

# SAMUEL BRADFORD TRUESDELL

Gulf of Maine Research Institute – 350 Commercial St – Portland, ME 04101  
ph: 207-228-1659 e-mail: struesdell@gmri.org US Citizen Registered for selective service

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## EDUCATION

- **University of Maine, Orono, ME**  
PhD Marine Biology (Dec 14)
- **Dalhousie University, Halifax, NS**  
BS Honors Marine Biology (May 06)

## CURRENT POSITION

- **Postdoctoral Research Associate** Feb 18 –  
Gulf of Maine Research Institute  
Duties: stock assessment and management strategy evaluation  
research, proposal and report writing

## RELEVANT WORK EXPERIENCE

- **Research Associate** Oct 14 – Feb 18  
Quantitative Fisheries Center, Michigan State University  
Duties: stock assessment research, stock assessment consulting  
for agency partners, proposal and report writing
- **Fisheries Observer** Oct 07 – Dec 08  
AIS, Inc. (contractor for NMFS)  
Duties: collect fishery-dependent data on commercial fishing  
trips such as vessel and gear information, numbers and weights  
of fish species, fish lengths, otoliths, etc.
- **Sea Turtle Technician** May – Sep 07  
Little Cumberland Island, Georgia  
Duties: saturation flipper tagging of nesting loggerhead females  
and nest protection
- **Fisheries Research Technician** Oct 06 – Apr 07  
University of Georgia  
Duties: tagging and acoustic telemetry of sturgeon on the  
Altamaha River, Georgia
- **Sea Turtle Technician** Jun – Oct, 06  
Little Cumberland Island, Georgia  
Duties: saturation flipper tagging of nesting loggerhead females  
and nest protection
- **Sea Turtle Research Assistant** Apr – Aug 05  
University of Georgia and Georgia DNR  
Duties: satellite/sonic/acoustic tagging of nesting females and  
tracking throughout the nesting season
- **Sea Turtle Technician** May – Jul 04  
Cumberland Island National Seashore, Georgia  
Duties: loggerhead turtle nest identification and protection
- **Lobster Hatchery Technician** Jun – Aug 02  
Oceanarium, Bar Harbor, Maine  
Duties: assist daily hatchery operations

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### PEER-REVIEWED PUBLICATIONS

- Truesdell, S.B., D.R. Hart and Y. Chen. Effects of unequal capture probability on stock assessment abundance and mortality estimates: an example using the US Atlantic sea scallop fishery. *Can. J. Fish. Aquat. Sci.* 74(11): 1904-1917.
- Truesdell, S.B., J.R. Bence, J.M. Syslo and M.P. Ebener. 2017. Estimating multinomial effective sample size in catch-at-age and catch-at-size models. *Fish. Res.* 192: 66-83.
- Cao, J. W. Guan, S.B. Truesdell, Y. Chen and S. Tian. 2016. An individual-based probabilistic model for simulating fisheries population dynamics. *Aquaculture and Fisheries* 1:34-40.
- Liu, B., J. Cao, S.B. Truesdell, Y. Chen, X. Chen and S. Tian. 2016. Reconstructing cephalopod migration with statolith elemental signatures: a case study using *Dosidicus gigas*. *Fisheries Sci.* 82: 425-433.
- Truesdell, S.B., D.R. Hart and Y. Chen. 2016. Effects of spatial heterogeneity in growth and fishing effort on yield-per-recruit models. *ICES J. Mar. Sci.* 73(4): 1062-1073.
- Cao, J., S.B. Truesdell, and Y. Chen. 2014. Impacts of seasonal stock mixing on the assessment of Atlantic cod in the Gulf of Maine. *ICES J. Mar. Sci.* 71(6): 1443-1457.
- Wang, X., Y. Chen, S.B. Truesdell, L. Xu, J. Cao and W. Guan. 2014. The Large-scale deployment of fish aggregation devices alters environmentally-based migratory behavior of skipjack tuna in the western Pacific Ocean. *PLoS ONE* 9(5): e98226. doi: 10.1371/journal.pone.0098226.

### REPORT PUBLICATIONS

- Truesdell, S.B. and J.R. Bence. 2016. A Review of Stock Assessment Methods for Lake Trout and Lake Whitefish in 1836 Treaty Waters of Lake Huron, Lake Michigan and Lake Superior. QFC Technical Report T2016-01. doi: 10.6084/m9.figshare.3123949
- Truesdell, S., Cao, J., Y. Chen, A. Dayton, L. Guan, B. Li, B. Liu, D. Olson, J. Runnebaum, K. Staples, K. Tanaka and C. Zhang. 2014. Technical Minutes of the Review Group for the Celtic Sea Advice. Final report to the International Council of the Exploration of the Sea (ICES).
- Truesdell, S.B., K.H. Kelly and Y. Chen. 2014. Assessment of the sea scallop resource in the Northern Gulf of Maine management area. Appendix B7 to the 59th Northeast Regional Stock Assessment Workshop (59th SAW) Assessment Report. US Department of Commerce, Northeast Fish Science Center Ref Doc. 14-09. 16 p.
- Truesdell, S.B. 2013. Modeling Juvenile Atlantic cod and yellowtail flounder abundance on Georges Bank and in the Gulf of Maine using 2-stage generalized additive models. Final report to the Closed Area Technical Team of the New England Fishery Management Council. 64 p.
- Truesdell, S.B., K.H. Kelly, C.E. O'Keefe and Y. Chen. 2010. An assessment of the sea scallop resource in the Northern Gulf of Maine management area. Appendix B6 to the 50th Northeast Regional Stock Assessment Workshop (50th SAW) Assessment

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Report. US Department of Commerce, Northeast Fish Science Center Ref Doc. 10-09.  
57 p.

### **SOFTWARE/PROGRAMMING**

- R, ADMB, TMB, JAGS, ARCGIS, MS Office
- MSU's High Performance Computing Cluster

### **MARINE FISHERIES SURVEY EXPERIENCE**

- NMFS federal scallop survey (32 days from 2011- 2013)
- Maine Department of Marine Resources state scallop survey (~38 days from 2009-2013)
- Maine Department of Marine Resources/UMaine Northern Gulf of Maine Scallop Survey (~45 days total in 2009 and 2012)
- NMFS fisheries observer (bottom trawl, scallop, gill net and herring fisheries; Oct 2007-Nov 2008)

### **FUNDING AWARDED**

- Bence, J.B., Truesdell, S.B., Clark, R.D., Myers, J.T. and Yule, D.L. Great Lakes Fishery Commission “Quantitative tools for assessing and managing cisco populations” \$117,249 (2015)
- University of Maine Dissertation Writing Fellowship \$3,000 (2014)
- Kelly, K.H., Chen, Y. and Truesdell, S.B. Sea scallop research set aside program “Assessment of sea scallop distribution and abundance in federal and adjacent state waters of the Gulf of Maine” \$930,859 (2014)
- University of Maine Correll Fellowship; 1 year tuition and stipend (2013)
- Travel funds to present at the 18<sup>th</sup> annual International Pectinid Workshop; \$2,000 awarded by Maine Sea Grant (2011)
- Travel funds to present at the 18<sup>th</sup> annual International Pectinid Workshop; \$1,000 awarded by the International Pectinid Workshop (2011)
- Travel funds to present at the Canadian Conference for Fisheries Research; \$637.50 awarded by the University of Maine Graduate Student Government (2010)
- Truesdell, S.B. “An undergraduate-graduate cooperative research project to quantify scallop growth” \$624.49, Active Student Learning Micro-grant awarded by University of Maine Center for Excellence in Teaching and Assessment (2010)
- Characterization of the Maine Scallop Fishery; \$3,100, awarded by Maine Sea Grant (2010-2013)
- Truesdell, S.B., D.R. Hart and Y. Chen. National Marine Fisheries Service-Sea Grant fellowship in population dynamics; \$115,500 awarded by National Marine Fisheries Service, Sea Grant, and Maine Sea Grant (2010)
- University of Maine Graduate Trustee Tuition Scholarship (full year of tuition; 2009-2010)
- Travel funds to present at the American Fisheries Society annual meeting; \$425.00 awarded by the University of Maine Graduate Student Government (2009)

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- Dalhousie Guaranteed Entrance Scholarship (2002)

### **CURRICULUM DEVELOPMENT**

- Co-developer of Quantitative Fisheries Center online R class (see <http://www.canr.msu.edu/qfc/education/r-fundamentals-for-research>)

### **ASSESSMENT-RELATED WORKSHOPS HOSTED**

- S.B. Truesdell and J.R. Bence. Effective sample size in catch-at-age models. East Lansing, MI. Dec. 12-13, 2016.
- S.B. Truesdell and J.R. Bence. admb2r and lake whitefish scoring workshop. East Lansing, MI. Aug. 2-3, 2016.
- J.R. Bence and S.B. Truesdell. Stock assessment workshop [introduction to assessment models and AD Model Builder]. East Lansing, MI. Sep. 8-17, 2015.

### **ASSESSMENT-RELATED PRESENTATIONS**

- How do we set TACs if we reduce assessment frequency? Presentation to the Modeling Subcommittee of the Technical Fisheries Committee for 1836 Treaty Waters. Tustin, MI. Mar. 2017.
- admb2r example output and figures. Presentation to the Modeling Subcommittee of the Technical Fisheries Committee for 1836 Treaty Waters. Tustin, MI. Mar. 2017.
- Follow-up on effective sample size workshop. Presentation to the Modeling Subcommittee of the Technical Fisheries Committee for 1836 Treaty Waters. Tustin, MI. Mar. 2017.
- Evaluation of methods for setting constant harvest limits. Presentation to the Modeling Subcommittee of the Technical Fisheries Committee for 1836 Treaty Waters. Mackinaw City, MI. Sep. 2016.
- Sensitivity of total allowable catches to changes in selectivity. Presentation to the Modeling Subcommittee of the Technical Fisheries Committee for 1836 Treaty Waters. Tustin, MI. Mar. 2016.
- Effective sample size in catch-at-age (or size) models. Presentation to the Modeling Subcommittee of the Technical Fisheries Committee for 1836 Treaty Waters. Tustin, MI. Mar. 2016.
- Impact of selectivity choices on spawning potential ratio, 2015. Presentation to the Modeling Subcommittee of the Technical Fisheries Committee for 1836 Treaty Waters. Tustin, MI. Oct. 2015.
- Technical Minutes of the Review Group for the Celtic Sea Advice. Presentation to ICES Celtic Sea Working Group regarding Chen Lab review of 13 Celtic Sea stocks. Copenhagen, Denmark. Jun. 2014.
- Northern Gulf of Maine Scallop Survey. Presentation to Invertebrate Subcommittee in preparation for 2014 scallop stock assessment. 2014.
- Northern Gulf of Maine Scallop Survey. Presentation to scallop Plan Development Team to inform setting the Northern Gulf of Maine scallop TAC in Framework 24. 2012.

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- Northern Gulf of Maine Scallop Survey. Presentation to Invertebrate Subcommittee in preparation for 2010 scallop stock assessment. 2010.

### **CONFERENCE PRESENTATIONS**

- Comparison of catch-at-age and catch-at-size fish stock assessment models. International Association for Great Lakes Research annual meeting, Detroit (oral, 2017).
- A Statistical Approach to Estimating Multinomial Effective Sample Size for Stock Assessment Models. American Fisheries Society annual meeting, Kansas City (oral, 2016).
- Implications of spatial heterogeneity in fishing effort to stock assessment. Annual NMFS/Seagrant fellows meeting, Woods Hole (oral, 2013).
- Spatial dynamics of Atlantic Sea Scallops. Annual NMFS/Seagrant fellows meeting, La Jolla (oral, 2012).
- Incorporating fleet dynamics into stock assessment. 18<sup>th</sup> International Pectinid Workshop, Qingdao, China (oral); annual NMFS/Seagrant fellows meeting, Miami (oral, 2011).
- Spatial dynamics in fisheries stock assessment. Canadian Conference for Fisheries Research (oral, 2011).
- An assessment of the harvestable sea scallop (*Placopecten magellanicus*) stock for a limited access fishery in the northern Gulf of Maine. American Fisheries Society annual meeting (poster, 2009).
- Research Results. Annual University of Maine School of Marine Sciences Graduate Student Symposium (poster, oral, oral, oral, oral; 2009-2013)
- Expectations for satellite transmitters deployed on Loggerhead turtles. 27<sup>th</sup> International Sea Turtle Symposium (poster, 2007).

### **INVITED PRESENTATIONS**

- Assessing populations of fish. Darling Marine Center, Maine. Presentation to high school students from Waynefleet School (Maine) summer camp (2012).
- Incorporating fleet dynamics into stock assessment. Shanghai Ocean University, China (2011).
- Sampling for ecological and social data for under-studied fisheries. Ocean University of China and Shanghai Ocean University (2011).
- Results from the 2009 Northern Gulf of Maine survey. Maine Scallop Advisory Council meeting in Ellsworth, Maine (2012).
- Biology and conservation as a career. Bancroft School earth day event (2010).

### **REGULAR TEACHING EXPERIENCE**

- Mar. 2016 – Feb. 2018: sole instructor for QFC online R class.

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### **CLASS LECTURES GIVEN AT UNIVERSITY OF MAINE**

- SMS 562 Fisheries Population Dynamics (3-credit graduate course); Introduction to R software (Oct, 2013; Sep, 2012; Oct 2011)
- SMS 562 Fisheries Population Dynamics (3-credit graduate course); Introduction to statistics in R (Oct, 2013; Sep, 2012)
- SMS 402 Oceans and Climate Change (3-credit undergraduate class); Influence of oceanic and climatic processes on marine populations
- SMS 562 Fisheries Population Dynamics (3-credit graduate course); Age-structured and length-structured stock assessment models (Nov, 2011)
- SMS 321 Fisheries Population Dynamics (3-credit undergraduate course); fishing mortality and fishing processes (Jan, 2011)