Atlantic Sturgeon Seasonal Marine Distribution in Bay of Fundy

J. W. Beardsall and M. J. W. Stokesbury
Acadia University, Biology Department

Introduction
• Atlantic Sturgeon *Acipenser oxyrinchus* are migratory anadromous fish – they spend the majority of their adult life in coastal marine waters ranging along North America’s Atlantic seaboard. Some of their greatest threats are in the marine environment
• Fishery observer data suggests southern populations overwinter ~30-40m depth, but north of Gulf of Maine populations are sometimes encountered overwinter at ~90-100m depth

Methods
• 16 Atlantic Sturgeon externally tagged with Wildlife Computers MK10 or miniPAT pop-up satellite archival tag (PSAT) – both models capable of transmitting summarized data via satellite uplinks or being physically recovered and raw archived data downloaded for analyses
• Subset (N = 5) of PSAT fish also tagged internally with VEMCO® V16 acoustic transmitter

Results
• Two years of transmitted or archival data show seasonal consistency – Deepest depths occupied in December, coldest temperatures in March
Results

- Fish 121448 (175cm TL, unsexed) tagged with acoustic transmitter and PSAT provides high resolution depth activity in areas with acoustic detections, offering unprecedented depth data for an area of tidal power interest
- PSAT pop-off locations suggest tagged fish occupied the outer Bay of Fundy overwinter, from October 2012 – April 2013

Conclusions

- Mixed-stock aggregation of Atlantic Sturgeon probably persists all year long
- Atlantic Sturgeon in the northern extent of their range (i.e. Canadian waters) occupy deeper overwinter depths relative to more southern overwintering populations

Acknowledgments

- Ocean Tracking Network Canada
- NSERC
- Acadia Centre for Estuarine Research (ACER)
- Dr. M.J. Dadswell, M.F. McLean
- C. Buhariwalla, M. Gregoire, S. Andrews, L.Logan-Chesney, N. Stewart, L. Boudreau