



CONSEIL DE GESTION DU BASSIN-VERSANT DE LA
RIVIÈRE RESTIGOUCHE INC.



RESTIGOUCHE RIVER
WATERSHED MANAGEMENT COUNCIL INC.

Science Committee report (version française disponible sur demande)

Report to Council on the results of the Science Committee meeting of 24 & 25 January 2013 to review salmon population status during the 2012 season.

The Science Committee met on 24 January 2013 in Listuguj, Quebec & 25 January 2013 in Campbellton, New Brunswick, to assess the status of Atlantic salmon in the river in 2012.

The Restigouche River environment in 2012

The Environment Canada gauging station on the Upsalquitch River serves as the indicator site for the Restigouche River. In 2012 the Upsalquitch River experienced excessive flows in March, an earlier spring high flow, which resulted in deficient flows in May and June. There was also a deficient flow in September. The peak flow on March 24th of 276 m³/s was a record for that month however was lower than the 2-year flood incidence. Lowest flows were recorded on January 31st (2.85 m³/s) and September 29th (6.41 m³/s).

Mean summer water temperatures were on average 1.8°C higher than normal. Maximum water temperature was reached on August 6th and ranged from 22.9°C to 26.7°C Year round water temperatures are monitored at 20 sites throughout the system using instream data loggers. All but one of the 20 recorders were retrieved and downloaded in 2012.

Atlantic salmon trends in 2012

Compared to 2011, rod day effort was down for the Restigouche and Matapedia Rivers in 2012.

Overall, grilse and salmon catches in the system were down in 2012 compared to 2011. The catch per unit effort (CPUE) for large and small salmon was down in both the Restigouche and Matapedia systems.

In 2012 for Restigouche New Brunswick tributaries and the mainstem Restigouche, spawners were determined during visual (snorkel) counts in late September. It would appear that spawners were near conservation requirements for the Kedgwick but below conservation requirements on the Upsalquitch and Little Main Restigouche. Due to high water levels end of season inventories were not able to be completed on the Matapedia and Patapedia Rivers, therefore the number of spawners is estimated as a function of the mid-season inventory count and its relationship to year end counts. Spawners in the Matapedia River in 2012 were estimated at 150% of the conservation requirement. Spawners in the Patapedia River were estimated at 227% of conservation requirements.

At the DNR protection barrier at Ten Mile Pool on the North West Upsalquitch River grilse counts in 2012 were down compared to 2011 from 666 to 269. Large salmon returns were down in 2012 compared to 2011 from 700 to 282. The combined total of grilse and salmon of 551 is about 51% below the previous 5-year mean and is the lowest of the time series. In 2012 the barrier was operational from mid-June to mid-October for an effective duration of 118 days.



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In 2012 for Restigouche New Brunswick, fry densities and small and large parr densities are up compared to 2011. Overall, there is a good distribution of juvenile salmon in the rearing habitat throughout the system and there were 2 to 3 cohorts of juveniles at most of the sites sampled in 2012.

In 2012 the Restigouche system was estimated to have produced 842,000 smolts (3.15 per 100 m²) the second largest since estimates were initiated in 2002. Smolt production from the Kedgwick River was estimated at 155,000 (4.43 per 100 m²). A smolt wheel trap was once again operational on the Upsalquitch River in 2012 however due to a delayed start date only a partial smolt production estimate of 185,000 (3.48 per 100 m²) was derived. Smolt run timing was similar to most previous years as were most biological characteristics.

The Atlantic Salmon Federation continued its smolt sonic telemetry work in 2012. One hundred five (105) smolts were sonically tagged at the Kedgwick rotary screw trap (smolt wheel) location. About 90% of them survived their movements through fresh water to reach the head of the tide; slightly more than 50% were detected leaving the outer part of the estuary (the Baie des Chaleurs) for the Gulf of St. Lawrence and just over 30% were detected at the Strait of Belle Isle. Tagged kelts were once again detected at Strait of Belle Isle during the same period as the smolt migration. Smolts and kelts were at Strait of Belle Isle about two weeks earlier than 2011. For the first time receivers were placed at Dalhousie and it was determined that from the head of tide to Dalhousie there was an elevated mortality in this estuarial region perhaps due to bird predation.

Other research programs

Since 2006, didymo exists throughout our rivers. In 2012, persistent blooms were mainly localised on the Upsalquitch (southeast and northwest branches). An established volunteer committee of 70 members, comprising 22 organizations collated data on didymo occurrence and extensiveness on 23 rivers throughout the watershed. From 2010 to 2012 more than 1000 observations have been made. The research project, led by Carole-Anne Gillis, aims to study the controlling factors of the mat-forming diatom *D. geminata* and evaluate its impact on juvenile Atlantic salmon.

According to the Restigouche River Watershed Management Council (RRWMC) there were very few reports of fish with fungus in 2012. During visual counts the snorkel crews noted very few fungus affected salmon and grilse and the observed fish seemed to be in good physical condition.

Deny Isaac of Gespe'gewaq Mi'gmaq Resource Council (GMRC) summarized several interesting projects the organization had undertaken. The first being recent research (2008 - 2012) into contaminant levels in salmon, eels, lobster and moose. The second project involved a salmon curriculum developed in 2010 aimed at Alaqsite'w Gitpu School (AGS) grade 7 & 8 students. This program is designed to enrich a student's learning experience about Atlantic salmon and salmon fishing practices. The academic focus of the core activities is on science and Mi'gmaq knowledge. Other topics include biology, environmental studies, cultural traditions, language arts, social studies and technology. The third project was initiated in 2012 is the development of a plamu documentary, a 45 minute documentary style video to showcase the relationship between salmon and the Mi'gmaq, how it contributes socially, culturally and economically to our nation – more than a food source. Target communities are Listuguj, Eel River Bar, and Pabineau. The final project involved species at risk.



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Gaspé-Southern Gulf of St. Lawrence salmon populations recently listed as "Special Concern" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and other species such as American Eel and Striped Bass. The goal is to collect Mi'gmaq Ecological Knowledge on these species and use it to assist in the development of current or future projects aimed at assisting the protection or recovery of these species.

Listuguj First Nation initiated a project in 2012 involving the collection of information from its salmon fishery including biological characteristics data such as sex, weight, length and age of grilse and salmon caught in the fishery.

David LeBlanc executive director of RRWMC outlined two projects undertaken during the past year. The first project is a continuation of one initiated in 2011 involves utilizing thermal and optical imagery to identify and map the location of thermal refugia throughout the Restigouche watershed with the aim of protecting their integrity and updating the information on the quality and availability of habitat for juvenile salmon for all the tributaries of the Restigouche River. This year's surveys covered the mainstem Restigouche from the Patapedia upstream, the Little Main Restigouche and the north and south branches of the Kedgwick. This investigation will continue for one more year. The second study deals with the impact of forestry as it relates to equilibrium cuts, any area with over 50% of equilibrium cuts is of concern.

A discussion took place concerning the low number of spawners enumerated in the Little Main Restigouche during snorkel counts in 2012.

Representatives of the organizations present summarized their tentative work activities for the upcoming field season.

Paul Cameron, chair