

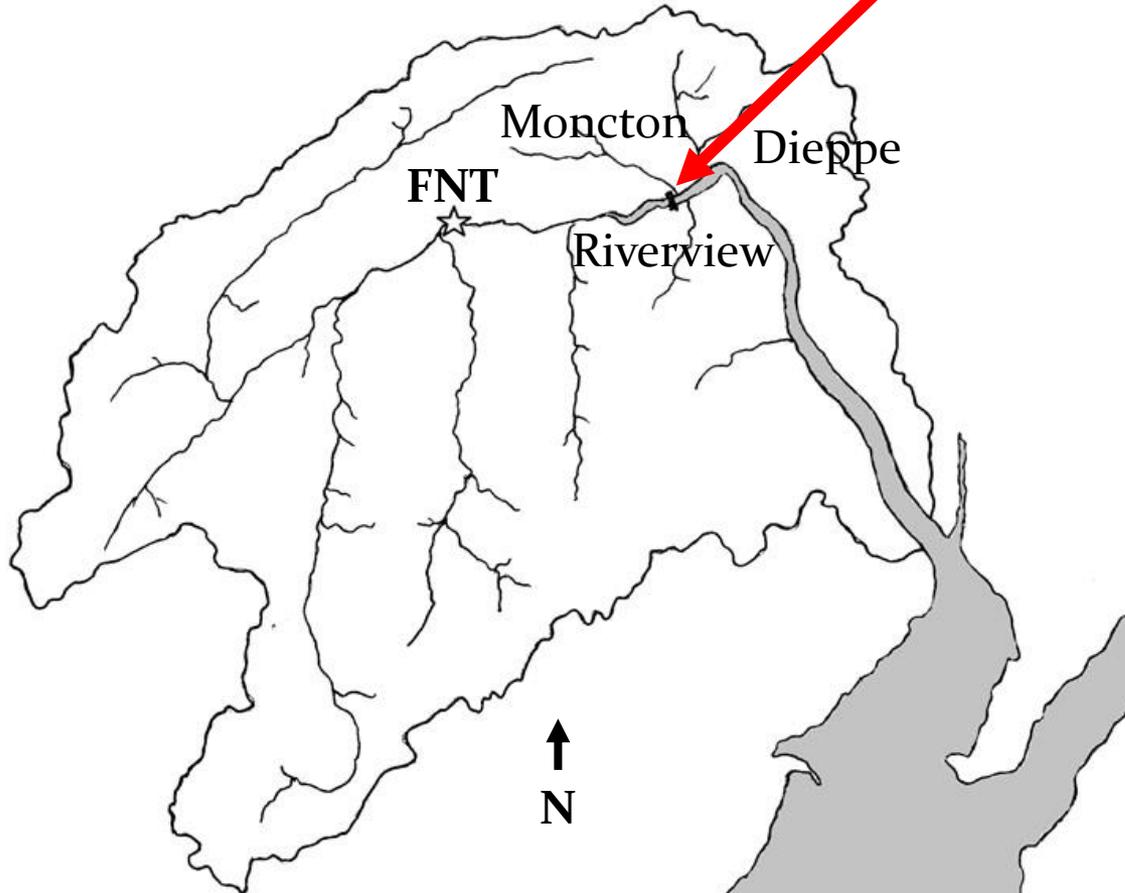
1968 Petitcodiac Causeway built

- siltation
- fish passage problems

2010 Gates Opened

- Stage 2 Monitoring

2016 Bridge Announcement



Species that declined

- Alewife
- Blueback herring
- Rainbow smelt
- Sea-run brook trout

Species maintained by stocking

- Atlantic salmon

Species lost upstream of causeway

- Striped bass
- American shad
- Atlantic tomcod

Physical changes in the river since the gates opened: 2010 to 2016

Maximum tidal amplitude increased

2010: 1.8 m

2014: 2.3 m

2016: 2.3 m (plateau)

Average tidal amplitude peaked and then declined

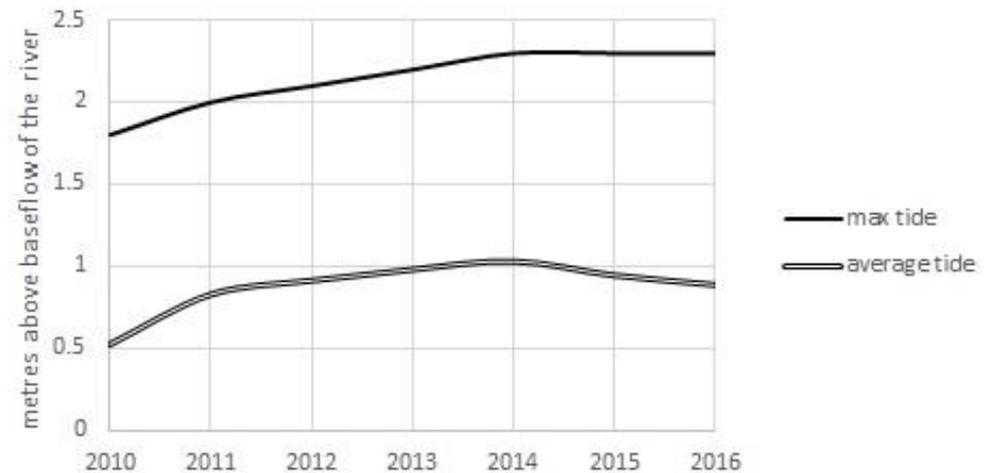
2010: 0.51 m

2014: 1.02 m (peak)

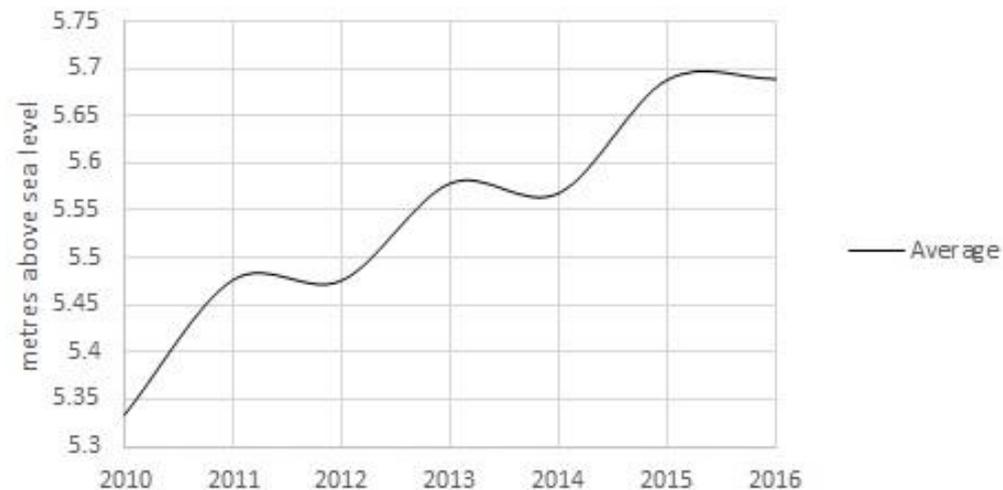
2016: 0.88 m

Deposition of silt (about 30 cm) displaced water upwards

Changes in behaviour and extent of the tide reaching the FNT site between 2010 and 2016



Increase in elevation of average baseflow of river between 2010 and 2016 (May 1st to October 31st)





Picket Trap:

- fished full season 2010 to 2012
- fished May to August 2013
- fished May and June (2014 onwards)
- has capacity to handle thousands of gaspereau during spawning run



Fyke Nets:

- fished September & October 2013
- fished July to October (2014 onwards)
- Picket Trap site gets shut down by silt
- easily installed and removed
- sufficient capacity for fall catches

Native

Atlantic salmon

6 ↔ 4 smolt (spring), 2 adults (summer and fall)

rainbow smelt

3 ↔ trap too late to effectively sample

Brook trout

9 ↔

American shad

6 ↔ 1 spawning (spring), 5 juvenile (not YOY)

Striped bass

4,288 ↑ 97% YOY (summer and fall)

American eel

1,033 ↑

Gaspereau

17,841 ↓ 78% spawning (spring), 22% YOY (summer and fall)

Invasive

brown bullhead

15 ↔

smallmouth bass

5 ↔

chain pickerel

0 ↔



Two species excluded by causeway that are now back

Striped bass

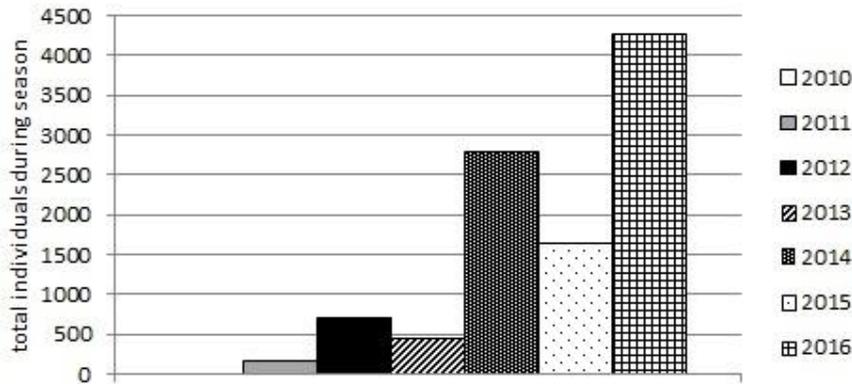
2010: 0 vs 2016: 4,288

Atlantic tomcod

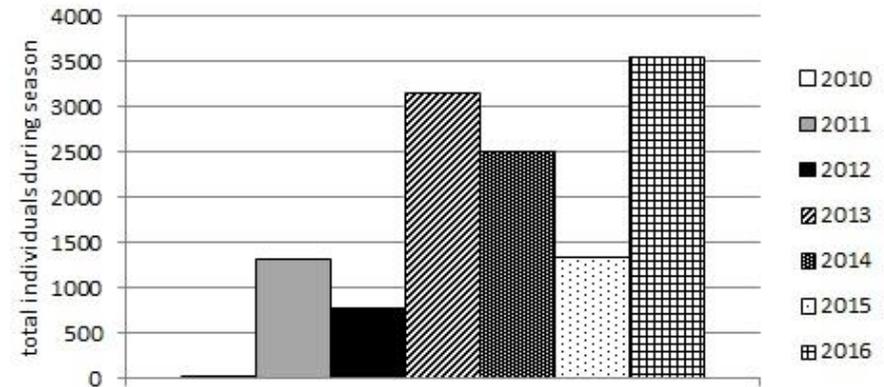
2010: 1 vs 2016: 3,544

Important to system as sources of Marine Derived Nutrients

Total striped bass captured annually at trap site between 2010 and 2016



Total Atlantic tomcod captured at the Fish Net Trap each year from 2010 to 2016

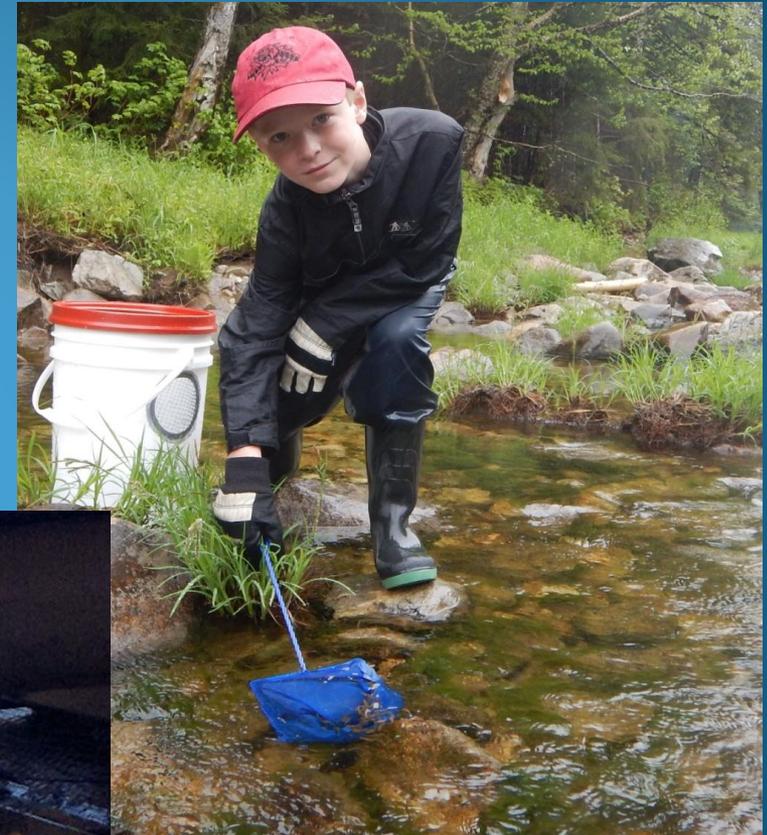


Since 2010 Fort Folly leads Petitcodiac iBoF Atlantic salmon recovery initiatives on behalf of stakeholders including many *Petitcodiac Fish Recovery Coalition*...partners

.....securing LGB inputs for the Pollett and Little Rivers

- Little River Strategy – LGB Non Targeted Adult Releases
- Pollett River Strategy – unfed fry

- Fundy Salmon Recovery releases



Fort Folly commits to monitor and enhance Recovery Team's efforts on the Petitcodiac

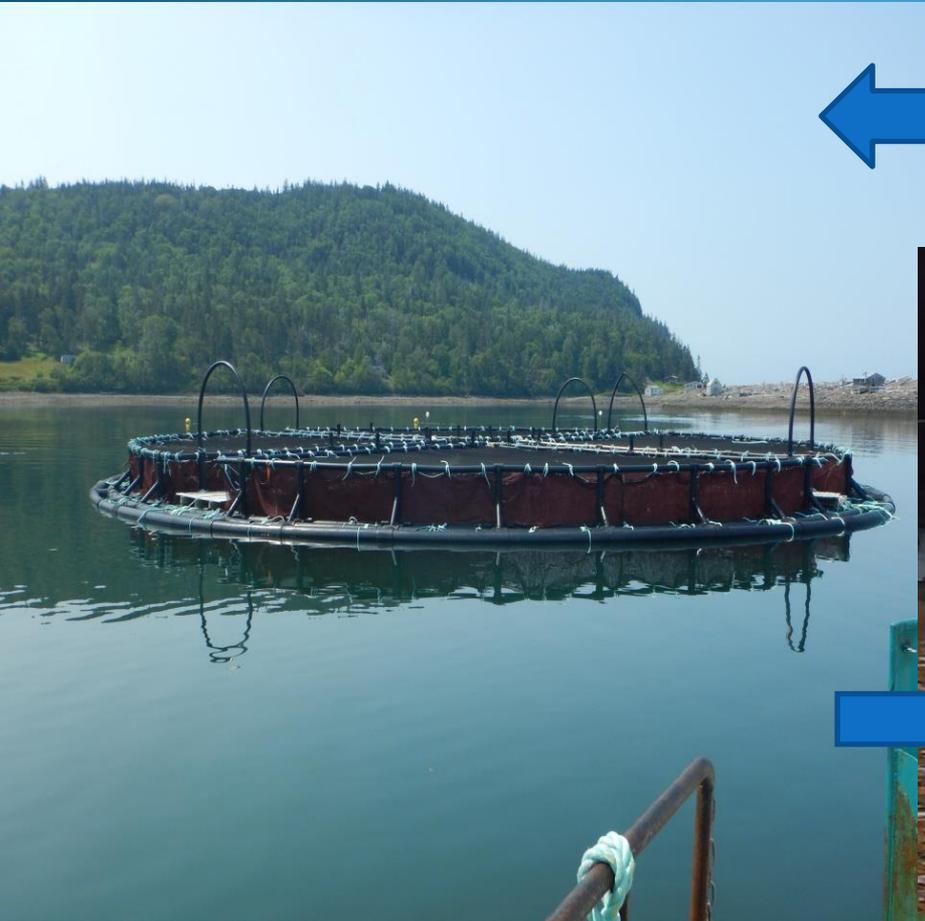
- Smolt runs assessments (mark/re-capture) & collections.
- Un-fed fry releases
- Electrofishing surveys (parr densities)
- Adult snorkel surveys
- Non-targeted LGB releases
- In-river tracking (PIT & radio tags)
- Redd counts



Conservation Sea Cage project is now called Fundy Salmon Recovery;...world's first, 'dedicated wild Atlantic salmon marine conservation farm'.



FSR approach =
Smolt in, mature
salmon out





FUNDY
SALMON
RECOVERY

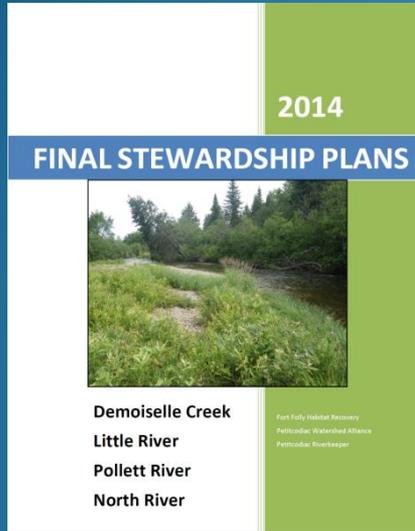
Pollett River Releases

- October 5th, 2016
- 130 + mature LGB origin iBoF salmon
- Equal ratio male / female
- 2 'mid-river' release locations



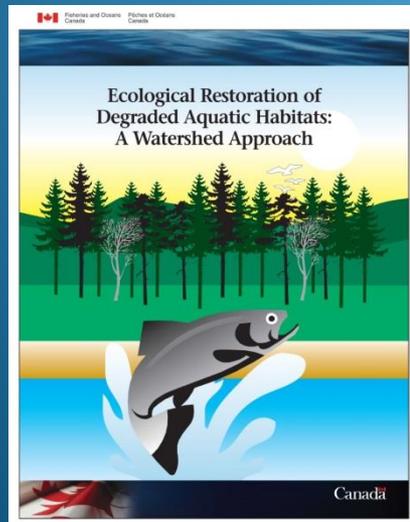
Petitcodiac Stewardship Plan:

Developed in 2015, reflecting data & work as of the end of 2014



Available online:

<http://www.ffhr.ca> on the publications page



DFO Methodology: Melanson et al. (2006)

<http://www.dfo-mpo.gc.ca/library/321286.pdf>

Stewardship Planning Process



Moncton

Legend

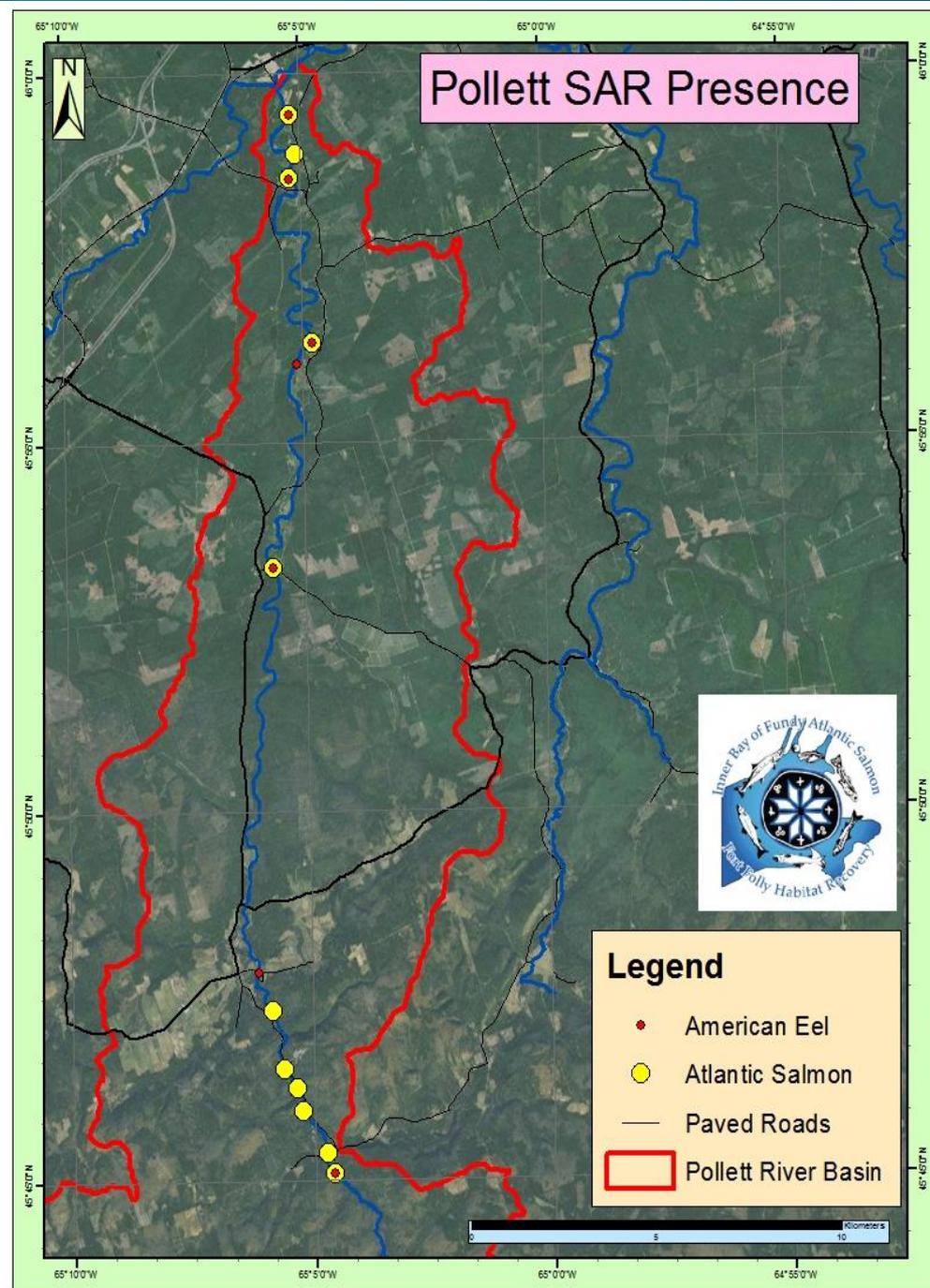
-  North River
-  Pollett River
-  Little River
-  Demoiselle Creek

This map has been produced for an Environment Canada funded Habitat Stewardship Program awarded to Fort Folly Habitat Recovery. Ecoregion data provided by New Brunswick Department of Natural Resources. Shaded elevation relief background imagery provided by ESRI. This map was produced by and is the property of Fort Folly First Nation, February, 2014.

0 4 8 Kilometers

Wildlife assessments

Electrofishing
Smolt wheel
Snorkel surveys
Redd surveys
Wood turtle surveys



Bank Stabilization & Riparian zone restoration with interested Landowner



Before



After



Live willow
staking

Work initiated in 2016 & plans for 2017 and beyond:



- Land owner interested in bank stabilization project on the Little River – project designed, funding sought, permitting underway
- Carried out RGA & RSAT surveys on the Anagance River & are currently developing stewardship plan for that portion of the watershed as well
- Continue with SAR monitoring, restoration project identification, design & planning
- Return to previous restorations to evaluate success
- Initiate 5 year RGA/RSATs (North, Pollett, Little)



Thank You - Questions?