

# 2025

## New Brunswick Annual Sea Lice Management Report

Prepared by the Atlantic Canada Fish Farmers Association (ACFFA)

*Data for this report is generated from the Sea Lice Reporting Database which supports the Sea Lice Monitoring and Reporting Standard, a requirement under the New Brunswick Aquaculture Act and General Regulations and the Integrated Pest Management Plan for Sea Lice.*

### ACRONYMS

<b>ABMA</b>	Aquaculture Bay Management Area
<b>EDRs</b>	Emergency Drug Releases
<b>NBDAAF</b>	New Brunswick Department of Agriculture, Aquaculture and Fisheries
<b>DFO</b>	Department of Fisheries and Oceans
<b>PMRA</b>	Pest Management Regulatory Agency
<b>VDD</b>	Veterinary Drugs Directorate

### EXECUTIVE SUMMARY

The three-year Aquaculture Bay Management Area System (ABMA) implemented in New Brunswick (See map in Appendix A) not only supports improved environmental management, but it has also provided the basis to improve fish health management practices, including sea lice management. Principles within the ABMA system include:

- Mandatory fallowing of production sites and the Aquaculture Bay Management Area to help break pathogen lifecycles as well as the life cycle of sea lice.
- Single year class stocking at each farm site and within each management area; preventing older farmed salmon, which may have already been exposed to pathogens / parasites in the marine environment, from transferring it to incoming smolts.

In 2025, salmon farming companies continued to develop a sea lice management and treatment strategy for each Aquaculture Bay Management Area, that included product rotations and synchronized treatment strategies as much as possible. Like all farmers, they relied on the professional advice of veterinarians who have access to approved products for use when animals are infected by a pathogen or threatened by parasites. All in feed sea lice treatments were authorized through a veterinarian's prescription and all therapeutic treatments were reported to federal and provincial regulators.

This report on sea lice management is based on the 2025 data obtained through individual farm reporting and data analysis of the sea lice counts within the specific AABMAs managed through the Sea Lice Reporting Database. The data represents the average sea lice count for adult female lice (*L. salmonis*), which are indisputably the most critical life stage to control, and the life stage generally reported by other jurisdictions.

## BACKGROUND

Sea lice are naturally occurring parasites that feed on the skin and mucous of both wild and farmed fish. Sea lice naturally exist in the marine environment. As a result, farmed salmon may come in contact with sea lice upon entry into the marine farms. Since this parasite cannot be eliminated from the marine environment, salmon farmers have developed pest management practices that employ a variety of preventative and treatment measures to manage sea lice levels on the fish in their care. On the east coast of Canada there are two types of sea lice that can affect salmon - *Lepeophtheirus salmonis*, also called salmon lice and *Caligus elongatus*, called herring lice.

These practices include, but are not limited to:

- Selecting new farm sites with good flushing and water current
- Ensuring production sites are emptied of all farmed fish for periods of time (fallowed).
- Adherence to the AABMA, mandated by the NB dept of Aquaculture, which divides the Bay of Fundy into distinct zones based on oceanographic conditions. These zones are used to ensure that only farmed salmon from a single year class are stocked at each farm.
  - This prevents new entry fish from being exposed to the transmission of sea lice from sites already in operation.

## SEA WATER TEMPERATURE

Increasing ocean temperatures over prolonged periods of time and later in the year are continuing to have an impact on the number of sea lice in Southwestern New Brunswick by reducing the number of weeks to reach the female adult life stage.



Figure 1: Maturity stages of *L. salmonis*

## **CURRENT MEDICINAL SEA LICE TREATMENT OPTIONS**

### ***An Overview of Canadian Options***

In Canada there is small list of available treatment options. Treatments methods include drugs, pesticides and mechanical options. All in feed products, such as Avermectins, are registered drugs and require a prescription from a veterinarian. It should be noted that there have been no new sea lice treatment products approved in Canada since 2017.

The Veterinary Drugs Directorate (VDD) evaluates and monitors safety, quality and effectiveness, sets standards and promotes the prudent use of veterinary drugs administered to food-producing and companion animals. The Pest Management Regulatory Agency (PMRA) performs a similar role for topical / bath pesticide treatment products. Use of all products is reported to both federal and provincial regulators.

#### **1. Azamethiphos**

Azamethiphos is a bath/tarp treatment. It is a registered product with PMRA.

#### **2. Hydrogen peroxide**

Hydrogen peroxide products are bath/well boat treatments. They are registered products with PMRA.

#### **3. Avermectins**

Avermectins such as emamectin benzoate and ivermectin are in feed treatments, used only under veterinary prescription. Both products are approved under VDD, though the use of Ivermectin is via Extra Label Drug Use decision.

## **CURRENT ALTERNATIVE SEA LICE TREATMENT OPTIONS**

### **Non-therapeutant Control Strategies**

Use of non-chemical management strategies for controlling on-farm sea lice such as cleaner fish, water pressure and warm water systems, have been increasing each year. In 2025 most sea lice treatments were once again accomplished through these mechanical removal methods. The use of these non-chemical control strategies does not necessarily remove the need for therapeutant options as many of these alternatives involve physical handling of the fish so less stressful options may be required at higher and lower water temperatures.

## **RESEARCH AND ALTERNATIVE SEA LICE MANAGEMENT OPTIONS**

The ACFFA has played an active role on behalf of our industry working with researchers from government, academia, private institutions, and with industry at the regional, national and international level.

Industry continues to make significant financial and human resource investments to support research critical to improving knowledge and understanding of sea lice dynamics and management.

Some examples from research initiatives include:

- ✓ Introduction of well boats and tarpaulins to ensure all sea lice bath treatments are performed in closed systems, significantly reducing potential environmental impact and the quantity of products required for effective sea lice treatments
- ✓ Completion of hydrological surveys to determine possible refinements to the current Aquaculture Bay Management Areas
- ✓ Implementation and adjustment of alternative lice removal technologies (e.g., warm water)
- ✓ Evaluation on the use of cunner and lump fish as a sea lice cleaner fish
- ✓ Evaluation of new sea lice treatment products and vaccines.

### **SEA LICE MANAGEMENT OF FARMED SALMON 2025**

Salmon farming companies continue to implement a coordinated sea lice management and treatment strategy that includes controlling lice numbers in each Aquaculture Bay Management Area, product rotations and synchronized treatments. This strategy is communicated to traditional fishing groups annually.

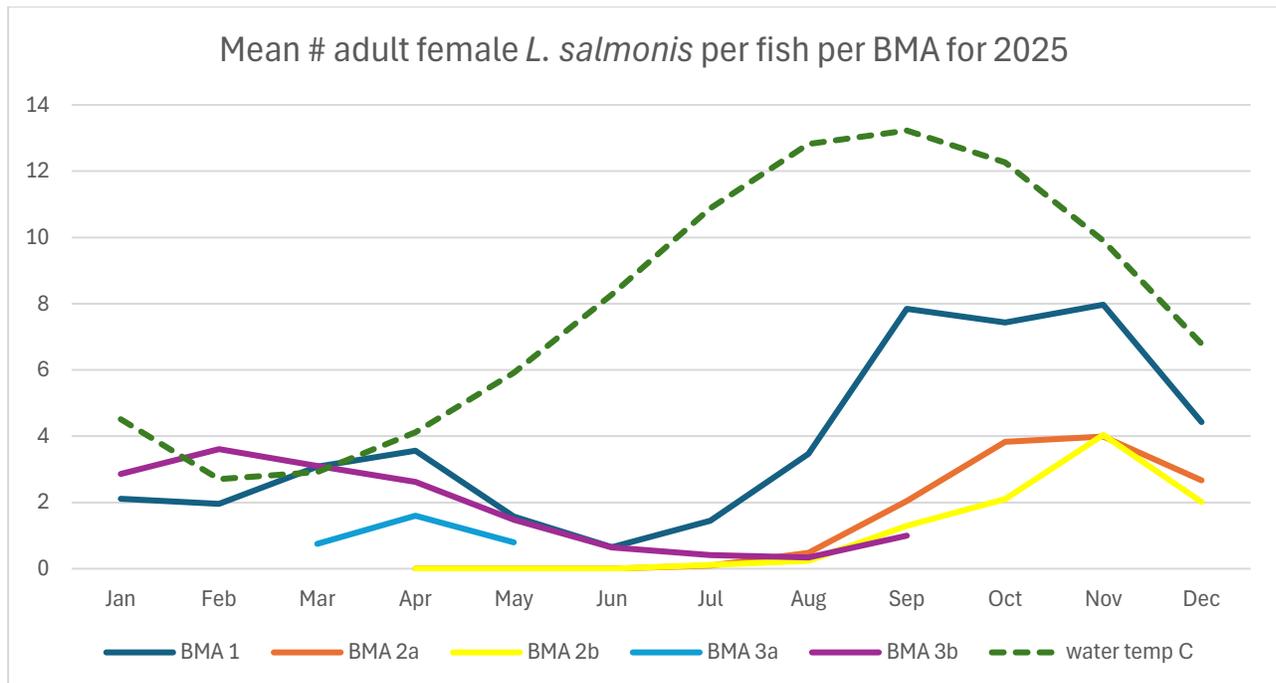


Figure 2: Average adult female *L. salmonis* sea lice per ABMA and average water temperature for 2025

### **2025 ANALYSIS BY AQUACULTURE BAY MANAGEMENT AREA**

Charts for each Aquaculture Bay Management Area contain the average count, by month, for adult female *L. salmonis* sea lice and the average water temperature. These lice are considered the most critical to the management of sea lice populations within a salmon farm.

### ABMA 1 – 2025 Analysis

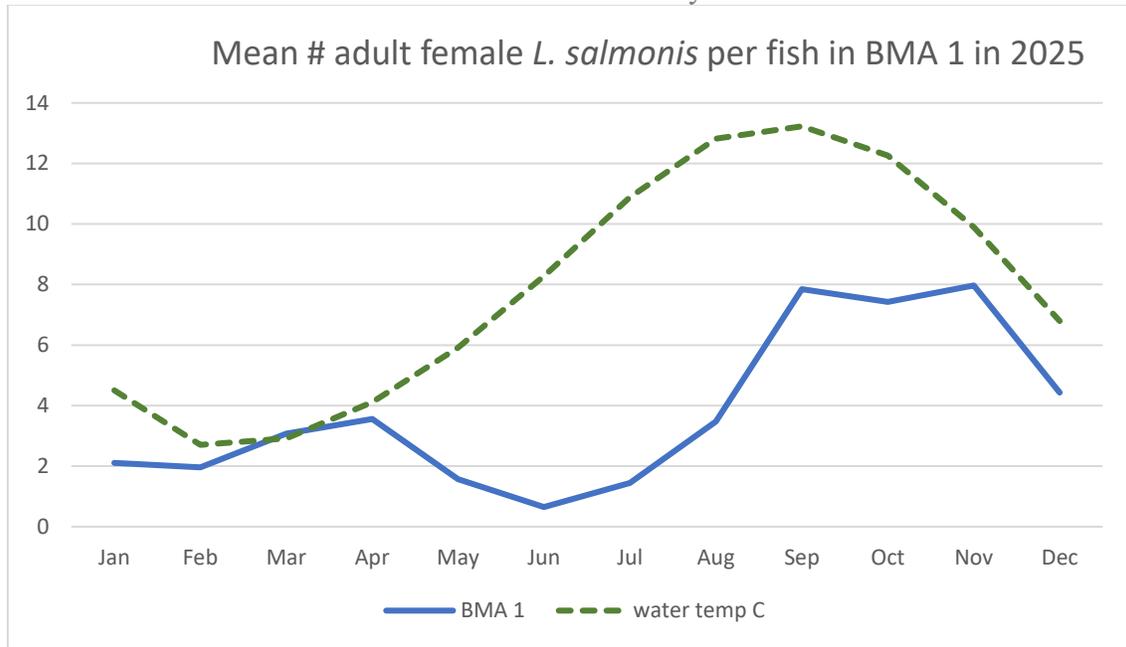


Figure 3: Average adult female *L. salmonis* sea lice per ABMA 1 and average water temperature for 2025

### ABMA 2a, 2b – 2025 Analysis

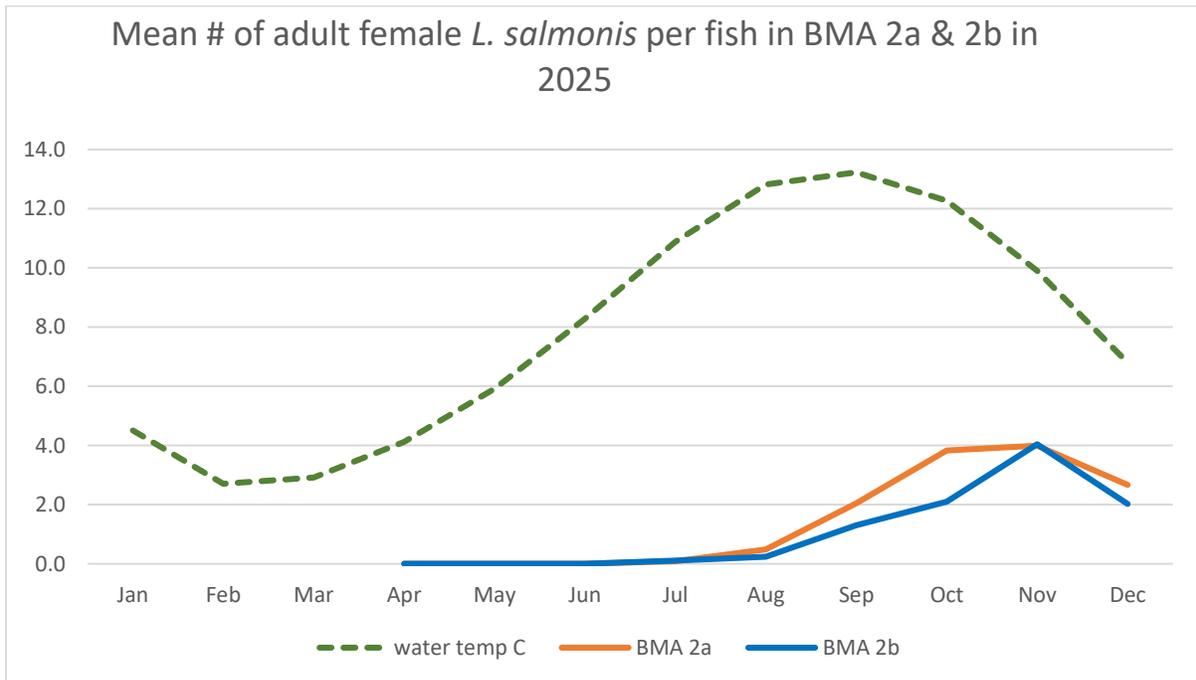


Figure 4: Average adult female *L. salmonis* sea lice per ABMA 2 and average water temperature for 2025

### ABMA 3a, 3b – 2025 Analysis

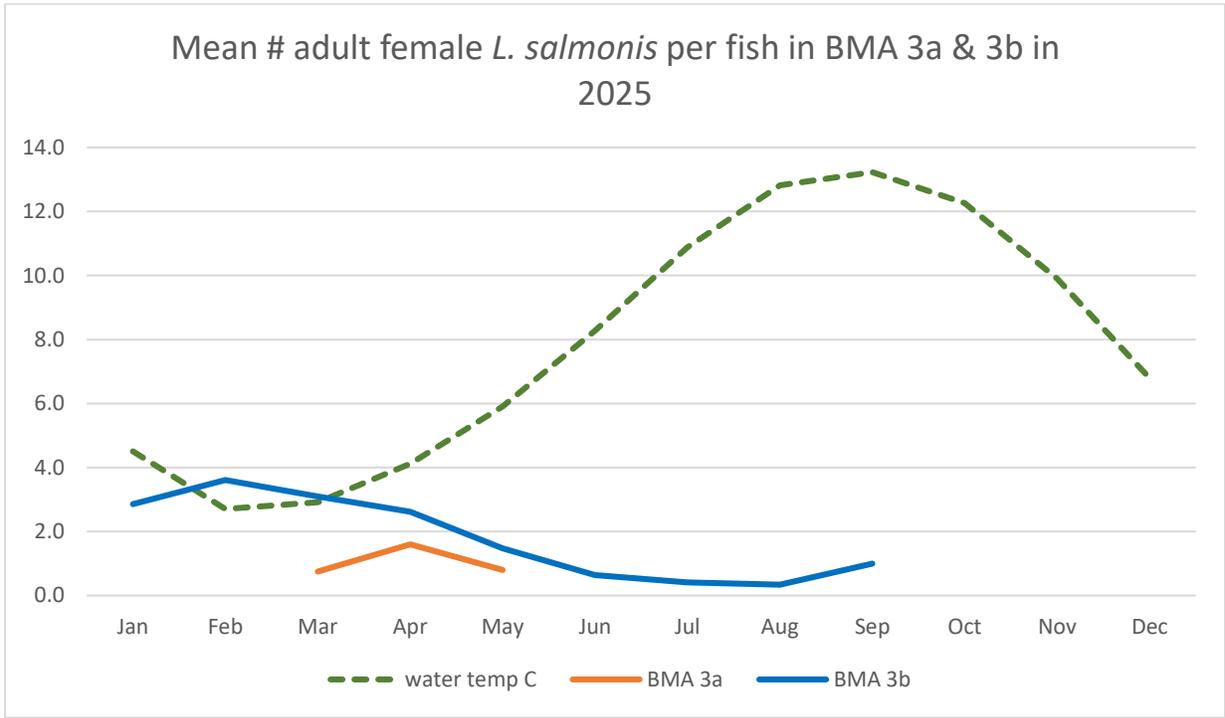


Figure 5: Average adult female *L. salmonis* sea lice per ABMA 3 and average water temperature for 2025

### **SUMMARY AND RECOMMENDATIONS**

This report shows the average number of adult female *L. salmonis* per fish per BMA in 2025. Climate change effects (e.g., prolonged warm waters), continue to make this challenging. There is a recognized ongoing need to access more proactive tools to ensure the industry can continue manage sea lice populations and maintain farmed salmon health.

These tools can only be developed through continued research that supports the development of more non-chemical management. Research and development are also critical to the approvals of new sea lice medications and vaccines. Sea lice prevention from new feed formulations and vaccines offer great promise but require regulatory changes to access these new options. While the use of therapeutants is not necessarily the first or only option evaluated to treat for sea lice, access to a range of products available and approved for use in other countries that export product to Canadian consumers, must also be supported domestically.

The access to a fuller suite of tools would allow producers more options for effective sea lice management. The success of aquaculture would translate to increased socio-economic benefits in coastal communities in the Atlantic region.

# APPENDIX A

## Aquaculture Bay Management Areas of New Brunswick

