



## **Elver Abundance Study Summary Report**

**2014**

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## **Introduction**

*Anguilla rostrata* has two juvenile stages, the elver and the glass eel. The glass eels migrate northward from the Sargasso Sea every year to reside in the fresh groundwater systems or the estuarine/brackish areas and return after maturation for breeding. The time at which it takes for eels to mature is dependent on both size and environmental conditions. This project was designed to track temporal variance in abundance to indicate start, finish, and peak migration times of elvers and glass eels in Harry's River, NL.

## **Methods**

Two micro-mesh fyke nets were set in the mouth of Harry's River near Stephenville Crossing, NL for a period of 27 days and checked daily by the Qalipu Mi'Kmaq First Nation Fisheries Guardians. By-catch, tide, precipitation, wind, air temperature and cloud cover were consistently recorded at the time of sampling.

## **Results**

A total of twenty one (21) elver and 0 glass eel were captured in both nets. With the highest daily catch being three individuals in net two. Net one caught a total of 10 elver, while net two caught 11 (Refer to Table 1). No glass eels were captured. A period of four and five days between August 2 2014 and August 6 2014 for nets one and two respectively were unsuccessful for data collection. Nets were removed for this time due to policy limiting the number of hours worked per week by staff.

Table 1: Catch results from micro fyke nets one and two deployed between July 30<sup>th</sup> 2014 and August 30<sup>th</sup> 2014 near the mouth of Harry's River near Stephenville Crossing, NL

Net #1			Net #2		
Date	Specimen	Number	Date	Specimen	Number
Jul-31	Elver	2	Jul-31	Elver	1
Aug-01	Elver	1	Aug-14	Elver	1
Aug-08	Elver	1	Aug-19	Elver	3
Aug-13	Elver	1	Aug-20	Elver	1
Aug-16	Elver	1	Aug-23	Elver	1
Aug-17	Elver	1	Aug-24	Elver	1
Aug-20	Elver	1	Aug-26	Elver	2
Aug-27	Elver	1	Aug-28	Elver	1
Aug-28	Elver	1			

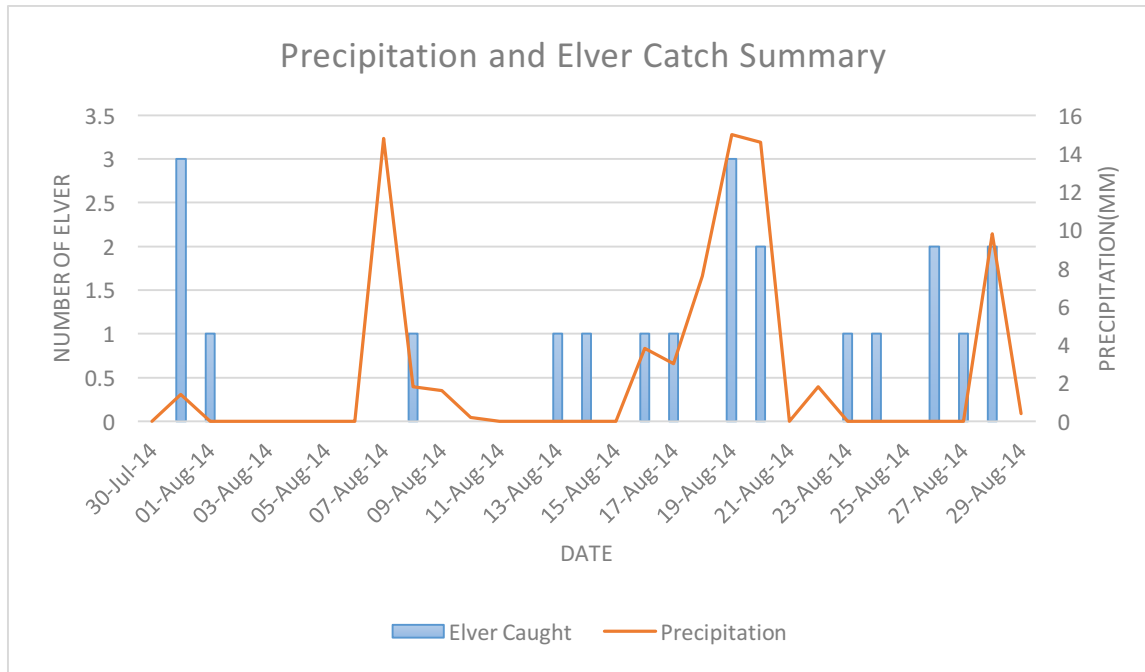


Figure 1: Summary of elver catch data and precipitation throughout the sampling period.

## Discussion

Late acquisition of scientific permits in 2014-2015 translated to a late initiation of the Elver study. Elver migration is thought to occur quite early in the spring in this region. Plans for 2015-2016 include submitting an application for scientific permit much earlier in the year to ensure the elver study can start directly following spring break-up to ensure greater number of elver/glass eel are encountered.

Preliminary statistical analysis indicated a weak but significant regression between precipitation and the number of elver caught. Further study and data collection will help improve the power of statistical testing. Future statistical testing will include more independent variables in a multiple linear regression with a larger data set.

## Conclusion

Not enough data were collected to draw any further statistical results from the study. In future study we aim to deploy micro fyke nets earlier in the season and also add more nets to the mouth of Flat Bay River to compliment other *A. rostrata* projects ongoing.