

# S A R A H   L I N D L E Y   S M I T H ,   P H D

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## S U M M A R Y

PhD Scientist with extensive experience in non-profit, academic, and government sectors developing social science and policy related to fisheries and marine conservation. Team-oriented leader with outstanding analytical, communication, and problem-solving skills along with excellent people and project management skills. Known for being a team player and for producing high-quality work under tight deadlines. Specific areas of expertise and experience include:

- Social science research methods
- Quantitative and qualitative analysis
- Performance evaluation
- Stakeholder engagement
- U.S. Federal fisheries management
- Offshore renewable energy
- Marine spatial planning
- Marine protected areas
- Coastal zone management
- Fisheries and climate change

## S E L E C T   P R O F E S S I O N A L   E X P E R I E N C E

### SALT POND CONSULTING, Wakefield, RI

August 2019 – Present

#### **Owner/Independent Consultant**

- Provide expertise to clients in the areas of fisheries, natural resources and ocean management

### COUNCIL FIRE, Wakefield, RI

May 2019 – Present

#### **Affiliate Consultant**

- Provide expertise to and develop work products for Council Fire clientele in the field of natural resources and ocean management

### ENVIRONMENTAL DEFENSE FUND, Boston, MA

2012 – February 2019

#### **Senior Manager, Senior Social Scientist, Fishery Solutions Center** (2017 – 2019)

- Led EDF's work developing and applying fisheries performance metrics across biological, economic, and social dimensions to assess outcomes for a variety of fisheries.
- Developed and published a fishery socioeconomic evaluation tool to better understand socioeconomic impacts of fisheries management.
- Provided social science expertise within EDF's Oceans Program to advance strategic thinking on topics such as small-scale fisheries, non-economic incentives, and food security.
- Wrote and published papers in peer-reviewed journals on a variety of topics related to fisheries.
- Supervised staff, consultants, and graduate and undergraduate student interns on a variety of projects.

#### **Manager, Northeast Coastal Ecosystems** (2015 – 2017)

- Led project addressing the synergistic relationships between and seeking solutions to environmental stressors in coastal and marine ecosystems of the Northeastern United States.
- Responsible for managing interdisciplinary, cross-programmatic project bringing together numerous internal and external partners, including hosting workshops, meetings, and overseeing work products.

#### **Spatial Policy Specialist** (2012 – 2015)

- Synthesized new science and existing research related to spatial management and ecosystem-based fisheries management for managers and other decision-makers.
- Represented EDF at fisheries management and scientific meetings on issues pertaining to groundfish management, fisheries habitat protection, and ecosystem-based management.
- Engaged a coalition of fisheries stakeholders to promote habitat protection for New England fish stocks.

### UNIVERSITY OF RHODE ISLAND, Narragansett, RI and Kingston, RI

2007 – 2012

#### **Coastal Manager, Fisheries Extension Specialist, Rhode Island Sea Grant, Coastal Resources Center** (2009 – 2012)

- Led interdisciplinary project contracted to develop monitoring protocols for the environmental effects of offshore renewable energy for the Bureau of Ocean Energy Management (BOEM).
- Researched and wrote fisheries chapter and other sections of Rhode Island's Ocean Special Area Management Plan (Ocean SAMP), the marine spatial plan for Rhode Island offshore waters.
- Researched and developed options for mitigation of impacts from offshore renewable energy on fisheries.
- Facilitated stakeholder meetings with fishermen and other stakeholders to provide information about offshore renewable energy projects.

**Research Assistant, Department of Marine Affairs (2007 – 2010)**

- Led team of graduate and undergraduate research assistants in data collection for three-year NSF-funded research project understanding linkages among governance factors of linked social and ecological systems: an analysis of marine reserves in the wider Caribbean at several sites in the Caribbean.

**NATIONAL MARINE FISHERIES SERVICE**, Woods Hole, MA and Narragansett, RI

2005 – 2009

**NOAA, Social Science Researcher, Social Sciences Branch**

- Developed profiles of fishing communities in the Northeastern United States for social impact assessment as part of fisheries management project.
- Conducted field research using surveys, informal interviews, direct observation, and infrastructure assessment.

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**E D U C A T I O N****Doctor of Philosophy**, Marine Affairs, UNIVERSITY OF RHODE ISLAND, College of Environmental and Life Sciences, Kingston, RI (2011)

- Dissertation Title: "An Analysis of Marine Reserve Co-Management within the Caribbean: Factors Influencing Stakeholder Participation"

**Master of Arts**, Urban and Environmental Policy and Planning, TUFTS UNIVERSITY, Graduate School of Arts and Sciences, Medford, MA (2005)

- Master's Thesis: "Illegal Drift Net Fishing in the Mediterranean Sea: Impacts, Implications, and Regulation"

**Bachelor of Arts**, French, Magna Cum Laude, HAMILTON COLLEGE, Clinton, NY (1999)

- *Hamilton College Junior Year in France*, Paris, France (1997 – 1998)

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**T E A C H I N G E X P E R I E N C E**UNIVERSITY OF RHODE ISLAND, Kingston, RI

2008, 2011

**Adjunct Instructor, Department of Marine Affairs (2011)**

- Quantitative Analysis for Marine Affairs (MAF 482)

**Substitute Instructor, Teaching Assistant, Department of Marine Affairs (2008)**

- Coastal Zone Management (MAF 461). Taught course for six weeks while professor was on leave.

TUFTS UNIVERSITY, Medford, MA**Teaching Assistant, Department of Urban and Environmental Policy and Planning (2005)**

- Quantitative Reasoning

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**A D D I T I O N A L W O R K E X P E R I E N C E**TUFTS UNIVERSITY, Medford, MA

2003 – 2005

**Student Assistant, Global Development And Environment Institute**

OCEAN ALLIANCE, Lincoln, MA and Mediterranean Sea

2001 – 2004

**Administrative Manager** (2001 – 2004)

**Environmental Educator, Voyage of the Odyssey, Mediterranean Sea** (2004)

CAPE ANN WHALE WATCH, Gloucester, MA

1999 – 2005

**Naturalist, Seasonal**

#### AWARDS AND RESEARCH FUNDING

- Environmental Leadership Program: Senior Fellow (2011)
- National Science Foundation Doctoral Dissertation Improvement Grant: Decision, Risk, and Management Sciences (2008)
- Phi Beta Kappa Society (elected May 1999)

#### PEER-REVIEWED PUBLICATIONS

- **Smith, S.L.**; Battista, W.; Fujita, R.; Karasik, R.; Sarto, N.; Stetten, D.C.; Burden, M. 2019. A Framework for allocating fishing rights in small-scale fisheries. *Ocean and Coastal Management*, 177: 52-63. <https://doi.org/10.1016/j.ocemoaman.2019.04.020>
- **Smith, S.L.**; Karasik, R.; Stavrinaky, A.; Uchida, H.; Burden, M. 2019. Fishery Socioeconomic Outcomes Tool: A Rapid Assessment Tool for Evaluating Socioeconomic Performance of Fisheries Management. *Marine Policy*, 105: 20-29. <https://doi.org/10.1016/j.marpol.2019.03.009>
- Cisneros-Mata, M.A.; Mangin, T.; Bone, J.; Rodriguez, L.; **Smith, S.L.**; Gaines, S.D. 2019. Fisheries governance in the face of climate change: Assessment of policy reform implications for Mexican fisheries. *PLoS ONE*, 14(10): e0222317. <https://doi.org/10.1371/journal.pone.0222317>
- Kritzer, J.; Costello, C.; Mangin, T.; **Smith, S.L.** 2019. Responsive harvest control rules provide inherent resilience to adverse effects of climate change and scientific uncertainty. *ICES Journal of Marine Science*: <https://doi.org/10.1093/icesjms/fsz038>
- Uiterwyck, K.; Kritzer, J.; Novelty, A.; **Smith, S.L.**; Starbuck, K.; Wiggin, J. 2019. Municipal policy priorities in three coastal communities in the Northeastern United States recognize effects of global climate change. *Ocean & Coastal Management*, 168: 177-184. <https://doi.org/10.1016/j.ocemoaman.2018.10.028>
- Battista, W.; Romero-Canyas, R.; **Smith, S.L.**; Fraire, J.; Effron, M.; Larson-Konar, D.; Fujita, R. 2018. Behavior change interventions to reduce illegal fishing. *Frontiers in Marine Science*, 30. <https://doi.org/10.3389/fmars.2018.00403>
- Liu, O.R.; Kleisner, K.; **Smith, S.L.**; Kritzer, J. 2018. The use of spatial management tools in rights-based groundfish fisheries. *Fish and Fisheries*, 19(5). DOI: 10.1111/faf.12294
- **Smith, S.L.**; Cunniff, S.E.; Peyronnin, N.S.; Kritzer, J. 2017. Prioritizing coastal ecosystem stressors in the Northeast United States under increasing climate change. *Environmental Science and Policy*, 78: 49-57. DOI: 10.1016/j.envsci.2017.09.009
- Klein, E.S.; **Smith, S.L.**; Kritzer, J.K. 2016. Effects of climate change on four New England groundfish species. *Reviews in Fish Biology and Fisheries*, 26 (2). DOI 10.1007/s11160-016-9444-z
- Shumchenia, E., **Smith, S.L.**, McCann, J., Carnevale, M., Fugate, G., Kenney, R., King, J., Paton, P., Schwartz, M., Spaulding, M., Winiarski, K., 2012. An adaptive framework for selecting environmental monitoring protocols to support ocean renewable energy development, in: Azzellino, A., Conley, D., Vicinanza, D., Kofoed, J. (Eds.), *Marine renewable energies: Perspectives and implications for marine ecosystems*, *Scientific World Journal* 2012, Article ID 450685, doi:10.1100/2012/450685.
- **Smith, S.L.** 2012. Toward inclusive co-management: Factors influencing stakeholder participation. *Coastal Management*, 40(3): 327-337.

- **Smith, S.L.**; Pollnac, R.; Colburn, L.; Olson, J. 2011. Classification of coastal communities reporting commercial fish landings in the U.S. Northeast region: Developing and testing a methodology. *Marine Fisheries Review*, 73(2).
- Dalton, T.; Pollnac, R.; Forrester, G.; **Smith, S.L.** 2010. Governance factors affecting the ecological performance of marine reserves in the wider Caribbean. *Proceedings of the Gulf and Caribbean Fisheries Institute*, Volume 62.

#### PUBLICATIONS IN REVISION/REVIEW

- Kleisner, K.; Battista, W.; Burden, M.; Epstein, L. ; Fujita, R.; Karr, K.; McDonald, G.; **Smith, S.L.**; Thomas-Smyth, A. Projecting the effects of food web alterations and management policies on fish biomass and yield in Mynamar's multispecies fishery. (In review: *Fish and Fisheries*)

#### OTHER PUBLICATIONS

- **Smith, S.**; Odell, J. 2016. Effective stakeholder participation in the development of best practice management strategies: North American perspective. In: *Management Science in Fisheries: A Practical Introduction to Simulation-based Methods* (Edwards, C.T.T.; Dankel, D.J., eds.). New York, NY: Routledge.
- **Smith, S.** 2015. Op-Ed: Fishery vote should protect more habitat. New Bedford Standard-Times. April 19, 2015.
- **Smith, S.**; Kritzer, J.; Liu, O. 2015. Spatial Management in Quota-Managed Fisheries (Technical report). Submitted to New England Fishery Management Council. April 2015.
- Takade-Heumacher, H.; Liu, O.; **Smith, S.**; Kritzer, J.; Fujita, R. 2014. Exploring hypotheses for explaining Georges Bank yellowtail flounder catch, biomass, and length composition trends (Working paper). Submitted to yellowtail flounder benchmark assessment, Transboundary Resource Assessment Committee. April 2014.
- **Smith, S.** 2013. Op-Ed: Closed Areas a Boon as Fish Fight Warming. Portland Press Herald. September 1, 2013.
- **Smith, S.** 2013. Fishermen's Perceptions of Closed Areas. Technical document, presented to New England Fishery Management Council Closed Area Technical Team.
- **Smith, S.**; Kenney, R.; King, J.; Paton, P.; Schwartz, M.; Shumchenia, E.; Winiarski, K. 2012. Developing Standardized Protocols and Monitoring: Developing Environmental Protocols and Modeling Tools to Support Ocean Renewable Energy and Stewardship. Report for Bureau of Ocean Energy Management. National Oceanographic Partnership Program, Contract Number M10PC00097.
- Perry, K. and **Smith, S.** 2012. Fisheries Mitigation Options: A Review. Rhode Island Ocean Special Area Management Plan. URI Coastal Resources Center / Rhode Island Sea Grant.
- **Smith, S.**; Kenney, R.; King, J.; Paton, P.; Schwartz, M.; Shumchenia, E.; Winiarski, K. 2011. A Comprehensive Review and Critique: Existing U.S. and International Monitoring Protocols for Offshore Renewable Energy Development and Other Marine Construction. Report for Bureau of Ocean Energy Management. National Oceanographic Partnership Program, Contract Number M10PC00097.
- **Smith, S.L.** 2011. An Analysis of Marine Reserve Co-Management within the Caribbean: Factors Influencing Stakeholder Participation. (Doctoral Dissertation)
- Smythe, T.; D. Beutel; **S. Smith**. 2010. Fisheries Activity Maps: Methods and Data Sources. Technical appendix to the RI Ocean Special Area Management Plan. RI Coastal Resources Management Council, October 2010.
- **Smith, S.**; Smythe, T.; Beutel, D.; McCann, J. 2010. Commercial and Recreational Fisheries. Rhode Island Ocean Spatial Area Management Plan, Chapter 5. Rhode Island Coastal Resources Management Council.
- Carnevale, M.; **Smith, S.**; McCann, J. 2010. Renewable Energy and Other Offshore Development. Rhode Island Ocean Spatial Area Management Plan, Chapter 8. Rhode Island Coastal Resources Management Council.
- Clay, P.; Colburn, L.; Olson, J.; Pinto da Silva, P.; **Smith, S.**; Westwood, A.; Ekstrom, J. 2008. Community Profiles for the Northeast US Fisheries. Northeast Fisheries Science Center, NOAA/NMFS. Available online at: [http://www.nefsc.noaa.gov/read/socialsci/community\\_profiles/](http://www.nefsc.noaa.gov/read/socialsci/community_profiles/)

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## CONFERENCE PRESENTATIONS

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- Kritzer, J.K.; **Smith, S.L.**; Burden, M.; Costello, C.; Klein, E.S.; Mangin, T.; O'Boyle, R. 2016. Understanding and adapting to effects of climate change on groundfish stocks and stock assessments. ICES Annual Science Conference, Riga, Latvia, August 2016.
- **Smith, S.**; Cunniff, S.; Kritzer, J.; Peyronnin, N. 2016. Ranking Environmental Stressors in Coastal and Marine Ecosystems: Developing a Framework for Prioritization. Social Coast Forum, Charleston, SC, February 9-11, 2016.
- **Smith, S.** 2014. Integrating Fishermen's Knowledge to Map Climate-Induced Shifts in Fisheries. Facilitated discussion. Social Coast Forum, Charleston, SC, February 18-20, 2014.
- **Smith, S.** and Kritzer, J. 2013. Integrating Ecological and Social Objectives in Fisheries Management: Fishermen's Perceptions of Closed Area Costs and Benefits in New England. International Congress for Conservation Biology. Baltimore, MD: July 21-25, 2013.
- **Smith, S.** 2012. What You Know is Who You Know: Using Social Networks to Analyze Participation. Social Coast Forum, Charleston, SC, February 15-16, 2012.
- **Smith, S.** 2011. A Process for Developing Monitoring Standards to Assess the Environmental Effects of Offshore Renewable Energy on Fisheries. American Fisheries Society Annual Meeting, Seattle, WA, September 4-8, 2011.
- **Smith, S.** 2009. Social Network Analysis as a Tool for Analyzing Stakeholder Participation in Resource Management. Society for Applied Anthropology Annual Meeting, Santa Fe, NM, March 17-21, 2009.
- **Smith, S.**; Pollnac, R.; Colburn, L. 2009. Typing of fishing communities using multivariate analyses. NOAA NEFSC Science Symposium, Newport, RI, January 21-23, 2009.
- **Smith, S.**; Pollnac, R. 2008. Typing of fishing communities using multivariate analyses. NOAA/NMFS Economic and Social Science Workshop, Port Townsend, WA, May 6-8, 2008.
- **Smith, S.**; Westwood, A.; Pollnac, R. 2007. A method for classifying fishing communities to facilitate impact analyses. Society for Applied Anthropology Annual Meeting, Tampa, FL, March 27-31, 2007.
- **Smith, S.**; Pollnac, R.; Olson, J. 2006. Identifying representative fishing communities for detailed social impact assessment. American Fisheries Society, Southern New England Chapter, Biannual Meeting, Fall River, MA, June 14, 2006.
- **Smith, S.**; Pollnac, R.; Olson, J. 2006. Selecting fishing communities for detailed social impact assessment. Society for Applied Anthropology Annual Meeting, Vancouver, BC, March 28-April 2, 2006.

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## INVITED LECTURES

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- Salem State University, Environmental Problems course, April 2017
- Harvard Model UN, February 2017
- University of New England, Ocean Ecosystem Based Management course, November 2015
- University of Rhode Island, Department of Marine Affairs:
  - Marine Affairs Seminar, November 2014
  - Fisheries Law and Management, October 2011
  - Research Methods in Marine Affairs, April 2011
- Communicating Science Conference, Harvard University, June 2014
- Sea Education Association, September 2010
- NOAA NMFS Social Sciences Branch, Woods Hole, MA, April 2010

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## AFFILIATIONS AND PROFESSIONAL ACTIVITIES

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- The Coastal Institute, University of Rhode Island, Narragansett, RI, Senior Fellow
- Environmental Leadership Program, Senior Fellow

- Cornell University, Ithaca, NY, Ad Hoc Doctoral Committee Member
- NOAA Saltonstall-Kennedy Grant Program Panelist
- Peer Reviewer: *Marine Policy*, *Coastal Management*, *Journal of Integrated Coastal Zone Management*, *Climate Change Responses*, *Journal of Applied Ecology*
- Volunteer (Developing Content), Year of the Right Whale

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#### ADDITIONAL SKILLS AND CERTIFICATIONS

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- Languages: French - Proficient (reading, writing, speaking); Spanish - Basic (reading, writing, speaking); Japanese - Basic (speaking); Italian - Basic (reading, speaking)
- PADI Certified
- Computer skills include: SPSS, Excel, G Suite, Access, PowerPoint
- Small boat handling