



**Atlantic Salmon Redd Surveys
2014 – 2015**

**Stephen Rose
Natural Resource Technician
Qalipu Mi'kmaq First Nation Band/
Mi'kmaq Alsumk Mowimsikik Koqoey Association (MAMKA)
Dec 17, 2014**

Introduction

Salmon Redd surveys are part of the atlantic salmon monitoring activities that Qalipu conducts annually, alternating between the Western and Central portions of Newfoundland. These redd surveys are completed to analyse recruitment and return of resident populations to areas previously inaccessible due to freshwater obstructions (i.e. inactive beaver dams and log jams). Salmon Redd surveys were completed during the month of November for Coal Brook, Sheep Brook and Dribble Brook. These surveys have been ongoing for several years and have included over 20 study areas within Western and Central Newfoundland. Throughout this time the Guardians have become quite experienced in completing the surveys and have been able to complete them efficiently and effectively.

Methods

The three tributaries in Western Newfoundland that were targeted for this study were Ahwachenjeech Brook (Figure 1), Coal Brook and Sheep brook. (Figure 2). Dribble Brook (Figure 2) was to be surveyed if there was time available after the target areas were completed. Ahwachenjeech is a tributary to Harry's River with the later three being tributaries to Flat Bay Brook.

Surveys were completed by wading through the brooks (downstream to upstream) and looking for redds in the benthos, recording the GPS locations of each location where redds were found. The guardians worked in pairs, each taking a tributary or portion of a tributary that leads into Flat Bay Brook or Harry's River. These surveys were scheduled to take place in the month of November. Along with observing salmon redds, habitat obstructions were also recorded opportunistically. Once data was collected it was sent to Qalipu Natural Resources Technicians (QNRT) for review.

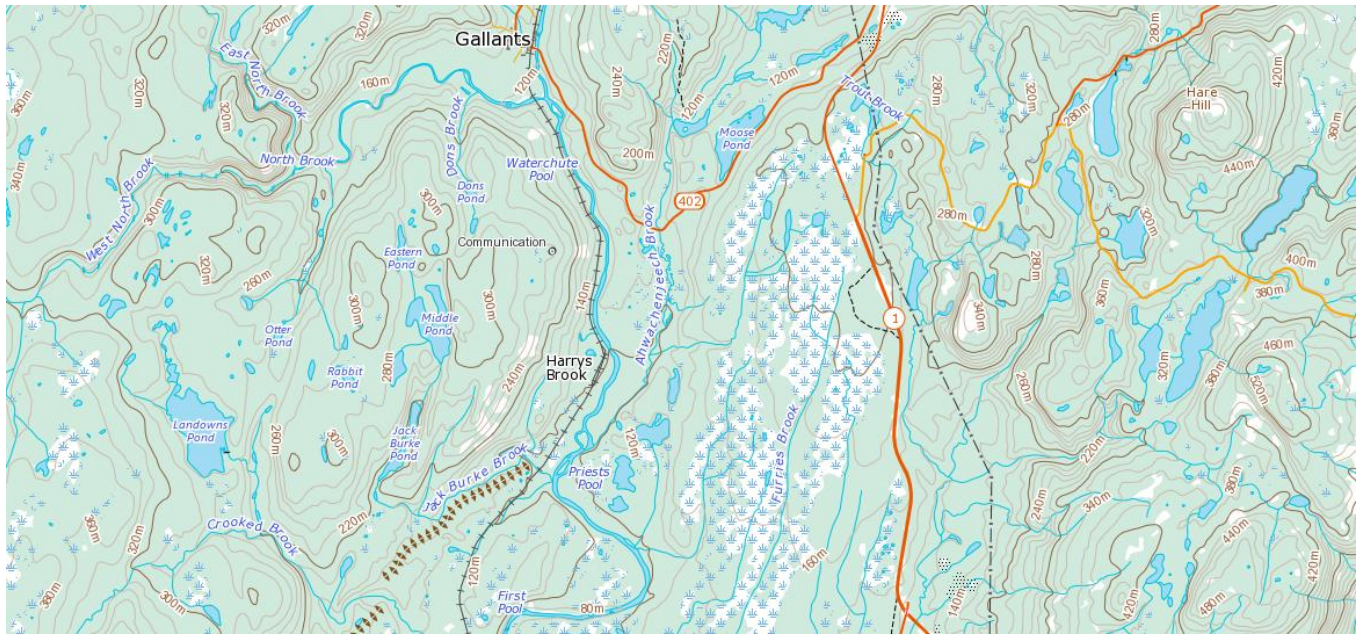


Figure 1: Map showing Ahwachenjeech Brook Southeast of Gallants

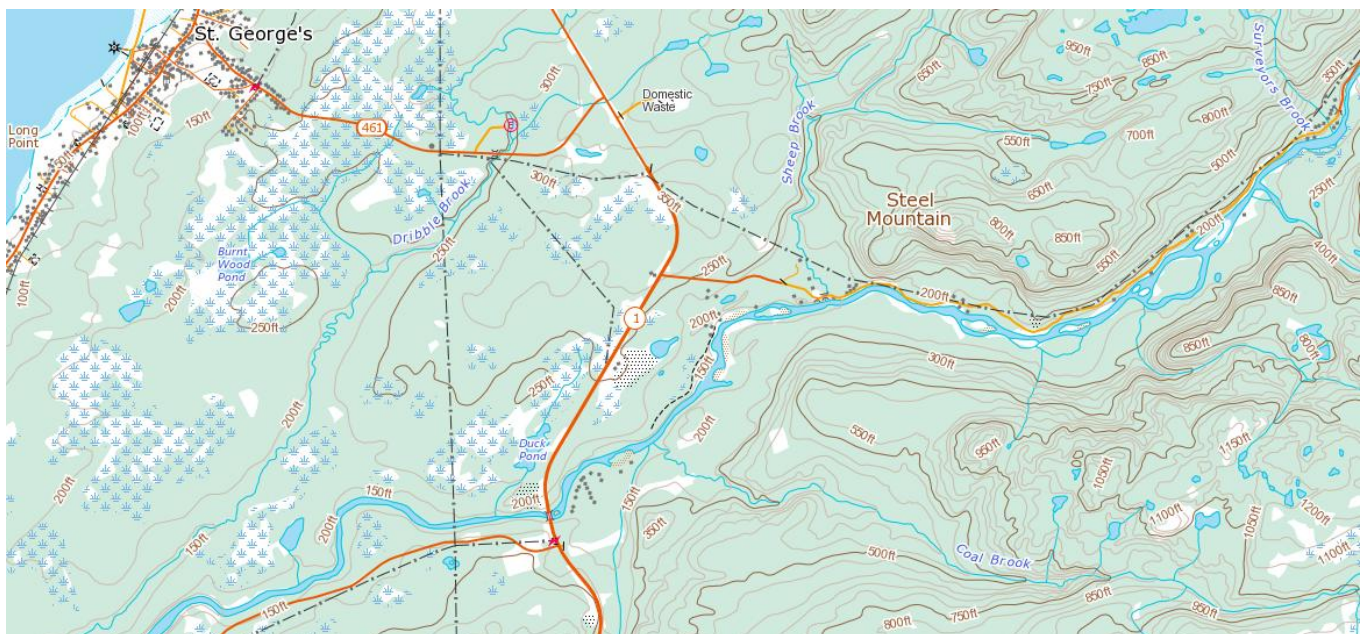


Figure 2: Map showing Dribble Brook, Sheep Brook, and Coal Brook (from left to right)

Results

A total of 40 redds were observed with all of them being located on Dribble brook (Refer to Appendix I for Redd data table). Ahwachenjeech was unable to be surveyed due to adverse

weather and environmental conditions. Coal Brook and Sheep Brook contained no redds presumably due to observed habitat obstructions (i.e. beaver dams and log jams). Multiple habitat obstructions were later observed on Ahwachenjeech but redds were unable to be surveyed due to the amount of sediment and silt build up between the time of spawning and surveying. Habitat obstructions were also found and documented on Sheep, Coal and Dribble Brooks, recorded and filed by QNRT.

Discussion

Environmental and weather conditions prevented Guardians from being able to survey all target areas, Ahwachenjeech specifically. However, Dribble Brook was surveyed and redds were found along with a number of obstructions. These opportunistic findings will coincide with other work Qalipu/MAMKA are doing regarding the removal of said obstructions. Future data will help us quantify the recruitment and return of populations to the study areas.

A number of recommendations were brought forward or discovered after completing the surveys. These recommendations included monitoring selected tributaries for temperature and spawning to potentially be able to start surveys earlier in the fall, reviewing guardian equipment before project start date to provide adequate time for replacing/repairing damaged gear, and strategically choosing future sites that will give us access to other relevant data sets and provide a more encompassing view of the respective system. Records of data prior to obstruction removal will aid Qalipu/MAMKA in doing a before and after obstruction removal analysis on a quantitative study of redds in previously obstructed tributaries.

Conclusion

From this year's surveys, we can conclude that freshwater habitat obstructions may be contributing to the lack of salmon redds on Sheep Brook and Coal Brook tributaries. Conclusions

such as these are inconclusive for Ahwachenjeech Brook as the redd surveys were unable to be completed. This study has contributed to providing baseline data for other associated future projects for Qalipu/MAMKA. It is uncertain whether or not the obstructions on Dribble Brook were prohibiting salmon from migrating upstream as the complete brook was not surveyed for said obstructions. However, redds were observed.

Appendix I

Location	Coordinates		# of Redds	
Coal Brook	392126	5359555		None recorded
Dribble Brook	392435	5362549	1	
	392348	5362525	2	
	391941	5362348	2	
	391883	5362333	1	
	391273	5362276	1	
	391087	5362335	2	
	391078	5362331	1	
	390926	5362282	1	
	390629	5362234	2	
	390569	5362194	2	
<i>Subtotal</i>				<i>15</i>
	385860	5360856	2	
	386210	5360850	1	
	386532	5360951	1	
	386631	5360987	1	
	387011	5360990	1	
	387117	5360964	1	
	387119	5360982	2	
	387202	5360998	1	
	387275	5361023	1	
	387292	5361043	2	
	387440	5361066	2	
	387452	5361067	1	
	387483	5361083	3	
	387556	5361127	1	
	387561	5361126	1	
	387568	5361132	1	
	387579	5361137	1	
	387800	5361151	1	
	388311	5361225	1	
Sheep Brook	394121	5359794		None recorded
<i>Subtotal</i>				<i>25</i>
Ahwachenjeech Brook				None recorded
<i>Total</i>				<i>40</i>