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Seasonal Residency of Fish in Toronto Harbour 2010-2015

RAP Science Seminar *November 14th , 2016*

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Objectives

- General discussion of the distributions of several species
- Distribution and large movements of White Sucker and Walleye
- Comparison of residency by size class for Largemouth Bass and Northern Pike
- Overall seasonal residency for all tagged fishes
- Evaluation of fish use of enhanced habitats
- Future plans



Acoustic Array – Environmental Conditions







Acoustic Array



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Distributions – Kernel Density Estimates





Species Profile – White Sucker (C. commersonii)



Outer Harbour

Cells

2 Kilometers



Species Profile – Walleye (S. vitreus)







Species Profile – Largemouth Bass (M. salmoides)





Species Profile – Northern Pike (E. lucius)





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Species Profile – Northern Pike & Largemouth Bass











Assessing Restoration – System-Wide



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Assessing Restoration – Embayment D





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Detections

Pre-Restoration

Detection Window

September 9th, 2010

until April 3rd, 2012

Embayment D - Northern Pike 2500 # Detections 1500 8 8 8 8 8 80 0 Winter 10-11 Winter 11-12 Season Embayment D - Common Carp 2500 # Detections 1500 8 0 Winter 10-11 Winter 11-12 Season Embayment D - Largemouth Bass 2500 ъĤ # Detections 1500 200 æ 0

Season

Winter 11-12

Winter 10-11

Assessing Restoration – Embayment D





Assessing Restoration – Spadina and Peter Slips



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Assessing Restoration – Spadina and Peter Slips



Veilleux et al. In Prep

Conclusions

- Critical areas include the Toronto Islands, Cell 2 & 3 and Embayment C (across all seasons for some species)
- Deeper waters in the inner/outer harbour increasingly used during the fall and winter by subset of species (e.g., N. Pike, W. Sucker, Carp, Walleye)
- Walleye and White Sucker make extended movements outside of the harbour
- Shift in habitat use for Northern Pike at different life stages (not so for Largemouth Bass)
- Restored areas are benefiting Yellow Perch (Embayment C) and Northern Pike (slips)
- No evidence yet of tagged fish in Embayment D



Future Steps

- Continue tracking of tagged fish
- Evaluate habitat enhancement efforts in Cell 2
- Provide baseline information to support the lower Don River restoration project









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Future Steps



Questions?