses, 2) select rivers that might show an adequate thermal system for salmon in the 2050-2100 window, and 3) using remote sensing data, complete an initial assessment of quality of new habitats.

**Project Number:** QC-2020-10
**Recipient:** Municipalité de Rivière-au-Tonnerre
**Title:** Enhancement project for salmon potential in Sheldrake River
**Approved amount:** $19,000
**Funding provided to date:** $19,000
**Summary:** The salmon population of Sheldrake River was small and doomed to disappear with fewer than 20 spawners estimated in early 2010. Stocking was therefore necessary to restore this population and to allow for the colonization of a section of 62 kilometers which is now available above the falls. A total of nearly 346,000 fry were stocked in the Sheldrake River durin the summer of 2020.

**Project Number:** QC-2020-11
**Recipient:** Organisme de bassin versant du Saguenay
**Title:** Characterization of Atlantic salmon habitat on Saint-Jean–Saguenay River and three of its tributaries
**Approved amount:** $10,000 for 2020 (1 of 2 years; total: $15,000)
**Funding provided to date:** $7,500
**Summary:** The Atlantic salmon population of the Saint-Jean–Saguenay River has not been attaining its optimum conservation threshold and better knowledge of disturbances affecting the watershed is necessary. Since the 1996 flood, this river has been subject to several anthropogenic disturbances. Characterization of the river's morphology, riparian habitat and fish habitat will help increase the understanding of the scope of the disturbances and to identify sensitive areas where restoration is needed to help improve salmon habitat.

**Project Number:** QC-2020-12
**Recipient:** Organisme de bassins versants de Kamouraska, L'Islet et Rivière-du-Loup
**Title:** Salmon development projects adapted to Ouelle River hydrology - preliminary design study
**Approved amount:** $25,000
**Funding provided to date:** $18,750
**Summary:** This project is comprised of two components. The first is a preliminary hydrogeomorphological study to determine if the solutions put forward will solve the problems, are sustainable and to identify areas for action. The second component is a characterization of pools. As the Ouelle River has a significant dynamic of sediment transport, known pools identified in the conservation plan may no longer exist. It is necessary to characterize those pools and, as required, locate new ones.

**Project Number:** QC-2020-13
**Recipient:** Société d'aménagement de Baie-Trinité
**Title:** Development of the Petite Trinité River second falls
**Approved amount:** $8,800
**Funding provided to date:** $8,800
**Summary:** A fishway was installed at the site of the third falls of this river in 2015; however, performance monitoring has shown that salmon are unable to pass the second falls during two of the last three years. The area upriver of the second falls has 56 % of the production potential of the entire river and is therefore critical to the enhancement. In that context, the SABT had plans and specifications prepared for addressing the issues at the second falls and launched a request for proposals in order to determine the actual cost of the development.

**Project Number:** QC-2020-14
**Recipient:** Société de gestion de la rivière Madeleine
**Title:** Atlantic salmon conservation plan for Madeleine River
**Approved amount:** $6,000
**Funding provided to date:** $6,000
**Summary:** The development an Atlantic salmon conservation plan for Madeleine River enabled SGRM to gather and analyze all studies, documents and articles about the river in order to get an image of the state of the salmon population and its habitat. This analysis identifiedproblems, information gaps and river-specific issues. The plan will be used in future decision-making and recommendations will be prioritized. Thermographs were also be installed for monitoring of the river temperature.

**Project Number:** QC-2020-15
**Recipient:** Société saumon de la rivière Romaine
**Title:** Salmon Restoration in Romaine River
**Approved amount:** $19,000
**Funding provided to date:** $19,000
**Summary:** The mission of the SSRR is to restore the salmon population of Romaine River and its main tributary the Puyjalon. The targeted action is the annual release of fry. A total of 260,000 fry were stocked in the river during the summer of 2020.

**Project Number:** QC-2020-16
**Recipient:** Association des pêcheurs sportifs de la Bonaventure
**Title:** Upgrading and correcting culverts on forest roads in the Bonaventure River ZEC territory (sectors D and E)
**Approved amount:** $20,000
**Funding provided to date:** $20 000
**Summary:** The goal of this project is upgrading and correction of culverts to avoid sedimentation in the Bonaventure River as much as possible to limit their impact on the habitat of Atlantic salmon and brook trout. In this project, the corrective work and / or replacing culverts was carried out in order to comply with the standards of the MFFP's "Application guide for the Regulation respecting the sustainable development of forests in the domain of the State". APSB led the installation of major culverts as well as several drainage culverts.

# GRANTS & STATUS

2015–2019 Project Grants

## ASCF Grants 2015 – 2019

Note: This statement reflects only those projects that were completed in 2020 or are ongoing. All other projects from previous years have been finalized.

### Scientific Advisory Committee

**Project Number:** SAC-2017-02
**Recipient:** Memorial University (van Zyll de Jong)
**Title:** Assessing the impact of instream barriers and climate change on wild Atlantic salmon population persistence and production in forested boreal watersheds
**Approved amount:** $23,300 for 2019 (3 of 3 years, total: $63,300)
**Funding provided to date:** $57,475
**Summary:** The purpose of this project is to provide a comprehensive understanding of the cumulative effect of road placement, instream barriers and climate change on wild Atlantic salmon population persistence and accessibility of suitable habitat. This knowledge will be used to develop a novel assessment methodology and decision-making framework.

**Project Number:** SAC-2017-03
**Recipient:** Dalhousie University (Hutchings)
**Title:** Life history modelling project for wild Atlantic salmon
**Approved amount:** $37,500 for 2019
(3 of 3 years, total: $112,500)
**Funding provided to date:** $112,500
**Summary:** The objective of this project is to develop a stochastic, dynamic life history model that can be used to further explore the factors affecting the survival of Atlantic salmon. The work will involve analyses of per capita population growth, life-history elasticity, model sensitivity, and patterns of density dependence (including Allee effects) at different spatio-temporal scales. The model parameters will be based on a review of data throughout the geographic range of the species, updating one undertaken in 1998. The over-arching goal of the project is to apply the model to address fundamental questions pertaining to population viability of Atlantic salmon.

**Project Number:** SAC-2018-01
**Recipient:** University of New Brunswick (Linnansaari & Curry)
**Title:** Effects of striped bass predation on Atlantic salmon smolts in the Miramichi River, NB.
**Approved amount:** $26,200 for 2019 (2 of 2 years, total: $59,003)
**Funding provided to date:** $45,903
**Summary:** This project will build a smolt-threat based model that will estimate consumption of salmon smolts as a function of striped bass population numbers and size distribution (data from DFO collaboration), space (estuary / riverine spawning-grounds), time (relative to peak smolt migration; data from MSA and ASF), and environmental parameters such as water temperature, flows, and tides.

### New Brunswick

**Project Number:** NB-2018-11
**Recipient:** Southeastern Anglers Association Inc.
**Title:** Conservation and restoration of wild Atlantic salmon populations in the Bouctouche watershed with the use of river incubators.
**Approved amount:** $12,000
**Funding provided to date:** $9,000 (remainder of grants funds were returned to pool for future grants)
**Summary:** Working toward the goal of restoring salmon populations in the Bouctouche River, SAA identified locations for the use of in-stream Jordan-Scotty egg incubators. This project was unable to fully complete its objectives due to the unavailability of brood stock. As a result, grant funds are being recovered from the project and will be returned to the provincial pool for future grants.

**Project Number:** NB-2018-16
**Recipient:** Tabusintac Watershed Association
**Title:** Improving wild Atlantic Salmon stocks within the Tabusintac and Esgenoôpetitj watersheds
**Approved amount:** $10,000
**Funding provided to date:** $0 (recovered grants funds were returned to pool for future grants)
**Summary:** The goal of this project was an assessment of the use of incubation boxes for enhancing wild Atlantic Salmon populations in the Tabusintac and Esgenoôpetitj watersheds using historical data along with current water quality parameters and stream characteristics. This project was unable to fully complete its objectives. Grant funds were recovered from the project and returned to the provincial pool for future grants.

### Newfoundland & Labrador

**Project Number:** NL-2015-05
Project **Recipient:** Memorial University (van Zyll de Jong)
**Title:** Development of river restoration planning and analysis tool
**Approved amount:** $20,000 for 2016 (2 of 2- years, total: $46,500)
**Funding provided to date:** $46,500
**Summary:** This project developed a river restoration planning and analysis tool for consistent and thorough planning and evaluation of the potential effects of proposed projects on river habitat and function, particularly for Atlantic salmon.

**Project Number:** NL-2018-09
Project **Recipient:** Salmonid Association of Eastern Newfoundland
**Title:** Educational videos to inform and promote salmon conservation
**Approved amount:** $25,000
**Funding provided to date:** $25,000
**Summary:** This project created and promoted educational videos about salmon conservation. The two videos and shorter clips were promoted on Rogers TV, YouTube, Newfoundland Spot, and Facebook.

# GRANTS & STATUS

2015–2019 Project Grants

**Project Number:** NL-2018-10
Project **Recipient:** Town of Holyrood
**Title:** Fishway construction support, Mahers River.
**Approved amount:** $50,000
**Funding provided to date:** $36,169.25 (unspent grant funds were returned to grant pool for future grants)
**Summary:** This project was cancelled as it was unable to complete its objectives. ASCF is seeking grant repayment.

**Project Number:** NL-2019-11
Project **Recipient:** NunatuKavut Community Council Inc.
**Title:** Watershed management/conservation plan – Shinney's Brook, Labrador
**Approved amount:** $40,862
**Funding provided to date:** $30,646.50
**Summary:** This project is developing a comprehensive environmental management system that will incorporate freshwater, terrestrial, estuarian, and marine ecosystems for greater management and conservation of resources. They are assisting in the development of a watershed management/conservation plan for Shinney's Brook and will incorporate Aboriginal Traditional Knowledge and education on the benefit of conservation and management of resources.

## Québec

**Project Number:** QC-2017-07
**Recipient:** Fondation pour le saumon du grand Gaspé
**Title:** Characterization of three Gaspé Rivers: York, Dartmouth and St-Jean.
**Approved amount:** $8,000 for 2019 (3 of a 3 years, total: $24,000)
**Funding provided to date:** $22,000
**Summary:** The goal of the project is to characterize salmon habitats on Dartmouth, York and St-Jean Rivers with high resolution aerial imaging to map habitat, identify potential spawning grounds, pools and thermal refuges. Project results will be used by managers to identify and protect the most productive areas as well as identify areas that can be developed to increase productivity.

**Project Number:** QC-2019-05
**Recipient:** Corporation de Gestion de la Rivière Saint-Jean-du-Saguenay Inc.
**Title:** Restoring connectivity between Saint Jean River and an abandoned meander
**Approved amount:** $30,000
**Funding provided to date:** $22,500
**Summary:** This project will improve hydrological conditions for salmon in a meander approximately 1,400 meters long which was abandoned after the completion of a major infill and bank protection project. On the left bank, which was infilled and raised, all water circulation was stopped between the watercourse and the meander. The CGRSJS will install a pipe to let the river water in, which will restore its original ecological functions.


Organisme de bassin versant du Saguenay - QC

# SUMMARY OF PROJECT AUDITS

Summary of Project Audits and Evaluations

In 2020 random audits of 19 Foundation funded projects were conducted. The audit process follows a structured method of assessing whether the project is being carried-out in accordance with the funding agreement entered into between the Foundation and the recipient, including project photos and an examination of minutes of meetings and accounting records. The project audits supplement the assessment of performance completed by staff through review of the draft funding agreement, together with interim and final project reports received from recipients.

Due to COVID-19 and the associated recommendations regarding social distancing measures, all audits were conducted via videoconferencing software.

Note: Project audits are not conducted on every project each year. This is due to limited staff resources being available, or that the same recipient group had recently undergone a project audit.

In 2020 the following recipient groups were audited for performance:

## Scientific Advisory Committee Projects

| | |
|---|---|
| SAC-2020-06 | University of New Brunswick – O'Sullivan & Curry |

## New Brunswick Projects

| | |
|---|---|
| NB-2020-01 | ACAP Saint John |
| NB-2020-03 | Conservation Council of New Brunswick |
| NB-2020-06 | Friends of the Kouchibouguacis |
| NB-2020-07 | Groupe de bassin versant de la région de Cap-Pelé |
| NB-2020-08 | Hammond River Angling Association |
| NB-2020-15 | Petitcodiac Watershed Alliance |

## Newfoundland & Labrador Projects

| | |
|---|---|
| NL-2020-03 | Canadian Parks and Wilderness Society |
| NL-2020-04 | Ducks Unlimited Canada |
| NL-2020-08 | Friends of Salmonier Nature Park |
| NL-2020-11 | Stewardship Association of Municipalities |

## Nova Scotia Projects

| | |
|---|---|
| NS-2020-01 | Cheticamp River Salmon Association |

## Prince Edward Island Projects

| | |
|---|---|
| PEI-2019-05 | University of Prince Edward Island: van den Heuvel |
| PEI-2020-01 | Central Queens Branch of the PEI Wildlife Federation |
| PEI-2020-04 | Trout Unlimited Canada Prince County Chapter |

## Québec Projects

| | |
|---|---|
| QC-2020-01 | Conseil de la Nation huronne-wendat |
| QC-2020-11 | Organisme de bassin versant du Saguenay |
| QC-2020-14 | Société de gestion de la rivière Madeleine |
| QC-2020-15 | Société saumon de la rivière Romaine |

Ducks Unlimited Canada - NL

MacMillan Lawrence & Lawrence
*Chartered Professional Accountants*

## Report of the Independent Auditor on the Summary Financial Statements

**To the Directors of The Atlantic Salmon Conservation Foundation**

*Opinion*
The summary financial statements, which comprise the summary statement of financial position as at December 31, 2020 and the summary statements of operations and changes in net assets for the year then ended, are derived from the audited financial statements of The Atlantic Salmon Conservation Foundation for the year ended December 31, 2020.

In our opinion, the accompanying summary financial statements are a fair summary of the audited financial statements, in accordance with Canadian accounting standards for not-for-profit organizations.*Summary Financial Statements*
The summary financial statements do not contain all the disclosures required by Canadian accounting standards for not-for-profit organizations. Reading the summary financial statements and the auditor's report thereon, therefore, is not a substitute for reading the audited financial statements and the auditor's report thereon.

*Summary Financial Statements*
The summary financial statements do not contain all the disclosures required by Canadian accounting standards for not-for-profit organizations. Reading the summary financial statements and the auditor's report thereon, therefore, is not a substitute for reading the audited financial statements and the auditor's report thereon.

*The Audited Financial Statements and Our Report Thereon*
We expressed an unmodified audit opinion on the audited financial statements in our report dated March 19, 2021.

*Management's Responsibility for the Summary Financial Statements*
Management is responsible for the preparation of the summary financial statements in accordance with Canadian accounting standards for not-for-profit organizations.

*Auditor's Responsibility*
Our responsibility is to express an opinion on whether the summary financial statements are a fair summary of the audited financial statements based on our procedures, which were conducted in accordance with Canadian Auditing Standard (CAS) 810,*Engagements to Report on Summary Financial Statements*.

Fredericton, NB
March 19, 2021

MacMillan Lawrence & Lawrence
Chartered Accountants

# REPORTS & STATEMENTS

## Statement of Financial Position

| | December 31, 2020 | December 31, 2019 |
|---|---|---|
| **Assets** | | |
| Current | | |
| Cash and cash equivalents | $ 8,733 | $ 14,896 |
| Receivables | 44,254 | 22,893 |
| Prepaids | 17,763 | 16,044 |
| | 70,750 | 53,833 |
| Investments | 43,372,665 | 39,525,075 |
| | $ 43,443,415 | $ 40,061,356 |
| **Liabilities** | | |
| Current | | |
| Payables and accruals | $ 273,153 | $ 182,536 |
| Deferred contributions | - | 40,000 |
| | 273,153 | 222,536 |
| **Net Assets** | | |
| Reserve Fund – Internally Restricted | 270,438 | 231,135 |
| Endowment Fund – Externally Restricted | 42,899,824 | 39,538,253 |
| ANBL – Externally Restricted | - | 69,432 |
| | 43,170,262 | 42,480,908 |
| | $ 43,443,415 | $ 42,763,789 |

Approved on behalf of the Board:

Director

Director

# REPORTS & STATEMENTS

## Statement of Operations and Change in Net Assets

| Year ended December 31, | 2020 | 2019 |
|---|---|---|
| **Revenue** | $ 2,436,135 | $ 4,793,736 |
| **Expenses** | | |
| Administration | 435,427 | 442,396 |
| Grants | 1,126,757 | 1,517,462 |
| Investment management fees | 184,597 | 191,790 |
| | 1,746,781 | 2,151,648 |
| Excess of revenue over expenses (expenses over revenue) | $ 689,354 | $ 2,642,088 |
| Net assets, beginning of year | $ 42,480,908 | $ 39,838,820 |
| Excess of revenue over expenses (expenses over revenue) | 689,354 | 2,642,088 |
| Net assets, end of year | $ 43,170,262 | $ 42,480,908 |

For the 2020 Fiscal Year total remuneration paid to one Foundation employee whose remuneration exceeds $100,000 per year was $161,285 consisting of the following: Salary = $134,484; fees = $0; travel expenses = $12,300; CPP = $2,898; EI = $1,198, allowances $0; and benefits = $10,405.00

# ASCF VOLUNTEERS & PERSONNEL

Officers, Directors & Board Committees

## Officers

Hon. Rémi Bujold, P.C., C.M.,
*Chairman & President*,
Québec, QC

Robert Bishop, C.A.,
*Vice-Chairman & Vice-President*,
St. John's, NL

Jim Jones
*Secretary*,
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Mark Delaney, C.A.,
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## Directors

Réné Aucoin
Chéticamp, NS

Kastine Coleman
Corner Brook, NL

Michael Durant
Charlottetown, PEI

James Lawley
Halifax, NS

David Peter Paul
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Nation, NB

Daniel Tremblay
Montréal, QC

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John LeBoutillier
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**Audit & Finance:**
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**Policy & Program:**
Réné Aucoin
Jacqueline Girouard
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Sylvie Tremblay

## Staff

Stephen Chase, *Executive Director*
Darla Saunders, *Conservation Program Manager*
Allyson Heustis, *Conservation Program Coordinator*

L-R: Stephen Chase, Darla Saunders and Allyson Heustis

# ASCF VOLUNTEERS

Advisory Committees

### Scientific Advisory Committee

Dr. Ian Bradbury, François Caron, Yvon Coté, Dr. Rick Cunjak, Peter Cronin, Brian Dempson, Dr. Carole-Anne Gillis, Dr. Jeff Hutchings, David Reddin (Chair).

### New Brunswick Advisory Committee

Kathryn Collet (Chair), David Dunn, Dr. Michelle Gray, Todd Kennedy, Jim Marriner, John Pugh P. Eng., Sara Richard, Dr. Charles Sacobie.

### Nova Scotia Advisory Committee

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### Newfoundland & Labrador Advisory Committee

Brian Dempson, Gregory Jeddore, Rick Maddigan, Jim McCarthy, Carl McLean, Fred Parsons (Chair), Chris Wessel, Travis Van Leeuwen.

### Prince Edward Island Advisory Committee

Randy Angus, Rob Burnett, Todd Dupuis, Mary Finch (Chair), Brad Ledgerwood, Shawn MacDougall, Ottis McInnis, Rosanne MacFarlane.

### Comité consultatif provincial du Québec

Dr. Thomas Buffin-Bélanger, Richard Firth, Véronique Gilain, Jean-Pierre Lebel, Frédéric Lévesque, Jean Malec, Sébastien Ross (Vice-Chair), Sylvie Tremblay.

# 2020 VOLUNTEER PROFILES

Meet a few of ASCF's stellar volunteers, who are crucial to realizing ASCF's work for Atlantic Salmon conservation.

Réné Aucoin

## Meet Réné Aucoin, a member of our Board of Directors.

Born and raised in Cheticamp, Cape Breton Island, where he now lives in retirement.

His introduction to fly fishing came at the age of about 14 when he happened upon a group of veteran anglers fly fishing for trout and salmon at the tidal pool on the Cheticamp river. "Their casting with old bamboo rods seemed almost magical." He was introduced to salmon fishing—and the conservation ethic—a couple of years later by an American tourist angler who spent his summers in the Cheticamp area. "His mantra of catch and release and retiring a fly after it caught a salmon, was quite bewildering to my 16-year-old self who had grown up in a culture of catch everything that the law permitted and sometimes even a bit more."

Réné is now a certified fly-casting instructor with Fly Fishers International. After university, he founded the Cheticamp River Salmon Association and became a member of the Margaree Salmon Association (MSA), the Nova Scotia Salmon Association (NSSA) and the Atlantic Salmon Federation (ASF).

"Like many others in early 90s, seeing the increasing plight of our native salmon, my focus shifted towards conservation efforts regarding salmon, working with Parks Canada and later on with both NSSA and ASF. I eventually became president of NSSA and an ASF Board member.

"My conservation efforts, via the Cheticamp River Association, have focused primarily on rivers and streams in the Cheticamp River watershed where, over the years, we jointly managed two counting fences, completed a five-year restoration program on the Lower Cheticamp as well as undertaking many other trout and salmon conservation projects."

"Becoming a member and director of the Atlantic Salmon Conservation Foundation (ASCF) has been a natural progression in my career as a salmon conservationist. The ASCF plays a vital role in the conservation of the Atlantic Salmon throughout its range in Atlantic Canada and Quebec—not only as an important financial partner in our restoration projects, but perhaps more importantly for its role in sponsoring science projects and studies which are key to solving the riddles surrounding the Atlantic Salmon."

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Kastine Coleman

## Meet Kastine Coleman, a Member of our Board of Directors

Kastine grew up in Corner Brook, NL, and currently lives there raising her three young children. She teaches yoga classes online with her mother through her yoga studio—but come spring "I focus a lot on fishing-related muscles". She also manages several websites and is co-host of an upcoming tv/web show called Fish Hunt Feast.

She was introduced to fly fishing by her father when quite young.

"My sister, two brothers and I would tag along with him to the salmon rivers. We would watch him from the shore and take a cast every now and then. When I was 10 years old the local conservation group SPAWN came to our classroom and taught about the life cycle of salmon, visiting throughout the year as the salmon matured."

From that moment salmon conservation became a passion. "On seeing a fish I would immediately attempt to determine the sex, and I would look for salmon par anytime I was near a body of water."

She had an uncle who would send salmon flies in the mail, and when he died she inherited his vise. "I started tying my own flies but would never fish with them—they were pretty gnarly looking!"

Twenty-five years later she has learned to tie properly and in the past two years every fish caught has been on a fly she tied. But she didn't stop there.

"In 2019 I passed my Fly Fishers International exam and became a certified fly casting instructor. This was a huge milestone for me, as I had been working towards it for two years. I started teaching lessons with my focus being mainly on women and children. The reason for this is because I couldn't ever find another female angler to go fishing with. Each time I met someone in the grocery store or on the street they would tell me how they always wanted to learn fly fishing but had never gotten the chance."

She also supposed that if she could teach her children the basics at a young age they may grow into the sport knowing the proper techniques and more importantly, the proper way to handle and release a fish.

"I enjoy the challenges of teaching all levels of anglers throughout the year. When the salmon season is open I offer guided fishing with my partner Terry Byrne and include an on-water lesson if the angler is open to it.

"We began hosting experience-based salmon fishing trips (women only, and also co-ed) where a fishing trip of 1-7 days is coupled with beautiful meals, wine pairing, casting lessons, guided fishing and optional yoga. What isn't there to love? These trips have been a huge success and we are setting up dates for 2021 (covid-pending of course)."

Last year the pair started a tv/web show called Fish Hunt Feast (www.FishHuntFeast.com). They film fishing and hunting adventures and showcase the best Atlantic Salmon fishing and moose hunting in Newfoundland & Labrador.

"Our goal is to inspire others to become involved in the sport, to show our passion for conservation, and to educate our viewers to the best of our ability. We show clips of casting technique, instruction on how to read certain bodies of water, some fly tying, foraging and, of course, lots of exciting takes on dry fly! During select episodes we also have guest fishermen, hunters and chefs who bring our backyard cooking to the next level."

Kastine is a volunteer board member of the local Salmon Preservation Association (www.SPAWN1.ca), and an ambassador for Keep Fish Wet (www.keepfishwet.org), a science-based conservation group that helps anglers improve the outcome for each fish they release.

She acknowledges things aren't good in the Atlantic Salmon world. "Stocks are declining at an alarming rate and there are so many factors contributing to this decline—aquaculture, sea temperatures, predation, global warming, poaching, to name a few. We've all got to be better to give the fish a fighting chance at survival."

But while Atlantic Salmon stocks are in decline around the globe she still has hope things can recover.

"Atlantic Salmon, as we all know, are a very resilient species. With solid science-based conservation decisions by Federal and Provincial Governments, respected salmon conservation groups shining a light on provincial and river specific threats, we still have an opportunity. Governments both federally and provincially need to listen and take steps to ensure this species doesn't disappear. We need more science on smolt survival at sea and general survival rates during this growing phase of Salmon development. We must become better stewards of land and sea.

"Thankfully volunteer groups like the ASCF have stepped up to sponsor local groups in their quest to make sure of the survival of the species. I am proud to be part of this organization and love seeing the proposals coming through from groups and people that have invested their time and energy into saving the Atlantic Salmon".

# 2020 VOLUNTEER PROFILES

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Mark Delaney

## Meet Mark Delaney, a member of our Board of Directors

Mark was born and raised in Moncton, NB and current lives in Dieppe, NB. Mark is a Partner in the Tax Services group in New Brunswick with Grant Thornton LLP.

Mark has been active in a number of outdoors activities from a young age and is just as likely to be found flyrod in hand on an Atlantic Salmon river as in a marsh with his dog at his side. One of his proudest moments was being there one August morning on the Renous River to witness both of his sons land Atlantic Salmon in the same pool in which he had done the same when he was their age. His love of angling for Atlantic Salmon, the beautiful communities he has visited and the many friendships that his made over the years pursuing the King has created a strong desire to be involved in Atlantic Salmon conservation and do more to help wild Atlantic Salmon.

Mark is also a member and director of the Miramichi Salmon Association where he serves on a number of committees and is a supporter of a number of other conservation organizations including Ducks Unlimited and the Atlantic Salmon Federation.

Mark feels very privileged to have the opportunity to be involved as a member and director of the Atlantic Salmon Conservation Foundation and takes great pride in the role and support he can give to the ASCF to help it carry-out its very important conservation goals and mandate.

## Meet Todd Dupuis, a member of our Prince Edward Island Advisory Committee

Todd Dupuis was born on the mighty Miramichi where he spent weekends on the Little Southwest branch chasing brook trout or making tea over an open fire with his grandfather; so his appreciation of the outdoors was entrenched at a young age.

Todd moved to PEI in the early 80s to attend university and still resides there today. A serious outdoor enthusiast he is an avid hiker, snowshoer, skier and can also be found sailing the waters of the Northumberland Straight during the summer months.

Todd is a science graduate of the University of Prince Edward Island and worked in the watershed restoration field for more than 25 years. As a technical advisor for many community-based stream restoration projects across Prince Edward Island and to the Government of Prince Edward Island on fish passage issues, Todd has built strong relationships with many environmental stakeholders within the province.

He co-authored the "Technical Manual for Watershed Management on Prince Edward Island" and has taught at the university level. As a member of the Prince Edward Island Round Table on Resource Land Use and Stewardship Commission he has supported the development of a resource land strategy for the province. He co-chaired the Bonshaw Hills Public Lands Committee which shepherded the development of the Bonshaw Hills Provincial Park which is PEI's largest. Todd is presently the Executive Director of PEI Provincial Department of Environment, Water and Climate Change and Environment (EWCC).

Todd began working summer jobs in the river restoration field in PEI while a student at UPEI. In 1992 he accepted a position with the Atlantic Salmon Federation finishing in 2014 as the Executive Director of Regional Programs in Atlantic Canada and Quebec.

Todd Dupuis

He still has a role conserving Atlantic salmon through his position with the provincial government. The Department of EWCC is responsible for ensuring river systems in PEI have sufficient water volumes and water quality to sustain aquatic wildlife. The Department is also responsible for action on climate change, which certainly has implications for wild Atlantic salmon.

Volunteers have always been critical to the success of salmon conservation in PEI. The Island is blessed with a strong network of watershed management organizations with the overall goal to improve and protect the environmental quality of watersheds for the benefit of all Island residents. These organizations, with their many volunteers, are the backbone of efforts to conserve and restore habitats essential for the survival of wild Atlantic salmon. This Alliance achieves their goals by promoting co-operation and by providing a strong, united voice in addressing Island-wide watershed issues.

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Mike Durant

## Meet Mike Durant a member of our Board of Directors

A native Islander, Durant grew up in Summerside but now lives in Charlottetown.

"Since the mid to late 1970's changes in land use caused major damage to our rivers; fish kills from pesticide laden fields, sediment and nitrate contamination following intense rainfall events, deforestation and removal of hedgerows, and extraction of groundwater from high capacity wells have all contributed to a gradual decline in the health of our watersheds."

"I had noticed posters recognizing ASCF`s contributions to various projects throughout PEI and I was intrigued by the diversity and scope of the projects that were supported. As I started my volunteer efforts with our watershed group ASCF was a major funder of the work that was underway; ASCF continues to this day to be a strong supporter of CQWF."

Durant says the ASCF is a crucially important partner in restoring salmon habitat throughout the Maritimes. "ASCF's information sharing programs such as the Salmon Hub, its training and networking opportunities, and its project funding all provide direct and measurable benefits to watershed groups."

He encourages others to get involved, noting watershed restoration requires a long-term investment in time and resources and, adding ASCF's project funding model, allows watershed groups to pursue small and medium size projects that support an incremental year-over-year approach to habitat restoration. Successful watershed restoration activities can certainly be adopted but they must also be adapted; ASCF supports both of these best practices."

## Meet Richard Firth, a member of our Québec Advisory Committee

Richard grew up in a family of six in the village of Matapédia, Québec and was immersed in the salmon world from an early age. The oldest of four children, he would accompany, at different periods growing up, either his father (as a young guide with him at the Restigouche Salmon Club) or his mother (who was head cook at the main lodge of the salmon club in Matapédia).

"The salmon fishing industry was an especially important and predominant part of our heritage and our livelihood. It provided an income for numerous generations of the Firth family." In the early years of his education (grades 6,7 & 8), he had the opportunity to go to school with students of Listuguj (not realizing at the time that this would become, later in his career, extremely helpful in appreciating the realities and ways of life of the Aboriginal communities).

Richard Firth

After completing high school in Matapedia 1972, he enrolled in the Canadian Armed Forces and served for three years. In 1975, upon his return to Matapedia and getting married, he renewed his involvement in the salmon angling industry becoming a guide with the department of Leisure, Fish and Game of Quebec on the Matapedia river. After a couple of years as a guide, in 1977, he became head guide and in 1987 took on the job as manager of the Matapedia and Patapedia rivers for the crown corporation the Société des E´tablissements de Pleins du Québec (SEPAQ).

In 1992, the government transferred the management of the Matapédia, Patapedia and Causapscal rivers to a local grass roots organisation known as the Corporation de gestions des rivières Matapédia et Patapédia (CGRMP). He was named the first executive director of this newly-formed non-profit organization. He held that position until retirement in 2012.

"All during those wonderful years involved with salmon angling, I was fortunate to touch different aspects of this beautiful industry. First as young boy, learning the facets of guiding with my dad in the private sector, then as a guide myself in the public sector and further on in life, as a manager of numerous guides and employees working to promote and perpetuate Salmo solar.

"As acting executive director of the CGRMP, I participated and collaborated with different salmon conservation groups; director and chaired the Restigouche River Watershed management Council (RRWMC), director and chaired the Fédération des gestionnaires de rivières à saumon du Québec (FGRSQ), board of directors for Fédération Québécoise du saumon atlantique du Québec (FQSA). I also collaborated in the start up of the Organisme de basin versant Matapédia et Restigouche (OBVMR).

"My perspective on the progress of salmon conservation is a positive one. I recall as a young guide for the RSC (bowman for my dad) in 1971 listening to a conversation between him and his fisherman. That day, we were fishing Lower Patapedia on the Million-dollar pool on the Restigouche. They were discussing how tough the season had

# 2020 VOLUNTEER PROFILES

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been since there was so few salmon in the watershed. The fisherman ended the discussion by stating that if things continued to evolve the way they were, there would be no salmon left to perpetuate the species by the year 2000. I must agree, things looked gloomy at the time. However, the species is very resilient and my experience tends to help me believe that if we continue to work by implicating as many people as possible at all levels towards helping Salmo Salar return to his spawning grounds, he will continue to return."

Dr. Carol-Anne Gillis

## Meet Dr. Carol-Anne Gillis, a member of our Scientific Advisory Committee.

Dr. Carol-Anne Gillis came by her salmon conservation ethic bona fides honestly. Born into a Restigouche community she naturally became associated with the angling industry on the river at various times a manager, a guide, a cook and a cleaner.

Her formal education saw her just naturally move into biology with the river as her main focus.

When she moved forward into masters and PhD studies her applied research saw her explore the impact of didymo. This is an aquatic growth that causes severe environmental degradation in water courses where it blooms, producing large quantities of a brown jelly-like material called "brown snot" or "rock snot". Dydimo is native to Europe but is an invasive species both in New Zealand (where it has ruined a number of important fisheries), south America, and in parts of North America—including the Restigouche. It is commonly spread on anglers' boots. At one point the Restigouche situation was worse than New Zealand, but severe Canadian winter temperatures have, however, tempered the infections.

Carol-Anne morphed as well into a serious salmon angler before transitioning into conservation work. The Atlantic Salmon Conservation Foundation has supported her activities for a number of years.

She says her eventual direct involvement in the Gespe'gewaq Mi'gmaq Resource Council taught her a great deal and she found herself extremely sympathetic to indigenous causes.

Despite worrisome downward trends in salmon populations worldwide, she remains optimistic that relevant research, applied to constantly improving watersheds, will eventually win the day. "There's an army of volunteers and scientists out there where the passion remains strong."

But she worries that there is a dearth of young people joining the ranks of those passionate conservationists willing to step up. "We need young recruits in next decade."

## Meet Dr. Charles Sacobie, a member of our New Brunswick Advisory Committee

Dr. Charles Sacobie lived in New Brunswick his entire life, moving several times between Woodstock, Fredericton while finally settling down outside Saint John. Of Wolastoqiyik descent and a member of Woodstock First Nation, Atlantic Salmon was a major food source for his family growing up. Salmon, he says, "is a major part of economics, culture, and our overall wellbeing".

"As a child I enjoyed exploring the wilderness surrounding my home which included streams, brooks and the Nerepis River." he says. "I would often spend hours during the summer watching anglers fish for salmon. I found it peaceful to watch but never fished myself and still to this day have never gone fishing."

Dr. Charles Sacobie

Dr. Sacobie is a member of the biology teaching faculty at the University of New Brunswick and teaches first-year biology laboratory courses along with comparative vertebrate endocrinology.

"I studied fish endocrinology during my master's thesis, and nutritional biochemistry during my PhD. Most of my publications focus on fish physiology and applied aquaculture research. Over the past five years I have slowly started to develop my research lab with the focus on conservation physiology. I represent UNB Biology on the Aquaculture and Fisheries Committee of Science Atlantic and is also a member of the Canadian Society of Zoology."

He has been working on a few proposals to conduct research that would directly look at questions involving salmon conservation. The only other direct involvement with salmon conservation would be membership with Atlantic Salmon Conservation Foundation.

"During my PhD I worked on several research projects that focused on triploid Atlantic salmon for use in the aquaculture industry. The idea behind the use of triploids in aquaculture is that triploids contain three complete sets of homologous chromosomes in their genomes, resulting in reproductive sterility in most species of fish. This aspect of their biology makes the use of triploids a practical approach for preventing genetic introgression of maladaptive alleles from escaped farmed fish into wild populations, which is an issue of great concern for Atlantic salmon conservation.

# 2020 VOLUNTEER PROFILES

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"There has been an enormous effort made in salmon conservation, but the road ahead is still very long. There is still much work to do any many questions that we need to ask, we must continue with our efforts and require further support from governments, communities, public and researchers.

Without volunteers, he says, many of the projects cannot be completed. Many individuals have put in countless hours and some have spent most of their life volunteering for causes that they believe in. The individuals involved with many conservation groups volunteer the time with review of proposals or with on the ground restoration activities. Research cannot be conducted without volunteers."

Daniel Tremblay

## Meet Daniel Tremblay, a member of our Board of Directors

Daniel began his investment management career in 1975 with Molson Rousseau, an independent securities dealer. In 1982, he joined Lévesque Beaubien Geoffrion, a firm acquired by the National Bank in 1988.

Since 2015, he has chosen to pursue his career at Raymond James Ltd. In 1999, as a portfolio manager with Financière Banque Nationale, Daniel pioneered private portfolio management. He has been repeatedly recognized by my peers and employers for his professionalism, integrity, performance and social involvement. Daniel is a recipient of the prestigious Jean-Louis Lévesque Award and the Best Performance Award at the Canadian level. In addition, he was also a finalist at the Canadian level as advisor of the year.

A former Club Richelieu governor, former president of the Kiwanis Saint-Laurent Club of Montreal, 25-year director of the Gemini Foundation, former president Daniel is still active as an administrator at La Colonie Sainte-Jeanne d'Arc. He is also involved on many levels in various non-profit organizations.

As a lover of life, Daniel is passionate about adventure travel. He is an avid sportsman, enjoying golf, fishing and skiing, including being former member of the Canadian Ski Instructors Alliance (CSIA) Level 3.

## Meet Chris Wessel, a member of our Newfoundland & Labrador Advisory Committee.

Like most volunteer contributors to the cause of Atlantic salmon conservation, Chris Wessel has an angling background His interest in the outdoors generally goes 'way back, particularly fishing. He started fly fishing for Atlantic Salmon at 17 years of age on River John in Nova Scotia, but It took him three years to hook his first Autumn salmon. He recognized from a young age "how precious this species was and how much admiration it deserved".

Chris Wessel

Not unlike most enthusiasts he discovered angling for Atlantic Salmon had become an obsession. He honed his skills as a hook and release angler. "To me, this species is worth more to me swimming."

He is also very passionate about fly tying where he spends hours a day at it in the off season—and he is also a licensed angling guide taking on a few clients a year.

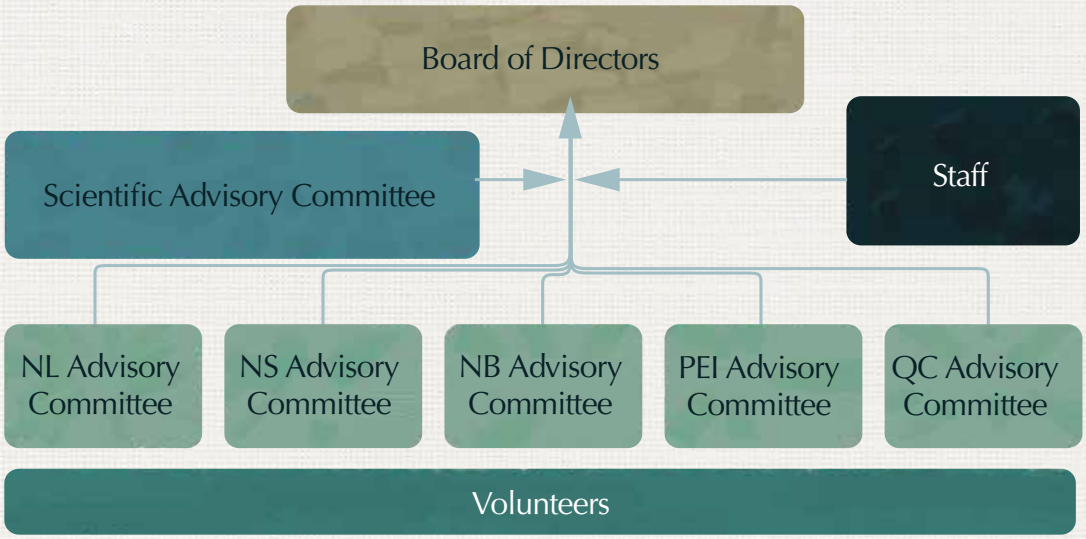
Chris graduated from the Fish and Wildlife Technician Program at the College of the North Atlantic in Corner Brook, NL in 2005 and began his career working for the very successful Bluenose Coastal Action Program in Mahone Bay, NS in 2006. Chris worked there for one year as a project co-ordinator before moving back to Newfoundland and starting work as a Wildlife Officer.

"Enforcement has definitely been a great fit for me. I love being in the field trying to catch the individuals who threaten the species I have had so much admiration for."

"The attention being given to Atlantic Salmon and their habitat currently is very nice to see and be a part of. There is so much knowledge within the ASCF group and I love seeing it applied to the well-being of our wild Atlantic Salmon. It's interesting to see the different issues each province faces with Atlantic Salmon conservation and what these provinces feel is important to focus efforts on. I also find it very interesting to see new technology and old methods being used in conservation.

"I am very humbled to be a part of such an amazing team of volunteers. To see the dedication everyone brings for this beloved species is nothing short of amazing. I can't wait to see what the future holds for conservation of Atlantic Salmon in the Atlantic provinces."

# ASCF STRUCTURAL MODEL




# CONSERVATION PARTNERS

The 2020 List of Our Conservation Partners

Abegweit Conservation Society
Adam Chateauvert Consulting
Agence Mamu Innu Kaikusseth
Anqotum Resource Management
Association de conservation de la vallée du Gouffre
Association de protection de la rivière Moisie
Association de gestion halieutique autochtone Mi'kmaq et Malécite
Atlantic Canada Fish Farmers Association
Atlantic Coastal Action Program Saint John
Atlantic Salmon Federation
Atlantic Water Network
Bay St. George South Area Development Association & Local Service District
Bay St. George South Ride for Ages Inc.
Bedford Bay Limited
Camp de pêche de la rivière Moisie inc.
Canada Summer Jobs
Canadian Foundation for Innovation
Canadian Heritage - Patrimoine canadien
Canadian National Railway Company
Canadian Parks And Wilderness Society of Newfoundland and Labrador
Canadian Rivers Institute
Central Queens Branch of the PEI Wildlife Federation
Cheticamp River Salmon Association
Charlo Salmonid Enhancement Center
City of Fredericton
Clean Annapolis River Project Society
Clean Foundation
Coastal Action
Collaboration for Atlantic Salmon Tomorrow
College of the North Atlantic
Conseil de Gestion du Bassin Versant de la rivière Restigouche
Conseil de la Nation huronne-wendat
Conseil de l'Eau de la Gaspésie
Conservation Corps Newfoundland and Labrador
Cooke Aquaculture
Corner Brook Port Corporation
Corporation de gestion de la rivière à saumons des Escoumins
Corporation de gestion des rivières Matapédia et Patapédia
Corporation de gestion de la rivière St-Jean Saguenay
Corporation de gestion des rivières Matapédia-Patapédia
Corporation du bassin de la Jacques-Cartier
Corporation du saumon de la rivière Malbaie
Conservation Corps Newfoundland and Labrador
Conservation Council of New Brunswick
Contact Nature Rivière à Mars
Dalhousie University
Ducks Unlimited Canada
Eastern Shore Wildlife Association
Echo Foundation
Eddy Out Depot
Eel River Bar First Nation
Elsipogtog First Nation
Employment and Social Development Canada - Emploi et développement social Canada
Énergie NB Power
Environment and Climate Change Canada - Environnement et Changement Climatique Canada
Environment Resources Management Association
Fédération québécoise du saumon atlantique
Fisheries and Oceans Canada - Pêches et Océans Canada
Flat Bay Indian Band
Fondation de la Faune du Québec
Fondation Hydro-Québec pour l'environnement
Fondation pour le saumon du grand Gaspé
Fondation Saumon
Fort Folly First Nation
Fort Folly Habitat Recovery
Freshwater Alexander Bays Ecosystem Corporation

# CONSERVATION PARTNERS

The 2020 List of Our Conservation Partners

Friends of the Kouchibouguacis
Friends of the Salmonier Nature Park
Fundy Trail Development Authority Inc.
Gespe'gewaq Mi'gmaq Resource Council
Glencore
Greening Spaces
Groupe du bassin versant de la région de Cap-Pelé Inc
Hammond River Angling Association
Hillsborough Rivers Association
Houlton Band of Maliseets
ACAP Humber Arm Environmental Association Inc.
Hydro-Québec
Institut national de recherche scientifique
Intervale Associates Incorporated
Inverness South Anglers Association
Kennebecasis Watershed Restoration Committee
Liber Ero
Listuguj First Nation
Mabou River Inn
Maliseet Nation Conservation Council
Margaree Salmon Association
Memorial University
Metepenegia First Nation
Ministère des Forêts, de la Faune et des Parcs du Québec
Miramichi River Environmental Assessment Committee
Miramichi Salmon Association
Mitacs
Moncton Fish and Game Association
Municipalité de Rivière-au-Tonnerre
Nashwaak Watershed Association Inc.
Natural Resources Canada - Ressources naturelles Canada
Natural Sciences and Engineering Research Council - Conseil de recherches en sciences naturelles et en génie du Canada
Nature Conservancy of Canada
Nepisiguit Salmon Association
New Brunswick Aboriginal Peoples Council
New Brunswick Community College - Collège communautaire du Nouveau-Brunswick
New Brunswick Department of Agriculture, Aquaculture and Fisheries – Ministère d'Agriculture, aquaculture et pêches
New Brunswick Department of Transportation and Infrastructure – Ministère de transport et infrastructure
New Brunswick Department of Energy and Resource Development - Ministère du Développement de l'énergie et des ressources
New Brunswick Department of Environment and Local Government - Ministère de l'environnment et des gouvernements locaux du Nouveau-Brunswick
New Brunswick Department of Post-Secondary Education, Training and Labour - Ministère de l'éducation postsecondaire, de la formation et du travail de Nouveau-Brunswick
New Brunswick Wildlife Trust Fund - Fonds de fiducie de la faune du Nouveau-Brunswick
Newfoundland & Labrador Department of Advanced Education, Skills, and Labour
Newfoundland & Labrador Department of Fisheries and Land Resources
Newfoundland & Labrador Department of Municipal Affairs and Environment
Newfoundland & Labrador Department of Tourism, Culture, Industry, and Innovation
Newfoundland Ride for Ages
North Shore MicMac District Council
Nova Scotia Department of Lands and Forestry
Nova Scotia Salmon Association
NSLC Adopt A Stream
Ocean Tracking Network
Organisme de bassin versant du Saguenay
Organisme de bassin versant Matapédia-Restigouche
Organisme de bassins versants de Kamouraska, L'Islet et Rivière-du-Loup
Organisme de bassins versants de la Haute-Côte Nord
Oromocto River Watershed Association
Pabineau First Nation
Parks Canada - Parcs Canada
Parc national de la Jacques-Cartier
Patagonia
Perennia Research Inc.
Petitcodiac Watershed Alliance
Pirates Haven Chalets & Adventures
Pourvoirie Moisie Nipissis
Première Nation Malecite de Viger
Prince Edward Island Department of Communities, Land & Environment
Prince Edward Island Department of Transportation, Infrastructure & Energy
Prince Edward Island Employment Development Agency
Prince Edward Island Department of Forests, Fish and Wildlife
Prince Edward Island Jobs for Youth Program
Prince Edward Island Post Secondary Program
Prince Edward Island Water Management Fund
Prince Edward Island Watershed Alliance
Prince Edward Island Wildlife Conservation Fund
Programme de mise en valeur des habitats du saumon atlantique de la Côte-Nord
Qalipu Mikmaq First Nation
Quebec-Labrador Foundation
R A Currie Biological Consultant
Regis and Joan Duffy Foundation
Regroupement des organismes de bassins versants du Québec
Rio Tinto IOC
Royal Bank of Canada
Sackville Rivers Association
Sage Environmental Fund
Salmon Preservation Association for the Waters of Newfoundland
Salmonid Association of Eastern Newfoundland
Service New Brunswick
Société d'aménagement de Baie-Trinité
Société de gestion de la rivière Madeleine
Société de gestion de la rivière Ouelle
Société d'Énergie Rivière Sheldrake
Société de gestion des rivières de Gaspé
Société saumon de la rivière Romaine
Souris and Area Branch of the PEI Wildlife Federation
Stantec
Stewardship Association of Municipalities
St. Mary's First Nation
St. Mary's River Association
Sussex Fish and Game Association
Tobique First Nation
Tobique Watershed Association
Town of Hampton
Town of Norris Arm
Trout Unlimited Canada Prince County Chapter
Tuckamore Lodge
Uashat Mak Mani-utenam (ITUM)
Unama'ki Institute of Natural Resources
United States Environmental Protection Agency
United States Geological Survey
Université Laval
Université de Moncton
Université du Québec à Rimouski
Université du Québec à Chicoutimi
University of Hull
University of New Brunswick
University of Prince Edward Island
Village de Cap-Pelé
Ville de Cap-Santé
Village of Grand Manan
Vision H2O
Wild Salmon Unlimited
Willowbrook Watershed Services
Wolastoq First Nation
Woodmillers Inc.
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World Wildlife Fund

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