



Canadian Committee for a Sustainable Eel Fishery Inc.

**SOCIO-ECONOMIC AND SCIENTIFIC
CONTRIBUTIONS OF
CANADIAN GLASS EEL HARVESTERS**

PORTLAND, MAINE - OCTOBER 2015

ORGANIZATIONAL BACKGROUND

- CCSEF established in 2012
- Comprised of all privately-operated Canadian commercial license holders for harvesting of American eel elvers
- Eight license holders involved, all with fishing operations within Nova Scotia and New Brunswick
- License holders also work together on Scotia-Fundy Elver Advisory Committee
 - Engaged directly with Fisheries and Oceans Canada (DFO) for discussion on admin, policy, enforcement, science, and licensing-related activities
- Committee members have partnered in research funding since issuing of first experimental licenses in 1989
- CCSEF formed out of demand for collaborative effort amongst harvesters in addressing environmental listing proposals relating to the American eel



INDUSTRY PROFILE

- Nine licenses issued in Canada
- Each license given a set quota
- Each license holder given access to specific rivers, with set quota per river
- Season timing fluctuates from year to year, typically starting and ending within the span of mid-March to late June
- Volumes by river fluctuate year to year



COMMITTEE MEMBER ENTITIES

- Atlantic Canada Eels – Stephenville, Newfoundland and Labrador
- Atlantic Elver Fishery – Caledonia, Nova Scotia
- Brunswick Aquaculture – Saint John, New Brunswick
- Hamilton’s Eel Fishery – Granville Ferry, Nova Scotia
- Neptune Canada – Longueuil, Quebec
- Shelburne Elver Ltd. – Shelburne, Nova Scotia
- South Shore Trading – Port Elgin, New Brunswick
- Wine Harbour Fisheries – Sherbrooke, Nova Scotia



PURPOSE OF ORGANIZATION

1. To promote, encourage and support a sustainable eel fishery in Canada
2. To promote and support the viability and conservation of eel stocks and eel habitat
3. To promote and support education, research and knowledge relating to the above objects
4. To advocate for the above objects



SUPPORTED PROJECTS

- The following projects have been funded by CCSEF through member contributions:
 - East River Elver Abundance, since 1996
 - Silver Eel Study, Oakland Lake, since 2010
 - Silver Eel Study, East River, since 2014
- Eel science has seen considerable funding reductions at the federal level in Canada in recent years
- Projects are funded by harvesters in effort to maintain long-term data; commitment from harvesters is to continue this activity, regardless of outside contributions



RESEARCH PARTNERSHIPS

- Previous research activities of CCSEF members include, but are not limited to:
 - Elver fishery and management (Jessop 1998)
 - Elver biology in the Bay of Fundy and Atlantic coast of Nova Scotia (Jessop 1998)
 - Elver biology and run characteristics, East River, Chester, Nova Scotia (Jessop 2003)
 - South Shore Trading - Lifecycle study, Eel Pond – Musquodoboit Harbour, NS (indexing of incoming glass eels and outgoing silver eels, and mark recapture of yellow eels)
 - South Shore Trading - Glass eel survey, Musquodoboit River (to be expanded to include silver and yellow eels)
 - Eel status report for CCSEF (Jessop and Knights 2013)
 - Publication of papers presented at the International Eel Symposium of the American Fisheries Society - Quebec, 2004
 - Migration of eels through a macrotidal estuary and bay (Dr. Rod Bradford et al, 2009)



CONTRIBUTIONS OF GLASS EELS TO RESEARCH

- Restocking Projects in Ontario and New York
- Stocking of eels in Lac Moran, Quebec (1997)
- Research of:
 - Dr. John Casselman and Courtney Holden of Queen's University;
 - Dr. Louis Bernatchez and Caroline Cote of Laval University;
 - Dr. Martin Castonguay and Brian Boivin of DFO, Quebec (elvers' preference for salinity)



EAST RIVER ELVER ABUNDANCE STUDY

- Established in 1996; conducted by Fisheries and Oceans Canada with license-holder support until 2005
- Reestablished by elver license holders (now CCSEF members) in 2008
- Administered by Bluenose Coastal Action Foundation with scientific support from Fisheries and Oceans Canada and logistical assistance from Atlantic Elver Fishery; support in some years from Provincial Dept. of Fisheries & Aquaculture
- Longest-running elver abundance study in North America
- Data shows fluctuation and no indication of upward or downward trends with regard to population
- Highest abundance to date for the study recorded in 2014, increasing between 2011 and 2014
- Exploitation rate of commercial fishery also calculated
- Current budget in range of \$34,000 - \$40,000 annually

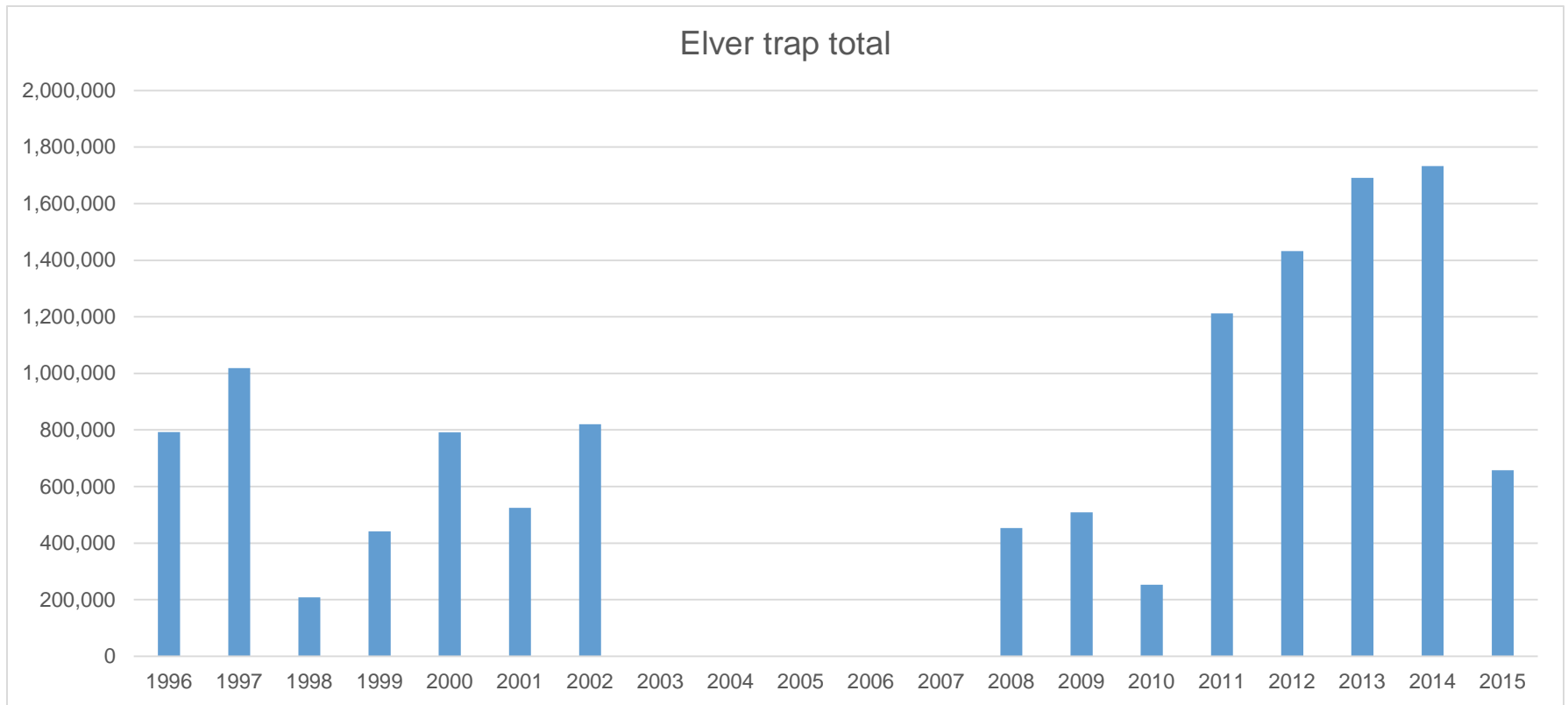




TRAPS USED



EAST RIVER ABUNDANCE STUDY - RECRUITMENT



SILVER EEL STUDY, OAKLAND LAKE

- Administered by Bluenose Coastal Action Foundation
- Established in 2009
- Initially funded by Environment Canada (first year); now funded by CCSEF with scientific support from Fisheries and Oceans Canada
- Mark-recapture study using Passive Integrated Transponder (PIT) tags. Potting in lake conducted during summer months to establish habitat (what areas of the lake are utilized by the eels); budget of approximately \$12,000 annually
- Outflow capturing conducted during fall months to monitor numbers out-migrating to Sargasso Sea; budget in range of \$16,000 - \$18,000 annually
- Life stage and other characteristics monitored
- Data is shared with Fisheries and Oceans Canada and other interested parties





IN-STREAM TRAP



MEASURING/DATA



SILVER EEL STUDY, EAST RIVER

- Administered by Bluenose Coastal Action Foundation
- Established in 2014
- Funded by CCSEF with scientific support from Fisheries and Oceans Canada
- Mark-recapture study
- Conducted during fall months (weather dependent)
- Biological characteristics and population estimates to be monitored
- Data will be shared with Fisheries and Oceans Canada and other interested parties
- Current budget of \$22,000 - \$24,000 annually



ROTARY SCREW TRAP MARKING SITE



OFFICER CAMP MARKING SITE



RECAPTURE TRAP



SOCIO-ECONOMIC ANALYSIS OF INDUSTRY

- Gardiner Pinfold Consultants Inc. engaged to prepare report on socio-economic impacts of elver fishery in Canada
- Review to include analysis on the following, for each of the nine license-holding operations:
 - Fishing effort and revenues;
 - Operating and maintenance expenses;
 - Financial performance
- Responses to be made to consultant by mid-November; completed report anticipated by end of 2015
- Report results to be utilized in providing responses during Species at Risk Act consultation process for listing of American eel



SOCIO-ECONOMIC BENEFITS OF INDUSTRY

- Corporate revenues generated almost entirely through exporting
- Over 130 employees working in the glass eel fishery in Canada; companies are operating predominantly in rural areas impacted by economic downturns and relatively low employment levels, as compared with urban areas
- Many industry employees receive sufficient living income to enable operation of private enterprises or occupation of other seasonal/contract employment through remainder of year; employee retention contributes to rural economies
- Local employment = local spending
- Spinoff economic contributions stem from: annual vehicle purchases and rentals; fuel purchasing; equipment purchasing
- Companies actively support essential services in communities, such as fire departments, schools and medical centres
- Companies also actively support many charities, universities, and not-for-profits, including groups involved in marine science and related areas



QUESTIONS?



Canadian Committee for a Sustainable Eel Fishery

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